

SOCIETY & PHILOSOPHY



DESIGN & TECHNOLOGY



SCIENCE & NATURE



SPORT & LEISURE



MUSIC & DANCE



FOOD & DRINK



VISUAL ARTS



LITERATURE



HISTORY



TRAVEL



10,000 THINGS

YOU NEED TO KNOW

THE BIG BOOK OF LISTS

UNIVERSE


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10,000 THINGS

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THE BIG BOOK OF LISTS

UNIVERSE

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VISUAL ARTS

Here we have anything that people perceive exclusively or mainly through sight, so it encompasses movies, TV shows, paintings, sculptures, and buildings. Moreover, it's not only the works themselves, but also the people who created them: artists, photographers, directors, and actors. Find out the techniques that made Caravaggio and others great painters, which ancient Roman architect influenced the design of the White House, what Hitchcockian skill Steven Spielberg employed to make *Jaws* scary, which was the last movie Walt Disney produced, and just how *Citizen Kane* rewrote the rules of filmmaking.



c. 1255/60–c. 1319

DUCCIO

1 When the main aim of art was to express strong religious beliefs rather than realism, Duccio began to incorporate more expressive elements into his paintings, inspired by the sculpture of Pisano. He became one of the greatest Italian painters of the medieval period, and the founder of the Sienese School of painting.

c. 1267–1337

GIOTTO DI BONDONE

2 Mainly active in Florence, Giotto initiated a new phase in Italian painting, which led to many of the creative ideas of the Renaissance. At a time when religious subjects and styles had been laid down by centuries of tradition, he began to depict human emotion, tonal gradations, and convincing architectural spaces.

L. 1385–1460

DONATELLO (DONATO DI NICCOLÒ)

3 The greatest sculptor of the early Renaissance, Donatello was highly skilled in wood, bronze, stone, and clay. He traveled from Florence to Rome to study antique remains and developed a groundbreaking style that produced extremely lifelike work.

JAN VAN EYCK

4 A pioneer of the new technique of oil painting, van Eyck produced clear and detailed paintings that included meticulously depicted surface effects and impressions of natural light. His closely observed images of religious stories and portraits were rendered in the jewel-bright colors that were attainable with oil paint, and his richly executed works reflect the prosperity of the cities of northern Europe at that time. After establishing his reputation early in his career, he worked at the court of Philip the Good, Duke of Burgundy, from 1425 until the end of his life.

100 GREAT ARTISTS

c. 1398–1472

PAOLO UCCELLO

5 Paolo di Dono, known as Uccello, combined the International Gothic style with a love of decorative effects and an obsession with linear perspective. His best-known work is *The Battle of San Romano* (c. 1438–40).

c. 1400–55

FRA ANGELICO (BORN GUIDO DI PIETRO)

7 The Dominican friar was known as Fra Giovanni but nicknamed Blessed Angelico for his delicate illuminated manuscripts. As a painter, he invented several trends of the early Renaissance, including modeling through tonal contrast, serene compositions, and clear colors. Posthumously, he was called “Pictor Angelicus” (angelic painter).

c. 1416–92

PIERO DELLA FRANCESCA

9 A mathematical theorist and artist, della Francesca created geometrically inspired compositions, expressed through a cool palette. His paintings are calm and serene, with a skillful use of perspective.

1395–1464

ROGIER VAN DER WEYDEN

6 The most influential northern European artist of his time, van der Weyden acquired wealth and international acclaim through civic commissions. His detailed, naturalistic paintings that expressed human emotion were particularly admired.

c. 1436–1516

GIOVANNI BELLINI

10 Through his rich coloring, fluent contours, fresh realism, and portrayal of subtle emotions, Bellini inspired a period of creativity in Venice and beyond.

1290–1342

TOMMASO MASACCIO

8 Following many of Giotto's ideas, and the advances made in realism by his friend Donatello, Masaccio was the most revolutionary painter of the early Renaissance. Relinquishing the accepted Gothic style and elaborate adornment, he painted figures that appear three-dimensional and solid. In addition, his accurate application of perspective created powerful impressions of depth and distance.

1431–1506

ANDREA MANTEGNA

11 With his elegant lines and proficient use of perspective, he was the most influential painter in northern Italy for almost 20 years.

1427–1479

SANDRO BOTTICELLI

12 At the height of his career, Botticelli was one of the most acclaimed painters in Florence, where he earned the patronage of the pope and several leading Florentine families, including the Medici. His graceful contours, symbolism, and subtle spirituality combine the decorative International Gothic style with the emotion of humanism and subtle spatial illusions. However, Botticelli's work was overshadowed by a new style of painting, and by the time of his death, his style was no longer popular.

DOMENICO GHIRLANDAIO

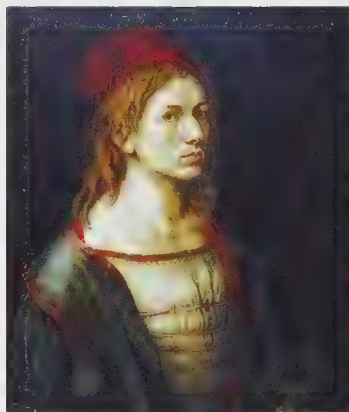
13 Acclaimed for his meticulous narrative frescoes and portraits of dignitaries, Ghirlandaio paid particular attention to detail.

HIERONYMUS BOSCH

14 This northern European painter had a complex, individual style, and his detailed paintings reveal insights into the depths of the human mind.

LEONARDO DA VINCI

15 A polymath, epitomizing the Renaissance humanist ideal, Leonardo was a painter, sculptor, architect, engineer, scientist, and inventor. With the use of sfumato, his paintings showed greater realism than had been seen before, and his notebooks, written in "mirror" writing, revealed a mechanical inventiveness that was centuries ahead of its time. *The Last Supper* (1495–98) and *Mona Lisa* (c. 1503) are among the most influential paintings of the Renaissance.



ALBRECHT DÜRER

16 Painter, printmaker, draftsman, mathematician, and art theorist, Dürer is seen as the greatest German Renaissance artist. His vast body of work includes altarpieces and other religious works, landscapes, portraits, and self-portraits, as well as copper engravings and woodcuts. He revolutionized printmaking and drawing, and established his reputation across Europe. One of his greatest paintings is *Four Apostles* (1526), created at the end of his career.

MICHELANGELO

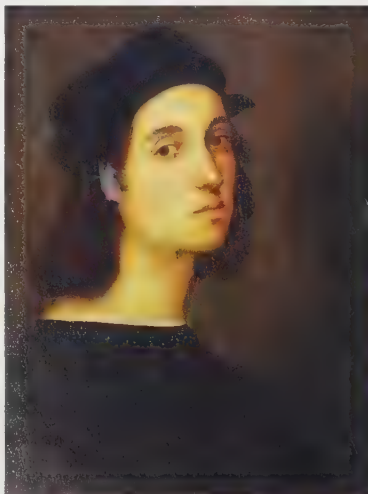
17 With unparalleled skills as a sculptor, painter, architect, poet, and engineer, Michelangelo was supremely influential in the development of Western art, and he remains one of the greatest artists of all time. His versatility and understanding of such a broad range of disciplines have led to him being regarded as the archetypal Renaissance man, alongside Leonardo da Vinci. His output in every field was monumental.

MATTHIAS GRÜNEWALD

18 This artist produced profoundly expressive and intensely colored religious paintings that ignored Renaissance classicism and emphasized the intensity of human emotion. His masterwork is considered to be the wings of the Isenheim altarpiece, commissioned for the high altar of the church of the monastery of St. Anthony, painted in 1512–15.

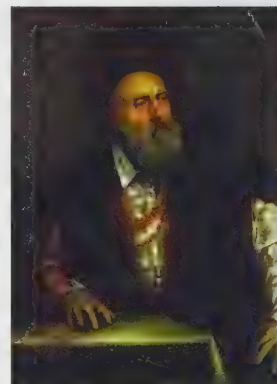
RAPHAEL

19 Italian painter and architect Raphael is known for his clarity of form and harmonious compositions, as well as the idealism, grace, serenity, and beauty of his figures and portraits. He is recognized, along with Michelangelo and Leonardo da Vinci, as one of the great masters of the High Renaissance. He ran an unusually large workshop and, despite his death at a young age, left a large body of work. His style set a precedent for Western art for more than 400 years.



TITIAN

20 The greatest Venetian painter of the sixteenth century, and the first to be sought after internationally, Titian experimented with many different styles of painting and became known for his remarkable use of color and dynamism.



HANS HOLBEIN THE YOUNGER

21 This German artist is known for the precise rendering and compelling realism of his court portraits.

IL BRONZINO

22 Bronzino's detached realism and bold palette influenced styles of portraiture for a century after his death.

TINTORETTO

23 Tintoretto's style of painting is characterized by the artist's daring inventiveness in his handling of dramatic lighting and gestures.

PIETER BRUEGEL THE ELDER

24 This inventive Flemish painter and printmaker descended from a family of artists. He created sympathetic images of peasants and landscapes.

PAOLO VERONESE

25 Based in Venice and well known for large-scale paintings of both religious and mythological subjects, Veronese was a supreme colorist with an ability to incorporate many figures in his compositions.

EL GRECO

26 Painter, sculptor, and architect of the Spanish Renaissance, El Greco employed an elongated painting style and is seen as a precursor of both Expressionism and Cubism.

CARAVAGGIO

27 One of the most revolutionary figures of European art, Caravaggio painted ordinary people and did not idealize them, thereby disregarding conventions of Renaissance art. With his dramatic compositions and use of strong chiaroscuro, which became known as tenebrism, he was hugely influential.



PETER PAUL RUBENS

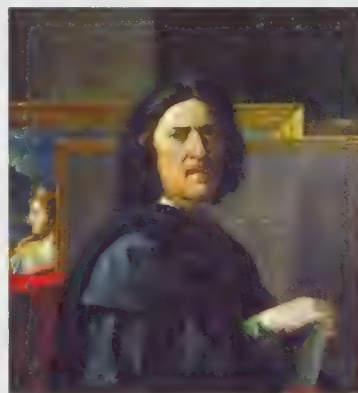
28 Widely recognized as the supreme Baroque painter of northern Europe, Rubens fused the realistic tradition of Flemish painting with the imaginative freedom and classical themes of Italian Renaissance art. Constantly in demand, his large workshop produced a vast number of inventive paintings. He was also an important diplomat in European politics.

ARTEMISIA GENTILESCHI

29 In an era that was difficult for female artists, Italian Baroque painter Gentileschi created dramatic pictures in strong chiaroscuro. She mainly depicted powerful female figures from myth and the Bible.

NICOLAS POUSSIN

30 Inspired by classical Rome, French artist Poussin painted scenes from mythology, ancient history, and the Bible, capturing figures frozen in motion against bucolic landscapes, each carefully calculated and based on geometric forms.

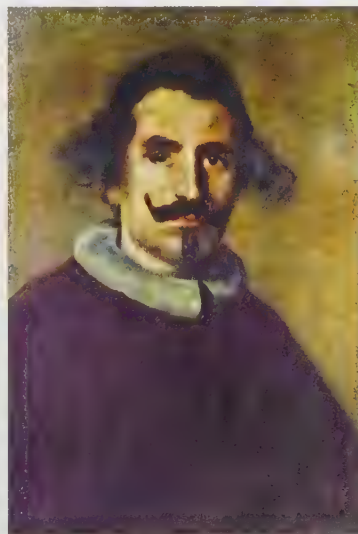


GIAN LORENZO BERNINI

31 Perhaps the greatest sculptor of the seventeenth century and an outstanding architect, Bernini was a crucial influence on the Italian Baroque. He created sculptures caught in dynamic, transient moments and full of emotional energy.

DIEGO VELÁZQUEZ

32 The most important painter of the Spanish Baroque, Velázquez produced many works of historical and cultural significance, including some of the greatest portraits of the Spanish Golden Age. His masterful technique and original, natural methods broke away from tradition and subsequently became hugely influential to many artists, including notably Goya, Manet, and Picasso.



ANTHONY VAN DYCK

33 After Rubens, van Dyck was the most important Flemish painter of the seventeenth century, particularly skilled with authoritative portraits.

CLAUDE LORRAIN

34 Infusing his landscapes with ethereal light, Lorrain depicted mythological and biblical stories.



REMBRANDT VAN RIJN

35 Exceptional painter, draftsman, and etcher, Rembrandt produced paintings characterized by abundant, spontaneous brushwork, warm coloring, and powerful chiaroscuro. His many portraits and self-portraits display his profound perception of character and rendering of light and texture. A master of shadow, he is known for etchings and narrative paintings that humanize biblical and mythical stories, creating intimate, empathetic, and compelling images. Generally considered one of the greatest painters in European art, and the most important in Dutch history, he is often called "one of the great prophets of civilization."



WILLIAM HOGARTH

39 An articulate painter and engraver of portraits, as well as of historic and contemporary narratives, Hogarth is best known for his series of satirical paintings that were described as "modern moral subjects."

PIETER DE HOOGH

36 Known for his genre scenes of domestic situations, de Hooch depicted cleverly lit views of rooms or yards seen through open doors or windows, often with moral messages.

JOHANNES VERMEER

37 Moderately successful during his lifetime, Vermeer painted domestic interior scenes of contemporary middle-class life. His work has since established him as one of the greatest painters of the Dutch Golden Age.

ANTOINE WATTEAU

38 This French Rococo artist's fêtes galantes are dreamlike, idealized scenes of elegant gentlemen and ladies in the outdoors.

CANALETTO

40 For about 20 years, Canaletto's picturesque views of Venice and other cities were extremely sought after for their clear light and precise perspective.

JEAN-BAPTISTE-SIMÉON CHARDIN

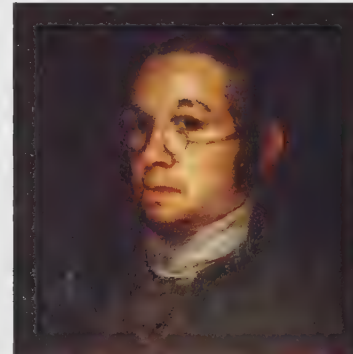
41 One of the greatest masters of still life and domestic activities, Chardin produced balanced, intimate compositions enhanced by soft light.

FRANÇOIS BOUCHER

42 Recognized for his charming, ebullient, classical style, Boucher was the favorite artist of Madame de Pompadour, Louis XV's mistress.

JEAN-HONORÉ FRAGONARD

43 This French painter and printmaker is best known for his delicately colored, vivacious, and playful artistic style, which exemplified the wantonness and excesses of the Rococo period.



FRANCISCO DE GOYA

44 Principal painter for Charles IV of Spain, Goya was the most compelling and original artist of his time, profoundly gifted as a draftsman, printmaker, and painter. His work became increasingly pessimistic.

JACQUES-LOUIS DAVID

45 Perfecting the new neoclassicism, David influenced generations of artists after him. His academic style of history painting prompted a change in creativity, from the more frivolous Rococo style toward a cool, restrained classicism that was more suited to general feelings during the period of the French Revolution.

KITAGAWA UTAMARO

46 One of the most esteemed artists of ukiyo-e woodblock prints, Utamaro's portraits and nature studies were a particular influence on the Impressionists.

1753-1827

ANTONIO CANOVA

47 This neoclassical sculptor from the Republic of Venice was famed for his refined marble sculptures that render delicate nude flesh.

1757-1825

WILLIAM BLAKE

48 A poet, painter, and printmaker, Blake created visionary imagery that was hugely important to Romanticism.

1740-1809

KATSUSHIKA HOKUSAI

49 A leading ukiyo-e artist of the Edo period, Hokusai helped to alter the path of European art and was inspired by European elements, too. His images feature rich color and asymmetrical compositions.

1774-1840

CASPAR DAVID FRIEDRICH

50 Using delicate brushstrokes, eerie settings, and a masterful rendering of mysterious light, Friedrich created ethereal visions of German landscapes.

J. M. W. TURNER

51 The best-known landscape painter of the Romantic period, Turner was one of the youngest full members of Britain's Royal Academy of Art. Although his earliest landscapes were inspired by past masters, his later pioneering depictions of atmosphere and weather effects, the sea, and the forces of nature were revolutionary in painting. He raised the genre to the level of history painting and inspired generations of artists after him, most notably the French Barbizon school and the Impressionists. Accomplished with oil paint, watercolor, print, and pencil, he is known as "the painter of light" and is often cited as a precursor to abstract painting.



1781-1831

JOHN CONSTABLE

52 Best known for his paintings of the English countryside, and of Suffolk in particular, Constable broke new ground with monumental oil works on canvas. He often made numerous sketches in the open air before returning to his studio to continue the work. He made landscape itself the subject of his lively paintings, with no attempt at idealism.



JEAN-AUGUSTE-DOMINIQUE INGRES

53 Jacques-Louis David's best pupil followed academic painting traditions that centered on the nude and on classical art. Although Ingres considered himself to be a history painter first and a portraitist second, he is now best known for his portraiture. He believed in the superiority of line over color, and with the use of explicit textural effects and clear lines, his style of neoclassicism rivaled the Romanticism of Delacroix. After winning the coveted Prix de Rome in 1801, he spent several years in Italy studying classical and Renaissance art.

THÉODORE GÉRICAUT

54 This artist's fiery interpretations and dismissal of convention made his work legendary.

JEAN-BAPTISTE-CAMILLE COROT

55 Bathed in silvery light, Corot's landscapes had a formative influence on the Impressionists.

1797-1858

UTAGAWA HIROSHIGE

56 Flat color planes and unusual compositions characterize Hiroshige's ukiyo-e prints.

EUGÈNE DELACROIX

57 Working spontaneously without meticulous planning, Delacroix is usually accepted as the greatest Romantic artist. His style is brisk and dynamic, with compelling compositions, strong color, and a sense of energy. Alongside passionate historical scenes, he also painted portraits and exotic views depicting the East and northern Africa.



JEAN-FRANÇOIS MILLET

58 Industrialization had made rural life exceptionally difficult. In glowing colors, Millet portrayed the dignity of the numerous hard-working peasants.

GUSTAVE COURBET

59 Often classed as the father of the Realist movement, Courbet attracted controversy with his large-scale paintings that made ordinary people appear to be as important as dignitaries.

DANTE GABRIEL ROSSETTI

60 A key figure and one of the founders of the Pre-Raphaelite Brotherhood, Rossetti produced paintings that are detailed, charismatic, and romantic.

JOHN EVERETT MILLAIS

61 A founding member of the Pre-Raphaelite Brotherhood, Millais used a method of painting on wet white paint, which resulted in detailed, jewel-bright images.

CAMILLE PISSARRO

62 The only artist to take part in all eight Impressionist exhibitions, Pissarro is usually called "the father of Impressionism" because he advised other artists and painted in bright colors and broken brushstrokes.

ÉDOUARD MANET

63 One of the first artists to paint modern life, Manet rejected established artistic traditions and included unconventional subject matters and a sketchy application of paint in his work. This helped to initiate Impressionism, but he did not participate in the Impressionist exhibitions.

EDGAR DEGAS

65 Specializing in charming scenes of contemporary life—especially dancers, entertainers, women at their toilet, and horses—Degas experimented with photography in order to capture fleeting moments. This resulted in immediate, intimate compositions that bring viewers directly into the action. Well known for his paintings, sculptures, prints, and drawings, Degas is regarded as one of the founders of Impressionism, although he rejected the term and preferred to be called a realist.



JAMES MCNEILL WHISTLER

64 A leading advocate of the philosophy "art for art's sake," Whistler avoided sentimentality and moral allusions, but concentrated on parallels between painting and music, naming many works "nocturnes."

WINSLOW HOMER

66 The greatest painter of New England country life, and one of the leading figures of US nineteenth-century art, Homer explored the relationship between man and nature. He is best known for his marine subjects.

PAUL CÉZANNE

67 The most influential artist in the evolution of twentieth-century art, Cézanne sought an enduring pictorial form to "make of Impressionism something solid and durable like the art of museums." Working slowly and methodically, he used orderly brushwork to investigate structure.

AUGUSTE RODIN

68 One of the most influential sculptors of the late nineteenth and early twentieth centuries, generally seen as the originator of modern sculpture, Rodin had a unique ability to shape complex, expressive, individual works in various materials, conveying life and emotion.

CLAUDE MONET

69 Generally accepted as the leading figure of Impressionism, Monet was the most prolific artist of the movement, and his painting *Impression, Sunrise* (1873) gave the movement its name. He rejected the idea of painting a given subject according to a set of rules about technique and ideals of beauty. Monet's en plein air landscape painting, bright palette, sketchy brushwork, and scenes of everyday life made him one of the most original artists of his time. The artist is perhaps best known for his *Water Lilies* (1915–26) series of paintings.

PIERRE-AUGUSTE Renoir

70 A leading Impressionist, Renoir painted diverse works in dappled color that are a celebration of beauty, movement, and modern life.

MARY Cassatt

71 Impressionist painter and printmaker, Cassatt created sensitive images of women, children, and domestic scenes, often from unusual viewpoints.

GEORGES SEURAT

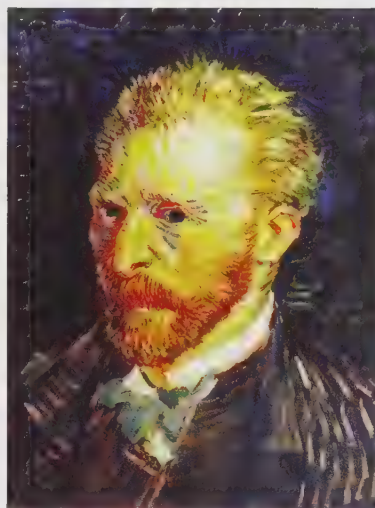
74 While exploring scientific color theories, Seurat developed Pointillism, juxtaposing dots of pure color to enhance their vibrancy.

GUSTAV KLIMT

75 The sensual paintings of Klimt often feature women and Symbolist elements, which influenced the development of Art Nouveau. He led the radical art movement the Vienna Secession.

PAUL GAUGUIN

72 The original source of several art movements and new ideas, Gauguin worked with bold color, flat shapes, strong outlines, naive style, and unique notions of symbolism. Unappreciated during his lifetime, his work was hugely inspirational to subsequent artists.



VINCENT VAN GOGH

73 One of the most famous artists of all time, Van Gogh produced a body of work, comprising original and expressive paintings, that is enormously influential. His energetic works reveal his brilliant sense of color and emotive and rhythmic style. Among his many masterpieces are *Sunflowers* (1888), *Starry Night* (1889), and *Wheatfield with Crows* (1890). His letters to his brother Theo provide a fascinating chronicle of an artist's life.

EDVARD MUNCH

76 One of the most important forerunners of Expressionism, Munch created intense portrayals of psychological themes, including fear, misery, illness, and death.

HENRI DE TOULOUSE-LAUTREC

77 The expressive, sinuous, and dynamic paintings, drawings, prints, and posters of Toulouse-Lautrec epitomized the bars, cafés, racetracks, theaters, circuses, and dance halls of late nineteenth-century Paris.

WASSILY KANDINSKY

78 Credited with producing the first abstract painting, the Russian-born Kandinsky was a painter, wood engraver, teacher, lithographer, theorist, and writer. His pioneering achievements in art derived in part from his synesthesia, which made him "see" sound and "hear" color. Initially, he created vivid contrasts of color, later composing rhythmical images based on musical arrangements.

HENRI MATISSE

75 Often referred to as “the master of color,” the draftsman, printmaker, and sculptor Matisse is usually regarded, along with Pablo Picasso and Marcel Duchamp, as one of the three artists who helped to define the revolutionary artistic developments of the twentieth century. Throughout his career, he experimented with color, light, and form. In 1905 he became the leader of the group known as Les Fauves (the Wild Beasts).

PIET MONDRIAN

80 One of the founders of the Dutch modern movement De Stijl, Mondrian created pure abstract paintings that reflect the spiritual order of the cosmos through a comprehensive and radical simplification of elements to vertical and horizontal lines.

PAUL KLEE

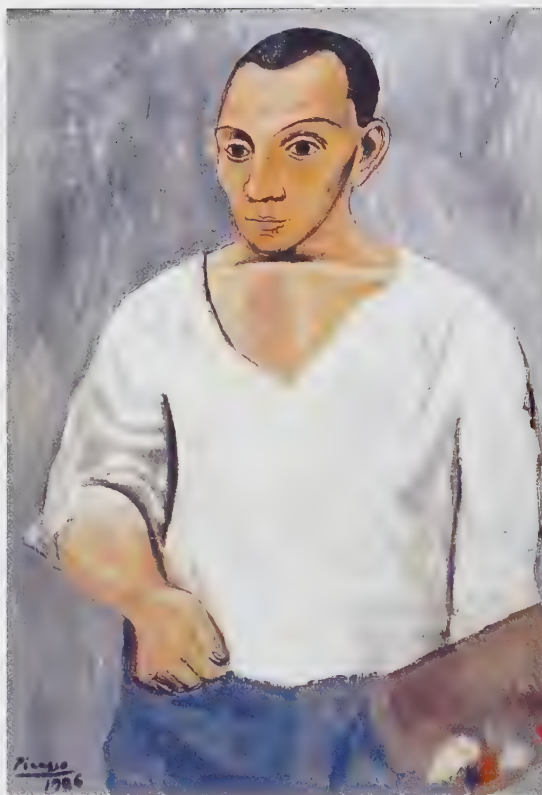
82 A quirky and subtly mocking style categorizes Klee’s creative approach. He was influenced by Surrealism, Cubism, Expressionism, and Orientalism.

CONSTANTIN BRANCUSI

81 A pioneer of abstraction, Brancusi produced curving, reduced forms that show a sensitive understanding of materials and integrate the simplicity of peasant carving with the refinement of modernism.

FRANZ MARC

83 A key figure of Expressionism, known for the mysticism of his paintings of animals, Marc sought spiritual truths through his art. He believed that color was a language we all understand.



PABLO PICASSO

84 In addition to cofounding the Cubist movement, Picasso explored and developed a variety of other styles and disciplines. From his precocious talents as a child, he became one of the most original and significant artists of the twentieth century, and he remained prolific and inventive throughout his long career, affecting the course of art and attitudes toward artists. From his Blue Period to his Surrealist works, he constantly trailblazed creative developments.

1881–1955

FERNAND LÉGER

85 With his personal form of Cubism, Léger simplified modern subject matters and used brilliant, bold, and contrasting colors in dynamic tubular forms, which was seen as a precursor to Pop Art. He also designed murals, stage sets, and costumes.

1892–1972

UMBERTO BOCCIONI

86 As a Futurist painter, sculptor, and etcher, Italian artist Boccioni expressed the dynamism of modern technology, violence, power, and speed in his paintings and sculptures. He implied movement through the use of prismatic color and light in *Dynamism of a Cyclist* (1913) and explored notions of the mechanized body in his masterpiece *Unique Forms of Continuity in Space* (1913). Boccioni’s deconstruction of forms was highly influential long after his death.

GEORGES BRAQUE

87 After explorations into light and perspective, Braque developed Cubism with Picasso, thereby changing the course of Western art. He was one of the first artists to use decorators’ techniques in paintings.

AMEDEO MODIGLIANI

88 Inspired by Toulouse-Lautrec, Picasso, and African masks, Modigliani developed a unique style characterized by elongated faces and figures. He used flat areas of color, economical lines, and rhythmic curves to create mask-like faces that conveyed personality.

DIEGO RIVERA

89 The most celebrated figure in the revival of Mexican Muralism, Rivera produced Communist-inspired paintings that are brilliantly colored and naive.

1897-1968

MARCEL DUCHAMP

90 Perhaps more than any other twentieth-century artist, Duchamp changed art radically. His conceptual notion of "ready-mades" contradicted the established art system and processes, thereby altering perceptions of art.

1893-1983

JOAN MIRÓ

92 A painter, sculptor, and ceramicist, Miró created patterns, shapes, and simplified representations of objects, shunning conventional painting methods and using "automatism" to capture his subconscious ideas.

1898-1967

RENÉ MAGRITTE

93 Meticulous paintings full of dreamlike absurdities include ordinary people and things in bizarre and ambiguous situations.

1892-1966

ALBERTO GIACOMETTI

94 Powerfully expressive sculptures of animated wiry figures evoke notions of suffering, eccentricity, and human frailty.

1918-70

MARK ROTHKO

95 A leading US Color Field painter, Rothko painted large areas of intense color that softly inspire emotion.

1904-89

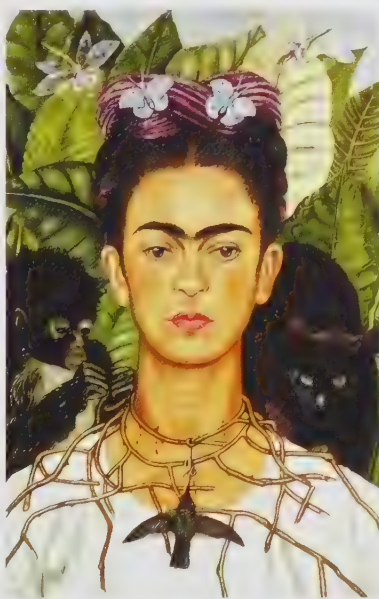
SALVADOR DALÍ

96 Because of his effective self-promotion, Dalí is the best-known Surrealist artist. A skilled draftsman, he is known for his strikingly realistic and bizarre images and eccentric behavior.

1898-1988

EGON SCHIELE

91 Trained by Klimt, Schiele was a major figurative painter of the early twentieth century whose signature graphic style features bony, twisting, contorted figures and expressive lines. His erotic and tormented imagery derived from psychological issues, projecting subtly powerful and visionary explorations of his sitters' personalities and sexualities. Prolific during his brief career, he is recognized as a major artist within the Expressionist movement.



1907-1955

FRIDA KAHLO

97 Expressing both her underlying feelings and her Mexican heritage, Kahlo's emotive work evolves from Surrealism, primitivism, magical realism, and naive art. The bus accident that left her a semi-invalid, several miscarriages, and her volatile relationships were essential elements in her poignant, colorful paintings.

1928-87

ANDY WARHOL

99 The most famous Pop Artist used his training as a commercial artist to create images that everyone could respond to and understand in the growing consumer society of the mid-twentieth century. By representing commercial goods and contemporary news stories, Warhol changed the exalted reputation of art and made it more accessible. His sensational ideas altered the path of art.

1927

DAVID HOCKNEY

100 Hockney made his name in his native England with paintings that celebrated light, and adopted quasi-photographic techniques in informal portraits of himself and his friends. In 1978, he moved to Los Angeles, where he espoused "California modern."

1912-56

JACKSON POLLOCK

98 A prolific artist in the field of Abstract Expressionism, Pollock is best known for his action paintings, in which he spontaneously applied paint to vast canvases.



UNKNOWN c. 30,000

HORSES' HEADS

1 In 1994 hundreds of ancient paintings were found in the Chauvet Cave in France. One of the most spectacular is the *Horses' Heads*, remarkable for its realism and believed to have been created by one artist. The accurate anatomy and proportions, tonal gradations, and natural-looking textures were built up using charcoal mixed with the clay on the cave walls. These techniques are rarely found in other cave art, and they include incising or etching around some of the outlines.

UNKNOWN c. 1000

PORTRAIT OF A BOY

2 Placed among funerary trappings, mummy portraits were a unique art form that flourished in Roman Egypt. This one of a young teenage boy uses the encaustic technique, in which colored pigments are mixed with beeswax.

DUCCIO c. 1400

THE RUCELLAI MADONNA

3 Contrasting with rigid and stylized Byzantine art, this Madonna with Jesus is an attempt to create a more realistic type of image. The effect of draping fabric was innovative, as were angels in relaxed poses and harmonious hues.

GIOTTO DI BONDONE c. 1300

THE LAMENTATION

4 More than other painters of his era, Giotto advanced the development of naturalism, softening poses and adding facial expressions. In this work, colors and tones portray a sense of reality and powerful emotion. Using symbolism and unusual compositions, Giotto directed the viewers' focus to key areas, such as a mountain that slopes toward Mary holding her dead son.

100 PAINTINGS

ROBERT CAMPIN c. 1400

THE MÉRODE ALTARPIECE

5 In a domestic setting, the angel Gabriel announces to Mary that she is to be the mother of Jesus. In detail this explained the Bible to contemporary churchgoers in ways that they could understand.

TOMMASO MASACCIO c. 1425

THE HOLY TRINITY

6 The first Renaissance painter to apply Brunelleschi's ideas of representing the effects of perspective on flat surfaces, Masaccio painted this from a low viewpoint, so viewers look up at Jesus. The old man behind him is a Renaissance invention of God. The architecture mimics that of ancient Greece and Rome. The image was so lifelike that onlookers thought Masaccio had knocked a recess in the wall.

PAOLO UCCELLO c. 1430

THE BATTLE OF SAN ROMANO

9 This depicts Florentine leader Niccolò da Tolentino on a horse during a battle against Siena in 1432. A network of lances shows Uccello's fascination with linear perspective.

PIERO DELLA FRANCESCA c. 1450

THE BAPTISM OF CHRIST

11 In this central section of an altarpiece, viewers' eyes are drawn to the Christ figure beneath a dove symbolizing the Holy Spirit. Unusually, three angels hold each other's hands.

JAN VAN EYCK c. 1434

THE ARNOLFINI PORTRAIT

7 A pioneer of oil paint, van Eyck set this portrait of Giovanni di Nicolao Arnolfini and his wife, Costanza, in a sumptuous interior. Costanza holds up her fashionable dress; Giovanni's shoes point to the outside world, indicating his daily business. Oranges show the couple's wealth, and the Latin inscription above the mirror that reflects the artist and his wife translates as "Jan van Eyck was here 1434."

ROGIER VAN DER WEYDEN c. 1465

THE DEPOSITION

8 Incredibly lifelike figures are set against a wall in this detailed depiction of Jesus being lowered from the cross by Joseph of Arimathea and Nicodemus. All the life-size figures are linked visually; for example, Mary's swoon mirrors her son's body.

FRA ANGELICO c. 1470-1475

THE ANNUNCIATION

10 Designed to aid contemplation and reflect the humanist ideas that were developing in Italy, this work portrays a biblical story in a contemporary setting. Linear perspective is used to show an Italian loggia; Mary wears fifteenth-century fashions.

HUGO VAN DER GOES c. 1480

THE PORTINARI ALTARPIECE

12 With portraits of the donor, his family, and saints, the center of this unconventional triptych depicts the Adoration of the Shepherds at the nativity, including variously dressed angels and rugged, unkempt shepherds.

ANDREA MANTEGNA c. 1480

THE MARTYRDOM OF ST. SEBASTIAN

13 St. Sebastian is the subject of three works by Mantegna. Displaying great skill in rendering detail, linear perspective, and foreshortening, in 1480 the early Renaissance master created a dramatic image of the saint tied to an arch. The expression on Sebastian's face foretells of his impending martyrdom.

GIOVANNI BELLINI

SAN GIOBBE ALTARPIECE

15 This example of the holy conversation shows the Madonna and Child, angels, saints, and a bishop.

SELF-PORTRAIT AT TWENTY SIX

16 Dürer portrays himself as an elegant gentleman in an assured depiction of light and textures.

MICHELANGELO BUONARROTI

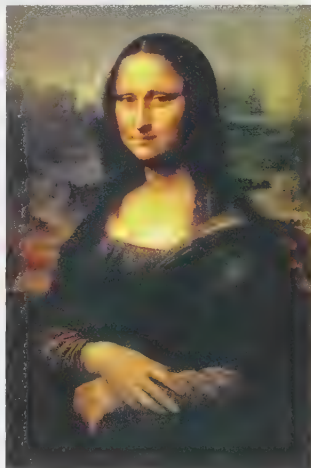
THE SISTINE CHAPEL CEILING

20 This significant painting of the High Renaissance, covers 12,000 square feet (1,110sq m) of the ceiling of the Sistine Chapel in the Vatican. Pope Julius II wanted Michelangelo to paint the 12 apostles, but instead he created an ambitious representation of Old Testament scenes. His image of God with long white hair and beard was the first time God had been depicted in this dynamic way.

SANDRO BOTTICELLI c. 1485

THE BIRTH OF VENUS

14 The first large-scale Renaissance painting of a mythological subject, and probably the first Renaissance nude, this portrays Venus, the Roman goddess of love and beauty, emerging from the sea and being wafted ashore by Zephyr and his bride Flora. Botticelli's sinuous, graceful contours and delicate painting style expressed ideas of humanism and the Renaissance.



LEONARDO DA VINCI MONA LISA

17 Probably a portrait of the wife of a Florentine merchant, *Mona Lisa* has intrigued many for centuries, primarily for the sitter's ambiguous expression. It is not known why Leonardo kept the work and used it to advertise his skills. Set in an Italian landscape, his unique smoky shading technique—*sfumato*—enhances the mystique. The delicate, realistic painting style was unprecedented.

HIERONYMUS BOSCH

THE GARDEN OF EARTHLY DELIGHTS

18 This complex triptych is an account of life, death, and the seven deadly sins. The center panel shows avarice and gluttony, and one of the side panels shows the horrors of hell.

GIORGIONE

THE TEMPEST

19 This cryptic landscape features numerous symbols, including a woman suckling an infant, a well-dressed man, broken pillars, a bridge, a town, and a storm.

RAPHAEL

THE SCHOOL OF ATHENS

21 This fresco displays Raphael's versatility, originality, and dexterity. Grouped within a classical architectural background are ancient Greek philosophers, mathematicians, and scientists.



MATTHIAS GRÜNEWALD

THE CRUCIFIXION, ISENHEIM ALTARPIECE

22 Created for the brotherhood of St. Anthony who were noted for their care of plague sufferers, this altarpiece offers a harrowing depiction of Christ on the cross—his hands contorted in pain, his skin disfigured—as Mary swoons into the arms of St. John the Evangelist.

TITIAN BACCHUS AND ARIADNE

23 A dynamic composition showing Bacchus, the god of wine, with his followers, at the moment he sees Ariadne, daughter of the king of Crete, and asks her to marry him, offering her the sky as a gift. The work is colorful, ebullient, and animated, and features Titian's prominent use of bright dazzling blue.

HANS HOLBEIN THE YOUNGER
THE AMBASSADORS

24 This enigmatic double portrait of Jean de Dinteville, the French ambassador in England, and Georges de Selve, bishop of Lavaur, represents the worldly and the sacred. Symbols found in the work include globes, a sundial, a lute, and a distorted skull.

PIETER BRUEGEL THE ELDER
THE PEASANT WEDDING

28 In a witty and compassionate manner, this moralistic scene of peasant life emphasizes the ridiculous. Set in a lively and inventive composition, Bruegel satirizes peasants at a wedding feast, from a foolish bride to a greedy guest, openly highlighting human failings and foibles.

MISKINA & SARWAN
THE WOUNDING OF KHAN-I KILAN

29 A vivid depiction of a violent attack in 1572 on the sultanate of Gujarat by the Mughal army.

EL GRECO
CHRIST DRIVING THE TRADERS FROM THE TEMPLE

30 An animated portrayal of Jesus ready to unleash his whip on traders in the temple in Jerusalem. His twisting figure dominates the picture.

QI YING
SPRING MORNING IN THE HAN PALACE

25 A painted silk scroll shows an imaginary scene in a Chinese imperial palace. Set in spring, several stories are intricately depicted, meticulously decorated, and designed to be read like a book.

TINTORETTO
LAMENTATION OVER THE DEAD CHRIST

26 A fine example of Mannerism, featuring spectacular colors and mystical light effects. Tintoretto places Jesus, apostles, and angels deep within the composition, which is heavy with the weight of powerful emotion.

PAOLO VERONESE
THE WEDDING AT CANA

27 Depicting the New Testament story of Jesus turning water into wine, Veronese created an ambitious painting in radiant colors. Beneath a blue sky more than 130 guests and musicians in contemporary dress mingle amid classical Greco-Roman architecture. A monumental work, it proclaims Veronese's imaginative approach and skills in portraying naturalistic details and textures, including marble, velvet, brocade, and glittering jewels, as well as rich color, convincing perspective, and crowd scenes.



CARAVAGGIO 1608
THE BEHEADING OF ST. JOHN THE BAPTIST

31 In shocking reality Caravaggio depicts a dramatic murder in this large painting. With his characteristic use of chiaroscuro, viewers are brought directly into the action. In a prison a man is about to execute John the Baptist as a jailer issues instructions, and Salome stands with a golden platter for his head. An elderly woman holds her own head in horror. Light is focused on the scene, but the majority of the image is in darkness.

PETER PAUL RUBENS
SAMSON AND DELILAH

32 Flamboyant, graphic, and passionate, this painting plunges viewers into the action. Portrayed as if we are directly beside them, Samson sleeps on Delilah's lap before his enemies steal in and cut off his hair, destroying his strength. Rubens uses strong chiaroscuro, vigorous brushwork, intense colors, and a fluid painting style to express the biblical story in an unprecedented way.

ARTEMISIA GENTILESCHI
JUDITH SLAYING HOLOFERNES

33 From a dramatic angle, viewers are thrust into the room where Judith, with the assistance of a servant, is beheading Holofernes. Featuring strong chiaroscuro, this explicit work makes viewers part of the act and expresses Gentileschi's anger at being raped when she was younger.

HENDRICK AVERCAMP
WINTER SCENE ON A CANAL

34 During Avercamp's life, Dutch waterways regularly froze in winter, and he specialized in depicting these seasonal landscapes. He captured the mix of people of all ages and classes, skating, sledding, and golfing on the icy canal.

SHALS 1624
THE LAUGHING CAVALIER

35 Although neither laughing nor a cavalier, the sitter's eyes and upturned mustache give the sense of a smile. His costume and swaggering pose suggest vitality and confidence.

NICOLAS POUSSIN c. 1637–38
THE ARCADIAN SHEPHERDS

37 Influenced by both classical art and the Renaissance, this enigmatic painting displays Poussin's skillful merging of logical placement, and harmony and clarity of line.

STILL LIFE: AN ALLEGORY OF THE VANITIES OF HUMAN LIFE

38 One of the most impressive *vanitas* paintings, this realistic work features a skull, shell, and sword.

CLAUDE LORRAIN
SEAPORT WITH THE EMBARKATION OF THE QUEEN OF SHEBA

40 The popularity of painted landscapes increased partly due to Lorrain. In an imaginary seaport, glowing light and striking perspective create an ethereal mood.

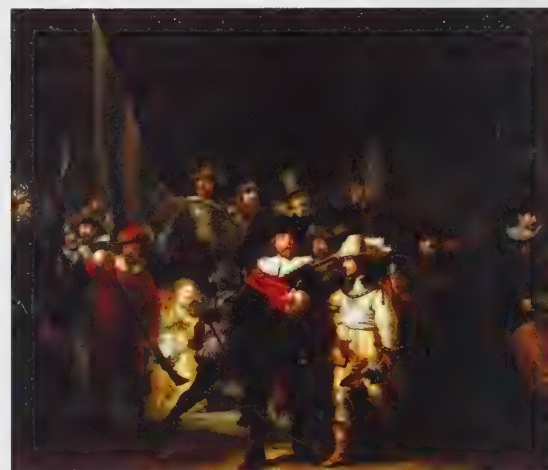


ANTHONY VAN DYCK
CHARLES I AT THE HUNT

36 Intended to convey power and majesty, this portrait shows Charles I from a low viewpoint, so he looks tall, and against a bright sky. His horse and servants blend into the background foliage.

REMBRANDT VAN RIJN
THE NIGHT WATCH

39 One of the greatest portrait paintings of the Dutch Baroque era, this group portrait is a dynamic representation of a fairly ordinary event. The colossal size of the work and Rembrandt's inventiveness, use of light and shadow, and impression of movement exaggerates the importance of the people and the occasion.



DIEGO VELÁZQUEZ
LAS MENINAS

41 Set in the artist's studio of a Spanish palace, this is a portrait of Infanta Margarita, daughter of Philip IV of Spain. Famed for revealing his sitter's personalities, the artist captures a dichotomy: an innocent child, who is also an important figure, playing in stiff clothing. Adroitly, he also included a portrait of the king and queen—and a self-portrait, too.

PIETER DE HOOCH
THE COURTYARD OF A HOUSE IN DELFT

42 Demonstrating his mastery of painting detailed domestic scenes, this light-filled image is like a snapshot on the world, with closely observed Dutch architecture and people going about their daily business.

THE ART OF PAINTING

43 Illustrating Vermeer's technical expertise, this allegorical scene—with heavy curtains, shining brass chandelier, and creased map on the wall—is lit with silvery light. An artist, probably Vermeer, paints a model who is wearing a crown of laurel and holding a trumpet and a book. She is Clio, the muse of history from ancient Greek mythology. On the table is a mask, which symbolizes imitation—or painting—with other symbols, including a sketchbook, representing the relationship between painting and history.

ANTOINE WATTEAU
THE PILGRIMAGE TO CYTHERA

44 A courtly scene in an idyllic location, this work was so compelling that the expression *fête galante* was invented to describe costumed figures in an outdoor setting.

CANALETTO
THE STONEMASON'S YARD

45 The bold composition and detailed portrayal of figures, architecture, light, and shadow draw viewers into this scene across a Venetian square to the Grand Canal in the middle distance.

GIAMBATTISTA TIEPOLO
**THE FINDING
OF MOSES**

46 Dressed in finery, the figures in this richly colored painting represent the Old Testament story in a contemporary and immediate style.

FRANÇOIS BOUCHER 1731
RECLINING GIRL

49 A provocative, playful painting of one of Louis XV's mistresses, lying plump and seminaked on a couch.

WILLIAM BLAKE
**THE ANCIENT
OF DAYS**

51 Crouching before an orb, God is an architect holding a compass over a dark void as he creates the world.

JEAN-AUGUSTE-DOMINIQUE INGRES
THE VALPINÇON BATHER

52 With its balance of intimacy and grandeur, this nude is graceful and sensuous, both a real woman and an ideal beauty. Ingres was concerned with achieving flowing, sinuous contours and so exaggerated or modified aspects of the figure to correct elements and create a sense of perfect harmony.

CASPAR DAVID FRIEDRICH
**WANDERER ABOVE
THE SEA OF FOG**

54 A haunting figure stands on a rocky peak above a raging sea, his back to viewers. Before him, mountains dissolve into the mist.

JEAN-BAPTISTE-SIMÉON CHARDIN 1738
**WOMAN CLEANING
TURNIPS**

47 Although it looks simple, the realism of a poor woman at a mundane task was achieved through complex layering.

JACQUES-LOUIS DAVID
**THE OATH
OF THE
HORATII**

50 The first masterpiece of neoclassicism, this work features life-size figures in a slanting light. Vivid colors and hard lines delineate the men while the women are softer and in muted colors. Relating an ancient Roman story, three brothers swear an oath to fight three brothers from an enemy town.

WILLIAM HOGARTH c. 1743
**THE MARRIAGE SETTLEMENT
FROM MARRIAGE A-LA-MODE**

48 Hogarth's satirical, witty image of a wealthy London merchant's marriage to an aristocrat's daughter mocks high society.



FRANCISCO DE GOYA
**THE THIRD
OF MAY 1808**

53 A defenseless man kneels at close range before a firing squad. His white shirt reflects light from a lantern, and his arms are flung upward in a pose reminiscent of Christ's crucifixion. Through this shocking yet compact composition, Goya shows the horrific fate of Spanish civilians who tried to resist Napoléon's invading armies in 1808. The scene graphically condemns the inhumanity of the French soldiers and the innocence of the Spanish.

THÉODORE GÉRICAUT
**THE RAFT
OF THE MEDUSA**

55 Illustrating the moment when survivors of the wrecked frigate, *Medusa*, saw another ship on the horizon, this work broke all conventions of history painting. A sense of doom pervades as people cling to their makeshift raft, conveying a powerfully morbid image of human suffering. Only 15 of the *Medusa*'s 150 crew and passengers survived.

JOHN CONSTABLE
THE HAY WAIN

56 Introducing new elements, including close study of his surroundings, large-scale works, and a wide range of greens, Constable's controversial depiction of the countryside changed the status of landscape painting.

JEAN-BAPTISTE-CAMILLE COROT

THE BRIDGE AT NARNI

57 Corot's free brushwork imbued a sketchy style of painting that became highly influential. This study shows an atmospheric view of the landscape around Rome.

EUGENE DELACROIX 1827

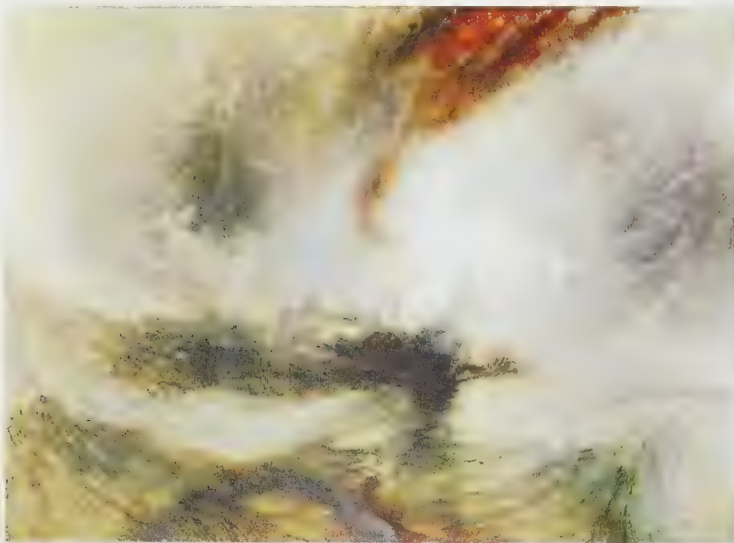
THE DEATH OF SARDANAPALUS

50 Color and energy emanate from this painting. Drawing on ancient sources, Delacroix designed a powerful image of the last king of Assyria who, after failing in battle, had all his possessions destroyed, including women, servants, animals, and treasures. The chaos, dramatic tension, and effects of light secured Delacroix's fame.

J. M. W. TURNER

SNOW STORM, STEAM-BOAT OFF A HARBOUR'S MOUTH

58 From the vortex of a snowstorm, the blurry shape of a steamboat can be seen through the driving snow. Wind, waves, snow, and sea spray swirl around the entire composition, which is painted in expressive strokes. There is no horizon, nor any distinction between air and sea, instead, color, shape, and light express the strength of the storm and the human frailty at its mercy. Painted during the great age of shipping, Turner's work symbolizes the futility of humans trying to fight forces of nature.



JOHN EVERETT MILLAIS 1851-52

OPHELIA

60 This depiction of Shakespeare's tragic muse is shown in exacting detail, redolent with symbolism.

GUSTAVE COURBET
THE ARTIST'S STUDIO

61 This work is an allegory of Courbet's life, an exemplar of his Realist style, with figures whose lives symbolize his qualities and ideals

JEAN-FRANÇOIS MILLET

THE GLEANERS

62 With great empathy for the harsh lives endured by peasants, Millet depicted them at work, scandalizing traditional art lovers. Using myriad colors, the painting is serene, dignified, and filled with atmospheric light.



ÉDOUARD MANET

LE DÉJEUNER SUR L'HERBE

63 Provoking laughter and scandal, this work exemplifies the spirit of independence that led to Impressionism. A naked female among clothed men was shocking, their contemporary clothing unexpected, and Manet's loose brushmarks, thin paint, and lack of tonal gradations showed his abandonment of painting conventions. The work initiated a huge shift in ideas about art.

GUSTAVE MOREAU 1865

ORPHEUS

64 In an ambiguous, mystical, and golden scene, a girl stands in an oriental costume holding the head of Orpheus resting on his lyre.

JAMES MCNEILL WHISTLER

ARRANGEMENT IN GREY AND BLACK, NO. 1

65 Muted colors convey austerity. That the sitter is the artist's mother emphasizes his idea that art should be more concerned with lines, shapes, and colors than the subject.

BERTHE MORISOT 1872

THE CRADLE

66 The intimate composition and maternal gesture are created with light brushmarks.

CLAUDE MONET 1873

IMPRESSION, SUNRISE

67 The work that gave the artistic movement its name is a scene of a misty harbor at dawn. Monet's aim was to capture atmospheric effects.

EDGAR DEGAS 1864

THE DANCE CLASS

68 Like a snapshot, ballerinas of the Paris Opéra are shown in rehearsal. The unusual viewpoint thrusts viewers into the class, filled with color, where young dancers yawn, chat, and stretch, and their teacher, Jules Perrot, leans on his cane.

DANTE GABRIEL ROSSETTI 1870

PROSERPINE

69 Surrounded by symbols, this painting of Proserpine shows the captive goddess as an exotic, mysterious beauty.

THOMAS EAKINS 1873

THE GROSS CLINIC

70 The striking realism of Eakins's painting of a surgeon directing an operation while lecturing was groundbreaking.

PIERRE-AUGUSTE RENOIR 1873

DANCE AT THE MOULIN DE LA GALETTE

71 This quintessential Impressionist work depicts the garden of a dance hall in Montmartre. Renoir set up his easel and captured the lively atmosphere. Dappled with both natural and artificial light, the figures are built up with vibrant brushstrokes.

GEORGES SEURAT 1886

A SUNDAY AFTERNOON ON LA GRANDE JATTE—1884

72 Fashionable Parisians enjoy an afternoon stroll, but in addition to revealing underlying moral issues about bourgeois society, the work is also a vehicle for Seurat's experiments with color and composition. It is created with dots of pure color, resulting in vivid, shimmering effects.

PAUL GAUGUIN 1883

VISION AFTER THE SERMON

73 Breaking all conventions of naturalistic painting, Gauguin uses strong, flat colors in his depiction of Breton women in traditional costume.

VINCENT VAN GOGH 1889

THE STARRY NIGHT

74 A village nestles beneath a swirling sky that glows with stars and a bright moon. A dark cypress—a tree linked with graveyards and mourning—looms above. Blue, orange, and yellow dominate, and the paint is applied in impasto strokes. The work can be seen as symbolic: the sky represents God, the village the rest of the world, and the isolated cypress tree, van Gogh himself.



HENRI DE TOULOUSE-LAUTREC 1890

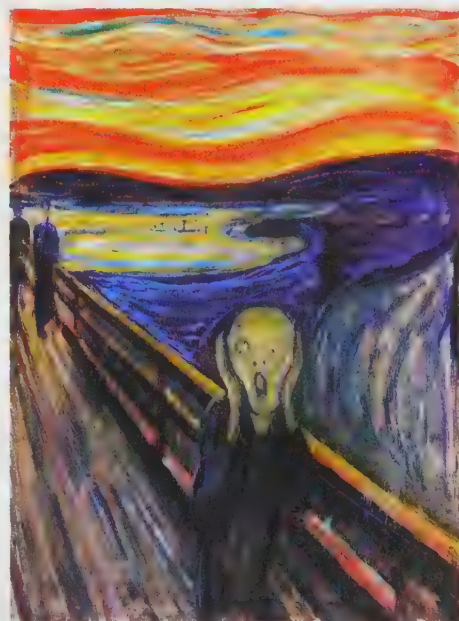
AT THE MOULIN ROUGE: THE DANCE

75 Valentine the Boneless is teaching the can-can to a dancer in a Paris nightclub. Dramatic perspective, unusual colors, candid depictions, and Lautrec's fluid style create a unique atmosphere.

EDVARD MUNCH 1893

THE SCREAM

76 Under a swirling sky, a lone figure on a bridge clasps its head in its hands and cries out in despair. This image is famed for prompting Expressionism and came to Munch in a dream. He was walking at dusk, and the sky "turned as red as blood." His companions walked on, leaving Munch alone, feeling "as if all nature were filled with one mighty unending shriek."



MARY CASSATT 1891

THE CHILD'S BATH

77 An unusual viewpoint, cropped forms, contrasting colors and tones, and an X-shaped composition appear in this touching domestic scene that focuses on pattern, shape, and color. A dignified portrait of motherhood.

PAUL CÉZANNE 1891

STILL LIFE WITH A BASKET OF APPLES

78 In Cézanne's efforts to portray underlying structures rather than a painting from one static angle, this work seems to shift and tilt. Strong shading and solid brushstrokes, create effects of density and dynamism.

HENRI MATISSE

70 PORTRAIT OF MADAME MATISSE (GREEN STRIPE)

Making color the most important element, this portrait changed many notions of painting. Rather than conventional shading, effects are created with warm and cool flat planes, and the face and background are divided into several distinct areas of color, including purple, red, yellow, green, and pink. Amélie's face is bisected with a vertical slash of green that acts as an artificial shadow.

GEORGES BRAQUE 1909 81 VIOLIN AND PALETTE

Braque's still life is presented from several angles, with simplified forms, flattened planes, and subdued colors.

VÁCLAV CHAGALL 1911

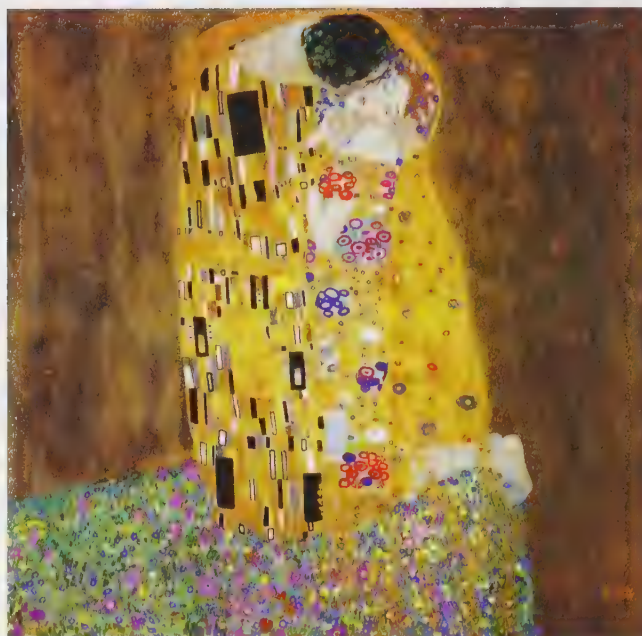
82 I AND THE VILLAGE

Recalling his native village in Belarus, Chagall created a colorful, fragmented, and dreamlike image in which humans and other animals live in harmony and are mutually dependent.



GUSTAV KLIMT 1908 80 THE KISS

Criticized at the time for being too sensual, this opulently golden work has become an iconic image of the period before two world wars. Locked in an embrace, the couple are ignorant of anything beyond their passion. On a patch of flowers, they are wrapped in ambiguous, gold and patterned cloaks, but the woman's feet appear to hang over a precipice.



MARCEL DUCHAMP 1917

83 NUDE DESCENDING A STAIRCASE (NO. 2)

This angular painting in translucent browns and ochers depicts a figure descending a staircase. The shapes and angles create a rhythm, merging Cubism and Futurism.

FRANZ MARC 1913

84 FATE OF THE ANIMALS

Painted just before World War I, this shows the destruction of the natural world through industrialization.

ERNST LUDWIG KIRCHNER 1913

85 FIVE WOMEN ON THE STREET

Distorted and grotesque, five prostitutes symbolize many of the problems and paradoxes Kirchner perceived in contemporary Berlin.

KAZIMIR MALEVICH 1918

87 BLACK SQUARE

An iconic work that sought to liberate painting from the constraints of imitation and representation. It is the concept not the skill of the painting that matters.

JOAN MIRÓ 1924–25

88 HARLEQUIN'S CARNIVAL

Expressing Miró's imagination and subconscious, abstracted and ambiguous creatures appear to hover on a blue void in this Surrealist painting.

RENE MAGRITTE 1928–29

89 THE TREACHERY OF IMAGES

"Ceci n'est pas une pipe" (This is not a pipe) is written in large lettering, explaining that it is an image of a pipe. Questioning how we perceive things is essential to Magritte's art.

WASSILY KANDINSKY 1911

86 COMPOSITION VII

With its combination of lyrical expression, rich color, and undulating structure, this abstract masterpiece is dynamic, calm, agitated, harmonious, and chaotic in equal measure. Kandinsky intended this ambitious oil painting—for which he carried out more than 30 preliminary sketches—to capture the spirit of the period immediately before the outbreak of World War I.

GRANT WOOD 1930
AMERICAN
GOTHIC

90 A couple standing in front of a wooden farmhouse with an unusual window brought Wood instant fame. Inspired by a cottage he had seen in a town in Iowa, and with his dentist and his sister posing as the farmers, his candid, precise, and detailed painting style and rigid stance of the figures celebrate rural American values.



PIET MONDRIAN 1930
COMPOSITION II IN RED,
BLUE, AND YELLOW

91 With no hint of a subject, this work displays Mondrian's abstraction, which he limited to horizontal and vertical lines and white, black, and primary colors, believing that balance and purity exposed the essence of the cosmos.

PAUL KLEE 1925
AD PARNASSUM

92 Working in pointillist style, Klee created a mosaic-like painting, inspired by Egypt, which attempted to capture the naivety of children's art.

PABLO PICASSO
GUERNICA

93 An arresting image of twentieth-century art, this painting expresses the violence and horror of the Spanish Civil War. In shades of black, gray, and white, the image is raw, explicit, and emotive. Distorted, jagged, and fragmented elements tell of suffering, pain, and chaos. It is a profound condemnation of the brutal massacre of innocent people.

SALVADOR DALÍ 1937
METAMORPHOSIS
OF NARCISSUS

94 With lifelike accuracy, Dalí interprets the Greek myth of Narcissus, presenting a disturbing Surrealist vision.

FRIDA KAHLO 1940
SELF-PORTRAIT WITH
THORN NECKLACE AND
HUMMINGBIRD

95 A necklace made of thorns shows the depth of Kahlo's suffering. Animals and insects suggest her fate.

JACKSON POLLOCK 1950
AUTUMN
RHYTHM
(NUMBER 30)

97 This radical work involved thinned paint being poured, dripped, dribbled, flicked, and splattered onto unprimed canvases.

MARK ROTHKO 1952
BLACK ON
MAROON

98 One of a series made for New York's Four Seasons restaurant, this canvas is saturated with richly colored paint. It imbues a meditative feeling of calm.

DAVID HOCKNEY 1967
A BIGGER
SPLASH

99 The silence of a spring day in California is broken as someone dives into the pool. In the background is a 1960s modernist building, and the edge of a diving board can be seen. Bright blue, turquoise, and white evoke the light and stillness of the afternoon as the surface of the water breaks. Is that a foot disappearing into the depths of the pool?

ANSELM KIEFER 1980
BLACK
FLAKES

100 This is the German painter's response to a poem with the same title by Paul Celan, a Romanian Jew who survived the Nazi holocaust. Kiefer's work incorporates a book, fashioned from lead, and some of the original text in a bleak, wintry landscape that resembles a wartime no man's land.

EDWARD HOPPER
NIGHTHAWKS

96 The loneliness of three strangers in an all-night diner. Fluorescent light emits an eerie glow, illuminating the diners in the surrounding darkness. The bleakness of a large city is almost palpable.





MYRON c. 450 BCE
DISCOBOLUS

1 Representing the ideal ancient Greek athletic figure, this is one of several Roman copies of a lost bronze original sculpture made by the Athenian sculptor Myron. The head on this, however, has been incorrectly restored, as it should be turning back to look toward the discus.

ARTIST UNKNOWN 1960s
VENUS DE MILO

3 This graceful, classical Greek statue of a woman was discovered on the island of Milos, Greece, in 1820. Although called the *Venus de Milo*, it has not been verified who it represents, although it is thought to be the goddess Aphrodite. Displaying the Greek notion of perfect proportions and harmony, the statue was originally adorned with jewelry. Made from two blocks of marble and sculpted in sections, it was then joined with pegs. The arms have never been found.

PRAXITELES c. 350 BCE
APHRODITE OF KNIDOS
2 Made by the ancient Greek sculptor Praxiteles, this is likely the first life-size portrayal of a naked female.

NANNI DI BANCO 1490s
FOUR CROWNED SAINTS
4 Di Banco became well known for his admiration of ancient, classical art. This is believed by many to be his masterpiece. Dressed in Roman togas, the four saints resemble ancient portrait busts of Roman senators, and they all seem to be involved in a conversation.

LORENZO GHIRBERTI 1425
GATES OF PARADISE
5 In 1425, Ghiberti began designing his second pair of bronze doors for the Florence Baptistery. He worked on them for 27 years, creating ten large reliefs of scenes from the Bible, demonstrating his understanding of perspective and of classical art.

100 SCULPTURES

DONATELLO 1440s
DAVID

6 The first freestanding nude male sculpture made since antiquity, this bronze figure depicts the biblical David, with curly hair and winged helmet, standing with his foot on Goliath's severed head just after defeating the giant. Apart from his helmet and boots, David is naked and carries Goliath's sword. Donatello emphasized David's delicacy and even femininity in comparison with Goliath's heavy features.

DONATELLO c. 1455
PENITENT MAGDALENE

7 Revealing Donatello's exceptional sculpting skills, this tall wooden statue presents Mary Magdalene with hollowed cheeks and long, matted hair as signs of her penitence.

ANTONIO DEL POLLAIUOLO 1490s
HERCULES AND ANTAEUS
8 Intense and dynamic, this small bronze sculpture is of a Greek myth. Antaeus and Hercules wrestle—Antaeus remained invincible as long as he touched the earth.

ANDREA DEL VERROCCHIO 1496
BARTOLOMEO COLLEONI
9 Verrocchio's dynamic bronze monument to the former captain-general of the Republic of Venice is one of the finest examples of Renaissance equestrian statuary.

MICHELANGELO 1490s
PIETÀ
10 Michelangelo used one block of Carrara marble to create the Virgin Mary holding the dead body of Jesus at a time when multifigured sculptures were rare.

MICHELANGELO 1501–14
DAVID
11 For the first time in art, Michelangelo depicted David before he kills Goliath. He stands in a contrapposto pose, face in concentration, the slingshot over his shoulder.

ANDREA SANSOVINO 1560s
BAPTISM OF CHRIST
12 These dignified marble figures lie above the baptistery doors in Florence.

MICHELANGELO 1560s
DYING SLAVE
14 Created for the tomb of Pope Julius II, this marble figure was ultimately not included because of lack of space. It shows Michelangelo's working methods: he saw his figures imprisoned in his blocks of marble, and he chiseled away to free them. Rather than death, this figure seems to be sinking into a deep sleep.

VEIT STOSS 1514
THE ANGEL RAPHAEL AND TOBIAS
15 One of the greatest works of Gothic sculpture, these limewood figures have animated expressions and gestures.

MICHELANGELO 1560s
MOSES
13 Commissioned by Pope Julius II for his tomb, this shows Moses seated.

BENVENUTO CELLINI 1560s
PERSEUS WITH THE HEAD OF MEDUSA
16 This is a bronze of the naked Perseus standing on the decapitated gorgon Medusa, holding her head.

GERMAIN PILON 1638-1708 RESURRECTION OF CHRIST

17 Two Roman soldiers have fallen to the ground in awe at the sight of the resurrected Christ. Although this was commissioned by Catherine de Medici, it remained in Pilon's studio during his life. The naked, athletic-looking Christ was inspired by Michelangelo's *Risen Christ* in Rome.

GIAMBOLOGNA 1575-1633 RAPE OF THE SABINE WOMEN

18 This is an energetic depiction of the Roman foundation myth of the abduction of a Sabine woman by a Roman man while her partner is cast to the ground.

STEFANO MADERNO 1586-1636 MARTYRDOM OF ST. CECILIA

19 This marble sculpture records the body of St. Cecilia when her tomb was opened in 1599. This simple, sinuous figure contrasts with lively, contemporary Mannerist works.



FRANCESCO MOCHI 1658-1714 ANGEL OF ANNUNCIATION

20 Mochi was an early Baroque sculptor who followed the Counter-Reformation's principles by creating realistic, emotive representations of biblical stories to inspire worshippers. This vigorous and realistic marble figure is larger than life-size and secured Mochi's reputation.



JUAN MARTÍNEZ MONTAÑÉS 1591-1665 CRUCIFIXION

21 When Montañés was commissioned for this work, he was given instructions about details he had to include. Made of polychromed wood, Christ had to be attached to the cross by four nails and portrayed as "alive, just before dying."

GIAN LORENZO BERNINI 1628-1681 APOLLO AND DAPHNE

23 The god Apollo ardently pursues the maiden Daphne, but she loathes him and calls on the gods to save her. Bernini vividly catches the moment when Daphne's feet become roots as Apollo reaches to embrace her and she turns into a tree.

GIAN LORENZO BERNINI 1628-1681 THE RAPE OF PROSERPINA

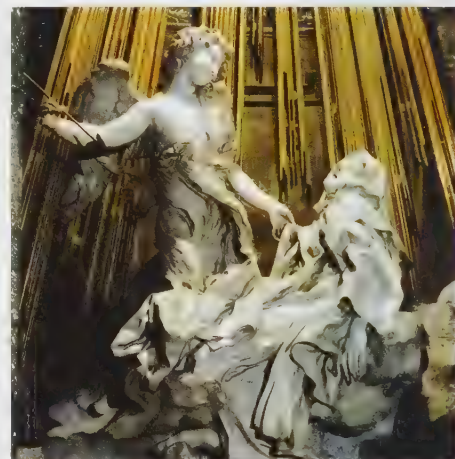
22 Bernini created a powerful Baroque style of sculpture that was dramatic, lifelike, and dynamic. Here, Proserpina is abducted and taken to the underworld by the god Pluto.

FRANÇOIS DUQUESNOY 1604-1684 ST. ANDREW

24 One of the four larger-than-life statues that Duquesnoy made for the transept of St. Peter's Basilica, this expressive, energetic marble depiction of St. Andrew holds the saltire cross of his martyrdom. Diagonals and drapery are emphasized theatrically.

GIAN LORENZO BERNINI 1628-1681 ECSTASY OF ST. TERESA

25 A delicate angel with a fire-tipped spear pierces St. Teresa's heart, sending her into a state of spiritual rapture. With her head back and eyes closed, Teresa is overcome with the feeling of God's love. Emanating bronze rays send divine light onto the crumpled drapery and ecstatic face of the saint. Despite being made of marble, the sculpture appears weightless.



ALESSANDRO ALGARDI 1657-1702 POPE LEO DRIVING ATTILA FROM ROME

26 This huge Baroque relief in St. Peter's Basilica portrays a dramatic moment and the courage of Pope Leo.

MELCHIORRE CAFÀ 1658-1708 ECSTASY OF ST. CATHERINE

27 The best of Bernini's followers, Cafà's marble relief emulates the intensity of his *Ecstasy of St. Teresa*.

JEAN-BAPTISTE TUBY 1604-1701 FOUNTAIN OF APOLLO

28 Magnificent gilded lead horses, Apollo, and his chariot emerge from a lake in the gardens of Versailles.

ANTOINE COYSEVOX 1676-1742 CHARLES LE BRUN

29 With great naturalism, Coysevox's bust reveals the character of the painter Le Brun.

PIERRE PUGET 1684-1742 PERSEUS AND ANDROMEDA

30 Carved from an abandoned block of marble, Puget created this work to display vigor and emotional intensity.

GUILLAUME COUSTOU | 1765

HORSES RESTRAINED BY GROOMS, "THE MARLY HORSES"

31 A colossal work sculpted from a block of Carrara marble, this pair of horse statues display intricate details, including a disheveled mane and flying tail.

JEAN-BAPTISTE PIGALLE | 1766

MAUSOLEUM OF THE MARÉCHAL DE SAXE

32 Pigalle's Hercules represents the French army, and the leopard, lion, and eagle denote conquered nations.

JOSEPH NOLLEKENS | 1767

CASTOR AND POLLUX

33 This is a fashionable copy of an antique sculpture of Castor and Pollux, the warrior twins of ancient Greek myth.

FRANZ XAVER MESSERSCHMIDT | 1770

THE YAWNER

35 Contemporary portrait busts were idealized, but this pewter distortion is unflattering and lifelike.

JOHN FLAXMAN | 1771

THE FURY OF ATHAMAS

41 Flaxman's large neoclassical marble sculpture depicts the furious and insane Athamas snatching his son from his mother's arms to kill him while her other son holds on to her. The depiction of rage and forceful expression seems theatrical, but the sculpture's ambition inspired other sculptors.

ÉTIENNE-MAURICE FALCONET BRONZE HORSEMAN

34 Flanked by the Neva River, the Admiralty, St. Isaac's Cathedral, and the former Senate and Synod, this equestrian statue was commissioned by Catherine the Great in homage to Peter the Great. Falconet portrays Peter as a Roman hero leading Russia while his horse crushes all enemies, symbolized by a snake.



JEAN-JACQUES CAFFIERI | 1771

PORTRAIT BUST OF A YOUNG WOMAN

36 Seemingly warm and breathing, this terra-cotta bust follows Caffieri's insistence on making his sitters appear alive.

CLODION | 1772

VESTAL PRESENTING A YOUNG WOMAN AT THE ALTAR OF PAN

37 Clodion's technical skill in handling clay is evident in this terra-cotta piece depicting a classical scene.

ANTOINE-DENIS CHADET | 1773

CUPID PLAYING WITH A BUTTERFLY

42 Chaudet's delicate marble work shows Cupid as a winged, idealized naked adolescent, offering a rose to a butterfly.

ALBERT BERTEL THORVALDSEN | 1774

JASON WITH THE GOLDEN FLEECE

43 Thorvaldsen's breakthrough work, this marble figure is of the mythological hero at the moment he gains the Golden Fleece.

ANTONIO CANOVA | 1775

THE THREE GRACES

44 This was commissioned by the sixth Duke of Bedford after seeing another version of *The Three Graces* by Canova at the sculptor's studio in Rome. It celebrates female beauty and depicts the daughters of the god Jupiter: Thalia (youth and beauty), Aglaia (elegance), and Euphrosyne (mirth). Canova creates the impression of a harmonious relationship between the women—and suggests the softness of their flesh.

JEAN-ANTOINE HOUDON | 1776

VOLTAIRE

38 Created shortly before the philosopher died, this realistic bust captures his physical frailty.

AUGUSTIN PAJOU | 1777

MERCURY

39 Pajou favored classical purity as can be seen in this depiction of the Roman god, Mercury.

ANTONIO CANOVA | 1778

PSYCHE REVIVED BY CUPID'S KISS

40 Cupid—with wings and quiver full of arrows—has discovered Psyche unconscious on a rock. As he kisses her, she awakes. Although a masterpiece of neoclassical sculpture, this moment of great emotion suggests an inclination toward Romanticism.



CHARLES HENRI JOSEPH CORDIER 1839-1905

BUST OF AN AFRICAN WOMAN (AFRICAN VENUS)

45 An example of the West's fascination with non-Western faces, clothes, and customs, later characterized as Orientalism.

JEAN-BAPTISTE CARPEAUX 1827-1875

THE DANCE

48 Created for the facade of the Paris Opéra, this sculpture conveys a sense of movement. Carpeaux carved it in both circular and vertical directions. Its realism shocked the public.

PIERRE-LOUIS ROUILLARD 1827-1890

HORSE WITH A HARROW

51 From May to November 1878, Paris held its third and largest Exposition Universelle to celebrate French recovery after the Franco-Prussian War of 1870 to 1871. Rouillard, who was recognized for his lifelike sculptures of animals, created this work in cast iron to decorate the Trocadéro palace at the fair.

AUGUSTE RODIN 1840-1917

THE THINKER

53 A naked male figure deep in thought, it was originally named *The Poet* and made for a doorway surround called *The Gates of Hell*. Rodin based this on *The Divine Comedy of Dante*. He later decided to create the figure as an independent, larger work.

ALFRED STEVENS 1802-1885

VALOUR AND COWARDICE

46 This bronze is part of the monument to the Duke of Wellington in St. Paul's Cathedral, London.

JEAN-JOSEPH PERRAUD 1840-1904

DESPAIR

49 An allegory of the tragedy of existence, this marble work depicts a pensive, naked young man.

EDGAR DEGAS 1864-1917

LITTLE DANCER AGED FOURTEEN

52 This portrays a young ballet student from the Paris Opéra. Degas made a wax sculpture of her naked. Then, against convention, dressed the sculpture in a cream silk bodice, tulle and gauze tutu, fabric shoes, and real hair tied with a ribbon. When exhibited, viewers were shocked by the work's realism and the pain endured by a teenage girl. After Degas's death, bronze casts were made of his wax original.



EDWIN HENRY LANDSEER 1833-1870

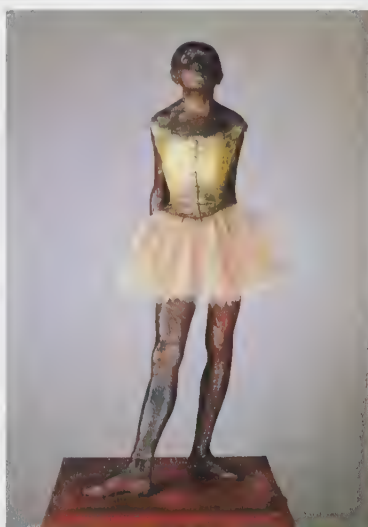
LIONS

47 Although famed for his paintings of animals, Landseer's best-known works are the four bronze lion sculptures at the base of Nelson's Column in Trafalgar Square, London.

FREDERIC LEIGHTON 1874-77

ATHLETE STRUGGLING WITH A PYTHON

50 A copy of Roman classical style, this was one of the most recognizable sculptures of the late Victorian era.



AUGUSTE RODIN 1840-1917

THE KISS

54 This represents the thirteenth-century adulterous lovers, Francesca da Rimini and her husband's younger brother, Paolo Malatesta, from Dante's *Inferno*. In the story, the couple fall in love as they read the story of Lancelot and Guinevere together and on being discovered, are slain by Francesca's husband.

FRÉDÉRIC-AUGUSTE BARTHOLDI 1834-1907

STATUE OF LIBERTY (LIBERTY ENLIGHTENING THE WORLD)

55 This iconic statue that stands in New York Harbor was donated by France to America on the centenary of US independence in 1886, and it remains one of the most widely recognized structures in the world.

CONSTANTIN MEUNIER 1839-1905

THE IRONWORKER

56 Influenced by French Realists, Belgian painter and sculptor Meunier created empathetic images of industrial workers, dockers, and miners, reflecting the industrial, social, and political developments and problems of his times. This bronze depicts not a classical hero but a strong, hardworking, ordinary man.

JEAN-ALEXANDRE-JOSEPH FALGUIÈRE c. 1893

REVOLUTION HOLDING THE HEAD OF ERROR AND STRIDING OVER THE CADAVER OF MONARCHY

57 Commissioned by the French government to decorate the Panthéon, this bronze figure allegory of the independence of the French people after the revolution—was never created in its intended monumental size.

GEORGES MINNE 1839-1921

KNEELING YOUTH

58 Vulnerability is the theme of this work. Intended to express the universal suffering of humanity and its narcissism, it is one of a series of kneeling youths that Minne made for a fountain.

ARISTIDE MAILLOL 1868-1944
THE MEDITERRANEAN

59 Emphasizing simplicity, Maillol created this rounded figure as a series of interlocking triangles.

CONSTANTIN BRANCUSI 1876-1957
SLEEPING MUSE

61 Inspired by the folk art of his native Romania, and interested in Primitivism, Brancusi reduced form, creating smooth contours and simple shapes. The subject of a sleeping head occupied him for almost 20 years. Baroness Renée Irana Frachon was the model for this ovoid bronze that was highly polished to emulate the shiny finish of human-made industrial products.

UMBERTO BOCCIONI 1892-1931
UNIQUE FORMS OF CONTINUITY IN SPACE

62 Futurists expressed speed, and this bronze shows a figure changed by moving through space and time.

ALEXANDER ARCHIPENKO 1897-1993
BOXING MATCH

64 One of the most influential Cubist sculptors, Archipenko attempted to depict different views of a subject simultaneously. He also worked with negative space, using voids as positive forms. The *Boxing Match* shows the tension between two opposing forces. Depending on the viewpoint, the work can appear like figures in combat.

CONSTANTIN BRANCUSI 1876-1957
BIRD IN SPACE

88 Smooth and elongated, this piece redefined sculpture by suggesting a bird in flight rather than depicting its form.

CONSTANTIN BRANCUSI 1876-1957
THE KISS

60 Brancusi pioneered direct carving with this Proto-Cubist work and its simple geometric forms.

HENRI GAUDIER-BRZESKA 1871-1932
RED STONE DANCER

63 A pioneer in the revival of direct carving, Gaudier-Brzeska created this abstract figure to express pure form. It also reveals his interest in primitive artifacts.

JEAN (HANS) ARP 1897-1966
SCULPTURE TO BE LOST IN THE FOREST

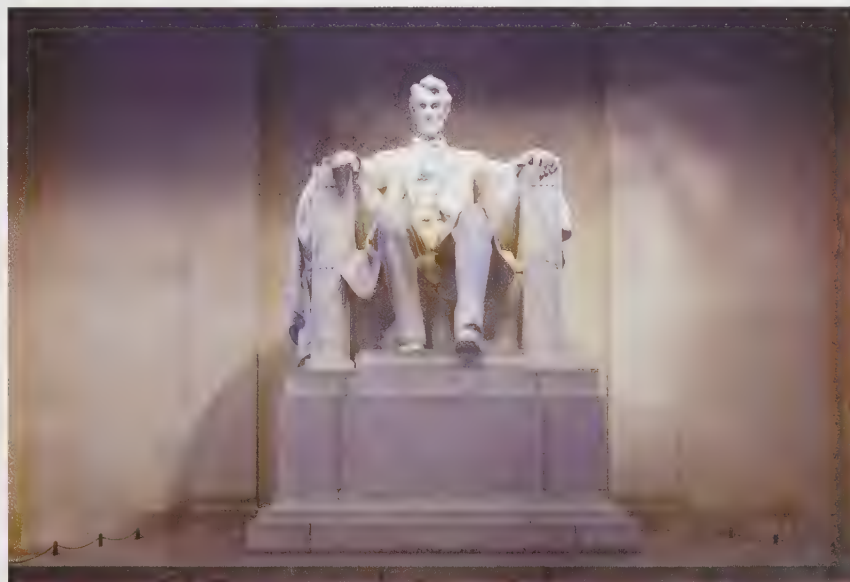
69 Arp's biomorphic style apes natural forms, like weathered stones. He linked his works to nature by leaving them in a forest.

JAMES EARLE FRASER 1874-1953
END OF THE TRAIL

65 Fraser grew up on the plains in Mitchell, South Dakota, where he met pioneers and hunters and befriended many of the Plains Indians. Much later, he sought to depict the vanishing race of people, here represented by a slumped figure on his horse with a medicine bag, being blown by the wind.

DANIEL CHESTER FRENCH 1890-1991
ABRAHAM LINCOLN

67 This colossal seated figure of the US president Abraham Lincoln at the Lincoln Memorial in Washington DC follows both the French beaux arts and the American Renaissance traditions. Created out of 28 blocks of white Georgia marble, the figure gazes ahead. His frock coat is unbuttoned and a large US flag is draped over his chair. French paid particular attention to the president's hands, and used casts of his own fingers to achieve the correct placement. French said he wanted to convey "the mental and physical strength of the great President."



NAUM GABO 1890-1977
HEAD NO. 2

65 Gabo described space rather than mass with his "stereometric construction" method using planes to create the shape of this corten steel head.

HENRY MOORE 1897-1981
RECUMBENT FIGURE

72 This abstract female figure is made of Hornton stone that undulates like the rolling hills of a landscape.

JACOB EPSTEIN 1892-1959
ALBERT EINSTEIN

70 In 1933, physicist Albert Einstein fled Germany for the United Kingdom. Epstein's bust depicts him with "wild hair floating in the wind."

SALVADOR DALÍ 1904-1989
LOBSTER TELEPHONE

71 Made from the juxtapositions of usually unassociated objects, this surrealist work is both playful and menacing.

GEORGIA O'KEEFFE
ABSTRACTION

73 One of only three sculptural motifs O'Keeffe made, the organic lines of this spiral form embody her fascination with nature and abstraction.

MARINO MARINI
LITTLE HORSEMAN

74 Marini's horse-and-rider theme developed over time, introducing abstraction, altered proportions, and modern techniques to a classical subject.

ANNA HYATT HUNTINGTON
FIGHTING STALLIONS

75 Known for her knowledge of animal behavior and anatomy, and horses in particular, Hyatt Huntington created this animated work out of aluminum.

PABLO PICASSO
SHE GOAT

76 Picasso used trash as the base of the goat's body. A wicker basket forms the rib cage, two ceramic jugs serve as udders, and palm fronds shape its spine and nose.

ALBERTO GIACOMETTI
DOG

77 Giacometti created a sense of loneliness with this. He recalled the work's origin: "One day I was walking along the Rue de Vanves in the rain, close to the walls of the buildings, with my head down, feeling a little sad perhaps, and I felt like a dog just then. So I made that sculpture."



ALEXANDER CALDER
RED MOBILE

78 This expresses the randomness of reality and constant motion of the universe.

JASPER JOHNS
PAINTED BRONZE (ALE CANS)

81 Johns cast two beer cans in bronze and then painted them to emulate ordinary Ballantine cans.

YEVGENY VUCHETICH
& NIKOLAI NIKITIN
THE MOTHERLAND CALLS

84 Overlooking the city of Volgograd—formerly Stalingrad—in southern Russia, this monument was created to commemorate the Battle of Stalingrad. When completed, it was the largest statue in the world. The twisting figure's raised sword and extended left hand recalls Eugène Delacroix's painting of 1830, *Liberty Leading the People*—with a similar purpose of declaring national pride and freedom. Made of prestressed concrete held together with wire rope, the engineering of the sculpture is complex. It is reached by 200 steps, symbolizing the 200 days of the battle.

DUANE HANSON
YOUNG SHOPPER

85 A hyperrealist, Hanson aimed to re-create reality. This woman is weighed down by her purchases and epitomizes consumerism. Hanson said: "She carries physical burdens—the burdens of life, of everyday living."

LOUISE NEVELSON
SKY CATHEDRAL

79 Shrine-like, this comprises stacked boxes, filled with bits of wood and painted black.

ALBERTO GIACOMETTI
WALKING MAN I

82 With its apparent combination of fragility and strength, this figure epitomizes Giacometti's way of evoking a human presence.

JOSEPH BEUYS
MONUMENT TO THE STAG

80 Beuys used found objects—industrial detritus of wood, iron, and copper—to create his animal sculpture.

CLAES OLDENBURG 196
FLOOR BURGER

83 One of the icons of Pop Art, this giant, soft sculpture represents consumerism on a massive scale.



BARBARA HEPWORTH
FALLEN IMAGES

86 Hepworth's last major work consists of six freestanding, white marble forms arranged on a circular platform. Such geometrical carvings were typical of her—she loved marble for "its radiance in the light, its hardness, precision, and response to the sun."

DONALD JUDD
UNTITLED

87 A stack of identical rectangular units are cantilevered off a wall at regular intervals so that they jut from the wall like rungs on a ladder. Each section is balanced.

JEFF KOONS
BALLOON DOG

91 Koons aimed to re-create a child's enjoyment of the world through traditional celebrations, such as birthday parties. *Balloon Dog* replicates a children's party balloon, but on a massive scale. Made from precision-engineered, mirror-polished stainless steel, it is finished with a translucent coating of either blue, magenta, orange, red, or yellow. He emphasizes ambiguity: it is at once familiar and unfamiliar, tacky and opulent, disposable and permanent.

BRUCE NAUMAN
FIFTEEN PAIRS OF HANDS

92 Hands cast from life in bronze, all performing different gestures, resemble hand studies in a sketchbook—and severed body parts.

ROWAN GILLESPIE
BIRDY

94 A bronze figure of a slender woman perches on a ledge outside the window of a house in Dublin.

HENRY MOORE
DRAPED RECLINING MOTHER AND BABY

88 Curved, abstract forms depict a woman in flowing clothes tenderly cradling a baby.

EDUARDO PAOLOZZI
NEWTON

89 This is a bronze sculpted version of artist William Blake's watercolor of the 1790s of the seventeenth-century scientist Isaac Newton.

RICHARD SERRA
SNAKE

90 Serra's minimalist work accentuates the characteristics of the unconventional industrial materials used: three huge, serpentine ribbons of hot-rolled steel.



ANISH KAPOOR
CLOUD GATE

97 Kapoor's massive public sculpture is made of 168 polished stainless-steel plates welded together. It is nicknamed "the Bean" because of its shape.

DAMIÁN ORTEGA
CONTROLLER OF THE UNIVERSE

98 An installation of everyday tools—chisels, hammers, and saws—suspended from the ceiling as if floating in space, this suggests an explosion.

FERNANDO BOTERO
DANCERS

99 A giant couple hold each other, their hands linked at the moment before they begin to dance. Powerful and massive, their corpulent bodies are almost identical, an expression of their harmony and unity.

RON MUECK
DEAD DAD

93 A naked male figure lying on the ground is a half-size replica of Mueck's deceased father. The peaceful figure is a reminder of the inevitability of death.

ANTONY GORMLEY
ANOTHER PLACE

95 One hundred cast-iron figures stand along the English coast facing out to sea. Made from cast replicas of Gormley's body, the poses are all similar.

LOUISE BOURGEOIS
MAMAN

96 *Maman* is a mammoth steel spider with spindly limbs. The 30-foot-high (9m) female spider protects an egg sac hanging under her body that contains her precious white-and-gray marble eggs visible through a steel cage. The name *Maman*, meaning "mom," is a term of endearment used by a child for his or her mother, and the work symbolizes maternal strength, in particular that of Bourgeois's mother.

SOL LEWITT
SPLITCH #22

100 Conceptual artist Lewitt died during the making of this flame-like piece that is intentionally playful and lighthearted.



1800–77

WILLIAM HENRY FOX TALBOT

1 In 1827, Joseph Niépce had produced pictures on bitumen, and in 1835, Talbot made a photographic negative, the first process for creating light-fast and permanent photographs. In early 1839, Louis Daguerre created daguerreotypes—pictures on silver plates—and three weeks later, Talbot reported his “art of photogenic drawing,” or prints on paper that had been made light sensitive. He went on to develop the three main elements of photography: developing, fixing, and printing.

JULIA MARGARET CAMERON

2 A woman in a man’s world, Cameron made insightful portraits of celebrities and depictions of legendary stories.

ROGER FENTON

3 One of the first war photographers, Fenton was the first official photographer of the British Museum and achieved recognition for his images of the Crimean War in 1855.

THOMAS ANNAN

4 The first photographer to record poor housing conditions in the slums of Glasgow, Annan became renowned for his series, *The Old Closes and Streets of Glasgow*.

HENRY PEACH ROBINSON

5 An English Pictorialist photographer whose writings and pioneering combination printing—joining multiple negatives or prints to form a single image—made him one of the most influential photographers of the second half of the nineteenth century.

100 GREAT PHOTOGRAPHERS

1830–1904

EADWEARD MUYBRIDGE

6 A key innovator of stop-motion photography, Muybridge used multiple cameras to capture over 100,000 images of animals and humans as they moved.

ALFRED STIEGLITZ

8 A US photographer, publisher, writer, gallery owner, and modern art promoter, Stieglitz spent 50 years exploring photography, and through his work and exhibitions, made it accepted as an art form.

LEWIS HINE

9 A US sociologist and photographer, Hine’s photography for the National Child Labor Committee (NCLC), helped change US child labor laws.

AUGUST SANDER

10 Called “the most important German portrait photographer of the early twentieth century,” Sander portrayed a cross section of society in his portraits during the Weimar Republic.

1853–1941

FRANK MEADOW SUTCLIFFE

7 At the end of the Victorian era, Sutcliffe created an abiding record of life in the English seaside town of Whitby.

EDWARD STEICHEN

11 In 1911 the first published modern fashion photographs were made by photographer, painter, and art gallery and museum curator, Steichen, in the magazine *Art et Décoration*. From 1923 to 1938, Steichen worked for *Vogue* and *Vanity Fair* as well as advertising agencies, including J. Walter Thompson, and he became known as the highest-paid photographer in the world. In 1944 he directed the war documentary *The Fighting Lady*, and his work was featured regularly in the groundbreaking magazine *Camera Work*, produced by his colleague Alfred Stieglitz from 1903 to 1917.

IMOGEN CUNNINGHAM

12 A photographer of botanical themes, nudes, and industrial landscapes, Cunningham belonged to the Californian Group f/64, which favored sharp-focused renderings.

EDWARD HENRY WESTON

13 One of the most innovative and influential US photographers of the early to mid-twentieth century, over his 40-year career, Weston produced several thousand photographs, exploring an extensive range of subjects, in sharply focused images, including landscapes and organic forms, still lifes, sculptural nudes, portraits, and genre scenes using large-format cameras. His subtle use of tones and textures, and his eloquent compositions, modernized the art of photography and set standards for future photographic practice, influencing a generation of photographers.



MAN RAY

14 Starting as a painter, Man Ray became involved with Dada and surrealism. He worked in a variety of media but became best known for his fashion and portrait photography and for his pioneering new photographic techniques, which he called "rayographs." After meeting Duchamp in 1915, he helped to form a New York Dada group, and later created abstract paintings and experimented with airbrush paintings and sculpture objects. Living in Paris from 1921, he became associated with the French Dada and surrealist circle and continued to work as a portrait and fashion photographer.

PAUL STRAND

15 Best known for his urban scenes, street portraits, and abstractions, Strand was a filmmaker and photographer who helped establish photography as an art form.

NICKOLAS MURAY

16 Lithographer, engraver, and photographer Muray made over 10,000 portraits for publications including *Harper's Bazaar*, *Vanity Fair*, *Vogue*, and the *New York Times*.

ANDRÉ KERTÉSZ

17 A seminal figure of photojournalism, Kertész used unusual camera angles and an innovative style.

JOSEF SUDEK

21 Despite losing his right arm in World War I, Sudék's images captured atmospheric night scenes, panoramas, and interiors.



DOROTHEA LANGE

18 A US photographer and photojournalist, Lange is particularly known for her work for the Farm Security Administration (FSA) in which she humanized the consequences of the Great Depression, especially the unemployed, migrant workers, and displaced farmers and their families, hugely influencing the development of documentary photography.

LÁSZLÓ MOHOLY-NAGY

19 Artist, designer, theorist, and photographer, Moholy-Nagy produced avant-garde and experimental art photography.

TINA MODOTTI

20 Actress, model, and photographer Modotti portrayed ordinary Mexicans and documented the revolutionary spirit of the era.

ERWIN BLUMENFELD

22 Technical expertise and an innate sense of style and artistry meant that Blumenfeld's inventive fashion photography broke new ground.

WEEGEE

23 Arthur Fellig, pseudonym Weegee, worked as a press photographer during the 1930s and 1940s, and became known for his perceptive and disturbing black-and-white photographs of life, crime, injury, and death in New York City.

1839-1984

BRASSAI

24 The photographer, poet, draftsman, and sculptor became known for his dramatic images of Montparnasse in Paris at night. Full of artists, prostitutes, and petty criminals, his photos were published in his 1933 book *Paris After Dark* and then in 1935 *Pleasures of Paris* gained him worldwide fame.

1903-94

ANSEL ADAMS

26 Photographer and environmentalist, Adams is best known for his signature black-and-white landscapes of the American West, especially of Yosemite National Park. With Fred Archer, he invented the Zone System technique that enabled them to determine correct exposure and adjust the contrast of final prints. The resulting clarity and depth characterized Adams's photographs, mainly taken with large-format cameras as their high resolution helped to create sharpness in his images. After his portfolio *Parmelian Prints of the High Sierras* was published in 1927, he received many commercial assignments. Focusing on detailed close-ups as well as expansive scenes, he also began publishing his writing on photography. After working with fellow photographers Dorothea Lange and Walker Evans, who were committed to influencing society and politics through their work, Adams began trying to protect the environment through photography.

1922-81

BILL BRANDT

30 One of the key photographers of the twentieth century, Brandt is known for his dynamic social documentary images as well as portraiture, landscape, and nudes.

1904-90

ANGUS MCBEAN

31 Renowned for his theatrical and inventive photography that appeared in advertising and magazines, McBean was imitated during his career—and his influence continues.

1889-80

GEORGE HOYNINGEN-HUENE

25 Producer of glamorous fashion images, Hoyningen-Huene was also a master portrait photographer, a fashion designer, and adviser to the film industry.



1891-82

WALKER EVANS

27 The originator of the documentary photograph, Evans is best known for his sharp, articulate images that chronicle the effects of the Great Depression.

1897-82

HAROLD E. EDGERTON

28 Among other things, Edgerton invented the electric flash that enabled him to capture speeding images the human eye cannot see.

1899-82

CECIL BEATON

29 Before becoming a successful costume and set designer, Beaton earned renown as a fashion photographer in the 1920s and 1930s. He also took society portraits; in 1937 he photographed the Duke and Duchess of Windsor's wedding, and Queen Elizabeth in 1939. He documented the home front during World War II.

1904-88

GEORGE HURRELL

32 Credited with setting the standard for idealized Hollywood glamour portraits, Hurrell used various original ideas, including strong and soft lighting techniques and hand-retouching on negatives.

1906-97

PHILIPPE HALSMAN

33 From the 1930s, Halsman's reportage photography appeared on the cover of every major US magazine, including a record 101 covers of *Life*. His incisive portraits of politicians, scientists, and celebrities were revealing, imaginative, and skillful.

1906-88

HORST P. HORST

34 Best known for his photographs of women and fashion, Horst also created striking images of still lifes and interiors. Two of his most iconic are the *Mainbocher Corset* of 1939 and his 1942 portrait of Marlene Dietrich, both in strong chiaroscuro.

YOUSUF KARSH

35 Highlighting a range of unconscious expressions and gestures that reveal underlying personalities, Karsch created revealing portraits, declaring, "My chief joy is to photograph the great in heart, in mind, and in spirit, whether they be famous or humble."

HENRI CARTIER-BRESSON

36 One of the major photographer-artists of the twentieth century, Cartier-Bresson was a pioneer who never artificially enhanced his images and whose compassionate and creative black-and-white photographs helped establish photojournalism as an art form.



MINOR WHITE

37 Abstract themes, landscapes, and figure photographs in strong tonal contrasts and show White's technical mastery.

EVE ARNOLD

39 Saying: "I don't see anybody as either ordinary or extraordinary," Arnold photographed iconic figures of her time as well as the poor.

ROBERT DOISNEAU

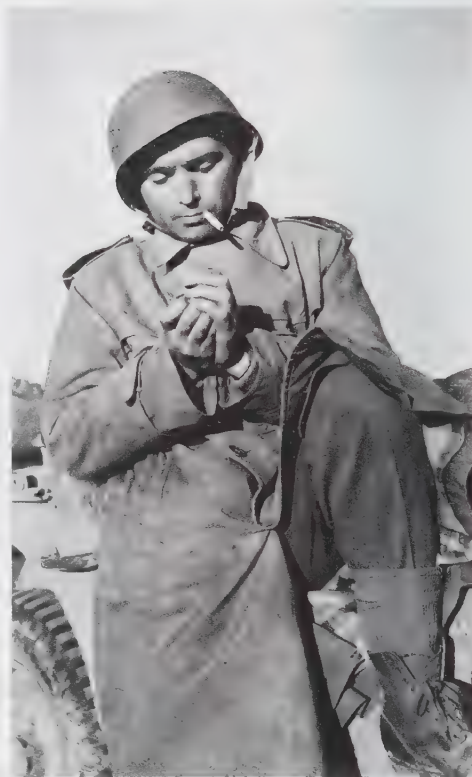
38 A pioneer of photojournalism, Doisneau captured life on the streets of 1930s Paris with his Leica camera.

NORMAN PARKINSON

40 Parkinson's dynamic fashion photographs and relaxed royal portraits earned him numerous accolades.

ROBERT CAPA

41 A Hungarian war photographer and photojournalist, Capa covered five different wars: the Spanish Civil War, the Second Sino-Japanese War, World War II, the 1948 Arab-Israeli War, and the First Indochina War. His images from World War II include the liberation of Paris and the 1944 Normandy invasion, each portraying elements of the conflict with great impact, largely through his natural empathy. In 1947 he cofounded Magnum Photos, the first cooperative agency for worldwide freelance photographers, with among others, Cartier-Bresson. His use of a small 35-mm camera allowed him to approach his subjects especially closely, which was an innovation in photojournalism.



BERT HARDY

42 Hardy's talent flourished with his revealing images of the Blitz in London and while he was staff photographer on *Picture Post*.

HELEN LEVITT

43 With her sharp observations, Levitt photographed on the bustling streets in and around New York City.

O. WINSTON LINK

44 Best known for his black-and-white photography and sound recordings of the last days of steam trains in the United States in the 1950s, Link also pioneered night photography.

IRVING PENN

45 One of the twentieth century's most influential and prolific photographers, Penn is particularly known for his fashion photography, portraits, and still lifes. With a career that spanned more than 50 years, he worked predominantly for *Vogue* and photographed many of the most creative figures of his time, including Marcel Duchamp, Pablo Picasso, and Georgia O'Keeffe, often in unexpected poses and places, such as enclosed and austere backgrounds. He also produced sparse, carefully composed, modernist still lifes of things such as food, bottles, metal, and found objects, and photographic travel essays, all with close attention to detail. In his search for clean, crisp effects, he experimented with many printing techniques.

1918-78

W. EUGENE SMITH

46 Smith is known for his attention to detail in his journalistic work. He produced his most famous images as a correspondent for Ziff Davis Publishing and *Life* magazine, especially stark images of World War II.

1918-2006

ARNOLD NEWMAN

47 Noted for his "environmental portraits" of artists and politicians that displayed his empathetic personality, Newman was also known for his abstract still lifes.



1920-2004

HELMUT NEWTON

48 In 1946, Newton set up a studio in Melbourne and produced fashion and theater photography in the affluent postwar years. He was commissioned to create fashion photography for an Australian supplement for *Vogue* magazine in 1956, followed by a 12-month contract with British *Vogue*. Then he worked in London, Paris, and Melbourne as a fashion photographer. His work appeared in magazines including *French Vogue* and *Harper's Bazaar* as he established his particular, respected style marked by sexually stylized scenes that demonstrate his outstanding technical skill.



RICHARD AVEDON

49 Avedon first worked as a freelance photographer, primarily for *Harper's Bazaar*, but when he was denied the use of a studio by the magazine, he photographed models in unexpected locations, and soon became the lead photographer for *Harper's Bazaar*, demonstrating his capacity for evoking his subjects' personalities. His later work resulted in some of the best-known advertising campaigns in US history.

JANE BOWN

52 Bown received widespread critical acclaim for her portraits of subjects, including Orson Welles, John Lennon, Truman Capote, and Queen Elizabeth II.

BOB WILLOUGHBY

53 Willoughby brought documentary photojournalism to Hollywood, changing the way stars were portrayed.

GARRY WINOGRAND

54 The instinctive Winograd cared little for technique but photographed on the streets every day.

WILLIAM KLEIN

55 Artist-photographer and filmmaker Klein often created blurred or out-of-focus, highly contrasting images, often overexposing his negatives, using high-grain film and wide angles, shocking traditionalists and attracting the reputation as a rebel photographer.



DIANE ARBUS

50 In the 1950s and 1960s, Arbus created distinctive portraits that showed the eccentricities, diversity, and beauty of people living in New York. Although she was successful with fashion work, she soon worked independently, taking frank images of those on the fringes of society, such as dwarfs and circus performers.

ROBERT FRANK

51 With his dynamic images, Frank is said to have changed the nature of photography through his 1958 book *The Americans*. He experimented with manipulating photographs and photomontage, and later expanded into film and video.

ELLIOTT ERWITT

56 An advertising and documentary photographer and filmmaker, with a career spanning more than 50 years, Erwit is renowned for his clear-cut black-and-white images of wry and often bizarre situations in mundane settings—often featuring dogs.

FRANK HORVAT

57 Photojournalist
Horvat was one of the first to experiment with Photoshop in the early 1990s to enhance his portraits, landscapes, and fashion shoots.

LORD SNOWDON

58 After focusing on design, fashion, and theater, Lord Snowdon established himself as a royal portraitist.

BRUCE DAVIDSON

59 With his gritty, clear-sighted vision, Davidson has chronicled the effects of poverty in and around New York.

JEANLOUP SIEFF

60 Sieff was famous for his signature monochrome portraits of politicians and artists, fashion shoots, landscapes, and nudes, often taken with wide-angle lenses.

BRIAN DUFFY

61 Duffy captured the 1960s in stylish and iconic images. Breaking with fashion photography traditions, he became more famous than many of the models and magazines with whom he worked.



DON MCCULLIN

62 Recognized for his war photography and images of urban strife, McCullin's haunting photographs have depicted deprivation, the unemployed, and the downtrodden. He is also the twentieth century's most revered war photographer, having taken photographs in the center of some of the most dangerous war zones, using somber lighting to show horror, immediate, emotional stories, and achieve empathy.

PHILIP JONES GRIFFITHS

63 From 1966 to 1968, and again in 1970, Griffiths lived with soldiers and civilians in the Vietnam War. In 1971 his book *Vietnam Inc.* was published with his own biting captions. It had a marked effect in changing public perceptions of the war.

DAVID BAILEY

64 After assisting fashion photographer John French, Bailey began the 1960s with a contract to work with British *Vogue*. His ascent there was meteoric. Within months he was shooting iconic covers. At the height of his productivity, he shot 800 pages of *Vogue* editorial in one year. He became a famed chronicler and a leading figure in the 1960s London scene, providing some of the inspiration for the role of the photographer in Michelangelo Antonioni's cult film *Blow-Up* (1966). He socialized with actors, musicians, and royalty, and became one of the first celebrity photographers. His portraits during that decade included Terence Stamp, the Beatles, Mick Jagger, Jean Shrimpton, Cecil Beaton, Rudolf Nureyev, and Andy Warhol.



b. 1938

HARRI PECCINOTTI

65 Over his 40-year career, Peccinotti broke several taboos by portraying erotic images of women, including black models, most famously in two Pirelli calendars and fashion magazines such as *Nova*.

b. 1939

WILLIAM EGGLESTON

66 With his intense compositions of the US South, Eggleston is largely credited with establishing the acceptance of color in fine art photography.

MARY ELLEN MARK

67 Famed for photojournalism, documentary work, and intimate portraits, Mark addressed difficult social issues, capturing people on the fringes of society.

1941

SARAH MOON

68 Moon became a fashion photographer during the 1970s and worked with Barbara Hulanicki, Chanel, Cacharel, Dior, and Comme des Garçons. In 1972 she was the first woman to shoot the Pirelli calendar, and later produced art photography and films.

b. 1942

NEIL LEIFER

70 Leifer's iconic photographs, with their sharp, clear, dynamic shots, have captured worldwide sports events and personalities since the 1960s, including 14 Olympic Games and Muhammad Ali in action.

b. 1943

PATRICK DEMARCHELIER

71 For over 40 years, Demarchelier has shaped the way we see fashion, in major brand advertising campaigns and high-end magazines including *Life*, *Vogue*, and *Harper's Bazaar*.

b. 1944

JOEL STERNFELD

73 In large color images, Sternfeld explores US identity by documenting ordinary people and places, imbuing his pictures with wit.

b. 1946

BRUCE WEBER

74 Weber is known for his stylish images for Calvin Klein, Ralph Lauren, Pirelli, Versace, *Vogue*, *Vanity Fair*, and *Rolling Stone* magazines.

b. 1947

SEBASTIÃO SALGADO

72 A UNICEF Goodwill Ambassador, and one of the most important social commentators of the early twenty-first century, through his photojournalism, Salgado has documented people around the world expressing beauty, strength, and hope in even the grimmest situations. His work has been exhibited internationally. From 2004 to 2011, he created *Genesis*, images of landscapes, wildlife, and human communities that follow their ancestral traditions.



b. 1947

OLIVIA PARKER

69 Predominantly self-taught, Parker usually constructs her photographs in the studio, using formats ranging from 35 mm to Polaroid, and mainly still lifes inspired by seventeenth-century Dutch, Flemish, and Spanish paintings, with sharp details and contrasts.



b. 1947

ROBERT MAPPLETHORPE

75 Mapplethorpe's large-scale, often stylized, sharp-focused, and explicit photos—including celebrity portraits, male and female nudes, and still lifes, often in black and white—have often been controversial. His most notorious work was in the late 1960s to 1970s, featuring male nudes and sexually explicit gay imagery that he created, not for eroticism, but to declare the right to individual freedom.

b. 1947

HIROSHI SUGIMOTO

76 Influenced by Dada, surrealism, and Marcel Duchamp in particular, Sugimoto investigates themes such as metaphysics, time, and empiricism. He is acclaimed for his conceptual and philosophical ideas as well as his technical ability.

b. 1948

SUSAN MEISELAS

77 A documentary photographer, Meiselas has been published in books and major newspapers and magazines. She mainly documents human rights issues.

b. 1947

ANNIE LEIBOVITZ

78 One of America's greatest portrait photographers, who has been awarded many accolades since her first job at *Rolling Stone* magazine, Leibovitz has created intimate, striking, and creative portraits of celebrities, often in bold poses and colors. She also worked for *Vanity Fair*, has created several high-profile advertising campaigns, and publishes and exhibits her art photography.

STEVE MCCURRY

Best known for his iconic "Afghan Girl," which originally appeared in *National Geographic* magazine in 1984, McCurry often enters war zones to obtain images that focus on the human consequences of war. His work has won many awards.

ART WOLFE

Impactful, colorful images of wildlife, landscapes, and native cultures, Wolfe's prolific photographs document scenes from many locations across the world and have appeared in over 60 books, the result of both artistic and journalistic styles.

FRANS LANTING

From hundreds of locations around the world, Lanting's stunning photographs of plants and animals are regularly published in wildlife publications.

NICK UT

Huỳnh Công Út, or Nick Ut, photographs for the Associated Press (AP). In 1973 he won the Pulitzer Prize for *The Terror of War*, depicting children running from a napalm bombing. His best-known image for that series is of a naked nine-year-old girl.

HERB RITTS

Ritts's naturally lit, black-and-white photography—usually of celebrities—captured a sense of classical Greek sculpture and helped create the glamour of the 1980s and 1990s. He worked for fashion magazines, made music videos, and published many books.



MARTIN PARR

Often exaggerating imagery and using eccentricities, vivid colors, and strong perspectives, Parr's often extensive series of photographs are original, entertaining, and accessible. They are also perceptive observations about our values, how we live, and how we present ourselves to others. He has particularly investigated leisure, consumption, and communication, revealing familiar things in unfamiliar ways. His satirical and often intimate approach to aspects of contemporary life present viewers with reconsiderations of social class.



NAN GOLDIN

Goldin's earliest works were black-and-white images of drag queens, which she presented as a slide show called *The Ballad of Sexual Dependency*. She continued to photograph drag queens and friends who were dying of AIDS, and she recorded her Asian travels in a book and exhibition: *Tokyo Love: Spring Fever 1994*, with the photographer Nobuyoshi Araki. Her personal photographs of her family, friends, and lovers are considered a groundbreaking contribution to fine art photography.

MICHAEL KENNA

Working mainly in black and white, Kenna creates unusual landscapes, often bathed in delicate, ethereal light.

STEVEN MEISEL

A great fashion photographer of the late twentieth and early twenty-first centuries, Meisel has shot countless Italian *Vogue* covers and highly prestigious advertising campaigns.

MARIO TESTINO

Testino has shot iconic images for magazines such as *Vogue* and *Vanity Fair* and for brands such as Gucci, Versace, and Chanel.

CINDY SHERMAN

Working in series, Sherman usually photographs herself in scenarios that parody stereotypes of women in popular culture, such as old movies and magazines.

B. 1930

ANDREAS GURSKY

90

Gursky's large-scale color photographs are critical representations of the effects of capitalism and globalization on contemporary life. Creating tensions between the clarity of his imagery and the ambiguous meanings they present, he often photographs vast, anonymous exteriors and interiors of modern, expensive hotel lobbies, apartment buildings, and warehouses.



B. 1963

SIMON NORFOLK

96

Norfolk's work documents ruined buildings bathed in early sunlight in war-ravaged countries and also contrastingly, sharply shot, military command centers and powerful military machines.

B. 1960

CORINNE DAY

97

Day found beauty in the everyday. First attracting attention through her fashion editorial for *The Face* in 1990 featuring 16-year-old Kate Moss, she portrayed the optimistic, spirited 1990s.

B. 1950

EDWARD BURTYNSKY

91

Recognized for his large-format photographs of landscapes altered by industry, Burtynsky creates breathtaking images with underlying tensions through the environmental alterations they depict.

B. 1960

ANTON CORBIJN

92

Photographer, music video director, and film director, among other things, for over 30 years Corbijn has created numerous sleeve photographs for well-known musicians.

B. 1959

NICK KNIGHT

93

Fashion and documentary photographer and web publisher, Knight has won awards for his editorial work for many magazines, including *Vogue*, *i-D*, and *The Face*, plus fashion and advertising projects.

B. 1959

NADAV KANDER

94

Photographer, artist, and director, known for his portraiture and landscapes, Kander has produced several books. In 2010–12 he shot a series of nudes in his studio, coated in white marble dust, as a study of the human condition. He is particularly known for his *Yangtze—The Long River* series, for which he traveled along China's Yangtze River and captured life as it evolved. His project *Dust* explores the remains of the Cold War through the ruins of cities between Kazakhstan and Russia, and his insightful portraits also attract great acclaim.

B. 1941

DAVID LACHAPPELLE

95

Commercial and fine art photographer, LaChapelle conveys social messages in his meticulous, sharply shot images and is known as the "Fellini of photography." His photos have been described as "crackling with subversive ideas."



B. 1961

WOLFGANG TILLMANS

99

Tillmans's art photography is characterized by close observations of his surroundings and in-depth investigations of a wide range of genres. He says: "I take pictures in order to see the world."

B. 1970

RICHARD BILLINGHAM

100

Photographer and video artist Billingham became known for a series of photographs of his family at home, taken over several years and initially intended as source material for his paintings.



EL GIZA, EGYPT
GREAT PYRAMID
OF GIZA

1 Also known as the Great Pyramid of Khufu, this is the oldest and largest of three pyramids at Giza, and the oldest of the Seven Wonders of the ancient world. Consisting of 2.3 million blocks of stone, each weighing about 2.5 tons (2.3 metric tons), it was originally covered with polished limestone.

NUBIA, EGYPT
TEMPLE OF ABU SIMBEL

2 This imposing rock-cut temple, one of two commissioned by Rameses II, was moved in the 1960s to accommodate the Aswan High Dam and reassembled nearby. Originally approached through a courtyard, the temple's rock face facade is famous for its four seated statues of Rameses II. At his feet are small statues of his wife, Queen Nefertari, his mother Mut-Tuya, and his children. High above is a row of carved baboons. Inside, the temple consists of a 30-foot-high (9m) hall, supported by eight finely decorated columns, and beyond is a smaller columned hall, shrines, and a sanctuary.

ATHENS, GREECE
THE PARTHENON

3 Towering over Athens and in the heart of the Acropolis, the Parthenon was commissioned by the statesman Pericles and created by architects Ictinus and Callicrates and sculptor Phidias. Perfectly proportioned, it was made of local Pentelic marble and housed a statue of the goddess Athena. Carved relief panels decorated the frieze and portico, and an optical illusion of correct perspective was achieved by slightly curving perpendicular and horizontal elements.

100 BUILDINGS

ROME, ITALY
THE COLOSSEUM

4 This oval amphitheater that could house 50,000 spectators was 615 feet (187m) long, 511 feet (156m) wide, and over 157 feet (48m) tall. An awning protected the entire building, the tiered auditorium was supported by load-bearing walls, and beneath was a labyrinth of corridors and stairs.

ROME, ITALY
THE PANTHEON

5 One of the world's greatest civic and religious buildings blends orders of Greek architecture with Roman ingenuity. Three rows of eight Corinthian columns front a circular hall covered with a dome, dramatically lit by an oculus 26 feet (8m) across in the center.

ISTANBUL, TURKEY
HAGIA SOPHIA

6 Commissioned by the late Roman emperor Justinian, this Christian church (converted into a mosque in 1453) inspired much Byzantine architecture. Light penetrates apertures at the base of the vast central dome while the huge central nave is 225 by 107 feet (68 by 33m).

NARA PREFECTURE, JAPAN
HÖRYŪ-JI (TEMPLE OF
THE FLOURISHING LAW)

7 This five-story Buddhist pagoda is acknowledged as one of the oldest wooden buildings in the world.

AACHEN, GERMANY
PALATINE CHAPEL

8 With its octagonal dome, and barrel and groin vaults, this was built by Odo of Metz as part of Charlemagne's palace.

JAVA, INDONESIA
PRAMBANAN

9 The largest Hindu site in Indonesia, flame-like decorations adorn the towering 154-foot-high (47m) main building in a complex of individual temples.

VENICE, ITALY
ST. MARK'S BASILICA

10 Fusing Byzantine and early Gothic, this building is adorned with marble and has five domes lined with golden mosaics.

PISA, ITALY
DUOMO DI MIRACOLI

11 Gray-marble-and-white-stone patterning adorns the facade. The floor plan is in the shape of a Latin cross, and the whole is a blend of Romanesque, classical, and Gothic styles. Stone vaulting allowed exterior walls to be thinner.

LONDON, UK
WESTMINSTER ABBEY

12 This notable Gothic building has changed hugely since it was founded. In late Perpendicular Gothic style, the chapel's pendant vaulting is famed. Borrowing French ideas, it has pointed arches, rose windows, and radiating chapels.

GALICIA, SPAIN
SANTIAGO DE COMPOSTELA CATHEDRAL

13 Elaborate place of pilgrimage on the Way of St. James, blending Romanesque, Gothic, and Baroque styles.

SYRIA c. 1142–71
KRAK DES CHEVALIERS

14 With its concentric structure, this is the most powerful castle built to defend the critical Homs Gap.

PARIS, FRANCE 1163–1240
NOTRE-DAME DE PARIS

15 One of the first buildings to use flying buttresses, this exceeded all precedents, including pointed arches and ribbed vaulting. Small colored statues, including gargoyles, served as column supports and water spouts. At 108 feet (33m) high, the choir was taller than any previous Gothic structure.

SOMERSET, UK c. 1175–1490
WELLS CATHEDRAL
16 With pointed arcades, inverted arches, fluted piers, carved capitals, and more than 300 carved figures, this cathedral was the first entirely Gothic structure in Europe.

GRANADA, SPAIN
THE ALHAMBRA

17 A fortified palace of terraces, towers, and turrets, built by the last of Spain's Moors. It was described by Moorish poets as "a pearl set in emeralds," alluding to the color of its buildings and the surrounding elm trees. Rhythms are created by repeating arcades, light filters through arches, water plays through fountains, brilliantly colored tiles and patterned stucco work adorn the courtyard, and stone lions guard the entire magnificent complex.



FLORENCE, ITALY 1386–1446
CATTEDRALE DI SANTA MARIA DEL FIORE

18 The marble exterior of this octagonal, Gothic basilica was designed by Arnolfo di Cambio. The ingenious dome was created by Filippo Brunelleschi using a double shell with herringbone brickwork and concentric rings of masonry.

VENICE, ITALY
THE DOGE'S PALACE

19 Lace-like tracery and an arcade of arches blend exuberance with simplicity in this Venetian Gothic building.

CAMBRIDGE, UK 1446–1515
KING'S COLLEGE CHAPEL

20 One of the finest examples of late Perpendicular English Gothic architecture, featuring the world's largest fan vault, this chapel was built in phases by a succession of English kings, spanning the Wars of the Roses.

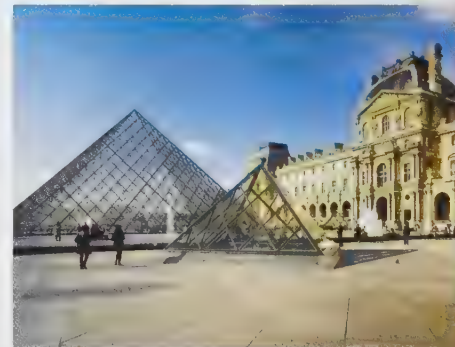


VATICAN CITY, ITALY 1606–1619
ST. PETER'S BASILICA

21 The spiritual home of the Roman Catholic Church, this set a new scale for urban architecture, rivaling the magnificence of ancient Rome and created by some of the greatest architects of the Renaissance, including Bramante, Raphael, Michelangelo, and Bernini. With its colonnades and statues, it mixes High Renaissance, Mannerism, and Baroque. The original Greek cross plan had to be extended, calling for a wider, higher dome.

AZAY-LE-RIDEAU, FRANCE 1145–1155
CHÂTEAU D'AZAY-LE-RIDEAU

22 Set on an island in the Indre River, this is a great example of early French Renaissance architecture, with conical turrets and a grand central staircase.



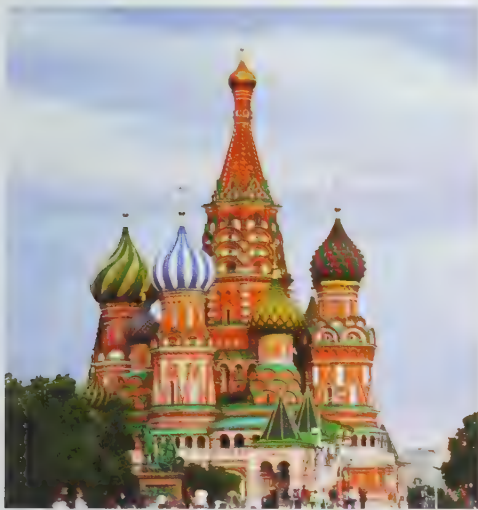
PARIS, FRANCE 1546–51
THE LOUVRE PALACE

23 Built by successive French kings over seven centuries, the Louvre Palace is both Baroque and Renaissance in style. Architects included Pierre Lescot, who was one of the first to apply classical ideas in France, Claude Perrault, Louis Le Vau, and Charles Le Brun. The distinctive double-pitched roof, designed by Lescot, is one of the earliest examples of the mansard. I. M. Pei designed the great glass pyramid over the museum foyer in 1989.

CHAMBORD, FRANCE 1547

CHÂTEAU DE CHAMBORD

24 A moated castle with four bastion towers, four vaulted halls, over 800 columns, and an ornate roof.



ISTANBUL, TURKEY 1550

SÜLEYMANIYE MOSQUE

25 Designed by Mimar Sinan, this blends Islamic and Byzantine styles, with tall minarets and domed buildings. The main dome is 173 feet (53m) high and 90 feet (27m) wide.

MOSCOW, RUSSIA 1564

ST. BASIL'S CATHEDRAL

26 Commissioned by Ivan the Terrible to celebrate victory over the Mongols in 1552, this cathedral has nine chapels of varying heights, eight with domes that create a star-like pattern, rising from a pedestal platform in Red Square. Each dome has a unique character; some feature zigzag patterns made from colored tiles; others have shaped brickwork. Its exterior is eccentric and impressive, but inside it is dark and labyrinthine.

VICENZA, ITALY 1565-1581

TEATRO OLIMPICO

27 Built with archaeological precision, this is Palladio's interpretation of a Roman outdoor theater. Tiered seating is encircled by a wooden colonnade.

VICENZA, ITALY 1566-1591

VILLA LA ROTONDA (VILLA ALMERICO CAPRA)

28 Bringing classical elements of temple architecture into a rustic setting, Andrea Palladio revitalized late Renaissance building with a fresh simplicity. His style, Palladianism, became highly influential in the eighteenth century.

DERBYSHIRE, UK 1590

HARDWICK HALL

29 Blending Gothic traditions with late English Renaissance styles, this is one of the first examples of an extensive use of glass in a domestic setting.

HYŌGO PREFECTURE, JAPAN 1600

HIMEJI CASTLE

30 With its winged roofs, the White Heron castle is the best-preserved samurai fortress in the world, made of stone, timber, tiles, and iron. Despite its delicate appearance, it was built as a military castle, featuring a maze-like interior, sliding screens, a seven-story tower, and a moat.



AGRA, INDIA 1631-1648

TAJ MAHAL

31 Built by Mughal emperor Shah Jahan to commemorate his favorite wife Mumtaz Mahal, this tomb is characterized by symmetry and balance. Covered in white marble, a complex of towers stands before a long pool. Four minarets stand at the corners, and a tear-shaped central dome is flanked by four smaller domes.

VERSAILLES, FRANCE 1661-1684

THE PALACE OF VERSAILLES

32 The Baroque palace's first architect, Louis Le Vau, built the splendid facade; the king and queen's apartments; and a unique roof hidden by a balustrade, which was extended by his successor, Jules Hardouin-Mansart, who also designed the Hall of Mirrors.

LONDON, UK 1661-1705

ST. PAUL'S CATHEDRAL

33 Following Sir Christopher Wren's fusion of Baroque and classical designs, this cathedral is dominated by an elevated rotunda and a striking dome that compares with the structural innovations of those in Rome and Florence. Spanning the nave and aisles, the dome's diameter of 112 feet (34m) adds to the grandeur. Pillars reflect the building's classicism, but the towers are evidence of the Baroque.

VENICE, ITALY 1663-1681

BASILICA DI SANTA MARIA DELLA SALUTE

34 Standing on a strip of land on the Grand Canal, the Baroque-style church was designed by Baldassare Longhena.



PARO VALLEY, BHUTAN

PARO TAKTSANG (TIGER'S NEST)

35 Nestled over 10,000 feet (3,000m) high on a mountainside, this Buddhist monastery was built around the cave where guru Padmasambhava meditated in the seventh century. Consisting of four main temples and residential shelters, the buildings are connected through steps made in the rocks.

LONDON, UK 1749

STRAWBERRY HILL

40 Here, Horace Walpole used medieval Gothic elements, including pinnacles, vaulting, and a round tower, inspiring the Gothic Revival.

WASHINGTON, DC, USA

UNITED STATES CAPITOL

52 Inspired by the Louvre and the Pantheon, William Thornton designed an uncluttered neoclassical building.

BRIGHTON, UK

ROYAL PAVILION

43 This flamboyant, exotic, and eclectic palace was based on oriental styles of Mughal Indian architecture and chinoiserie.

WASHINGTON, DC, USA

THE WHITE HOUSE

41 James Hoban won a design contest with this neoclassical-style building, to be the US presidential seat. After modification, including reportioning, the building went ahead, based on plans by Roman architect Vitruvius and Palladian architecture.

LONDON, UK

THE HOUSES OF PARLIAMENT

46 After winning a competition with his Gothic Revival design, Charles Barry collaborated with A. W. N. Pugin to produce an imposing structure with intricate detailing and a grand river facade dominated by two towers.

YORKSHIRE, UK

CASTLE HOWARD

36 In his first major commission, John Vanbrugh created an imposing, symmetrical building, emphasizing mass and monumentality. The dome and Baroque interior are a foil to the geometric plan.

LONDON, UK

BUCKINGHAM PALACE

38 Acquired by King George III as a private residence, the palace was enlarged in the nineteenth century, by John Nash and Edward Blore, with three wings around a central courtyard.

MELK, AUSTRIA

MELK ABBEY

37 This Baroque abbey, designed by Jakob Prandtauer, stands high above the Danube River, and is filled with light, embellishments, and grand columns.

ST. PETERSBURG, RUSSIA 1711-21

THE WINTER PALACE

39 The main residence of the czars, this green-and-white Baroque palace reflects power, with its size and lavish decorations.



LONDON, UK

THE CRYSTAL PALACE

45 Based on a greenhouse, this prefabricated structure was designed by gardener Joseph Paxton to serve the temporary Great Exhibition in London's Hyde Park.

OXFORD, UK 1879
KEBLE COLLEGE

46 Contrasting with the colleges that surround it, Keble College is distinguished by its Victorian Gothic redbrick facade, with patterned banding.

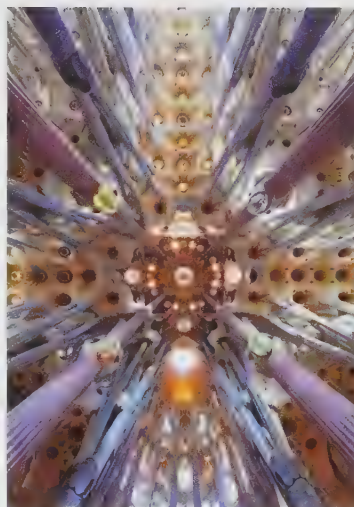
PARIS, FRANCE 1875
PALAIS GARNIER, OPÉRA
47 The world-renowned ornate Paris Opéra, designed by French architect Charles Garnier, epitomizes the ostentation of the Second Empire. Its lavish facade, paired columns, and roof topped with three cupolas blend classical, Renaissance, and Baroque styles.

LONDON, UK 1875
ST. PANCRAS RAILWAY STATION & HOTEL

48 In the nineteenth century, St. Pancras was one of the key gateways into London. William Barlow designed the vast train shed and George Gilbert Scott designed the redbrick Victorian Gothic facade.

SCHWANGAU, GERMANY 1869
NEUSCHWANSTEIN CASTLE

49 Built of brick covered with limestone, this castle was created for King Ludwig II and became the inspiration for the castle in Walt Disney's film *Sleeping Beauty*. In parts inspired by Byzantine buildings, it comprises vaulted ceilings and pillars made of imitation porphyry and lapis lazuli. In addition to the opulence, the castle included all modern conveniences.



BARCELONA, SPAIN
SAGRADA FAMÍLIA
50 Unfinished at his death in 1926, Antoni Gaudí's cathedral demonstrates his fluid manipulation of stone and concrete, celebrates the mysteries of Catholicism, and expresses the individuality of Art Nouveau. With its pointed arches, sloping roofs, and decorative tracery, it is an example of a form of Gothic Revival that in Spain fused with Moorish forms and was known as "Modernisme." One of the few conventions Gaudí adhered to was the Latin cross format.

PARIS, FRANCE 1889
THE EIFFEL TOWER
51 A pinnacle of contemporary engineering, this tower was designed and built for the 1889 Paris Exposition.

BRUSSELS, BELGIUM 1895
HÔTEL TASSEL
52 Recognized as the first Art Nouveau house, Victor Horta exploited elements of the Gothic Revival, Rococo, and Japonism.

GLASGOW, UK 1896
GLASGOW SCHOOL OF ART
53 The design by Charles Rennie Mackintosh fuses Arts and Crafts, Japanese, Scottish baronial, and Art Nouveau styles.

NEW YORK, USA 1904
FLATIRON BUILDING

54 An icon of New York soon after its construction, this dramatic triangular building was one of the first to have a steel-cage support. Its nickname comes from its resemblance to clothes irons of the period.



BARCELONA, SPAIN 1906
CASA BATLLÓ
55 Most of the facade of Gaudí's house is decorated with mosaics made of broken ceramics, while the roof resembles a dragon's back.

CHICAGO, USA 1909
ROBIE HOUSE
56 With its low-pitched roof, long windows, and prominent use of glass, Frank Lloyd Wright's design is regarded as the quintessential Prairie-style house.

BRUSSELS, BELGIUM
STOCLET PALACE

57 Designed by Josef Hoffmann, this is an accomplished building that came out of the Vienna Secession movement.

CALIFORNIA, USA
SAN SIMEON,
HEARST CASTLE

58 Designing all aspects of this castle, Julia Morgan used several styles, especially classical and Baroque.

POTSDAM, GERMANY
EINSTEIN TOWER

59 Erich Mendelsohn's curving observatory-laboratory symbolized the greatness of Einstein's theories.

POISSY, FRANCE 1930
VILLA SAVOYE

63 Le Corbusier's design expresses his reinvention of living spaces—known as the International Style. Accentuating horizontals and natural light, he created ribbon windows, *pilotis*, and a flat roof.

BRNO, CZECH REPUBLIC
VILLA TUGENDHAT

64 Ludwig Mies van der Rohe's villa is a development of modernist architecture. Built of reinforced concrete, it emphasizes horizontal lines.



UTRECHT, NETHERLANDS
SCHRÖDER HOUSE

60 As a member of the Dutch group De Stijl, Gerrit Rietveld followed the tenets of simplicity, balance, and harmony and used overlapping planes and lines in black, white, and the primary colors—effectively expressing Mondrian's original neoplasticism in three dimensions.

NEW YORK, USA
EMPIRE
STATE
BUILDING

65 Designed by R. H. Shreve, W. F. Lamb and A. L. Harmon, improvements in technology and construction methods allowed this iconic skyscraper to top all others in New York City. At 1,250 feet (381m) high and with 102 stories, it also embodied the decadent Art Deco period.



DESSAU, GERMANY
BAUHAUS BUILDING

61 Designed by Walter Gropius, and built mainly of reinforced concrete, with gridded windows, this building had a major impact on architecture, art, and design across Europe and America.

NEW YORK, USA
CHRYSLER
BUILDING

62 Radiating sunbursts and a stainless-steel spire announced the machine age and the Art Deco period. Brooklyn-born William van Alen created this iconic structure with its seven-story spire, and marble-and-chrome lobby, following a brief to create the tallest building in the world. It was completed as the Great Depression began.

PENNSYLVANIA, USA
FALLINGWATER

66 Cantilevered on rocks over a 30-foot (9m) waterfall, Frank Lloyd Wright's organically designed house in southwestern Pennsylvania seems to defy gravity. Made of reinforced concrete and steel, it represents his belief in the harmony between humanity and nature.

CONNECTICUT, USA 1949
PHILIP JOHNSON'S
GLASS HOUSE

67 Inspired by Mies van der Rohe, Johnson used glass and steel to create a minimalist residence. The stark simplicity of the building challenges conventions of domesticity.



CHICAGO, USA FARNSWORTH HOUSE

68 Mies van der Rohe's interpretation of modernism was disciplined and minimalist. With meticulous attention to proportion and construction, his steel-framed house has glass walls sandwiched between concrete planes. With marble detailing and non-load-bearing partitions, essentials and privacy are catered for discreetly.

RONCHAMP, FRANCE NOTRE DAME DU HAUT

69 This asymmetrical church designed by Le Corbusier features an upturned roof with colored glass filling spaces between the walls and roof.

NEW YORK, USA SEAGRAM BUILDING

70 With its reinforced concrete shell, bronze beams, and vast amount of glass, this skyscraper is an icon of the International Style.

NEW YORK, USA 1959 SOLOMON R. GUGGENHEIM MUSEUM

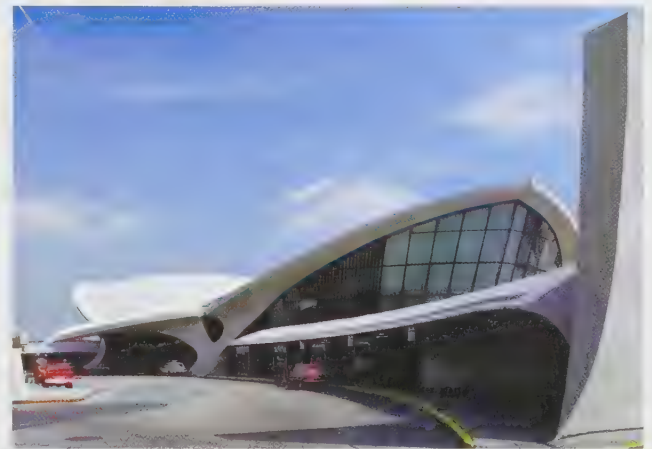
71 Despite creating controversy, Frank Lloyd Wright's spiral art gallery is a straightforward way to view art and exemplified his beliefs in organic architecture and the versatility of reinforced concrete.

COLORADO, USA 1964 US AIR FORCE ACADEMY CHAPEL

73 With its row of 17 uniform spires, this chapel's tubular steel frame is enclosed with stained glass and aluminum panels.

NEW YORK, USA TWA TERMINAL

72 Arcs of concrete create an abstract suggestion of flight, or the wings of a bird, intending to lift the spirits of travelers passing through New York's John F. Kennedy International Airport. Eero Saarinen's organic, light-filled structure flouted the austere modernist trend.



HAVANA, CUBA 1965 NATIONAL ART SCHOOLS

74 The five vaulted art school buildings, made of locally sourced brick and terra-cotta, express the optimism and enthusiasm of the early years of the Cuban Revolution. Designed by Ricardo Porro with Vittorio Garatti and Roberto Gottardi, they directly contrasted with the prevailing International Style.



BRASÍLIA, BRAZIL BRASÍLIA CATHEDRAL

76 This glass-and-concrete cathedral was designed by Oscar Niemeyer as a sculptural building, representing Christ's crown of thorns.

MONTREAL, CANADA HABITAT 67

75 As part of Expo 1967, an international exhibition in Montreal, 158 affordable apartments were built from 354 individual, mass-produced, prefabricated concrete units, stacked in "confused order" by architect Moshe Safdie.

CHICAGO, USA 1973 WILLIS (SEARS) TOWER

77 A triumph of engineering, this building is structured as a series of nine tubes of different heights, bound together.

SYDNEY, AUSTRALIA 1973 SYDNEY OPERA HOUSE

78 This competition-winning design by Jørn Utzon resembles shells, yachts' sails, or bird's wings. The sculptural building broke many conventions and had no precedents. It includes clusters of interlocking shells, a terraced podium, and a floating roof.



PARIS, FRANCE 1971 CENTRE POMPIDOU

79 Designed by Richard Rogers and Renzo Piano with structural engineer Peter Rice, this postmodernist building is made of a prefabricated-steel frame with a concrete substructure; glass walls; a long, snaking, glass tube-enclosed escalator suspended on the exterior; and vertical, exposed, brightly colored tubes that carry electricity, drainage, and water.

MONTPELLIER, FRANCE 1979-91 ANTICONE HOUSING

80 A residential development, comprising a series of neoclassical structures, Ricardo Bofill exaggerated elements to create overall stylistic unity.

STUTTART, GERMANY 1984 NEUE STAATSGALERIE

81 As an extension to a neoclassical gallery, James Stirling created an unconventional building, fusing postmodernism and Mannerism with color and unexpected shapes.

HONG KONG HONG KONG AND SHANGHAI BANK

82 With no internal supporting structure, steel masts at each corner of the building support double-height trusses, bearing the weight of the floors below.

NEW DELHI, INDIA LOTUS TEMPLE

84 Based on the lotus flower, the Baha'i House of Worship has 27, freestanding, marble-clad petals arranged in clusters of three.

LONDON, UK 1976 LLOYD'S BUILDING

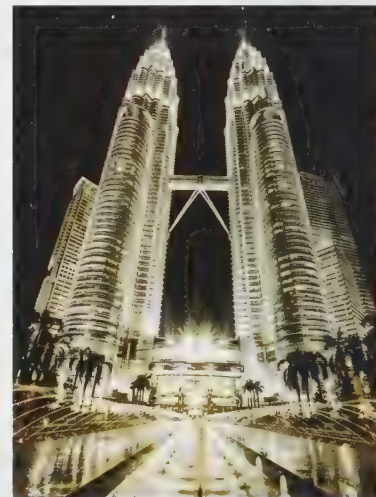
83 Nicknamed the "Inside-Out Building," this is an example of Bowellism—architecture with services put on the exterior to maximize interior space.

BERLIN, GERMANY 1982 GALERIES LAFAYETTE

85 The transparent surfaces of this store are reflective during daylight hours and translucent after dark. The high, central atrium features smooth, conical glass structures.

KUALA LUMPUR, MALAYSIA 1996 PETRONAS TOWERS

86 From 1998 to 2004, these postmodernist skyscrapers were the tallest buildings in the world. Untypically for a building of 88 floors, they are supported by concrete cores and are created largely with reinforced concrete. The facade of the towers is designed to resemble Islamic motifs.



BILBAO, SPAIN 1997 GUGGENHEIM MUSEUM

87 Often described as a prime example of Deconstructivist architecture, Frank Gehry's irregular structure is created around a light-filled atrium while its exterior shines and reflects the light through its cladding of shimmering titanium panels.

LONDON, UK 1997 SHAKESPEARE'S GLOBE

88 Resembling a small Roman amphitheater, the modern, octagonal Globe opened in 1997, half-timbered, with a thatched roof.

SHANGHAI, CHINA 1998 JIN MAO TOWER

89 The postmodernist building is suggestive of traditional Chinese architecture, particularly tiered pagodas.

DUBAI, UAE 1995

BURJ AL ARAB

30 This triangular-shaped hotel stands in the Persian Gulf on an artificial island and is designed to resemble the spinnaker sail of a yacht.

LONDON, UK 2004

30 ST. MARY AXE (THE GHERKIN)

32 Nicknamed "the Gherkin," this 40-story building is elongated and curved, rounded at the tip, and covered with a swirling pattern of diamond-shaped glass panels.

DARMSTADT, GERMANY WALDSPIRALE

37 Designed by Friedensreich Hundertwasser, this colorful complex is built in a U shape, with grass, shrubs, and trees growing on its roof.

SEATTLE, USA SEATTLE CENTRAL LIBRARY

33 From the outside this is a striking, angular, geometric glass building, but inside—instead of a traditional layout—the 11-story library functions on a spiral.

MALMÖ, SWEDEN TURNING TORSO

34 Designed by Spanish architect Santiago Calatrava and constructed in nine sections of five-story pentagons, this residential building twists as it rises. Based on one of Calatrava's sculptures, Turning Torso is intended to resemble the upper human body in movement. The top section of the building twists 90 degrees clockwise compared to the ground floor. Each of the 54 floors rotate around the vertical core, which is supported by an exterior steel framework. The facade is made of aluminum panels.



VALENCIA, SPAIN PALACE OF THE ARTS

35 Designed by Santiago Calatrava, this ovoid structure rises like an enormous eggshell, conch, or bridge of an ocean liner and comprises three main halls, including a performance space, master class room, and children's theater.

DUBAI, UAE 2010

BURJ KHALIFA

36 Composed of three elements arranged around a central core, this modular, Y-shaped structure is based on the shape of the *Hymenocallis* flower and resembles the onion-shaped domes of traditional Islamic architecture. At the top of the 2,716-foot-high (828m) building is a sculpted spire, similar to a minaret. To support the building's height, the engineers devised a new structural system called "the buttressed core."



ABU DHABI, UAE

HYATT CAPITAL GATE

37 With its striking 18-degree incline, this building has 35 floors and features a diagrid, designed to absorb and channel the wind.

BAKU, AZERBAIJAN

HEYDAR ALIYEV CULTURAL CENTER

38 Featuring Zaha Hadid's signature flowing curves, this organic structure plays a vital civic role.

LONDON, UK THE SHARD

39 Inspired by London's church spires and the masts of tall ships, Renzo Piano designed this as a pyramid rising above the city. The tapering, glass-and-steel spire appears light and transparent.

RIYADH, SAUDI ARABIA

KING FAHAD NATIONAL LIBRARY

40 Covered by a filigree textile facade, this building resembles a honeycomb. Integrating the old library, the structure echoes elements of traditional Arabian architecture, fused with modern technology.

KANE



SERGEI EISENSTEIN 1925
BATTLESHIP
POTEMKIN

1 A stunning example of film as propaganda, whose Odessa Steps sequence exemplifies the montage style championed by Sergei Eisenstein, the film recounts an uprising in czarist Russia that predates the 1917 revolution, and the crew of the *Potemkin* experience hunger and humiliation as they rebel against their officers.

CLYDE BRUCKMAN & BUSTER KEATON
THE
GENERAL

2 A critical and commercial failure at the time, Keaton's most expansive film has come to be regarded as his best. Loosely based on the Great Locomotive Chase of 1862, this American Civil War comedy drama pits the comedian's engineer against the entire Union army as he tries to save his betrothed—and there's a constant stream of great gags along the way.

F. W. MURNAU
SUNRISE:
A SONG
OF TWO HUMANS

3 Murnau's US debut is as dreamy as his German films. Employing a vast budget and pushing the boundaries of what could be done technically, the film is a lustrous account of desire and guilt as a married couple's lives are disrupted.

FRITZ LANG
METROPOLIS

4 Then the world's most expensive film, Lang's science-fiction epic pits the working mass against a wealthy elite. The Schüfftan process, a pioneering visual effect, allowed actors to occupy miniature sets, enabling Lang to give audiences a breathtaking vision of the future.

100 MOVIES

CARL THEODOR DREYER
THE
PASSION OF
JOAN OF ARC

5 Few films have focused so intimately on the expressiveness of the human face as Dreyer's study of the French saint. Renée Jeanne Falconetti, in her only major film role, is shot mostly in close up and without makeup. The result is intimate and moving.

DZIGA VERTOV
THE MAN
WITH A
MOVIE CAMERA

6 The most celebrated example of Constructivist filmmaking, Vertov's documentary employs multiple techniques, from slow motion to split-screen, in its study of a day in the life of Soviet citizens.

CHARLES CHAPLIN
CITY LIGHTS

7 With the heartbreaking final shot on its director-star's face, Chaplin's fourth feature outing for his tramp is his best, balancing knockabout comedy with genuine emotion.

FRITZ LANG
M

8 Peter Lorre is chilling as the child murderer, but Lang's first sound film is more than genre fare. It hinted at the dangers of mob mentality, which soon materialized under Nazi rule.

JEAN VIGO
L'ATALANTE

9 This is film as poetry. Vigo's sole feature—he died aged 29—is beguilingly simple. A young, newly married couple make a home on a barge, only for jealousy to threaten their life together. The life captured is wistful, encompassing the cadences of human emotion; this is an ode to human passion.

FRANK CAPRA
IT HAPPENED
ONE NIGHT

10 Sexy and sophisticated, Capra's near-perfect Oscar-winner—the first film to win the top five awards—profits from Clark Gable and Claudette Colbert's sparkling performances. They play a sharp-talking heiress and opportunistic journalist who fall in love.

JEAN RENOIR
GRAND
ILLUSION

11 An antiwar film that balances drama with comedy, explores the shifting state of class and ethnicity, and the perniciousness of anti-Semitism, Renoir's film set in World War I remains one of his finest achievements. A rally-cry against the rise of Fascism in Europe, the film follows the exploits of an aristocratic French officer and his working-class lieutenant after they are captured by a German patrol.

MICHAEL CURTIZ & WILLIAM KEIGHLEY
THE ADVENTURES
OF ROBIN HOOD

12 Sherwood Forest's altruistic outlaw has never had a finer vehicle than Curtiz's colorful adventure, starring a perfectly cast Errol Flynn as the heroic outlaw Robin of Locksley. Fast-paced and packed with action, it is the perfect Hollywood adventure.

HOWARD HAWKS BRINGING UP BABY

13 Hawks's screwball comedy is one of Hollywood's best. Katharine Hepburn and Cary Grant deliver dialogue like machine-gun fire and the film's pace never lets up.

VICTOR FLEMING 1939 THE WIZARD OF OZ

15 Switching from monochrome Kansas to Technicolor Oz, Fleming's sprightly fable profits from Judy Garland's central performance, which made her a star.

JEAN RENOIR THE RULES OF THE GAME

17 This blistering satire of bourgeois French society highlights the callousness of a small network of socialites as Europe edges inexorably toward war. Renoir's camera, employing deep focus to capture every detail, is in constant motion as it reveals the venality of his characters.

ORSON WELLES CITIZEN KANE

18 Welles's talent was prodigious. Even so, his feature debut is astonishing. He had help. Gregg Toland's deep-focus cinematography broke new ground, Bernard Herrmann's score is wildly inventive, and the cast is uniformly excellent. But Welles's equal in the enterprise was Herman J. Mankiewicz. His script, loosely based on the life and loves of media magnate William Randolph Hearst, inspired everyone to produce a film that pretty much rewrote the rules.

VICTOR FLEMING 1939 GONE WITH THE WIND

14 One of Hollywood's great epics, it features operatic performances by Vivien Leigh and Clark Gable, and a scene-stealing performance by Hattie McDaniel. David O. Selznick's production is visually resplendent.

ERNST LUBITSCH 1935 NINOTCHKA

16 Greta Garbo's penultimate movie was coscripted by Billy Wilder and Charles Brackett, and directed with élan by Lubitsch. The star's uncharacteristically mirthful performance was underpinned by the film's two-word tagline, "Garbo laughs!"



PRESTON STURGES 1939 SULLIVAN'S TRAVELS

19 A movie producer known for comedies is unhappy with his lot, so sets out to find the film that he feels destined to make, only to discover the importance of laughter. Taking its name from Jonathan Swift's satire, Sturges's movie is typically smart, balancing sophistication with knockabout humor, all flawlessly performed by Joel McCrea and Veronica Lake.

MICHAEL CURTIZ 1942 CASABLANCA

20 Humphrey Bogart eschewed his gangster persona to play Ingrid Bergman's love in this classic wartime romance. The talented supporting cast add flavor and the soundtrack seduces. Made during World War II, it leaves its characters to a fate unknown.

ORSON WELLES 1941 THE MAGNIFICENT AMBERSONS

21 If the ending hadn't been re-edited by RKO Pictures, Welles's second feature might just have equaled his first. It details of the dwindling fortunes of a once great US family as they attempt to cope with the modernization of their world.

VINCENTE MINNELLI MEET ME IN ST. LOUIS

22 Melodrama and musical meld perfectly in this lavish period drama, with Judy Garland every bit a star.

BILLY WILDER DOUBLE INDEMNITY

23 Wilder and novelist Raymond Chandler co-adapted James M. Cain's hard-boiled thriller to make one of the greatest film noirs.

ROBERTO ROSSELLINI

ROME, OPEN CITY

24 One of the earliest neorealist films, Rossellini's drama recounts the true story of a Catholic priest who helped the Resistance movement during Nazi rule. It features mostly non-professional actors and depicts Rome in the first months of 1944 when it was under German occupation.

MICHAEL POWELL & EMERIC PRESSBURGER

A MATTER OF LIFE AND DEATH

28 Visually extravagant, contrasting a black-and-white heaven with the lush colors of mortal Earth, Powell and Pressburger's deeply romantic wartime drama gives David Niven his perfect role as a pilot who should have died and fights for his right to live after falling in love. It is a highpoint for British cinema.

HOWARD HAWKS

RED RIVER

29 Hawks's best Western focuses on the turbulent relationship between a rancher and his adopted son. John Wayne and Montgomery Clift excel with subtle performances.

CAROL REED

THE THIRD MAN

31 The second collaboration between Carol Reed and Graham Greene features a memorable zither score by Anton Karas, moody chiaroscuro cinematography by Robert Krasker, and excellent performances by Joseph Cotten, Alida Valli, and Trevor Howard. However, the film will always belong to Orson Welles as Harry Lime.



MARCEL CARNÉ

CHILDREN OF PARADISE

25 The nineteenth-century Parisian theater scene provides the backdrop for a drama shot during the German occupation of France.

JEAN COCTEAU

BEAUTY AND THE BEAST

27 This magical take on the classic fairy tale employs special and optical effects to draw viewers into the world of a cursed man who finds salvation in the love of a young woman.

FRANK CAPRA

IT'S A WONDERFUL LIFE

27 Capra's film is surprisingly bleak in its worldview, before offering up an optimistic denouement that has seen it become a Christmas favorite.



YASUJIRO OZU LATE SPRING

32 The first in the director's Noriko trilogy, which features Setsuko Hara as a young single woman (albeit different characters in each) living in postwar Japan, Ozu's drama details the relationship between the woman and her aging father, who is keen to see her married.

ROBERT HAMER

KIND HEARTS AND CORONETS

33 Ealing's blackest comedy features Alec Guinness as all eight members of an ill-fated aristocratic household.

AKIRA KUROSAWA

RASHOMON

34 Kurosawa's international breakthrough presents a crime from the perspective of four different characters. The minimalist set adds to the ambiguity of each witness's testimony.

JOSEPH L. MANKIEWICZ

ALL ABOUT EVE

35 Bitchiness was never classier than in this smart, sophisticated, and barbed ensemble drama. Bette Davis shines as an actress aware of her age, as Anne Baxter's ambitious young ingénue nips at her heels.

BILLY WILDER

SUNSET BOULEVARD

36 Wilder's satire is one of the bleakest accounts of life in Hollywood. William Holden narrates from beyond the grave, but the stars are Gloria Swanson and Erich von Stroheim, two icons of silent cinema.

STANLEY DONEN & GENE KELLY

SINGIN' IN THE RAIN

37 A gleeful satire of Tinseltown, it recalls the moment sound arrived in the movies. A collection of classic songs, dance routines, and exuberant performances make it the perfect Hollywood musical.

YASUJIRO OZU

TOKYO STORY

38 Ozu's understated masterpiece is a study of family life. An elderly couple visit members of their family in Tokyo. Their son and daughter soon tire of their presence, but their widowed daughter-in-law makes them welcome. When one of the parents dies, it becomes clear that the eldest son and daughter have little time for their elders. Ozu's shooting style, a simple setup that rarely changed throughout his career, captures every nuance of family life, and speaks universally about human relationships.



KENJI MIZOGUCHI 1953

UGETSU

39 Widely regarded as the Japanese director's masterpiece, Mizoguchi's retelling of a classic ghost story is a resplendent marvel.

AKIRA KUROSAWA

SEVEN SAMURAI

40 It inspired John Sturges's Western, but this tale of seven warriors defending a village from bandits is thrillingly choreographed and features a great turn by Toshiro Mifune and Takashi Shimura.

CARL THEODOR DREYER ORDET

41 In a small rural community, a vow breached results in tragedy. Dreyer's stark drama features one of the most startling denouements in cinema, the heightened level of spirituality all the more surprising considering the director's avowed atheism.

SATYAJIT RAY

PATHER PANCHALI

42 Ray's feature debut, the first entry in his celebrated Apu trilogy, echoes the neorealist movement in the way it records the life of a young boy.

CHARLES LAUGHTON 1955

THE NIGHT OF THE HUNTER

43 Laughton's sole directorial outing is a gothic noir fairy tale that draws on German Expressionism and features a performance by Robert Mitchum.

JOHN FORD

THE SEARCHERS

44 Darker than any of his previous Westerns and featuring John Wayne's most complex performance, Ford's tale of a gunslinger hunting down the Comanche tribe who kidnapped his niece marked a shift in the genre.

INGMAR BERGMAN

WILD STRAWBERRIES

45 An aging professor, played by filmmaker Victor Sjöström, finds himself re-evaluating his life on a road trip in Bergman's study of memory and regret.



ALFRED HITCHCOCK VERTIGO

45 Voted by international film critics as the greatest film ever made, Hitchcock's psycho-sexual drama is one of his most complex and visually dazzling accomplishments. James Stewart was never more compromised as Scottie, a man obsessed by a woman whose death he believes he is responsible for, while Kim Novak, as his object of desire, is at her best. Bernard Herrmann's score, meanwhile, is his most haunting.

BILLY WILDER SOME LIKE IT HOT

47 One of Wilder's finest films, it features pitch-perfect performances by Jack Lemmon, Tony Curtis, and an effervescent Marilyn Monroe. The screwball comedy ends with a killer line.

FRANÇOIS TRUFFAUT THE 400 BLOWS

48 An autobiographical account of the director's youth is a moving portrait of boyhood and the first of five films to feature his alter ego Antoine Doinel.

ROBERT BRESSON PICKPOCKET

49 Bresson's first original screenplay was influenced by Fyodor Dostoevsky's *Crime and Punishment*. His pared-down style suits his portrait of a man whose amorality finds him descending into a world of crime.

JEAN-LUC GODARD BREATHLESS

50 A revolution in film, Godard's feature debut is a landmark in cinema, a reaction to almost everything that had passed before and a swooning homage to the Hollywood gangster genre. With its jump cuts, natural lighting, location shooting, and freewheeling narrative, it changed the way movies were made.

MICHELANGELO ANTONIONI L'AVVENTURA

51 Both praised and reviled when it was premiered at the Cannes Film Festival, Antonioni's movie focusing on disaffection and ennui among Rome's elite is notable for its beautiful compositions and long takes.

ALFRED HITCHCOCK PSYCHO

52 The modern horror film began with Hitchcock's shocker. The music sets the scene, the pacing is perfect, and the shower scene is a masterclass in suspense.

FEDERICO FELLINI LA DOLCE VITA

53 It cemented the concept of paparazzi in the collective conscience, critiqued contemporary Rome's elite, and pointed toward Fellini's development as a filmmaker.

LUIS BUÑUEL THE EXTERMINATING ANGEL

55 The guests at a dinner party find themselves unable to leave the lounge they are in. A simple setup underpins Buñuel's withering dissection of bourgeois values.

LUIS BUÑUEL VIRIDIANA

54 Buñuel's ironic drama tells the story of a young woman about to enter a convent. Despite its award of the Cannes Grand Prix, Buñuel outraged the Vatican with his ribald assault on the Catholic Church and the movie was banned in Spain for several years. The first of three fruitful collaborations with Silvia Pinal, it remains an acerbically funny take on the corrupt nature of religious institutions and the brittleness of the veneer that is called civilization.



FEDERICO FELLINI 8½

56 Marcello Mastroianni fully takes on the role of Fellini's on-screen alter ego as a director nearing meltdown in this comical extravaganza.

JEAN-LUC GODARD CONTEMPT

57 Meta-cinema reaches its apotheosis in Godard's visually striking study of marital breakdown and the bankruptcy of commercial cinema, as a screenwriter attempts to battle a bullying producer and save his marriage.

ANDREI TARKOVSKY ANDREI RUBLEV

58 The Russian director's second feature is a loose account of the life of the fifteenth-century iconic painter. Like much of his work, Tarkovsky's film is as much an exploration of his own artistic freedom as it is the limitations his subject experienced during his lifetime. The movie ran foul of the censors in his native Soviet Union, but in its complete version it is a sweeping epic.



INGMAR BERGMAN PERSONA

59 In his study of two women, played by Liv Ullmann and Bibi Andersson, and employing radical experimentation with form, Bergman creates a drama that edges toward psychological horror.

GILLO PONTECORVO THE BATTLE OF ALGIERS

60 Employing the trappings of documentary in its account of French colonial rule in Algeria, Pontecorvo's movie records the brutality of a police state.

SERGIO LEONE THE GOOD, THE BAD AND THE UGLY

61 Fetishizing Western tropes, and making the most of Clint Eastwood, Lee Van Cleef, and Eli Wallach, Leone's epic is brutal and breathtaking.

ROBERT BRESSON MOUCHETTE

62 A masterclass in minimalism, Bresson's portrait of a young girl whose life at home and within the local community is one of bullying and abjection, paves the way for a devastating denouement.

JACQUES TATI PLAYTIME

63 Employing a vast set, Tati's modernist masterpiece confronts the alienating effect of modern city life while offering up a series of ingenious physical comedy sketches.



STANLEY KUBRICK 2001: A SPACE ODYSSEY

64 While many subsequent space epics have dated, both visually and thematically, Kubrick's vision of the future remains a cinematic marvel and as oblique as the day it was made. Co-written with Arthur C. Clarke, Kubrick's tale eschews clarity, opting instead for abstraction as its narrative shifts from the dawn of man to the discovery of an ancient obelisk on the Moon, a journey to the outer reaches of the solar system, and further, deeper, into the unknown.

LINDSAY ANDERSON IF....

65 Rebellion was never so much fun. Anderson's caustic antiestablishment satire broke many taboos and cinematic conventions in its tale of revolt at a boarding school that ends in all-out war.

KEN LOACH KES

66 A critically lauded example of British social realism, Loach's drama charts a bullied schoolboy's attempt to escape his dreary life by training a kestrel. The bleak movie is punctuated with gentle humor.

BERNARDO BERTOLUCCI THE CONFORMIST

67 Bertolucci's sumptuous adaptation of Alberto Moravia's novel draws parallels between sexual repression and the rise of Fascism, in his study of a man whose desire for normalcy finds him compromised beyond redemption.

WERNER HERZOG
ACUIRE, THE WRATH OF GOD

68 A group of conquistadors search for El Dorado in Herzog's spellbinding international breakthrough, which set the template for his style of cinema and began his troubled collaboration with Klaus Kinski.

BERNARDO BERTOLUCCI
LAST TANGO IN PARIS

69 Bertolucci's erotic film is an unvarnished study of grief and obsession, with remarkable raw performances by Marlon Brando and Maria Schneider.

ROMAN POLANSKI
CHINATOWN

71 A benchmark of 1970s US cinema, Polanski's neo-noir is a chilling exploration of greed, set during the 1930s.

RAINER WERNER FASSBINDER
ALI: FEAR EATS THE SOUL

72 From its bittersweet opening, an encounter between an older woman and Moroccan immigrant in a dingy bar, Fassbinder's melodrama transforms into a brutal dissection of bigotry and callousness in contemporary German society.

FRANCIS FORD COPPOLA
THE GODFATHER PARTS I & II

70 Coppola's diptych transcends its pulp-fiction origins to become a penetrating study of the corrupting nature of power, the binds that tie families together, and the development of corporate culture in the United States in the mid to late twentieth century. Cinematically, it is a masterclass in narrative storytelling that is thrilling and visually ravishing with superb set pieces. If Marlon Brando and James Caan were the fireworks that lit up the first film, Al Pacino, Diane Keaton, and John Cazale flesh out the film's moral core.

ROBERT ALTMAN
NASHVILLE

73 Altman's finest ensemble drama balances satire with affection for the home of country music. The innovative approach to sound adds to the tone.

ANDREI TARKOVSKY
MIRROR

74 A stream of consciousness narrative creates a world of fragmented memories. Partly autobiographical and drawing on Russian history, the movie is a reverie of textures and tones.

STEVEN SPIELBERG
JAWS

75 No one looked at the sea the same way again. The modern blockbuster began with Spielberg's marine suspenser. The movie works because of its emphasis on texture and characterization, and the build-up of tension via the fantastic score by John Williams. With Hitchcockian skill, Spielberg also realized that the rubber shark used in the movie would look more like a real killer shark the less the audience sees of it.

MARTIN SCORSESE
TAXI DRIVER

76 Even Dante may have shuddered at Paul Schrader's vision of hell. It's a dark journey through one man's traumatized psyche, disturbingly realized by Martin Scorsese and Robert De Niro. They were young, hungry artists and the film propelled them to greatness. New York's nightlights glimmer and glisten across Travis's taxi windscreen while Bernard Herrmann's music veers from sweetly romantic to threateningly dark. It is one of the most iconic films of postwar cinema.



FRANCIS FORD COPPOLA
APOCALYPSE NOW

77 In Coppola's wildly ambitious portrait of the insanity of war, Martin Sheen's captain sets out to kill Marlon Brando's deranged Colonel Kurtz.

STANLEY KUBRICK
THE SHINING

78 Jack Nicholson is electrifying in his portrayal of a spiral into insanity, but Kubrick's Stephen King adaptation is most notable for its prowling Steadicam and terrifying images of an aging corpse, murdered twins, and an elevator full of blood.

MARTIN SCORSESE
RAGING BULL

78 A searing, violent portrait of boxing champ Jake LaMotta, Scorsese's cinematic pyrotechnics are matched by Robert De Niro's career-best performance.

INGMAR BERGMAN
FANNY AND ALEXANDER

80 Bergman's film is a loosely autobiographical account of childhood. It details the travails of two children after their father dies.

RIDLEY SCOTT
BLADE RUNNER

81 It transformed the science-fiction genre, both in film and print. Visually, it has become one of the most influential films and cemented Scott's reputation as a master of light

ABBAS KIAROSTAMI
CLOSE-UP

87 Reality and fiction collide in the acclaimed Iranian director's account of the real-life trial of a man who passed himself off as a famous Iranian director Mohsen Makhmalbaf. All the characters involved play themselves, questioning the concept of identity.

STEVEN SPIELBERG 1982
E.T. THE EXTRA-TERRESTRIAL

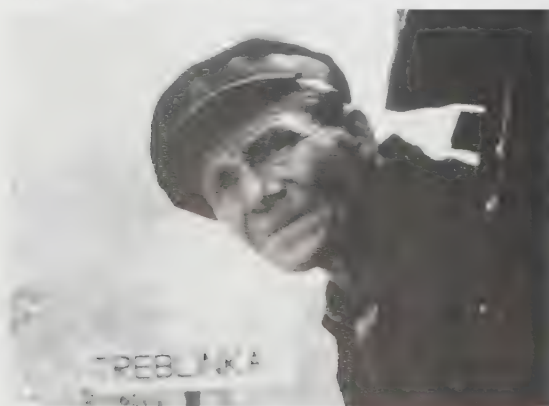
82 An alien left trapped on Earth befriends a young boy who helps him return home and escape the clutches of that most scary of creatures—the adult.

WIM WENDERS
PARIS, TEXAS

83 This visually striking study of alienation in the contemporary United States features a career-best performance from Harry Dean Stanton, powerful landscape cinematography from Robby Müller, and a haunting soundtrack from Ry Cooder

CLAUDE LANZMANN
SHOAH

84 It is more than a definitive record of those who survived the atrocities of the Holocaust; Lanzmann's epic ten-hour documentary is an urgent cry for humanity. Like Primo Levi writings, it eschews sentiment for fact, but the stories have a devastating impact. Few films are more important.



ELEM KLIMOV
COME AND SEE

85 Klimov's account of the battle waged against Nazi Occupation in the Byelorussian Soviet Socialist Republic ranks as one of the great antiwar films.

DAVID LYNCH 1986
BLUE VELVET

86 Opening with a Rockwellian image of small-town America, Lynch's masterpiece transforms into a portrait of society's collective running wild.



QUENTIN TARANTINO
PULP FICTION

88 Tarantino's genre mash-up pop masterpiece showcased his ear for dialogue, was playful with narrative and time, resurrected John Travolta's career by drawing on his past, and made a star of Samuel L. Jackson. With references to Douglas Sirk, Howard Hawks, and more, it is also a movie-lover's movie.

JOEL COEN
FARGO

89 Setting aside genre pastiche, Joel and Ethan Coen deliver one of their best films, where the humor flows pitch-black. Frances McDormand is sublime as a small-town sheriff who investigates a kidnapping plot and the mayhem that ensues.

TAKESHI KITANO FIREWORKS

90 The elements from his previous films are present, from his exploration of Japan's underworld to his use of violence, but the film's emotional engagement makes this Kitano's best work.

TERRENCE MALICK THE THIN RED LINE

91 The nature of conflict lies at the heart of Malick's philosophical adaptation of James Jones's novel.

PETER WEIR THE TRUMAN SHOW

92 Jim Carrey's eponymous hero lives in a world created for the entertainment of the masses, who have been watching him since birth.

PEDRO ALMODÓVAR ALL ABOUT MY MOTHER

93 Almodóvar's finest and most colorful film opens with the death of a woman's young son. Enveloped in grief, she then questions the nature of existence.

CLAIRE DENIS BEAU TRAVAIL

94 The director's most visually striking film, inspired by *Billy Budd*, unfolds in a remote French Foreign Legion post on the coast of Djibouti in East Africa.



WONG KAR-WAI IN THE MOOD FOR LOVE

95 Tony Leung and Maggie Cheung are resplendent as the partners of adulterers who find solace in each other's company. Kar-wai's melodrama is his most visually intoxicating film, but it is the delicacy of his storytelling that makes it so compelling.

ALEKSANDR SOKUROV RUSSIAN ARK

96 It unfolds in one long take, moves through time to explore Russian history, and offers a rhapsodic paean to St. Petersburg's State Hermitage Museum.

ANG LEE BROKEBACK MOUNTAIN

97 Lee's film of Annie Proulx's novella is a moving, revisionist take on the Western, perfectly balancing the beauty of the landscape with the turmoil of the central relationship.

PAUL THOMAS ANDERSON THERE WILL BE BLOOD

98 Daniel Day-Lewis is chilling as an avaricious oil prospector in Anderson's bleak but compelling portrait of the early days of a corporate US.



MICHAEL HANEKE AMOUR

99 Haneke's unflinching portrait of an elderly couple facing the debilitating effects of infirmity is his most touching and humane film, bolstered by Emmanuelle Riva's startling portrayal of a woman gradually losing her grip on life and Jean-Louis Trintignant as her loving husband. Haneke eschews simplistic moralizing in questioning the notion of the quality of life. It won the Academy Award for Best Foreign Language Film.

PAOLO SORRENTINO THE GREAT BEAUTY

100 A modern *La Dolce Vita*, Sorrentino's colorful satire has the director's preferred actor Toni Servillo play novelist and journalist Jep Gambardella, a dapper member of the beau monde whose landmark birthday causes him to reflect on his life, his first love, and his achievements. After his sixty-fifth birthday party the jaded writer walks through the deserted streets of the Eternal City at night. Sorrentino's movie appeals to lovers of Roman architecture as well as movie fans



1889–1977

CHARLES CHAPLIN

1 *City Lights* (1931) defined Chaplin's tramp persona (a blend of slapstick and pathos), but he was already a global star by then. *Modern Times* (1936) and *The Great Dictator* (1940)—the latter his first talkie—showed that he was capable of much more. Few stars have equaled his popularity.

1892–1977

MARY PICKFORD

2 Known as "America's Sweetheart," Pickford was one of the biggest stars of the silent period. She graduated from child actor to feisty young woman with ease. *Coquette* (1929) was more daring (and saw her wear a new short hairstyle), but her age and the arrival of sound saw her retire in 1933.

1893–1963

MAE WEST

3 An actress and sex symbol whose bawdy charm and profligate use of double entendres perfectly suited pre-Hays Code Hollywood. West's comic delivery was second to none, which made her more than a match for her on-screen male counterparts, which included a young Cary Grant.

1893–1976

RUDOLPH VALENTINO

4 Valentino was cinema's first international heartthrob. His films varied little and his range as an actor even less so. However, his smoldering looks and uninhibited sexuality proved a potent cocktail for audiences, and he had a huge impact on the public imagination. *The Eagle* (1925) and *The Son of the Sheik* (1926) are his best films.

1895–1966

BUSTER KEATON

5 Cinema's greatest clown elevated physical comedy to an art form, his deadpan expression witness to a chaotic world. *The General* (1926) was his greatest work, a comedy masterpiece that finds perfect balance between the epic and the intimate.

100 MOVIE STARS

1899–1986

JAMES CAGNEY

6 A tough guy who danced with grace and could raise a laugh when needed, he was defined by *The Public Enemy* (1931), but *Yankee Doodle Dandy* (1942) showed his dexterity and *One, Two, Three* (1961) his humor.

1897–1956

HUMPHREY BOGART

8 A gangster-turned-heartthrob, Bogart was in *The Petrified Forest* (1936) and *High Sierra* (1941) before playing Rick in *Casablanca* (1942). He bagged an Oscar for his irascibility in *The African Queen* (1951) and sent up his tough guy image in Billy Wilder's *Sabrina* (1954), but he was at his finest selling his soul in *The Treasure of the Sierra Madre* (1948).

1894–1963

GARY COOPER

9 A heartthrob in his early films who toughened up in the 1930s, before being softened by Frank Capra, Cooper excelled as cowboys and soldiers. He made for an iconic hero, creating one of the Western's great sheriffs in *High Noon* (1952).

1899–1987

FRED ASTAIRE

7 His films with Ginger Rogers showcased his genius as a dancer. Astaire retired once, but was lured back for an encore in *Easter Parade* (1948). There was also *Finian's Rainbow* (1968) and a moving turn in *The Towering Inferno* (1974).

1903–1960

CLARK GABLE

10 Hollywood's debonair leading man was the epitome of masculinity. He was born to play Rhett Butler in *Gone with the Wind* (1939), but he could do high jinks, too, as he demonstrated in *It Happened One Night* (1934). However, tough drama was his forte, as his last role, in *The Misfits* (1961), showed.

1901–1992

MARLENE DIETRICH

11 Dietrich's remarkable collaboration with Josef von Sternberg took her to America but few Hollywood films equaled her work on *The Blue Angel* (1930). A late appearance in *Touch of Evil* (1958) was elegiac.

1902–1996

CLAUDETTE COLBERT

12 Colbert played mostly serious roles before she starred in screwball comedy *It Happened One Night* (1934). Her performance won an Oscar, and she spent the rest of the 1930s as Hollywood's biggest female star.

BOB HOPE

13 A Hollywood all-rounder, his break came starring opposite Bing Crosby in the popular Road movies, which ran from 1940 to 1962. Along the way he excelled in *The Paleface* (1948) and its 1952 sequel, as well as playing a scoutmaster vying for romance in *The Great Lover* (1949).

JEAN GABIN

14 A tough guy with a kind heart, Gabin was not classically handsome but played the lead with panache. *Pépé le Moko* (1937) made him a world star while his work with Jean Renoir brought acclaim.

CARY GRANT

15 No one wore charm as well as Cary Grant. Born Archibald Alexander Leach in Bristol, England, he became the exemplar of the sophisticated, urbane leading man. He started out as an attractive foil to Mae West's sexual provocateur, before displaying impressive verbal dexterity in a slew of screwball comedies. However, his greatest work was for Alfred Hitchcock and Howard Hawks, who both understood that his cool veneer worked better when hiding a hint of venality and malevolence in films such as *Suspicion* (1941) and *His Girl Friday* (1940).



JOAN CRAWFORD

16 Crawford perfected the vamp, but it was the lead with panache. *Pépé le Moko* (1937) made him a world star while his work with Jean Renoir brought acclaim.

HENRY FONDA

17 A bastion of liberalism, Fonda imbued characters with nobility, from *Young Mr. Lincoln* (1939) to *12 Angry Men* (1957).

GRETA GARBO

18 Garbo laughed in Ernst Lubitsch's *Ninotchka* (1939) but is remembered as a tragic heroine of the silent era. She wanted to "be alone" in *Grand Hotel* (1932), which prefigured her own retirement from the industry.

LOUISE BROOKS

19 Brooks made the bobbed haircut fashionable, and seared in *Pandora's Box* and *Diary of a Lost Girl* (both 1929).

JOHN WAYNE

20 *Stagecoach* (1939) defined him. Wayne made the Western his own, dominating it for four decades.

BARBARA STANWYCK

21 One of the Hollywood greats, Stanwyck exuded sexuality, smoldering both on-screen and off.



KATHARINE HEPBURN

22 The perfect sparring partner of both Cary Grant and Spencer Tracy, Hepburn was one of Hollywood's most unlikely stars and one of its best. She brought East Coast sophistication to her roles and excelled with "women's" directors like George Cukor.

BETTE DAVIS

23 Davis injected venom into the Hollywood melodrama. She transformed from a vicious matriarch in *The Little Foxes* (1941) into a romantic heroine in *Now, Voyager* (1942), but her finest performance came in *All About Eve* (1950), playing a scathingly bitchy actress.

1908-97

JAMES STEWART

24 Stewart's roles in Frank Capra's comedies forged his genial on-screen persona. He also stood out as a screwball, but it took Hitchcock and Anthony Mann to recognize the steeliness beneath. His four films for each rank among his best.

1913-67

VIVIEN LEIGH

27 Scarlett O'Hara made her a star. Her relationship with Laurence Olivier was sealed on-screen in *That Hamilton Woman* (1941), but her finest performance was in *A Streetcar Named Desire* (1951).

1913-94

BURT LANCASTER

28 Physically imposing, Lancaster was a brooding presence on the screen. He played cruel with unreserved viciousness, particularly in *Sweet Smell of Success* (1957), but gave soul to Alcatraz's Birdman. He excelled in Visconti's films and brought class to even his late roles.

1915-41

ORSON WELLES

30 The role of Charles Foster Kane defined Welles. He brought physical and emotional presence to the screen. Often it was overcooked, but in films such as *The Third Man* (1949) and *The Trial* (1962), he was commanding.

1915-71

FRANK SINATRA

31 Sinatra did not much care for acting, which showed in too many films. Yet he deserved his Oscar for *From Here to Eternity* (1953). He shone in musicals but excelled in *The Manchurian Candidate* (1962).

1919-41

ERROL FLYNN

25 Flynn was the perfect swashbuckler and became the best Robin Hood. His own colorful life mirrored that of the characters he played. He may have become unfashionable, but his charm remained to the end.

1919-87

INGRID BERGMAN

29 *Intermezzo* (1936) made Bergman a household name in Sweden, and its 1939 remake took her to Hollywood. *Casablanca* (1942) made her a star. Her persona exuded a coolness that barely concealed unbridled passions. She won her first Oscar for *Gaslight* (1944) and excelled in Hitchcock's *Notorious* (1946), but her career was almost derailed by an affair with Roberto Rossellini, who also drew out three of her greatest performances, including *Stromboli* (1950) and *Journey to Italy* (1954). She closed her career with a moving performance in Ingmar Bergman's *Autumn Sonata* (1978).

1919-87

GINGER ROGERS

26 Rogers was Fred Astaire's best dancing partner in nine films throughout the 1930s, including *42nd Street* (1933), *Top Hat* (1935), and *Shall We Dance* (1937). She later won an Oscar for Best Actress in *Kitty Foyle: The Natural History of a Woman* (1940) and then showed her flair for slapstick opposite Cary Grant in the screwball classic *Monkey Business* (1952).



1919-41

KIRK DOUGLAS

32 A tough guy on-screen who took on repellent characters, Douglas also embraced nobility. *Ace in the Hole* (1951) saw him at his most venal, but *Spartacus* (1960) exuded heroism.

1919-87

ROBERT MITCHUM

33 Mitchum wore stardom casually, his laconic air a contrast to his darker roles, notably the serial killer in *The Night of the Hunter* (1955). He thrived in noir, but his laid-back persona found him at ease in any era.

1919-87

TOSHIRO MIFUNE

34 Mifune was a favorite actor of Akira Kurosawa and one of Japan's most iconic stars. The prolific actor-director partnership began in 1948 and peaked memorably in films such as *Rashomon* (1950) and *Seven Samurai* (1954).

JANE RUSSELL

35 Raucous and raunchy, Russell shocked with *The Outlaw* (1943), but she was a skilled comedienne.

JUDY GARLAND

36 A star that burned so brightly. Fame came swiftly (*The Wizard of Oz*, 1939). *A Star Is Born* (1954) presaged her fall.

AVA GARDNER

37 Gardner was one of the Hollywood greats. Truly beautiful, she exuded sexuality, smoldering both on-screen and off.

CHARLTON HESTON

38 Heston was perfect for epics both biblical and historical, before *Planet of the Apes* (1968) reinvented him.

LAUREN BACALL

39 After her finest performances in *To Have and Have Not* (1944) and *The Big Sleep* (1946) opposite Humphrey Bogart, Bacall had a long career.



MARLON BRANDO

40 Brando made the Method mainstream and exuded brazen, animalistic sexuality. His Stanley Kowalski is a master class in brutish exuberance, and Terry in *On the Waterfront* (1954) is moving for his flaws. Later roles varied. His Don Corleone in *The Godfather* (1972) won him an Oscar, and he was at his finest in *Last Tango in Paris* (1972) while his Colonel Kurtz in *Apocalypse Now* (1979) sealed his legendary status.

MARCELLO MASTROIANNI

41 Federico Fellini's on-screen alter ego, Mastroianni will always be remembered for *La Dolce Vita* (1960), but his work for countless European auteurs meant much more.

DORIS DAY

42 The perfect "girl next door," Day sparkled in *Calamity Jane* (1953), but reached her best opposite lifelong friend Rock Hudson in a series of light comedies, including *Pillow Talk* (1959) and *Send Me No Flowers* (1964). Hitchcock employed her prim persona cleverly in *The Man Who Knew Too Much* (1956).

RICHARD BURTON

43 A renowned theater actor, Burton stood out in *The Robe* (1953) and blazed in *Bitter Victory* (1957) and *Look Back in Anger* (1959). Too many roles were beneath him, but on form he was formidable.

PAUL NEWMAN

44 An intelligent actor with startling blue eyes, he excelled as Billy the Kid and charmed as Butch Cassidy. Age brought gravitas. He shone in *The Verdict* (1982) and won an Oscar for *The Color of Money* (1986).

MARILYN MONROE

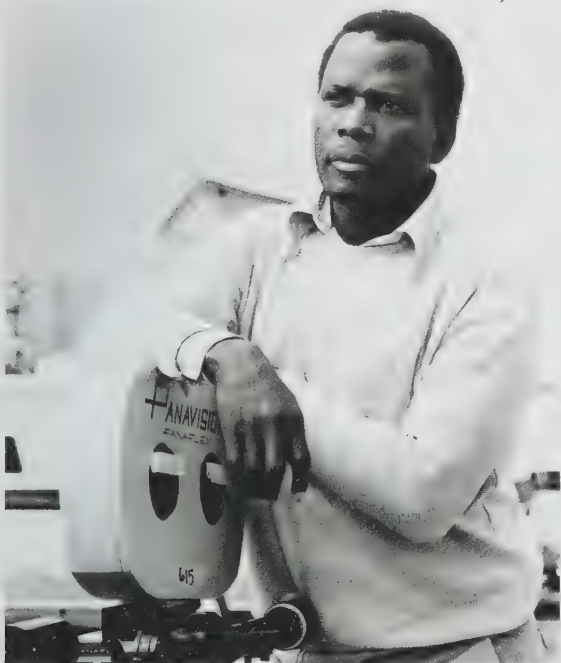
45 Sexy and glamorous, Monroe could be sultry and silly, or both combined. She could sing and dance, but sirens dominated her early roles. *Gentlemen Prefer Blondes* (1953) showcased her range, and she gave movie history one of its most iconic moments when she stood in that "flying" white dress above a subway grate in *The Seven Year Itch* (1955). However, she gave her all in Billy Wilder's *Some Like It Hot* (1959) and stole every scene.



b. 1927

SIDNEY POITIER

46 Poitier pushed the envelope for black actors in Hollywood. He was the first actor of African descent to win a Best Actor Oscar for his role in *Lilies of the Field* (1963). He was prominent in the civil rights movement in the United States, and films such as *In the Heat of the Night* (1967) underpinned his approach to offering a positive portrayal of African Americans.



1931-55

JAMES DEAN

53 Dean died too young but set a new level for Hollywood. *East of Eden* and *Rebel Without a Cause* (1955) were full of rage. *Giant* (1956) hinted at what might have come.

b. 1931

MONICA VITTI

54 Vitti made her name in innovative films directed by Antonioni in the 1960s and was the striking star of *Modesty Blaise* (1966).

b. 1928

JEANNE MOREAU

47 The muse of many a French New Wave director, she combines sexuality and intelligence. Playful and malevolent, often at the same time.

1929-87

GRACE KELLY

48 Kelly excelled as Gary Cooper's stoic wife in *High Noon* (1952) and won an Oscar for *The Country Girl* (1954). But she was best known as Hitchcock's perfect blonde in *Rear Window* (1954) and *To Catch a Thief* (1955).

1930-91

STEVE MCQUEEN

50 "The King of Cool" had a quiet strength, but his best work was for directors who recognized his sensitivity.



b. 1917

AUDREY HEPBURN

49 Fragile beauty, European chic, and an exquisite wardrobe made Audrey Hepburn a star and fashion icon. She won an Oscar at the age of 24 for *Roman Holiday* (1953) and was nominated a further four times—*Sabrina* (1954), *The Nun's Story* (1959), *Breakfast at Tiffany's* (1961), and *Wait Until Dark* (1967). Her role as Holly Golightly will forever define her.

b. 1928

CLINT EASTWOOD

51 The Man with No Name and Harry Callahan defined almost every role in Clint's career.

SEAN CONNERY

52 Bond made him, but Connery was more interesting with Sidney Lumet. *The Untouchables* (1987) won him an Oscar and sealed his appeal as a tough guy's tough guy.

(1932-89)

ELIZABETH TAYLOR

55 The child star of *National Velvet* (1944) became an icon of Hollywood glamour, thanks to appearances in prestige productions, including the epic *Cleopatra* (1963), and two marriages to Richard Burton. But she could act as *Who's Afraid of Virginia Woolf?* (1966) emphatically showed.



b. 1933

MICHAEL CAINE

56 Performances during the 1960s as Alfie and Harry Palmer defined him. Caine's prolific six-decade career runs the gamut, from class to schlock, but his professionalism is ever present throughout.

BRIGITTE BARDOT

57 The original sex kitten, Roger Vadim may have made Bardot famous, but in *Le Mépris* (1963) Jean-Luc Godard recognized her talent.

SOPHIA LOREN

58 Loren formed one of the most dynamic on-screen pairings with Marcello Mastroianni. She won an Oscar for *Two Women* (1960). As a star she defined European glamour for decades.

ALAIN DELON

59 The perfect Tom Ripley in *Purple Noon* (1960), Delon defined the 1960s with a series of indelible performances, never looking less than dashing. His finest work was produced in this period.

ROBERT REDFORD

60 *Butch Cassidy and the Sundance Kid* (1969) defined Redford as a good-looking star with an edge. Admired for his on-screen likable charisma, critics claim that he ends up giving the same performance, which might suggest why he has never won an acting Oscar during his long career. He is at his best in *All Is Lost* (2013).

JANE FONDA

61 A fearless actor and political campaigner whose finest roles examine the role of women and politics in society. *Klute* (1971) is arguably her best film.

MORGAN FREEMAN

62 Who else could play God, the president of the United States, and Nelson Mandela? Freeman brings gravitas to any role.

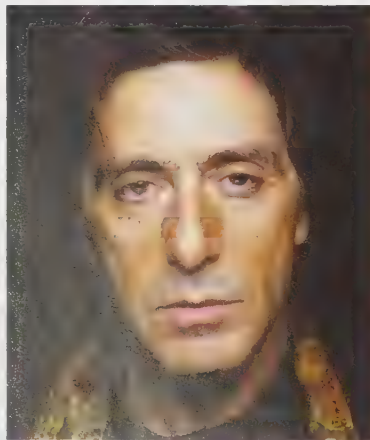
JACK NICHOLSON

63 A combination of devilish charm and intelligence made Nicholson one of the most popular actors since the 1970s. That decade was his finest. He won an Oscar for *One Flew Over the Cuckoo's Nest* (1975) but was equally memorable in *Five Easy Pieces* (1970), *The Last Detail* (1973), *Chinatown* (1974), and *The Passenger* (1975). *Batman* (1989) highlights his penchant for pantomime, but *The Pledge* (2001) and *About Schmidt* (2002) reveal the depths of this versatile star's talent.



DUSTIN HOFFMAN

64 *The Graduate* (1967) made Hoffman a star, and he won an Oscar for *Kramer vs. Kramer* (1979) and *Rain Man* (1988), showcasing his Method training. *Tootsie* (1982) remains one of his most popular films.



AL PACINO

65 Pacino was outstanding in *The Godfather* (1972) and its 1974 sequel. *Serpico* (1973) and *Dog Day Afternoon* (1975) sealed his reputation in that decade. *Scarface* (1983) was outrageous and set the template for many roles.

AMITABH BACHCHAN

66 Icon of Indian cinema and star of the classic *Deewaar* (1975). After a brief hiatus into politics in the 1990s, he made a comeback with *Mohabbatein* (2000).

BARBRA STREISAND

67 Streisand won over audiences with *Funny Girl* (1968) and charmed in *What's Up, Doc?* (1972), but *The Way We Were* (1973) was a box-office bonanza. Few roles since have challenged her.

8-17-84

HARRISON FORD

68 A movie star out of time, Han Solo and Indiana Jones sat comfortably with Ford's matinee idol persona. *Blade Runner* (1982) and *Witness* (1985) pushed him further, and he has remained enduringly popular with audiences.



ROBERT DE NIRO

69 Until the late 1990s, De Niro gave a string of stunning performances. His collaboration with Scorsese is legendary, and his Jake LaMotta in *Raging Bull* (1980) arguably his best. He helped define 1970s America on the screen. He broadened his range in the 1980s and beyond, often unwisely.

b. 1943

CATHERINE DENEUE

70 Deneuve has acted for some of the greatest directors. Her performances for Polanski and Buñuel still shock. She is a grande dame of French cinema and worthy of the title.

MICHAEL DOUGLAS

71 Douglas is one of the most respected stars of post-1970s Hollywood. He won an Oscar for *Wall Street* (1987) and excelled in *Behind the Candelabra* (2013).

SYLVESTER STALLONE

72 Stallone's career is marked by the Rocky and Rambo franchises but he sought to be taken seriously. It finally worked on *Rocky Balboa* (2006), a genuinely moving drama.

ARNOLD SCHWARZENEGGER

73 Schwarzenegger is the symbol of 1980s action movie excess, but James Cameron gave the former bodybuilder the roles of his career in *The Terminator* (1984) and its 1991 sequel.

SAMUEL L. JACKSON

74 Jackson can charm and menace in equal measure. *Pulp Fiction* (1994) made him a star and gained him an Oscar nod. He is one of Hollywood's most prolific actors.

MERYL STREEP

75 A character actor par excellence, whose mastery of accents and chameleon-like skills are unnerving. *The Deer Hunter* (1978) showcased her talent and a fragility that would be mined further for Oscar-winning performances in *Kramer vs. Kramer* (1979) and *Sophie's Choice* (1982). A wide range of character-led roles followed throughout the 1980s before even greater stardom beckoned, rarely at the expense of her art. She was wickedly good in *The Devil Wears Prada* (2006) and racked up another Oscar for *The Iron Lady* (2011).



SIGOURNEY WEAVER

76 Hollywood's first modern female action star is also one of its most intelligent actors. Between *Alien* (1979) and *Avatar* (2009), Weaver has pursued roles featuring strong or troubled women.

JOHN TRAVOLTA

77 There have been many missteps in his career, but in *Saturday Night Fever* (1977), *Blow Out* (1981), and *Pulp Fiction* (1994), Travolta lights up the screen.

DENZEL WASHINGTON

78 *Cry Freedom* (1987) and an Oscar-winning turn in *Glory* (1989) showcased Washington's range. He formed successful collaborations with Spike Lee and Tony Scott. His Malcolm X is a master class in acting. *Training Day* (2001) made him nasty, and he won an Oscar for it. He brings gravitas to mainstream projects.

CHOW YUN-FAT

79 Before playing the hero in *Crouching Tiger, Hidden Dragon* (2000), he was John Woo's favorite action star.

BRUCE WILLIS

80 *Die Hard* (1988) and *The Sixth Sense* (1999) define a successful career that shifts from mainstream action adventure to critically acclaimed introspection.

ISABELLE ADJANI

81 Adjani is an intense on-screen presence and multilingual performer whose best work—her finest being *Camille Claudel* (1988)—mines the frailties of human existence.

TOM HANKS

82 A double Oscar-winning Everyman, Hanks brings decency to his roles, often with an old-fashioned charm. His near solo performance in *Cast Away* (2000) shows the power of his appeal.

MICHELLE PFEIFFER

83 *Grease 2* (1982) was a misstep but Pfeiffer stood out in *Scarface* (1983). Her fragile beauty was perfect for *Dangerous Liaisons* (1988), and she was a game Catwoman in *Batman Returns* (1992).

GEORGE CLOONEY

84 At his best when his characters are troubled, such as *Michael Clayton* (2007) or his Oscar-winning performance as a CIA officer in *Syriana* (2005), Clooney is also adept at comedy, as witnessed in his work with the Coen brothers (*O Brother, Where Art Thou?*, 2000) and Steven Soderbergh (*Ocean's* franchise).



TOM CRUISE

85 The definitive modern Hollywood star. Since the mid-1980s Cruise has been one of the biggest global box-office attractions. *Top Gun* (1986) cemented his status and his maverick on-screen persona. The maverick persona also defines his more serious roles, from *Rain Man* (1988) and *Born on the Fourth of July* (1989) to *Jerry Maguire* (1996) and *Magnolia* (2000). He also put in an unforgettable turn as a crude studio executive in *Tropic Thunder* (2008).

JODIE FOSTER

86 *Taxi Driver* and *Bugsy Malone* (both 1976) were startling performances from the young Foster. Oscars followed for *The Accused* (1988) and *The Silence of the Lambs* (1991).

EMMANUELLE BÉART

87 *Manon des sources* (1986) launched Béart internationally, but a few roles in international films notwithstanding (*Mission: Impossible*, 1996), she has remained one of France's finest screen actors and is an eight-time César Award nominee. Notable performances include *Un cœur en hiver* (1992) and *8 femmes* (2002).

JOHNNY DEPP

88 He can be chameleon-like, as witnessed in his work with Tim Burton or in *Black Mass* (2015). But Depp is most effective in less showy roles, as in *What's Eating Gilbert Grape* (1993), *Dead Man* (1995), and *Donnie Brasco* (1997).

BRAD PITT

89 Pitt's good looks first got him noticed, but his scene-stealing cameo in *Thelma & Louise* (1991) made him a star. His best work—which includes *Se7en* (1995), *Fight Club* (1999), and *Moneyball* (2011)—are often offbeat projects in which he plays against type.

b. 1964

JULIETTE BINOCHÉ

90 Binoché excels at playing troubled souls. *The English Patient* (1996) won her an Oscar, and she has worked with the world's finest directors.

b. 1965

ROBERT DOWNEY JR.

91 An electric screen presence in the 1980s in *Less Than Zero* (1987), he emerged from rehab to become a big star of the Marvel era.

b. 1968

WILL SMITH

94 An actor who became a rapper and TV star as "the Fresh Prince," only to transform himself into a huge movie idol. A versatile performer, at home with action as well as comedy, he garnered critical acclaim with the boxer biopic *Ali* (2001).

b. 1974

LEONARDO DICAPRIO

97 DiCaprio could have remained a pretty star but instead astutely chose serious roles—including a clutch of films for Martin Scorsese—to become one of the most bankable, critically acclaimed actors of his generation. After receiving four nominations, he finally won an Oscar for *The Revenant* (2015).

b. 1967

NICOLE KIDMAN

92 A movie star with a persona and appeal that recalls Hollywood's Golden Age, Kidman first drew attention as the imperiled wife in *Dead Calm* (1989), was recognized as a great actor with *To Die For* (1995), but became a bona fide star with *Moulin Rouge!* (2001). She won an Oscar for playing Virginia Woolf in *The Hours* (2002) and is at her best playing complex, vulnerable characters.



b. 1968

JULIA ROBERTS

93 With that smile, she made prostitution palatable—and profitable—in *Pretty Woman* (1990). It made Roberts a star and she returned to the role regularly. Her Oscar for *Erin Brockovich* (2000) was deserved after previous nominations (*Pretty Woman* and *Steel Magnolias*, 1989). She exuded charm in *Ocean's Eleven* (2001). And her roles in *Mary Reilly* (1996), *Michael Collins* (1996), *Closer* (2004), and *August: Osage County* (2013) revealed a willingness to extend her range.

b. 1969

JAVIER BARDEM

95 A Spanish star whose raw sexuality was suppressed for his Oscar-winning turn in *No Country for Old Men* (2007). Bardem is a chameleon-like actor as shown in diverse roles from a persecuted Cuban writer in *Before Night Falls* (2000) to a Bond villain in *Skyfall* (2012).

b. 1974

PENÉLOPE CRUZ

96 Cruz has dabbled in Hollywood, but an Oscar-winning performance in *Vicky Cristina Barcelona* (2008) notwithstanding, her best work has been in her native Spain. She has dazzled for Almodóvar, who cast her in *Volver* (2006), her finest role to date.

b. 1973

MARION COTILLARD

98 An Oscar-winner with the grace and poise of a star, she is one of the finest character actors of her generation.

b. 1975

ANGELINA JOLIE

99 Jolie exudes classical Hollywood star appeal even though the roles that she plays are sometimes less alluring than her mystique.

AUDREY TAUTOU

100 Tautou's elfin looks made her perfect for *Amélie* (2001), but she demonstrated real depth in the gritty tale of illegal immigrants in London, *Dirty Pretty Things* (2002). *Coco Before Chanel* (2009) and *Thérèse* (2012) are impressive, while her collaborations with Cédric Klapisch—beginning with *L'auberge espagnole* (2002)—are a delight.





1873-1948

D. W. GRIFFITH

1 A pioneer of early Hollywood filmmaking, Griffith directed the first US feature, the American Civil War epic *The Birth of a Nation* (1915). Technically innovative, its racist content is abhorrent. He made a star out of Lillian Gish and cofounded United Artists, but his career floundered with the coming of sound.

1895-1957

ERICH VON STROHEIM

2 The Austrian-born filmmaker was a visionary of silent cinema. While some films remain, his intense and lengthy epic *Greed* (1924) only exists in truncated form.

1893-1957

G. W. PABST

3 Themes encompassing the role of women in society are central to Pabst's best films, *The Joyless Street* (1925), *Pandora's Box*, and *Diary of a Lost Girl* (both 1929).

1890-1935

F. W. MURNAU

4 One of the masters of silent cinema, Murnau's camera would glide across sets. He finessed his art to the point where films could be made with few inter-titles. His greatest work is *Sunrise: A Song of Two Humans* (1927).

1893-1964

CHARLES CHAPLIN

5 He charmed and cheered millions on screen. Behind the camera Chaplin was a perfectionist. *City Lights* (1931) is his most fluid silent work, while *Modern Times* (1936) found him at his most visually inventive.

1899-1968

CARL THEODOR DREYER

6 Few directors were more serious or emotionally devastating. For *The Passion of Joan of Arc* (1928) he focused solely on his lead actor's face. *Ordet* (1955) and *Gertrud* (1964) went further in examining the bonds of faith and love. The result is sublime. A master of melodrama.

100 MOVIE DIRECTORS

1890-1972

FRITZ LANG

7 Lang explored the murky side of human nature. In Germany he made *Metropolis* (1927) and *M* (1931). His US films—like *You Only Live Once* (1937), *Clash by Night* (1952), and *The Big Heat* (1953)—remained dark.

1892-1948

ERNST LUBITSCH

8 Lubitsch mainly made urbane, sophisticated comedies that exude wit and elegance. *Ninotchka* (1939) and *To Be or Not To Be* (1942) are masterpieces.

1894-1973

JOHN FORD

9 Ford's grand, sweeping vision of the American frontier was the foundation for the cinematic myth of the West.

1894-1979

JEAN RENOIR

10 Movement is everything in Renoir's films, his camera roving through locations, capturing the foibles of humanity. His nine silent films paved the way for success in the 1930s, which included two of his most acclaimed films, the prison camp drama *Grand Illusion* (1937) and *The Rules of the Game* (1939), his most complex film, which uses a country hunting party as a metaphor for class conflict. His subsequent career, in the United States during the war and in France after, was marked by a series of elegant, deeply humane dramas, often spiked with caustic wit.

1895-1965

BUSTER KEATON

11 Keaton's finest work was codirected, enabling him to also perform in front of the camera. *One Week* (1920) showcased an ability to convey chaos, while *The General* (1926) remains one of the greatest comedies ever made.

1896-1977

HOWARD HAWKS

12 Hawks's specialty was the study of masculinity, often in crisis. He excelled at portraying gangsters and cowboys in films such as *Scarface* (1932) and *Rio Bravo* (1959), and with *His Girl Friday* (1940), he perfected the screwball comedy.

1897-1991

FRANK CAPRA

13 Capra captured the nuances of small-town life, was deeply suspicious of the corporate and political machines, but his endings veered toward the sentimental. He made such gems as *It Happened One Night* (1934) and *It's a Wonderful Life* (1946).

1898-1968

SERGEI EISENSTEIN

14 Filmmaker and theorist, his work used montage as a way of conveying themes. *Strike* and *Battleship Potemkin* (both 1925) are key works, while his *Ivan the Terrible* diptych is visually bold.

1898-1960

KENJI MIZOGUCHI

15 His camera was rarely static in his exploration of human suffering. A strong focus was the plight of women, as witnessed in *Life of Oharu* (1952) and *Sansho the Bailiff* (1954).

1898-1983

PRESTON STURGES

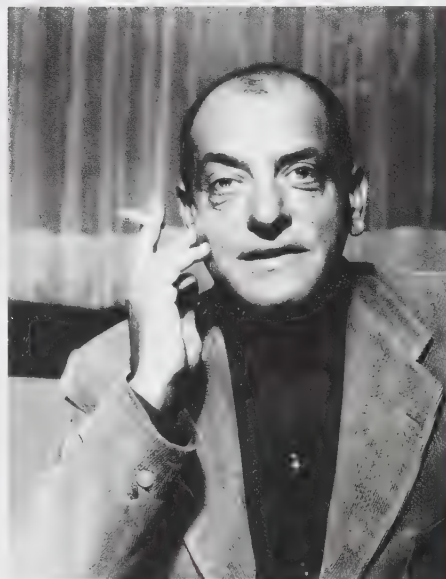
16 Sturges brought sophistication to the Hollywood comedy of manners. He ridiculed his misguided protagonists, but hubris was always partnered by redemption.

ALFRED HITCHCOCK

17 The "Master of Suspense" was influenced by Soviet cinema, German Expressionism, and classical Hollywood. *The Lodger* (1927) and *Blackmail* (1929) are blueprints for his later work. Constantly inventive, both in the polish of his visual style and the manufacture of his persona, *Vertigo* (1958) has been voted by critics the greatest film ever made, and the modern horror film came of age with *Psycho* (1960) and *The Birds* (1963).

LUIS BUÑUEL

18 Buñuel directed *Un Chien Andalou* (1929) with Salvador Dalí and then branched off on his own to make *L'Âge d'or* (1930), a satire of bourgeois society and critique of the Roman Catholic Church, the two main targets throughout his career. He made films in Mexico in the 1950s and later in France. They often featured dream sequences that underpinned his disdain for society's misplaced values.



ROBERT BRESSON

19 Bresson explored cruelty and injustice, but his compassion for his characters is evident in every scene.

MAX OPHÜLS

20 His elegant style explored the moral fabric of society, his characters often compromised. He worked well in France and America.



YASUJIRO OZU

21 Often called the "most Japanese" of Japan's great directors, Ozu was a perfectionist. His framing is mostly static but the films he created are full of life. *Tokyo Story* (1953)—a moving exploration of family life—is his masterpiece.

MICHAEL POWELL

22 A virtuoso filmmaker who produced dazzling films with writer and coproducer Emeric Pressburger, including *Black Narcissus* (1947) and *The Red Shoes* (1948).

JEAN VIGO

23 France's cinematic poet laureate, he made one feature, *L'Atalante* (1934), and a few shorts. That was enough to seal his reputation.

JOHN HUSTON

24 His was a driven, masculine-oriented cinema. At its best, in *The Treasure of the Sierra Madre* (1948), it exposed the venality of man.

LUCHINO VISCONTI

25 Visconti's early work was neorealist, but his love of opulence transformed his cinema. The later films are operatic in scale. *The Leopard* (1963) is the most lavish example of his ambition.

BILLY WILDER

26 Wilder learned from Lubitsch, but his worldview was more cynical. *Sunset Boulevard* (1950) took a scalpel to Hollywood, while *Some Like It Hot* (1959) and *The Apartment* (1960) are near perfect.

MARCEL CARNÉ

27 A key figure in poetic realism, his greatest achievement was *Children of Paradise* (1945).

DAVID LEAN

28 Lean shifted from intimate British dramas like *Brief Encounter* (1945) to grand spectacle.

AKIRA KUROSAWA

29 Acclaimed for his epic samurai films, but also at home in modern times. *Rashomon* (1950) brought Kurosawa world acclaim, but *Seven Samurai* (1954), *Yojimbo* (1961), and his literary adaptations sealed his reputation.

MICHELANGELO ANTONIONI

30 *L'Avventura* (1960) made Antonioni's name and defined his style of long, beautifully composed, geometrically precise shots that explored middle-class life and the ennui experienced by his characters.

ORSON WELLES

31 *Citizen Kane* (1941) is an influential masterpiece. Welles was 26 when he made it, and his other films never matched its brilliance. *The Magnificent Ambersons* (1942) came close, save for a studio-imposed ending. Film noir allowed him to experiment, and he produced the genre's last great film with *Touch of Evil* (1958). *The Trial* (1962) and *Chimes at Midnight* (1965) are no less impressive, while *F for Fake* (1973) is as unique as its maker. Brilliant, controversial, and innovative in equal measure.



INGMAR BERGMAN

32 Themes of mortality, faith, and the inefficacy of human relationships. Bergman's work could be austere but was rarely cruel. *The Seventh Seal* (1957), *Wild Strawberries* (1957), and *Persona* (1966) made him an iconoclast of European cinema.

FEDERICO FELLINI

34 A showman whose films revel in carnivalesque worlds. *La Dolce Vita* (1960) satirized Italian society while *8½* (1963) viewed filmmaking as an act of insanity.

SATYAJIT RAY

35 India's most acclaimed director, he embraced realism with his evocation of daily life. The coming-of-age Apu trilogy (1955–59) remains his best work.

CHRIS MARKER

36 One of cinema's greatest essayists. *La Jetée* (1962), his most famous film, is atypical of his style, but its influence is wide. His work is social, political, ethnographical, and anthropological.

ÉRIC ROHMER

33 Associated with the French New Wave, albeit a late starter as a filmmaker, Rohmer's work is marked by a beguilingly relaxed, naturalistic, conversational style typified by his first film *Ma Nuit Chez Maud* (1969).

PIER PAOLO PASOLINI

37 Filmmaker, poet, and philosopher, his Catholic upbringing, Marxism, and homosexuality fed into a sometimes shocking, often beautiful, body of work.

OUSMANE SEMBÈNE

38 The father of African cinema, Sembène's *Black Girl* (1966) is a seminal moment in African film.

ROBERT ALTMAN

39 A rebel by nature, his work ranks with the finest US filmmakers. He tackled every genre possible and turned it on its head, starting with *M*A*S*H* (1970). He revolutionized the use of sound and image in his ensemble dramas.

SAM PECKINPAH

40 Peckinpah's acclaimed Westerns are notable for their savagery and an elegiac quality, marking the passing of an age defined by a particular kind of masculinity. Action scenes unfold in slow motion, influencing later directors.

SHOHEI IMAMURA

41 Trained under Ozu, but his vision is markedly different. A member of the Japanese New Wave, Imamura shocked with severe critique of his society. One of the few directors to win two Palme d'Or awards at Cannes.

ANDRZEJ WAJDA

42 A vital figure of Polish cinema during the Soviet era and director of the acclaimed War trilogy.

JACQUES RIVETTE

43 The oldest French New Wave member, his films employ long takes and eschew conventional narrative structures.

STANLEY KUBRICK

44 A technical marvel whose finest films explore the foibles and aspirations of humanity, in both war and peace. Unafraid to tackle the most challenging of subjects, Kubrick's work is acclaimed for its vision and intelligence.

NICOLAS ROEG

45 Time is a malleable concept in Roeg's visually rich work, best exemplified by *Don't Look Now* (1973) and *Bad Timing* (1980).

AGNÈS VARDA

46 Varda worked outside the French New Wave but her films and essayistic documentaries are vital, often focusing on the role and status of women in society.

JOHN CASSAVETES

47 Credited as the godfather of US independent film, his films simmer with unease in their exploration of contemporary life.

SERGIO LEONE

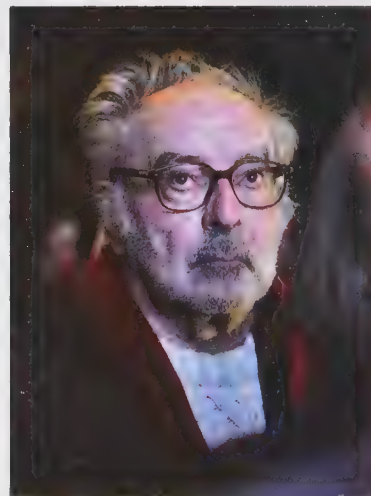
48 He deconstructed cowboy and gangster myths, and the Dollar trilogy (1964–66) put spaghetti into Westerns.

CLINT EASTWOOD

49 Eastwood's direction is as unfussy as his acting, but with age has come ambition, and films on a grander scale, including two remarkable war films.

JEAN-LUC GODARD

50 The eternal rebel of French cinema, he rewrote the rules with *Breathless* (1960) and his early films as a member of the French New Wave. He progressed to a more political cinema following 1968, and as the decades passed, his work took on an essayistic form.



ANDREI TARKOVSKY

51 His was a poetic cinema. Beautifully composed and elegantly measured, Tarkovsky's camera prowled through landscapes real and imagined in an attempt to explore the human condition. With *Solaris* (1972), *Stalker* (1979), and *The Sacrifice* (1986), he brought intellectual rigor and emotional depths to science fiction. His talent was obvious in his student shorts but fully realized in *Ivan's Childhood* (1962) and his remarkable portrait of a fifteenth-century Russian painter *Andrei Rublev* (1966). *The Mirror* (1975) explored memory as reverie while *Nostalgia* (1983), his first film made in exile as a result of Soviet authorities curtailing his creative freedom, employs dreams to explore his feelings about Russia and the artistic impulse.



NAGISA OSHIMA

52 Oshima's early work attacked the status quo in Japanese society, often focusing on violent youth culture, and as a result attracted the wrath of censors. *In the Realm of the Senses* (1976) shocked with its explicit sex.

FRANÇOIS TRUFFAUT

53 Truffaut led the French New Wave. He played with Hollywood genres, and his love of cinema often translated into films about filmmaking.

ROMAN POLANSKI

54 Controversy aside, Polanski's best work ranks alongside Hitchcock for its suspense. *Chinatown* (1974) is merely one flash of brilliance.

WOODY ALLEN

55 The prolific Allen has produced 50 films in as many years. Most are comedies. A number of them are truly great. His themes are relationships, sex, and the irritating prevalence of death.

RIDLEY SCOTT

56 Scott makes light do magical things, in the past, present, and future. Few directors have worked so prolifically on so grand a scale.

FRANCIS FORD COPPOLA

57 *The Godfather* (1972), its 1974 sequel, *The Conversation* (1974), and *Apocalypse Now* (1979) are grand works, balancing the epic and intimate. Flashes of genius have since been eclipsed by judgment errors, though never banal.

ABBAS KHIAROSTAMI

58 Leading Iranian filmmaker. Early critiques of his society were opaque and seen from a child's viewpoint. Later work is self-reflexive.

B. 1940

BERNARDO BERTOLUCCI

59 His early work was politicized and visually ravishing. *Last Tango in Paris* (1972) still shocks. *The Last Emperor* (1987) and films since have veered toward the stately.

B. 1979

MARTIN SCORSESE

64 The leading light of 1970s US directors, Scorsese's visceral early films, often punctuated with bloody violence, has given way to stately later works that are steeped in cinematic history. *Mean Streets* (1973) and *Taxi Driver* (1976) defined 1970s New York. *Raging Bull* (1980) highlighted his mastery over the medium and cemented his reputation for exploring masculinity and the bonds between men. The virtuoso *Goodfellas* (1990) continued the trend and attracted new fans. He finally won an Oscar for *The Departed* (2006), his sixth nomination.

1945-82

RAINER WERNER FASSBINDER

67 In a career spanning 15 years, Fassbinder's output was prolific and, at its best, emotionally devastating. Across 40 features and two TV series, he explored race, sexuality, the shifting political landscape of the 1960s and 1970s, and German identity.

B. 1931

KRZYSZTOF KIEŚLOWSKI

60 Kieślowski chronicled the lives of ordinary individuals, but eschewed sentimentality. His films explore notions of justice, questioning the way we live.

B. 1942

MICHAEL HANEKE

61 Haneke's is a serious cinema, tackling modernity and our propensity for violence. He can be direct yet refuses to proffer answers, opting instead for provocation.

B. 1942

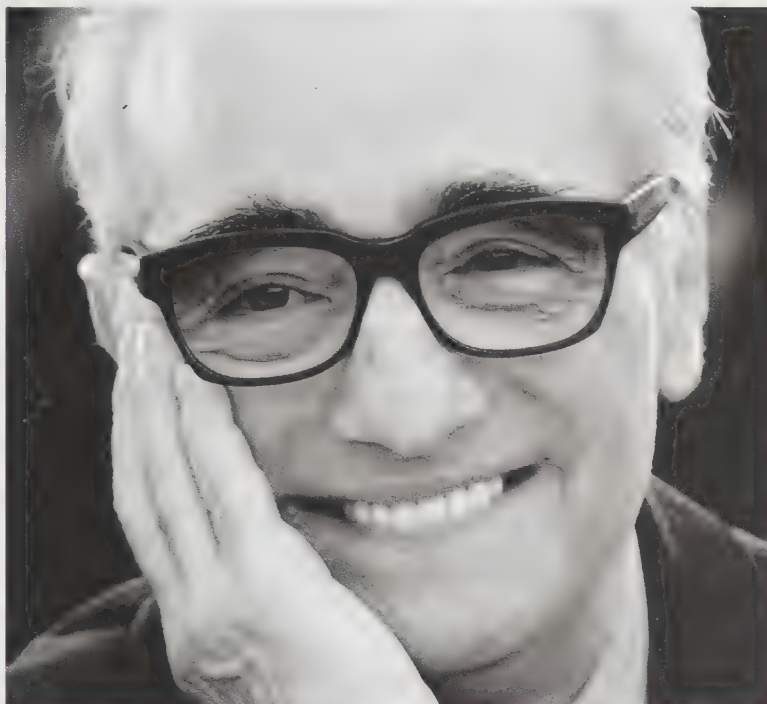
WERNER HERZOG

62 An adventurer filmmaker, riveted by human behavior, his work locates characters in extremis, often in physical disrepair or on the precipice of a moral abyss.

B. 1944

DEREK JARMAN

63 An artist who brought his singular perspective to cinema. He was a politically engaged filmmaker who employed historical characters to explore sexuality.



B. 1941

DAVID CRONENBERG

65 Extreme body horror dominated Cronenberg's early work. He has lost none of his power to shock, but is as interested in the nuances of the human psyche as he is exploding heads.

B. 1941

TERRENCE MALICK

66 After two iconic features he disappeared for 20 years. Recent films have varied, but his outlook, embracing history and rich in spiritual engagement, is unique.

B. 1944

TERENCE DAVIES

68 His early work was autobiographical, steeped in cinema history, repressed sexuality, and the insidiousness of domestic abuse. His literary adaptations are richly evocative, capturing the cadences of their source material. *The House of Mirth* (2000) may be the best Wharton adaptation.

B. 1945

WIM WENDERS

69 Wenders's work is synonymous with the road movie and studies in masculinity, as evinced by *Alice in the Cities* (1974) and *Kings of the Road* (1976). *Paris, Texas* (1984) and *Wings of Desire* (1987) are key works of the 1980s. More recently, he has excelled with documentaries.

B. 1946

STEVEN SPIELBERG

70 Arguably the most commercially successful filmmaker there has been, he is an entertainer par excellence and a chronicler of US and Jewish histories. His best work is intelligent, albeit occasionally weighed down by sentimentality, but always beautifully crafted.

B. 1946

CLAIRE DENIS

71 Denis's work has touched on French colonialism. *Beau Travail* (1999) seamlessly blends literature, dance, and politics in Djibouti.

B. 1946

DAVID LYNCH

72 A connoisseur of the strange, Lynch brought malevolence into America's suburbia with *Blue Velvet* (1986) and TV's *Twin Peaks* (1990-91).

EDWARD YANG

73 A leading figure of the Taiwanese New Wave, Yang's films employ long takes and unfold in urban environments, often exploring the divide between tradition and modernity. His final film *Yi Yi* (2000), best exemplifies his approach, reflecting on three generations and the upheavals of one family's life.



PEDRO ALMODÓVAR

74 Almodóvar's early directorial work was defined by high camp and rebellion. It was followed by psychosexual dramas and an increasingly sophisticated style. *Women on the Verge of a Nervous Breakdown* (1988) broke through to the international mainstream, where he has remained. He creates rich roles for women of all ages. *All About My Mother* (1999) is his most accomplished work to date.



KATHRYN BIGELOW

75 One of the finest contemporary action directors, she won an Oscar for *The Hurt Locker* (2008).

ALEKSANDR SOKUROV

77 He often employs the screen like a canvas. *Mother and Son* (1997) possesses a painterly quality.

JEAN-PIERRE & LUC DARDENNE

76 They started making films in the 1970s but rose to prominence in the mid-1990s with dramas that focus on the plight of the disadvantaged in society. Their films have won two Palme d'Or awards.

CHEN KAIGE

78 The most famous Chinese fifth-generation filmmaker who is best known for the opulence of his work and the Palme d'Or-winning *Farewell My Concubine* (1993).

JAMES CAMERON

79 *The Terminator* (1984) was a miracle of low-budget filmmaking. His work since has been biblical in scale with films such as *Titanic* (1997) and *Avatar* (2009).

JOEL & ETHAN COEN

80 From genre pastiche to original drama and literary adaptation, the Coen brothers are the byword in contemporary US cinema for intelligence and wit.

JANE CAMPION

81 Campion's films have engaged with gender issues and female sexual power. She was the first female filmmaker to win the Palme d'Or at Cannes, for *The Piano* (1993), which remains her best-known work. Her films are noted for their sophisticated visual style.

ANG LEE

82 Lee was originally preoccupied by patriarchal figures in films such as *The Wedding Banquet* (1993). His work now extends to any subject, but always with a rich emotional core.

LARS VON TRIER

84 Few contemporary filmmakers are as provocative. The formality of his early work gave way to a roughly hewn style with *Breaking the Waves* (1996). More recent work is visually and thematically daring. Some see substance; others, exhibitionism.

AKI KAURISMÄKI

85 Deadpan wit defines this Finn's work. For three decades he has chronicled working-class life with pathos, humor, and compassion. He made the Leningrad Cowboys a cultural phenomenon.



BÉLA TARR

83 A pioneer of Slow Cinema, the Hungarian auteur employs long takes and mostly uses nonprofessional actors. *Damnation* (1988) witnessed a move away from social realism toward a stylized cinema. His cinematic worldview veers toward the pessimistic and engages philosophically with the nature of existence. *Sátántángo* (1994) and *Werckmeister Harmonies* (2000) are masterpieces.

SPIKE LEE

86 Arguably the most important African-American filmmaker, Lee's greatest work engages with racial problems in his country and is vibrant, musical, and spirited. He is also a talented documentarian.

TIM BURTON

87 Burton was originally an animator, moved to blockbusters quickly and has since carved one of the most unique and quirky careers in Hollywood. He has enjoyed a long and fruitful collaboration with actor Johnny Depp in films ranging from *Ed Wood* (1994) to *Charlie and the Chocolate Factory* (2005).

WONG KAR-WAI

88 Wong Kar-wai is a director of the second wave of Hong Kong filmmakers who emerged in the late 1980s to 1990s. Time is everything in his highly stylized films. Whether set in Hong Kong, Buenos Aires, the United States, or China, it defines the characters and their journeys. But their experience of it is different, and the films often speed it up or slow it down. He is a master of color, the hubbub of city life, and human emotion. His melancholy tale of love and loneliness *In the Mood for Love* (2000) is one of the most beautiful films ever made.



NURI BILGE CEYLAN

89 Employing a meditative style, the selfishness of people is an overriding concern, shot against the backdrop of Istanbul and Anatolia.

JAFAR PANAHİ

90 Panahi critiqued Iranian society before being banned from filmmaking. He has continued nonetheless. *Taxi Tehran* (2015) is superb.

STEVEN SODERBERGH

91 Soderbergh brings invention into the heart of mainstream US cinema, shifting between time frames or employing color filters to differentiate narrative strands. He is equally adept with big-budget projects or quirky indies. *Out of Sight* (1998) typifies his best work—intelligent, emotionally charged, and quick-witted. He gained a twin Oscar nomination for *Erin Brockovich* and *Traffic* (both 2000), winning for the latter.

QUENTIN TARANTINO

92 His cinema is the very definition of pop culture, riffing on genre films, pulp fiction, and music. His best work fizzles with energy and brio.

WES ANDERSON

93 Few filmmakers craft their films so richly. Recent films have threatened to suffocate, but his talent as a stylist and a unique voice is undeniable.

SPIKE JONZE

94 Moving from music videos to features, his projects with Charlie Kaufman are wildly original, while *Her* (2013) is his warmest film to date.

JIA ZHANGKE

95 Key filmmaker of the sixth generation of cinema, his films record the shift in China's economic fortunes and the impact of globalization.

CHRISTOPHER NOLAN

96 He moved from cerebral, low-key indies to blockbusters that retain an air of intelligence. *Interstellar* (2014) also connected emotionally.



PAUL THOMAS ANDERSON

97 The heir of Robert Altman, Anderson's films are ambitious, wildly eccentric, and utterly compelling. He is as comfortable working within the intricate tapestry of an ensemble drama as he is a low-key character study. His camera work is thrilling, and he is an exceptional director of actors.

PAOLO SORRENTINO

98 An elegant purveyor of contemporary Italian life. *The Great Beauty* (2013) is his *La Dolce Vita* (1960).

CARLOS REYGADAS

99 Mexican filmmaker who approaches cinema philosophically and with scenes that unfold slowly. *Silent Light* (2007) is mesmerizing.

ASGHAR FARHADI

100 Farhadi won an Oscar for *A Separation* (2011), but his work up until then highlights a penchant for Hitchcockian suspense and an examination of personal relationships in contemporary Tehran. He followed *A Separation*, whose moral dilemma carries universal themes, with the France-based drama *The Past* (2013), another articulate study of domestic strife.



LOTTE REINIGER
THE ADVENTURES
OF PRINCE ACHMED

1 The oldest-surviving animated feature, this movie employed the director's trademark silhouette animation, which manipulated cutouts made of cardboard and thin sheets of lead under a camera that recorded miniscule movements frame by frame.

WŁADYSŁAW STAREWICZ
THE MASCOT

2 This early stop motion, blended with live action, is a mid-career short by the creator of the first puppet-animated films. A young boy asks his mother for an orange, but the family is too poor to afford one. The boy's toy dog sets out to find the fruit.

ALEKSANDR PTUSHKO
THE NEW GULLIVER

3 This communist take on Jonathan Swift's novel of 1726 opens and closes with live action. In between, some 3,000 puppets are employed in bringing to life a variation on the world of Gulliver.

VARIOUS
SNOW WHITE AND
THE SEVEN DWARFS

4 The first Disney animated feature remains one of the best. The artistry is breathtaking, with the songs seamlessly integrated into the action. It took three years to complete but became an instant hit.

IRENE STAREWICZ & WŁADYSŁAW STAREWICZ
THE TALE OF THE FOX

5 Wladyslaw Starewicz's first feature was the sixth animated feature to be made and the second to use puppet animation. It is based on the tales of Renard the Fox.

100 ANIMATED MOVIES

VARIOUS 1940
FANTASIA

6 A portmanteau of animated vignettes set to classical music, its most famous sequence features Mickey Mouse as a sorcerer's apprentice who misuses his limited knowledge of magic while his master is away.

VARIOUS
PINOCCHIO

7 It was meant to have been the third Disney production after *Bambi* (1942), but difficulties on that film altered the release schedule. Walt Disney was a fan of Carlo Collodi's source novel and had seven writers working on an adaptation. The animation began in 1938 and involved technological innovations that had been developed since *Snow White* (1937). Three-dimensional character models were created, and actors dressed up so that the artists could realize movement accurately.

VARIOUS
DUMBO

8 One of the best-loved Disney characters, Dumbo the elephant was created to recoup the financial failure of *Fantasia* (1940). It is one of the studio's shortest features, coming in at 64 minutes.

CLYDE GERONIMI, WILFRED JACKSON &
HAMILTON LUSKE
CINDERELLA

9 The twelfth Disney animated feature and the first proper narrative film since *Bambi* (1942) is the last of the productions made during the studio's Golden Age. It was the first Disney film to employ Tin Pan Alley writers for the songs, thereby starting a trend that would continue on many of the studio's subsequent productions.

JÍŘÍ TRNKA
OLD CZECH LEGENDS

10 Made by one of the masters of Czech animation, Jiří Trnka's fourth feature in six years is a meticulously designed adaptation of Alois Jirásek's book *Ancient Bohemian Legends* (1894). It employs stop motion and draws together a series of stories within a labyrinthine structure. The complex setups and camera movements have made the film hugely influential among animators.

JOHN HALAS
ANIMAL FARM

11 Britain's first animated feature, an adaptation of George Orwell's allegory of totalitarian rule, was partly funded by the CIA, and entirely voiced by Maurice Denham. It was the first animated feature to show blood.

CLYDE GERONIMI, WILFRED JACKSON & HAMILTON LUSKE
LADY AND THE TRAMP

12 The first animated feature to be shot with the CinemaScope widescreen process was conceived in 1937. It lacks the artistry of the great Disney films but some scenes, particularly the spaghetti sequence, are beloved by audiences.

WALERIAN BOROWCZYK THE ASTRONAUTS

13 Although Walerian Borowczyk is better known for his more outré explorations of sexuality and horror, his collaboration with Chris Marker is a stop-motion collage of live action, photography, and animation. It details a scientist's flight into outer space, but also hints at the themes of voyeurism and the abject that would appear in his later work.

CLYDE GERONIMI 1959 SLEEPING BEAUTY

14 Gorgeously shot with Super Technirama 70 film, the sixteenth movie in the Disney Animated Classic series was the last take on a fairy tale for 30 years, due to its poor performance at the box office. The musical score includes the much-loved "Once Upon a Dream."

DAISAKU SHIRAKAWA 1940 ALAKAZAM THE GREAT

15 The earliest Japanese anime movie to be released in the United States is based on the Ming-era Chinese novel *Journey to the West* attributed to Wu Cheng'en. It is about a monkey whose arrogance almost causes his downfall.

KAREL ZEMAN 1962 THE OUTRAGEOUS BARON MUNCHAUSEN

16 Blending live action with various forms of animation, Zeman's masterpiece is a phantasmagoria of ingenuity and imagination as it tells the story of the legendary baron.



WOLFGANG REITHERMAN 1967 THE JUNGLE BOOK

17 The final film to be produced by Walt Disney—he died during its production—is one of the most beloved animated movies ever made. It was Disney's nineteenth animated feature and an adaptation of Rudyard Kipling's story of Mowgli, who is raised in the Indian jungle by wolves, the panther Bagheera, and bear Baloo. What makes the film so memorable is the soundtrack, which employs jazz to bring the jungle world to life. "The Bare Necessities" is one of the finest musical numbers of any animated film and it was nominated for Best Song at the Academy Awards.

RAY GOOSSENS ASTERIX THE GAUL

18 This conventionally animated adaptation of the first book in the popular series by Goscinny and Uderzo introduces the miniscule hero who leads a rebellion against the Romans, aided by his corpulent friend Obelix.

GEORGE DUNNING YELLOW SUBMARINE

19 Tapping into late 1960s psychedelia, the film features The Beatles only at the end—in a live action sequence—with their animated characters voiced by actors.



BILL MELÉNDEZ 1969 A BOY NAMED CHARLIE BROWN

20 The first non-Disney feature to enjoy a breakout success at the box office, it remains faithful to Charles M. Schulz's original comic strips.

RALPH BAKSHI 1971 FRITZ THE CAT

23 Based on Robert Crumb's comic strip, the first X-rated movie explores life in New York in the mid 1960s for an anthropomorphic cat with a healthy libido and an increasing political consciousness. Unsurprisingly, the film was a hit.

SERGE DANOT DOUGAL AND THE BLUE CAT

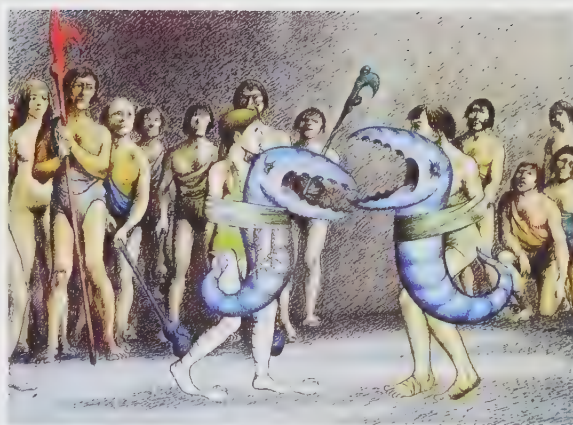
21 Eric Thompson made *The Magic Roundabout* TV series a huge hit for English-speaking audiences. But Danot's feature adaptation was never going to be kids' fare. Surreal, hallucinogenic, and tapping into late 1960s counterculture, it is a mad masterpiece.

KAREL ZEMAN ON THE COMET

22 This spirited adaptation of Jules Verne's *Off on a Comet* jettisons any trace of anti-Semitism that plagued the 1877 novel, instead offering up a satire of imperialism and nationalistic fervor. It blends cutout and stop-motion animation with live action.

RENÉ LALOUX 1971 FANTASTIC PLANET

24 A richly imagined universe in which human beings are the playthings of huge blue aliens, this adaptation of Stefan Wul's acclaimed novel was produced at the Czech studios of Jiří Trnka and was conceived by René Laloux with production designer Roland Topor. Its phantasmagoric, hallucinogenic tone reflects the era in which it was made.



CHARLES A. NICHOLS & IWAO TAKAMOTO 1983 CHARLOTTE'S WEB

25 This Hanna-Barbera production features perfunctory animation, but the exuberance of the music and characterization brings life to E. B. White's characters. The songs were composed by the Sherman brothers, who had previously contributed to the resoundingly successful *Mary Poppins* (1964) and *The Jungle Book* (1967).

YURIY NORSHTEYN 1988 HEDGEHOG IN THE FOG

26 A hedgehog sets out for his daily visit to his friend, the bear cub, for tea but is distracted by a thick fog. He becomes frightened by the eerie environment created by the fog and begins to imagine that there may be a predator close by. Norshteyn created the fog using a thin piece of paper.

MARTIN ROSEN 1974 WATERSHIP DOWN

27 Richard Adams's novel is beautifully realized, featuring a roll call of great British actors and Art Garfunkel singing "Bright Eyes." Martin Rosen's direction accentuates the story's emotional power, while Terry Rawling's editing seamlessly moves the viewers from pastoral idyll to frenetic chase and battle.



RALPH BAKSHI 1978 THE LORD OF THE RINGS

28 Blending classic animation with Rotoscope technology, Bakshi's adaptation is impressive. Despite its commercial success, he could not raise the financing to complete the story.

YURIY NORSHTEYN 1988 TALE OF TALES

29 John Lasseter and Hayao Miyazaki have hailed Norshteyn's extraordinary film as the greatest animation ever made.

DIANNE JACKSON & JIMMY T. MURAKAMI 1982 THE SNOWMAN

30 The hit "Walking in the Air" by Howard Blake has made this film a Christmas favorite. Its roughly drawn images capture the chilliness of winter, and Raymond Briggs's story of a snowman coming to life remains magical.

HAYAO MIYAZAKI 1982 NAUSICAÄ OF THE VALLEY OF THE WIND

31 The first release by Studio Ghibli, based on Hayao Miyazaki's 1982 manga, this animated movie hints at the environmental themes to come.

STEPHEN & TIMOTHY QUAY 1981 STREET OF CROCODILES

32 Based on a short story written by Bruno Schulz, the Brothers Quay's stop-motion short foregrounds music and movement rather than narrative to convey mood and explore psychological undertones.

HAYAO MIYAZAKI 1986 LAPUTA: CASTLE IN THE SKY

33 The first movie that was both produced and released by Studio Ghibli is the story of the search for Laputa: the only remaining flying city. Young Pazu and Sheeta encounter pirates and foreign agents in their quest.

JIMMY T. MURAKAMI 1984 WHEN THE WIND BLOWS

34 This suitably bleak adaptation of Raymond Briggs's graphic novel details the impact of nuclear war on a retired couple living in the countryside. David Bowie performed the title song.

KATSUHIRO OTOMO 1991 AKIRA

35 It was the most expensive anime production at the time, but Katsuhiro Otomo's science fiction-movie, based on the first half of his epic manga, proved to be a big success and has been hugely influential. The story takes place in a postapocalyptic Tokyo in 2019.

JAN ŠVANKMAJER 1990 ALICE

36 A loose adaptation of Lewis Carroll's *Alice's Adventures in Wonderland*, or what Švankmajer has referred to as "one of the most important and amazing books produced by this civilization," his debut feature is the summation of his style of filmmaking, blending stop motion with live action. His take on the story is dreamlike, presenting the titular character as mischievous, even malevolent. Dark humor accentuates the movie's distinctly amoral tone.



HAYAO MIYAZAKI 1993 KIKI'S DELIVERY SERVICE

41 Adapted from Eiko Kadono's 1985 novel, Miyazaki's movie explores a young girl's desire for independence as she takes a job that allows her to fly.

ROBERT ZEMECKIS 1991 WHO FRAMED ROGER RABBIT

37 It opens with a hilarious cartoon before revealing its surprise: animated characters are real and live among us. A variation on film noir, with Bob Hoskins as a detective, it is a visually innovative adventure.

HAYAO MIYAZAKI 1997 MY NEIGHBOR TOTORO

38 This fantasy adventure from Studio Ghibli features two girls who can communicate with friendly wood spirits.

RENÉ LALOUX 1998 GANDAHAR

39 Laloux's third and final feature is a stunningly rendered universe. It tells the story of the eponymous planet's invasion by an army of automatons and one man's attempts to stop them. It was badly re-edited for its US release.

ISAO TAKAHATA 1998 GRAVE OF THE FIREFLIES

40 This devastating film tells the story of siblings surviving amid the detritus of war-torn Japan.

RON CLEMENTS & JOHN MUSKER 1993 THE LITTLE MERMAID

42 The first film in the Disney renaissance was a marked improvement in the animated features over the previous three decades.

BRIAN COSGROVE 1991 THE BFG

43 This direct-to-television movie by Brian Cosgrove, who is best known for *Danger Mouse* (1981), profits from the voice of David Jason as an aging giant who befriends an orphan.



GARY TROUSDALE & KIRK WISE 1991 BEAUTY AND THE BEAST

44 The third movie in Walt Disney Feature Animation's renaissance, after decades in the creative doldrums, is a sumptuous adaptation of the French fairy tale and draws on Jean Cocteau's celebrated 1946 live action film. It was the second movie, after *The Rescuers Down Under* (1990), to employ the Computer Animation Production System developed by Pixar, resulting in the film's standout scene: the ballroom sequence.

RON CLEMENTS & JOHN MUSKER 1992 ALADDIN

45 Robin Williams transformed the classic tale into a nonstop gag fest. He plays the Genie released into the world by the eponymous hero and together they fight the evil Jafar in order to save Princess Jasmine.

HAYAO MIYAZAKI
PORCO ROSSO

46 A crack pilot is transformed into a pig but remains a flying ace. What began as a short transformed into one of Studio Ghibli's best releases.

NICK PARK
THE WRONG TROUSERS

47 The second outing for Wallace and Gromit is hilarious, particularly in the climactic chase scene aboard a train set as the pair pursue the nefarious penguin.

HENRY SELICK
THE NIGHTMARE BEFORE CHRISTMAS

48 Tim Burton's story of a Halloween character that discovers the joys of Christmas is beautifully realized by Selick. Composer Danny Elfman provides the score and Jack's singing voice.

ROGER ALLERS & ROB MINKOFF
THE LION KING

49 It was inspired by the biblical tales of Moses and Joseph, as well as by Shakespeare's *Hamlet*. Developed over six years, it moves from a naturalistic account of life on the vast African plains to a musical.

JAN ŠVANKMAJER
FAUST

50 The director's second feature is more radical than *Alice* (1988). The narrative melds versions of the story by Goethe and Marlowe, as well as folk legends. It is also absurdist and Kafka-esque in tone.

NICK PARK
A CLOSE SHAVE

51 The third Wallace and Gromit short, which won Park his third consecutive Oscar, is the most frenetic of his stop-motion films and introduced the world to Shaun the Sheep.

KŌJI MORIMOTO, TENSAI OKAMURA & KATSUHIRO OTOMO
MEMORIES

52 A portmanteau anime of three films, *Memories* is permeated by a melancholy tone. "Magnetic Rose" is a space opera that recalls *Solaris*, "Stink Bomb" a cautionary tale about military experiments, and "Cannon Fodder," which seems to unfold as one single take, is an antiwar statement.

JOHN LASSETER, ASH BRANNON & LEE UNKRICH
TOY STORY TRILOGY

53 A great movie trilogy, the story of Woody, Buzz, and their friends established Pixar as the home of computer animation and raised the bar for animation generally. Each is outstanding, but the emotional power of the last installment is breathtaking.



MAMORU OSHII
GHOST IN THE SHELL

54 An acclaimed anime adaptation of Masamune Shirow's manga, voicing concerns over individual identity in a technologically advanced society.

HENRY SELICK
JAMES AND THE GIANT PEACH

55 Selick's Roald Dahl adaptation opens with a 20-minute live action sequence, before transforming into stop motion when James enters the peach, only to return to live action for the film's climax in New York City. Like the best Dahl adaptations, the musical fantasy retains the novel's air of melancholy and menace, particularly the two aunts and the terrifying rhino.



HAYAO MIYAZAKI
PRINCESS MONONOKE

56 One of his most urgent films about the environment, Miyazaki's fantastic tale unfolds during the Muromachi period (approximately 1330s to 1570s). A prince finds himself at the heart of a war between mankind and the spirit world, and realizes that he may be the key to peace.

SATOSHI KON
PERFECT BLUE

57 This R-rated psychological thriller is visually resplendent, but the story of a pop singer who is stalked by a crazed fan has been criticized for its violence.

ERIC DARNELL & TIM JOHNSON
ANTZ

58 *A Bug's Life* (1998) might be better known, but the casting of Woody Allen as a neurotic ant is inspired. The animation is rich, but the pleasure of the film lies in Allen and Sylvester Stallone's banter.

MICHEL OCELOT
KIRIKOU AND THE SORCERESS

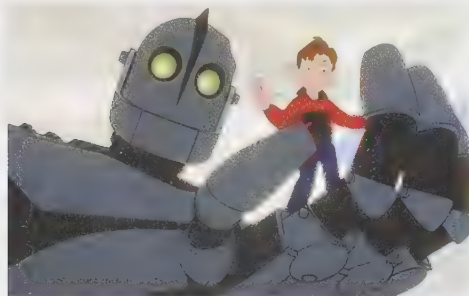
59 Ocelot's beautiful traditional animation draws on West African folktales. It tells the story of a gifted boy who seeks help from a sorceress to cure his village of a curse.

JOHN LASSETER & ANDREW STANTON
A BUG'S LIFE

60 A lesser Pixar, this version of *The Magnificent Seven* (1960) profits from Kevin Spacey's villainous turn.

TREY PARKER
SOUTH PARK: BIGGER, LONGER & UNCUT

61 It deals with freedom of speech and is more foul-mouthed than the TV show.



BRAD BIRD
THE IRON GIANT

62 A wry evocation of the United States at the height of the Cold War, Bird's adaptation of poet Ted Hughes's acclaimed children's story was produced on a modest budget and initially failed to score with audiences. It has come to be seen as a modern classic.

PETER LORD & NICK PARK
CHICKEN RUN

63 This stop-motion version of *The Great Escape* (1963) has chickens taking the place of POWs. Mel Gibson's heroic Rhode Island Red sets out to save his friends when they discover their farmer intends to sell chicken pies instead of eggs.

HAYAO MIYAZAKI
SPIRITED AWAY

64 A near-perfect fantasy adventure about a young girl's worries over moving with her parents to a new town, Miyazaki creates a wonderful world of ghosts, demons, water serpents, and witches. It begins with the discovery of a run-down amusement park that at night is a stopping point for the spirit world. When Chihiro's parents are transformed into hogs, she must race against time to save them. Blending hand-drawn and computer animation, the film is a marvel of visual and narrative invention that deservedly won countless movie awards around the world.



PETE DOCTER
MONSTERS, INC.

65 One of Pixar's most inventive films, creating a universe in which power is harnessed from children's screams, it also saw a leap in character animation.

ANDREW ADAMSON & VICKY JENSON
SHREK

66 The tale of a love affair between a princess and an ogre is the launchpad for a hilarious parody of fairy tales and myths, voiced by an all-star cast.

HIROYUKI MORITA
THE CAT RETURNS

67 This story of a girl who can talk to cats is a spin-off of the 1995 film *Whisper of the Heart* directed by Yoshifumi Kondo.

SYLVAIN CHOMET 2003

THE TRIPLETS OF BELLEVILLE

68 The feature debut of Chomet centers on a young boy with a passion for cycling who ultimately enters the Tour de France only to be kidnapped. Its nostalgic tone is imbued with an air of melancholy.

ANDREW STANTON & LEE UNKRICH 2003

FINDING NEMO

69 An adventure set at sea, the fifth Pixar feature tells the story of an overprotective clownfish named Marvin and his attempts to save his young son, Nemo, after he is caught by a diver. A rich visual odyssey, it remains one of the studio's most beloved films.

BRAD BIRD 2004

THE INCREDIBLES

70 A smart satire of superhero movies, Bird's explosive comedy wonders what happens to caped crusaders when they decide to settle down. The visual gags are a treat. Bird is the voice of Edna, a cross between Bond's Q and Hollywood costume designer Edith Head.

HAYAO MIYAZAKI 2004

HOWL'S MOVING CASTLE

71 Adapted from Diana Wynne Jones's novel, about a girl transformed by a curse into an old woman, Miyazaki's fantasy adventure is one of Japan's most successful animated films to date.

SATOSHI KON 2006

PAPRIKA

72 The last film by Kon is his most visually expressive. The story unfolds in a psychiatric clinic where a research psychologist develops a device to allow therapists to enter their patients' dreams.

GEORGE MILLER 2006

HAPPY FEET

73 A rookery of penguins treks through a frozen tundra while protecting their eggs. One accidentally rolls away, an incident the father blames for his son's later inability to sing and adeptness at tap dancing. The film's celebratory tone is underpinned by a strong environmental theme.

VINCENT PARONNAUD & MARJANE SATRAPI 2007

PERSEPOLIS

74 Based on Marjane Satrapi's graphic novel/memoir, it details a young girl's coming of age during the Iranian Revolution. The film was shot in black and white to convey that the events could happen anywhere.

BRAD BIRD & JAN PINKAVA 2007

RATATOUILLE

75 The set pieces in the eighth Pixar feature are inventively staged, whereas the story of a gastro rat that helps a novice chef become successful and famous is absurd but fun.

HAYAO MIYAZAKI 2008

PONYO

76 Miyazaki's environmentally themed tale is aimed at a younger audience, with the darker edge that marks his work toned down. A fish-girl transforms back into a human in order to be with a boy she has befriended, but the change upsets the natural order.



ARI FOLMAN 2008

WALTZ WITH BASHIR

77 This striking and deeply disturbing animated documentary draws on director Folman's recollections of his time as a young soldier in the Israeli Defense Force. In particular, the movie details his involvement in the Lebanon War and, in 1982, his witnessing the massacre of Muslims by Christian Phalangists. Opening with a dream sequence of rampaging dogs, set to a pounding score by Max Richter, Folman's movie employs the voices of actual people involved in order to re-create the events.

MAMORU OSHII 2008

THE SKY CRAWLERS

78 Hiroshi Mori only consented to an adaptation of his novel when Oshii agreed to direct it. It is a dystopian sci-fi set in a world where peace exists but combat is staged to sedate a society used to war.



TOMM MOORE & NORA TWOMEY
THE SECRET OF KELLS

79 This movie employs Celtic myths to present a fictional backstory to the history of a famous illuminated manuscript Gospel book.

PHIL LORD & CHRISTOPHER MILLER 2009
CLOUDY WITH A CHANCE OF MEATBALLS

80 A surreal adventure set on an island in the Atlantic whose only food source is sardines.

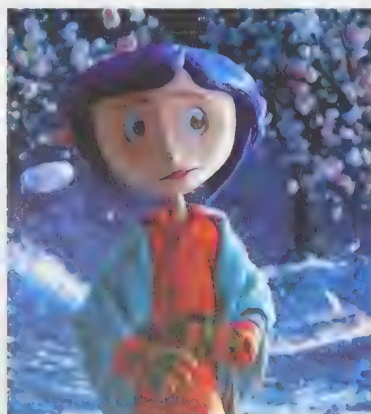
PETE DOCTER & BOB PETERSON **UP**

81 The opening ten minutes are rightly regarded as a masterclass of storytelling, but there is much more to enjoy in Docter's tale of a man who one day decides to fulfill his dreams of becoming an explorer, unaware that he has a young stowaway aboard his flying house. Ed Asner is perfect as the voice of 78-year-old Carl, who is reinvigorated by youth and life.



ADAM ELLIOT **MARY AND MAX**

82 The moving story of two people, separated by one generation and half a world—she lives in Australia, he in New York—who communicate through letters over a number of decades. Elliot's intimate stop-motion drama connects two lost souls in a frequently cruel world.



HENRY SELICK **CORALINE**

83 An adaptation of Neil Gaiman's 2002 fantasy novel, Selick's film is darker than his previous work. It tells the story of a girl who finds an alternative world behind a hidden door, only to discover a terrible secret. The stop-motion animation is exhilarating, particularly in its contrast between the two worlds.

WES ANDERSON **FANTASTIC MR. FOX**

84 Anderson's lively stop-motion tale is as much his vision as it is Roald Dahl's. Remaining faithful to the novel yet looking similar in style to the director's live action films, the story of a mischievous fox and his clan is a fast-paced, witty creation featuring a superb soundtrack and impressive cast.

STÉPHANE AUBIER & VINCENT PATAR **A TOWN CALLED PANIC**

85 Based on the TV series, this stop-motion feature spin-off is more anarchic than its source and also wildly surreal in its humor. It follows the adventures of Cowboy and Indian, who live on a hill.

SEBASTIEN CHOMET **THE ILLUSIONIST**

86 With an unproduced script by French filmmaker and actor Jacques Fati, Chomet moves the action of his exquisitely composed film to Scotland in the 1950s, where an aging magician befriends a young girl but has to face up to the future of his trade.

JEAN-LOUP FELICOLI & ALAIN GAGNOL **A CAT IN PARIS**

87 Set over one evening, the French animation finds a girl following a mysterious black cat and embarking on an adventure across the rooftops of Paris. It was nominated for the Best Foreign Language Oscar.

DEAN DEBLOIS & CHRIS SANDERS **HOW TO TRAIN YOUR DRAGON**

88 State-of-the-art computer animation created a world just below the Arctic, where Vikings come to understand that dragons may not be their enemy.

PIERRE COFFIN & CHRIS RENAUD **DESPICABLE ME**

89 A super-villain, voiced by Steve Carell and aided by an army of Minions, finds himself charged with three young orphans as he battles a pretender to his throne.

FERNANDO TRUEBA, JAVIER MARISCAL & TONO ERRANDO
CHICO & RITA

80 This is a rhapsody to Cuba, jazz, and a culture enveloped in music and romance.

ANCA DAMIAN 2011
CRULIC: THE PATH TO BEYOND

91 The first Romanian animated feature in two decades is a documentary investigating the death of a Romanian national in a Polish prison, following a hunger strike that was prompted by his wrongful conviction.

MICHEL OCELOT 2011
TALES OF THE NIGHT

93 A computer-generated silhouette animation, Ocelot's film draws together five episodes from his *Dragons et princesses* (2010) TV series. It is handsomely mounted, but lacks the magic of his earlier films.

MARK ANDREWS & BRENDA CHAPMAN
BRAVE

94 The first Pixar film to feature a female lead is a rugged Scottish adventure, led by a feisty flame-haired princess.

MARK BURTON & RICHARD STARZAK
SHAUN THE SHEEP MOVIE

99 The popular sheep first appeared in the Oscar-winning *A Close Shave* (1995) before having its own TV show, whose setting is expanded upon here. It starts out with Shaun wanting a change to the daily routine of farm life, but his plans go awry and he finds himself lost in the big city in search of his owner. The villain of the piece is animal control worker Trumper, voiced by Omid Djalili. It is a madcap adventure that pokes fun at metropolitan life.

GORE VERBINSKI RANGO

92 Opening with the eponymous hero reciting Shakespeare as his terrarium drops off the back of his owner's car, Gore Verbinski's animated oddball treat is a dream for cinephiles. Written by John Logan, the film is a gentle riff on *Chinatown's* (1974) storyline, with corrupt officials withholding water supplies from the local populace, in this case a small town in the middle of a sun-parched desert. Johnny Depp, voicing the hero, has rarely been better.



ERIC DARNELL, TOM MCGRATH & CONRAD VERNON

MADAGASCAR 3: EUROPE'S MOST WANTED

95 The best film in the franchise, it was coscripted by Noah Baumbach. The animals find themselves in Europe, which prompts a series of hilarious stereotypes and madcap action.

CHRIS BUCK & JENNIFER LEE

FROZEN

96 The fifty-third title in the Disney Animated Classics series is also the most financially successful animated feature ever made. In its tale of the checkered relationship between two siblings, the film sidesteps the usual template of a fairy tale story to prioritize sisterhood over conventional heterosexual romance. The songs are strong, including the Oscar-winning "Let It Go," sung by Idina Menzel.

HAYAO MIYAZAKI THE WIND RISES

97 Miyazaki's final film is a portrait of Japanese plane designer Jiro Horikoshi, then segues into a treatise on the devastation reeked by war.

PHIL LORD & CHRISTOPHER MILLER
THE LEGO MOVIE

98 A madcap adventure inspired by the popular construction toy and set in a Lego universe.



PETE DOCTER & RONNIE DEL CARMEN 2015 INSIDE OUT

100 Even by the high standards of Pixar, *Inside Out* is unique. It unfolds mostly inside the mind of a young girl, Riley, where five emotions (Joy, Sadness, Fear, Anger, and Disgust) help her through her life. However, when she moves across the country with her parents to San Francisco, things become unsettled, a matter worsened when Joy and Sadness find themselves locked out of the mind's headquarters. The movie dares to engage with negative emotions and abstract ideas while remaining colorfully, artfully beautiful, and thrillingly entertaining.



1949-57

THE LONE RANGER

1 He righted wrongs, he loved his horse, Silver, and in sidekick Tonto had a friend he could rely on. *The Lone Ranger* represented a simple West where the good guys and the bad guys were easy to tell apart, and justice always prevailed.

1951-57

I LOVE LUCY

2 Lucille Ball was the first star of TV. The pilot episode of this series aired in October 1951, and costarred Desi Arnaz, whom Ball had married in 1940 after appearing with him on a radio show. It was the first TV show to be performed in front of a live audience, and the first to be filmed on 35mm. The scenario—a sitcom that reflected real-life events, notably the birth of the couple's son, Desi Arnaz, Jr.—was a spectacular hit. *I Love Lucy* remains hugely popular, and is still watched by around 40 million Americans each year.

THE PHIL SILVERS SHOW

3 Silvers was already well known as a comic, hence the title. But viewers referred to the show by the name of Silvers's character, "Sergeant Bilko," the quick-witted, sharp-tongued head of a motor pool in a US army camp.

ALFRED HITCHCOCK PRESENTS

4 The distinguished film director's association with this 360-episode series underpinned the generic trappings of a program that featured novel stories with stings in their tails. Hitchcock used the show's production team to film the movie *Psycho* (1960).

100 TV SHOWS

1955-75

GUNSMOKE

5 This was the first popular Western series. James Arness and Milburn Stone played their characters for 20 years.

1958-63

NAKED CITY

6 This series was inspired by the 1948 movie of the same title, and employed a documentary style to present stories of crime. Each episode ended with the line: "There are eight million stories in the Naked City. This has been one of them."

1959-64

THE TWILIGHT ZONE

7 Created by Rod Serling, this long-running series blurred the line between horror, sci-fi, and the macabre. It paved the way for later shows like *The X-Files*.

1961-69

THE AVENGERS

8 A year before James Bond became all the rage, another spy battled villainy in the name of the British Crown. Played with sartorial wit by Patrick Macnee, John Steed was aided by a succession of glamorous and strong-willed female counterparts—first, a pre-*Goldfinger* Honor Blackman, then Diana Rigg, and finally Linda Thorson.

1962-71

THE BEVERLY HILLBILLIES

9 A silly premise—a family of poor farmers becomes rich through oil, and moves to an exclusive LA property—was transformed into a much-loved comedy series, thanks to an engaging cast.

1962-74

STEPTOE AND SON

10 This BBC series focused on the combative relationship between a father and son who lived together and ran a rag-and-bone business in London. The show was notable for its inter-generational conflict, and the men's different outlook on life.

1963-89 & 2005-PRESENT

DOCTOR WHO

11 It began on British television the day after President John F. Kennedy was assassinated. It ran in regular seasons until 1989, when the BBC dropped it. From then until the 2005 reboot, we glimpsed the Doctor only once, in a 1996 TV movie. To date, the time traveler has been played by 12 actors—the transitions are always written into the script, as the old Doctor regenerates in a new form. The best of the doctors are known for their wit, even in the most trying circumstances. Their greatest adversaries return again and again. The most formidable are the Daleks and the Cybermen.

THE ADDAMS FAMILY

12 The satirical edge of Charles Addams's comic strip might have been a little blunted, but this was compensated by the brio of John Astin's Gomez, Carolyn Jones's Morticia, and Jackie Coogan's Uncle Fester.

BEWITCHED

13 A witch decides that she wants a normal life, marries an advertising executive, and sets up home in suburbia. It's the perfect setup for a slapstick sitcom with magic tricks.

THE MONKEES

14 A fictional creation that became a real pop group, their show was playful, but never as anarchic as *Head* (1968), the feature-length spin-off that tapped into late 1960s' counterculture.

BATMAN

15 This was camp fun made even camper by Adam West and Burt Ward playing Batman and Robin completely straight.

STAR TREK

16 Its initial impact was minuscule, but its long-term influence on small-screen sci-fi has been incalculably large.

THE PRISONER

17 A British secret agent tries to resign his post, but the security services won't let him, and imprison him in a weird village. Patrick McGoochan's follow-up to *Danger Man* was one of the era's most bizarre series. Shot in the Welsh village of Portmeirion, it often made no sense and was ultimately canceled after only 17 episodes, the last of which was written hastily by McGoochan in order to tie things up. Its strangeness, from plotlines to performances, is what makes it so compelling, and accounts for its enduring popularity.

THE FORSYTE SAGA

18 John Galsworthy's account of upper-class English life is the setting for a lavish, rolling period drama.

JULIA

19 Diahann Carroll exuded charm as the eponymous star of the first show to feature an African-American woman in a non-stereotypical role.

1968-78 & 1989-2003

COLUMBO

20 We knew who committed the crime. The pleasure lay in watching Peter Falk's detective gradually wear his suspects down until they confessed.



MONTY PYTHON'S FLYING CIRCUS

21 It featured sketches that willfully refused to end with punchlines, and became funnier with repeated viewings. The show played with stereotypes of British and American life, featured bizarre animations, and often had one or all of its six-member team cross-dressing. Many of its catchphrases passed into common parlance.

THE MARY TYLER MOORE SHOW

22 Mary Tyler Moore's success in *The Dick Van Dyke Show* gave her the platform from which she launched her own TV vehicle, which ran for seven seasons. Set in a newsroom, it charted the life of a working woman whose feistiness, and sense of independence, made her a key figure for the Women's Movement during the decade.

UPSTAIRS DOWNSTAIRS

23 Unfolding in Belgravia, London, this BBC series prided itself on its historically accurate portrayal of domestic life between 1903 and 1930, a period of great social change.



1971-77 ALL IN THE FAMILY

24 With bigot Archie Bunker as the central character, this comedy show tackled controversial social issues.

1969-73 SANFORD & SON

25 The US remake of *Steptoe and Son* edgily explored race, and is remembered for its catchphrases.

1974-75 THE WALTONS

26 Each episode ended the same way, with a family wishing each other goodnight, reassuring audiences that whatever had passed had been resolved, and that tomorrow was a new day. This classic slice of frontier American drama tapped into a yearning sense of nostalgia. It remains popular in reruns.

1976-77 M*A*S*H

27 Its satire was gentler than Robert Altman's original 1970 film, but Alan Alda and the cast made it consistently funny, and not infrequently moving.

1974-84 HAPPY DAYS

28 Like *American Graffiti* (1973), Garry Marshall's show nostalgically harked back to the mid-1950s. The standout performance was that of Henry Winkler as a suave ladies' man.

1974-76 FAWLTY TOWERS

29 A sitcom set in a shabby hotel on the English Riviera might not sound promising, but John Cleese and Connie Booth transformed it into one of the best-loved British TV programs. It ran for just two seasons of six episodes, and balanced witty wordplay that undermined national stereotypes with knockabout physical comedy.

1981-83 STARSKY & HUTCH

30 They sped around the streets of the fictional Bay City, California, in a Ford Gran Torino. Detectives David Michael Starsky and Kenneth "Hutch" Hutchinson were cooler than cool, often disregarding their superiors' instructions in their hunt for the city's most notorious criminals.

1972-78 THE JEFFERSONS

31 This was the most successful of the many spin-offs from *All in the Family*. The Jeffersons were originally middle-class African-American neighbors of Archie and Edith Bunker. Their own series became one of the longest-running sitcoms in US TV history (253 episodes). The family later returned in the 1996 series finale of *The Fresh Prince of Bel-Air*.

1976 I, CLAUDIUS

32 A sumptuous adaptation of Robert Graves's novels *I, Claudius*, and *Claudius the God*, this show remains one of the BBC's most successful period dramas. Derek Jacobi played the title role, with John Hurt as the previous Roman emperor, Caligula, and Patrick Stewart as the ambitious military conspirator, Sejanus.

1976 RICH MAN, POOR MAN

33 One of the first great TV mini-series, this show made a star of Nick Nolte, who plays the titular poor man, a boxer attempting to support himself. His life contrasts sharply with that of his brother, a ruthless corporate magnate played by Peter Strauss.



1977 ROOTS

34 Alex Haley was best known as the coauthor of *The Autobiography of Malcolm X* until the TV version of his 1976 book, purportedly exploring his family's slave history, became one of the biggest small-screen events of the decade. The show was watched on its first screening by more than half the US population. It begins with Kunta Kinte's transportation from Africa to America, and his life of enslavement, before detailing the hardships faced by subsequent generations of his family.



PENNIES FROM HEAVEN

35 The first Dennis Potter British drama to show characters miming to old popular songs, it starred Bob Hoskins as a man desperate to find happiness. The 1981 US version starred Jessica Harper and Steve Martin (above).

MONKEY

36 The arrogant hero, along with a human pig and a water-dwelling cannibal, follow a Buddhist priest on an epic journey in this Chinese-set, Japanese production.

TAXI

37 While the setting for Martin Scorsese's movie *Taxi Driver* (1976) had been a hotbed of angst and pent-up rage, this hugely popular TV series employed the fictional Sunshine Cab Company as a place to celebrate New York's status as the world's greatest melting pot of cultures. Here, ethnic differences were explored mainly for laughs, with the characters' failings in love or in professional life—only Judd Hirsch's Alex sees taxi driving as his sole vocation—adding pathos and dramatic weight to the humor. Hirsch, Marilu Henner, Tony Danza, Christopher Lloyd, Jeff Conaway, and legendary comedian Andy Kaufman were regulars, but the star of all 114 episodes over five seasons was Danny DeVito, whose vitriolic dispatcher, Louie De Palma, the archetypal aggressive New Yorker, was the butt of countless jibes by the drivers.



DALLAS

38 This glossy series chronicled the loves and business intrigues of a Texas family of oil tycoons.

TINKER, TAILOR, SOLDIER, SPY

39 Alec Guinness made his TV debut as George Smiley, the hero of John le Carré's espionage thriller. The author was so impressed by him that subsequent novels were based on Guinness's interpretation.

YES, MINISTER

40 This BBC series portrayed Britain's political classes as self-serving narcissists. The whip-smart dialogue reveled in the obfuscation of governmental doublespeak, particularly Nigel Hawthorne's Machiavellian civil servant.

THE HITCHHIKER'S GUIDE TO THE GALAXY

41 An adaptation of Douglas Adams's hugely popular radio show, stage adaptation, first novel, and best-selling album, it captured the author's sharp wit, oddball characterization, and visually rich imagination.

BRIDESHEAD REVISITED

42 Jeremy Irons and Anthony Andrews were perfectly cast as Charles Ryder and Sebastian Flyte in this lavish British adaptation of Evelyn Waugh's novel, set among the privileged elite of England's upper classes during the interwar period.

HILL STREET BLUES

43 Unlike previous cop shows, whose episodes were dominated by one story that required resolution within its running time, *Hill Street Blues* had intertwining story lines that often ran for episodes, even for whole seasons. It presented the precinct station as a chaotic environment.

CAGNEY & LACEY

44 Lacey was a serious-minded mother; Cagney was career-driven, but fun-loving, and single. They worked together as cops whose personal and professional lives were never completely separate.

DYNASTY

45 This soap opera featured conspicuous consumption and ostentatious wealth, and is best remembered for the excessive shoulder pads on the women's dresses, and for Joan Collins's bitchiest role as Alexis Carrington.

1981 ST. ELSEWHERE

46 This was *Hill Street Blues* transported to a hospital. It made Denzel Washington a household name.

CHEERS

47 The regular drinkers at a Boston bar were a compendium of types: all human life was there.

THE A-TEAM

48 A former US Army Special Forces unit helped the helpless by kicking the ass of anyone who tried to exploit them.

BLACKADDER

49 It turned history on its head. Richard Curtis's script, co-written, first with Rowan Atkinson, and then with Ben Elton, reveled in bawdy humor, double entendres, and madcap farce.

1984 HEIMAT

50 The title has no English equivalent: it means something like a sense of belonging. Edgar Reitz's 15-hour series was an epic account of 20th-century Germany that detailed the travails of the Simon family between 1919 and 1982. Its main focus was Maria Simon, who became the family's stern matriarch.



TV MIAMI VICE

51 Producer Michael Mann's successful series followed cops James "Sonny" Crockett (Don Johnson) and Ricardo "Rico" Tubbs (Philip Michael Thomas) as they hunted down the most notorious criminals in Florida's playboy paradise. Everything in the show was about style, from the suits worn by the main characters to the composure with which they carried themselves, no matter how dangerous the mission. Unlike in any previous police procedural, music was integral to the drama, with Jan Hammer's throbbing theme setting the scene, and a multitude of popular musicians contributing to the soundtrack, the album of which became the most successful TV tie-in of all time. Phil Collins and Miles Davis even had cameo roles in a couple of episodes.

V

52 The summer of 1984 witnessed a politically charged Olympics in Los Angeles, and the invasion of Earth by an alien species. Opening with the arrival of spaceships whose occupants initially appear friendly, the most expensive series produced at that time then focused on a resistance group intent on exposing the true nature of the visitors—disguised reptilians bent on conquest.

THE COSBY SHOW

53 This wholesome series starred a beloved comedian whose reputation at the time seemed unimpeachable. Bill Cosby starred as obstetrician Heathcliff "Cliff" Huxtable, patriarch of an upper-middle-class African-American family who resided in Brooklyn, New York.



EDGE OF DARKNESS

54 Widely regarded as one of the best TV dramas of the 1980s, which tapped into fears over the safety of nuclear power, this British thriller, written by Troy Kennedy Martin and Martin Campbell, benefits from a moving central performance by Bob Peck.

MOONLIGHTING

55 It reignited Cybill Shepherd's career, and made an international star of Bruce Willis, but its magic came from the energy between the two, as partners at a private investigation company. It repeatedly broke the fourth wall, and played fast and loose with genre conventions, which suited Willis's roguish persona.

THE SINGING DETECTIVE

56 Biography and fiction merge in the tale of a mystery writer suffering from a debilitating disease, whose incarceration in a hospital, and treatment with drugs, send him off into a reverie in which his own past merges with the fictional life of a daring detective. Michael Gambon plays the gumshoe, whose psoriatic arthritis reflected writer Dennis Potter's own condition. Music, always an important element of Potter's fiction, draws the viewer into and out of the various imagined worlds.

MAHABHARAT

57 The epic Indian text was transformed into an equally epic 94-episode series that attracted a huge Indian audience when it was first aired.



SEINFELD

58 Writers Larry David and Jerry Seinfeld took incidents from their own lives as source material, which Seinfeld uses in his stand-up routine before it becomes the subject of an episode. Unconventional in structure, *Seinfeld* gradually attracted a large audience, with the last of the 180 episodes over nine seasons daringly exposing the narcissism of its characters, rather than offering a sentimental send-off. David used this as a template for his *Curb Your Enthusiasm*.

MY SO-CALLED LIFE

65 This series, starring the young Claire Danes, is now regarded as one of the great TV teen dramas.

THE SIMPSONS

59 The longest-running US sitcom, animated program, and scripted primetime television series, Matt Groening's satirical depiction of middle-class American life, centering on family members Homer, Marge, Lisa, Bart, and Maggie, has gone from being the target of President George H. W. Bush's ire at what he saw as an example of the erosion of the country's family values, to a great American success story. Few TV shows have been as consistently inventive or as funny, and even the (very few) weak episodes have something to commend them.

ABSOLUTELY FABULOUS

61 Jennifer Saunders and Joanna Lumley are an inspired pairing in this popular comedy set on the fringes of the fashion world.



THE KINGDOM

69 This Danish show was conceived by Lars von Trier and set in a hospital that was plagued by ghosts, which was gradually sinking into the ground. Aside from the black humor, and the increasingly visceral horror, the series was an assault on Denmark's failure to adequately support a national health system.



TWIN PEAKS

60 David Lynch transforms a murder in a small town into surreal TV entertainment. The death of homecoming queen Laura Palmer prompts the arrival of Kyle MacLachlan's FBI Special Agent Dale Cooper. What might have been an offbeat whodunit soon transforms into a bizarre portrait of a population whose peculiarities obfuscate an already odd investigation.

THE X-FILES

62 It may have focused on the strange and paranormal, but the heart of Chris Carter's series is the relationship between Mulder and Scully.

FRASIER

63 Given a show of his own, the neurotic psychiatrist in *Cheers* moved to Seattle, and became a smart, sophisticated comedy lynchpin.

ER

64 This hospital drama made a star of George Clooney, and raised the bar for quality TV over the next decade. Michael Crichton's series offered a potent mix of medical-based stories and personal drama, all shot in an urgent style.

FRIENDS

67 Six friends living in Manhattan defined network American comedy in the 1990s. The show became so popular that movie stars boosted their profile by making an appearance. But its real strength lay in the writing, and in a cast gifted with comic timing.

BUFFY THE VAMPIRE SLAYER

68 Joss Whedon made his name with this series about a high-school vampire hunter. It spawned the spin-off *Angel*.

SEX AND THE CITY

69 Forget the films and the later seasons, when this show began it was surprisingly forthright in its dissection of women's sexuality, and its account of life for a single woman in New York. The four characters each represented a specific type, but the dialogue was fast, furious, often foul-mouthed, and funny.

WILL & GRACE

70 When first aired, this was the most successful TV series to feature a gay man as a principal character—a New York lawyer, played by Eric McCormack. Debra Messing played his straight best friend.

THE SOPRANOS

71 David Chase's complex drama ushered in a new golden age of television. James Gandolfini played Tony Soprano, a powerful member of a New Jersey-based mob, who found it increasingly difficult to balance his working life with his family commitments. He started visiting psychiatrist Dr. Jennifer Melfi (Lorraine Bracco) regularly, which gave the drama unusual psychological depth. The rest of the cast included various Mafia mobsters, and Tony's relatives. The strongest of the latter was his wife, Carmela (Edie Falco), a complex woman who turned a blind eye to Tony's criminality and infidelities, and generally kept the law-abiding part of the family on the straight and narrow.



THE WEST WING

72 In Aaron Sorkin's dream of a White House imbued with integrity, Martin Sheen stars as a humane US president with multiple sclerosis.

CURB YOUR ENTHUSIASM

73 In this natural successor to *Seinfeld*, Larry David stepped in front of the camera to play his psychopathically neurotic fictional alter ego. As in the earlier series, most episodes began with a mundane or minor incident, which was then blown out of all proportion, and resulted in a farcical dénouement.

SURVIVOR

74 Robinson Crusoe should be grateful that he never had to face the competition that contestants in one of the world's most popular reality TV shows choose to endure. Each season is filmed over the course of a single month. Between 16 and 20 people arrive on a desert island, and are divided into tribes. They then have to complete various challenges. At the end of each episode, they vote to remove one team member, until the remaining castaways join one single tribe, and compete against each other for the ultimate accolade, the coveted position of Sole Survivor.

BAND OF BROTHERS

75 An extension of the movie *Saving Private Ryan* (1998), this war drama depicted post-D-Day operations.

THE OFFICE

76 Far more caustic than its US counterpart, and running for just two seasons, this British mockumentary by Ricky Gervais and Stephen Merchant revels in the pettiness of office politics.

24

77 Premiering just after the 9/11 attacks, it seemed eerily prescient. Each season covered one day. Kiefer Sutherland rarely slept.

A GRANDE FAMÍLIA

78 Based on a show that originally aired in the 1970s, Brazil's longest-running sitcom was also one of its most popular shows for almost the full duration of its 13-year run. The show focused on a middle-class family living in Rio de Janeiro, and its most notable difference from other shows was that its principal married couple, Lineu and Nené, were still passionately in love with each other. The sparks that prompted the most laughs came from the tense relationship between Lineu and his son-in-law, Agostinho.



THE WIRE

79 It opened with a police investigation into a Baltimore drug dealer, then expanded into a critique of US law enforcement agencies, central and civic authorities, the schooling system, and the media in dealing with the nation's drug problem. Former Baltimore crime journalist David Simon's series eschewed conventional narrative arcs in favor of a more experimental approach to storytelling, which challenged audiences to keep up with the increasingly labyrinthine storyline. The main cast remained the same throughout, but each season had a new focus, and introduced additional characters. Few TV series have been quite as bold.

MANDRAKE

85 This HBO Latin America series focused on Brazilian novelist Rubem Fonseca's crusading criminal lawyer, who was the link between civil society and the shadier underworld that existed on its fringes. His position allowed him to help those in trouble, on either side of the law.

THE THICK OF IT

86 Armando Iannucci's series about British politics created a memorable fictional demon, the prime minister's foul-mouthed, manipulative fixer Malcom Tucker.

WALLANDER

87 This Swedish crime series, based on the novels of Henning Mankell, and starring Krister Henriksson, helped to popularize Nordic noir.

ARRESTED DEVELOPMENT

80 Mitch Hurwitz's riotously funny parody of the American family drama balances smart satire with detailed characterization in chronicling the spiraling misfortunes of the Bluth family. At best dysfunctional, and never too far from borderline psychotic, the Bluths are attempting to maintain their frivolous lifestyles following the incarceration of family head George on various counts of grand larceny. Ron Howard's voiceover adds a droll commentary to the antics in each episode.



STATE OF PLAY

81 A journalist investigates a murder, and uncovers a conspiracy involving his politician friend in this taut British thriller.

BATTLESTAR GALACTICA

82 Although set in outer space, this was plainly an allegory of the US invasion of Iraq, and the War on Terror.

LOST

83 Cut off from civilization, the survivors of a plane crash gradually reveal their true characters.

SHAMELESS

84 This hilarious tale of life on an English council estate was later remade in a Chicago setting.

SPIRAL

88 One of the most popular French language exports, *Spiral* focuses on the work of Paris cops, lawyers, and justices. Each season starts with a single crime, but complications take the investigators off in various directions, and often compromise them along the way.

2006-13

30 ROCK

89 Tina Fey's series, loosely based on her own experiences writing for *Saturday Night Live*, is a smart ensemble drama that succeeds in satirizing the world of TV entertainment while never hiding its affection for it. Fey plays neurotic lead writer Liz Lemon, alongside Tracy Morgan, Jane Krakowski, Jack McBrayer, Scott Adsit, Judah Friedlander, and Alec Baldwin.

2007-12

THE KILLING

90 Scandinavian crime doesn't come more era-defining than this first series featuring Danish detective Sarah Lund. Each episode covered one day of an investigation into the death of a young woman, and is notable for the complexity of its narrative.

MAD MEN

91 After the success of *The Sopranos*, writer Matthew Weiner got his own show, which charted Madison Avenue in the 1960s. Styled and designed meticulously, it profited from Jon Hamm's performance as Don Draper, the advertising executive whose hidden lives reflected the malleability of truth in his profession.



BREAKING BAD

92 Bryan Cranston's terminally ill chemistry teacher and Aaron Paul's ex-pupil are outstanding as crystal meth manufacturers in Vince Gilligan's bleakly funny portrait of middle-class life on the headline.

2010-15

BOARDWALK EMPIRE

93 Produced by Martin Scorsese, this gangster epic is set in Atlantic City, New Jersey, during Prohibition.

DOWNTON ABBEY

94 It began as a televisual relative of *Gosford Park* (2001), but each season got sillier, and fuller of anachronisms.

SHERLOCK

95 Mark Gatiss and Steven Moffat drew on Conan Doyle's stories for their radical reworking of the Holmesian myth, starring Benedict Cumberbatch.

GAME OF THRONES

96 Sex and swords are the come-ons, but this series is really a magisterial dissection of the nature of power.

HOMELAND

97 A remake of the Israeli *Prisoners of War*, this series tells the story of an American soldier corrupted by the Afghan Taliban.



ORANGE IS THE NEW BLACK

98 This comedy-drama series—set in a women's prison, and based on Piper Kerman's memoir of life at FCI Danbury—introduced Netflix as a major platform for new television shows. Taylor Schilling plays Piper Chapman, a Manhattan resident who is enjoying a comfortable life with her fiancé when she is arrested for an offense she committed a decade earlier—carrying stolen money for her then girlfriend, a drug smuggler. Employing flashbacks to explain various characters' behavior, and to drive the narrative forward, the show has gradually developed from centering on Chapman to become a more expansive tapestry depicting everyone in the prison, guards and inmates alike. Most notably, Laverne Cox has become the highest-profile transgender actor in a TV series.

HOUSE OF CARDS

99 Beau Willimon's adaptation of the 1980s' BBC satire transfers the action to Washington, D.C., and expands the canvas significantly, resulting in an enjoyably splenetic satire of American political life. Kevin Spacey—who often addresses the audience directly—and Robin Wright excel as the couple whose desire for power is insatiable.

TRANSPARENT

100 Highlighting the increased focus on transgender issues in society, Jill Soloway's smart series makes the most of Jeffrey Tambor's skill and considerable charm as a college professor who reveals to her family a long suppressed problem with the way she has been identified.





MUSIC & DANCE

If it's got a tune, the chances are it's here: classical music, opera, ballet, musical theater, rock, pop, country, jazz, folk, and blues. Discover which Kraftwerk album's *électronica* inspired everyone from David Bowie to Joy Division and Duran Duran, why Billie Holiday's "Strange Fruit" was too edgy for Columbia Records, when Pete Townsend smashed his first guitar, what is Broadway's longest-running musical, how Elvis Presley became dubbed "the Pelvis," which disco delights make up history's best-selling soundtrack, and what was ballet dancer Mikhail Baryshnikov's most difficult role.

◀ Dancers from the Royal Ballet perform *Undine* at the Royal Opera House in London in 2009



FATS DOMINO THIS IS FATS

1 A glorious gumbo of rock'n'roll, R&B, and boogie-woogie piano that features "Blue Monday," "Honey Chile," and, of course, "Blueberry Hill."

LITTLE RICHARD HERE'S LITTLE RICHARD

2 Richard Penniman, in his pomp, tears through "Tutti Frutti," "Ready Teddy," "Long Tall Sally," and "Rip it Up."

ELVIS PRESLEY ELVIS IS BACK!

3 On this comeback after military service, Elvis is in majestic voice: sultry on "Fever," teasing on "Such a Night," and raw on "Reconsider Baby."

JAMES BROWN LIVE AT THE APOLLO

4 This self-financed recording, made at Harlem's Apollo Theater, is a fast, tight set that was rapturously received.

BOB DYLAN BRINGING IT ALL BACK HOME

5 Dylan's first US Top Ten hit mixes folk ("Mr. Tambourine Man") with rock ("Subterranean Homesick Blues").

100 ROCK & POP ALBUMS

OTIS REDDING OTIS BLUE

6 This US chart-topper embraced pop, soul, and R&B with matchless power. The Stones's "Satisfaction" slots in seamlessly alongside the self-penned classics "Respect," and "I've Been Loving You Too Long."

THE BEACH BOYS PET SOUNDS

7 Brian Wilson abandoned the girls-'n'-surf circuit to craft this complex, carefully orchestrated set. His label and many fans were puzzled, but the album proved highly influential, not least on *Sgt. Pepper*. "God Only Knows" is the sublime standout, but "Caroline, No" and "Don't Talk (Put Your Head on My Shoulder)" brim with sweet melancholy.

THE BEATLES REVOLVER

8 This kaleidoscopic collection sways from string quartets ("Eleanor Rigby"), to raga ("Love You To," and the solo on "Taxman"), psychedelia ("Tomorrow Never Knows"), and pop's best kids' song ("Yellow Submarine").

THE MOTHERS OF INVENTION FREAK OUT!

9 An inventive satire of the United States and rock, Frank Zappa's double album debut—a genre first—is antiauthoritarian ("Who Are the Brain Police?"), but makes time for an affectionate doo-wop parody ("Go Cry On Somebody Else's Shoulder"), and a three-movement suite ("Help, I'm a Rock").

LOVE FOREVER CHANGES

10 A quixotic take on the Summer of Love from the gifted but troubled Arthur Lee achieves power through subtlety, from "Alone Again Or," to the moody "The Red Telephone," and the triumphant "You Set the Scene."

THE JIMI HENDRIX EXPERIENCE ARE YOU EXPERIENCED

11 This devastating debut album offers concise slices of psychedelic brilliance, including "Foxy Lady," "Manic Depression," the sci-fi soundscape "Third Stone from the Sun," and the mesmerizing title track. "Red House" reveals Hendrix's mastery of the blues, while drummer Mitch Mitchell excels throughout.

THE BEATLES SGT. PEPPER'S LONELY HEARTS CLUB BAND

12 Peerless songcraft was twinned with unbridled studio innovation in the band's and producer George Martin's finest hour. A psychedelic box of jewels, *Pepper* takes in Lewis Carroll's *Through the Looking-Glass* ("Lucy in the Sky With Diamonds"), Indian music ("Within You Without You"), domestic crises ("She's Leaving Home"), Victorian circuses ("Being For the Benefit of Mr. Kite"), and a genre-defying finale ("A Day in the Life"). "We lost a lot of people with *Sgt. Pepper*," observed Paul McCartney, "but I think we gained more."

THE VELVET UNDERGROUND & NICO

13 Known as "the banana album," after Andy Warhol's iconic cover, this maps dark new worlds, including S&M ("Venus in Furs"), and explicit drug use ("Heroin"). Warhol's Factory acolytes are the subject of "All Tomorrow's Parties" and "Femme Fatale." Lou Reed's cold-eyed lyrics set a new benchmark for literacy in rock, while the Velvets mixed poppy songwriting with avant-gardisms, such as tone clusters and drones. But far from the pounding drums and deranged guitars, "Sunday Morning" and "I'll Be Your Mirror" are music-box pretty, with German chanteuse Nico's vocals adding allure to a deathlessly inspirational set.



ARETHA FRANKLIN 1967 I NEVER LOVED A MAN THE WAY I LOVE YOU

14 After joining Atlantic Records and sympathetic producer Jerry Wexler, Aretha truly became the Queen of Soul. She personalizes iconic soul tracks (Otis Redding's "Respect," Sam Cooke's "A Change Is Gonna Come," Ray Charles's "Drown in My Own Tears"), and injects "Dr. Feelgood" and the title track with steamy sexuality. Throughout, her own piano-playing and songwriting impress, too.

VAN MORRISON 1968 ASTRAL WEEKS

15 Recorded in just two days in 1968, this unclassifiable album saw Morrison reborn. His blues shout is warmer here than during his time with Them, while the opaque but intriguing lyrics draw on his Belfast upbringing. A top crew of New York jazz musicians provided light and supple backing, from delightfully delicate ("Sweet Thing," "Cyprus Avenue"), to joyously swinging ("The Way Young Lovers Do"), although the shadows start to creep in on "Slim Slow Slider."

THE KINKS 1968 THE KINKS ARE THE VILLAGE GREEN PRESERVATION SOCIETY

16 Ray Davies ducked psychedelia to craft enchanting vignettes of Englishness. His wonderfully understated portraits passed 1968's record buyers by, but influenced everyone from Madness to Blur and beyond.

THE ROLLING STONES 1968 BEGGARS BANQUET

17 Always best with their roots on show, the Stones deliver bad-boy rock ("Sympathy for the Devil," "Street Fighting Man") and country blues ("No Expectations," "Factory Girl," "Prodigal Son"). Triumphant.

DUSTY SPRINGFIELD 1969 DUSTY IN MEMPHIS

18 The supreme soul star's career high was co-produced by Atlantic's Jerry Wexler. Its captivating reflections on love and loss include "Son of a Preacher Man."

THE WHO 1969 TOMMY

19 Pete Townshend's pioneering rock opera leavened its unlikely plot—salvation via pinball—with ace tunes, such as "Pinball Wizard," and "I'm Free."

CAPTAIN BEEFHEART & HIS MAGIC BAND 1969 TROUT MASK REPLICA

20 A genre unto itself, this Frank Zappa-produced, mind-melding mash-up of blues, surreal poetry, rock, and free jazz sounds like nothing else before or since.

FAIRPORT CONVENTION 1969 LIEGE & LIEF

21 Fairport filter traditional folk songs through electric instruments, alongside fine originals. Guitarist Richard Thompson and singer Sandy Denny excel.

THE STOOGES 1970 FUN HOUSE

22 Tight, snarling proto-punk ("Dirt," "TV Eye," "Loose") meets howling, sax-saturated free jazz ("Fun House," "L.A. Blues"). Defiantly brutal, but beautiful.



SIMON & GARFUNKEL 1970 BRIDGE OVER TROUBLED WATER

23 Sparklingly eclectic, this 1970 swan song takes in the cheery "Cecilia," the Latin-inflected "El Condor Pasa (If I Could)," and the bloody-but-unbowed epic "The Boxer"—a No. 7 US hit. "So Long, Frank Lloyd Wright," and "The Only Living Boy in New York" were Simon's farewells to Garfunkel, but the transcendent title track, perhaps writer Paul's greatest gift to singer Art, dwarfs everything.

CROSBY, STILLS, NASH & YOUNG 1971

DÉJÀ VU

24 On the foursome's finest, "Carry On" and "Country Girl" are inspired, shape-shifting gems, while "Helpless" is one of Neil Young's best.

BLACK SABBATH 1970

PARANOID

25 Full of the riffs that built metal ("War Pigs," "Iron Man"), this still finds room for the gentle "Planet Caravan."

NEIL YOUNG 1970

AFTER THE GOLD RUSH

26 This early career high saw Young rage hard on guitar ("Southern Man," "When You Dance I Can Really Love"), amid acoustic reflections such as the title track, "Birds," and "Only Love Can Break Your Heart."

FUNKADELIC 1971

MAGGOT BRAIN

27 Out-there lyrics and acid guitars meet gospel and funk to mind-melting effect.

MARVIN GAYE 1971

WHAT'S GOING ON

28 The quintessential Motown star irritated label boss Berry Gordy by insisting on a politically charged state-of-the-nation address. The jazz-inflected, free-flowing music met hard-hitting lyrics that took in Vietnam, taxes, environmental degradation, and spiritual salvation. But despite their subjects, the title track, and "Mercy Mercy Me (The Ecology)" are headily uplifting, as is the delicious "Wholy Holy." The latter, however, is followed by the dark closer "Inner City Blues (Make Me Wanna Holler)," which shudders with helplessness.



CAROLE KING TAPESTRY

29 The writer of 1960s hits, such as "Will You Still Love Me Tomorrow," became a 1970s star with this high-quality cache of tunes, including "It's Too Late," (a US No. 1), "So Far Away," "You've Got a Friend," and a reworking of her "You Make Me Feel (Like a Natural Woman)." US sales alone topped 10 million.



LED ZEPPELIN 1971

LED ZEPPELIN IV

30 Zep's most consistent and commercially successful album (over 30 million sold) features fan favorites "Black Dog," "Rock and Roll," and "Stairway to Heaven." "Going to California" harks back to the folkier fields of *Led Zeppelin III*, a rather more understated set than this, while "Misty Mountain Hop" swings engagingly. The fathoms-deep drums that kick-start "When the Levee Breaks" were to prove a sampler's dream.

DAVID BOWIE 1972

THE RISE AND FALL OF ZIGGY STARDUST AND THE SPIDERS FROM MARS

31 *Hunky Dory* (1971) was terrific, but, with *Ziggy*, Bowie became a star, whose alien persona chimed perfectly with alienated teens. The glam anthems "Suffragette City," "Ziggy Stardust," and "Starman" are scintillating, although the introductory "Five Years" draws on a streak of fatalism that stretched back to *The Man Who Sold the World* (1970). Guitarist Mick Ronson's magnificent arrangements and playing were key to *Ziggy*'s enduring success.

THE ROLLING STONES 1972

EXILE ON MAIN ST.

32 This sprawling set drips with blues and boogie, partying hard on "Rocks Off," and "Rip This Joint," but showing a softer side on "Sweet Black Angel," and "Sweet Virginia." "Tumbling Dice" is the icing on a cake that topped the UK chart in both 1972 and 2010.

LOU REED 1972

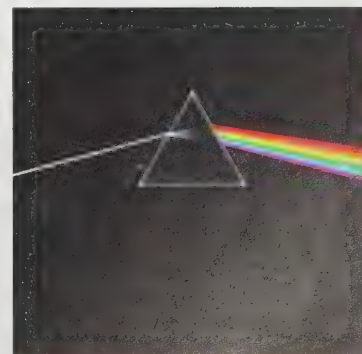
TRANSFORMER

33 Produced by David Bowie and his guitarist Mick Ronson, this solo career landmark proved Reed's enduring gift for character portraits (notably on the hit "Walk on the Wild Side"), melody ("Satellite of Love," and the disarming "Perfect Day"), and droll wit ("Vicious").

PINK FLOYD 1973

THE DARK SIDE OF THE MOON

34 The psychedelic banner-carriers ditched the noodling, focused on songs, and shot into the multimillion-selling stratosphere. The songs addressed mortality, madness, and (on the hit "Money") consumerism, but "Eclipse" closes the album in uplifting style. Even Sex Pistols front man John "Johnny Rotten" Lydon admitted to loving it.



BOB MARLEY & THE WAILERS

CATCH A FIRE

35 This key crossover reggae gem mixes mysticism and politically charged pleas ("Concrete Jungle," "400 Years") with sweet love songs ("Stir It Up"), and Peter Tosh's mighty "Stop That Train."

ROXY MUSIC

FOR YOUR PLEASURE

36 On this delirious slice of art-rock, oddity meets top tunes: the giddy "Do the Strand," the raucous "Editions of You," and the dispassionate sex-doll ode, "In Every Dream Home a Heartache."

ELTON JOHN

GOODBYE YELLOW BRICK ROAD

37 Slightly uneven, but the highs—the title track, "Saturday Night's Alright for Fighting," and the heartfelt Marilyn Monroe (later Princess Diana) tribute "Candle in the Wind"—are stellar.

BRUCE SPRINGSTEEN

BORN TO RUN

42 This shows The Boss all ways round: wistful on "Thunder Road"; turbo-charged on the title track; funky on "Tenth Avenue Freeze-Out"; epic on "Jungleland."



STEVIE WONDER INNERVISIONS

30 Riding the momentum of *Music of My Mind* (1972), and *Talking Book* (1973), and with ARP and Moog synthesizers very much to the fore, the boy Wonder served up this pop-funk gem, No. 4 in the US. From the gritty urban playlet "Living for the City" to the luminous love song "Golden Lady," and from the funky "Higher Ground" to the wistful "All in Love Is Fair," and the tetchy but tuneful "He's Misstra Know-It-All," there are no lows.

RANDY NEWMAN

GOOD OLD BOYS

39 Amid nuanced, pin-sharp portraits of the American South ("Rednecks" digs at racists and liberals alike), there's warmth and affection—witness the touching "Marie," and the Depression-era vignette "Louisiana, 1927."

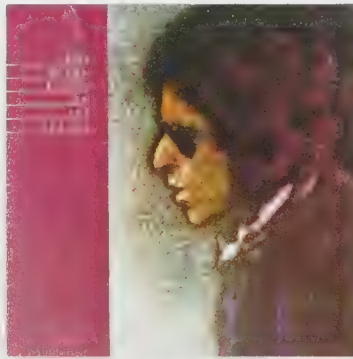
PATTI SMITH HORSES

40 This influential set tops *Ramones* as the most important punk album. In "Gloria (In Excelsis Deo)," Smith reinvents Van Morrison's garage-rock staple, while the shape-shifting "Land" allows her group—Jay Dee Daugherty, Lenny Kaye, Ivan Král, and Richard Sohl—to shine alongside her.

BOB DYLAN

BLOOD ON THE TRACKS

41 With divorce and heartbreak as backdrop and inspiration, Dylan delivered a clutch of sharply penned vignettes, running the emotional gauntlet from the acidic "Idiot Wind" to the heartbreaking "If You See Her, Say Hello," and the deftly sketched "Tangled Up in Blue." Yet he still found time for a trademark shaggy-dog story in "Lily, Rosemary and the Jack of Hearts." This resounding return to form hit No. 1 in the United States.



RAMONES RAMONES

42 The opening salvo of "Blitzkrieg Bop," "Beat on the Brat," and "Judy Is a Punk" sets the breakneck pace, matching knowingly dumb lyrics to buzzsaw guitars. But a love of pre-Beatles pop and surf music emerges, too, in the cover version of "Let's Dance."

EAGLES 1976

HOTEL CALIFORNIA

44 The apotheosis of West Coast rock is also an indictment of it. Under an iconic riff, "Life in the Fast Lane" finds a couple stuck on a freeway of excess, as trapped as the narrator of the title track. Even the harmony-rich "New Kid in Town" aches with sorrow. This is a dark epitaph for the era the Eagles epitomized.

FELA KUTI & THE AFRIKA '70 ZOMBIE

45 A million-seller in Africa by 1976, Afrobeat pioneer Fela savaged mindless militarism on two 12-minute tracks: "Mister Follow Follow," and "Zombie." Funky bass, guitar, drums, and Fela's own tenor sax provided the insistent soundtrack.

TELEVISION 1977 MARQUEE MOON

45 Television emerged from New York punk club CBGB, but proved post-punk pioneers. Tom Verlaine's lyrics were impressionistic and allusive, while his guitar meshed with that of Richard Lloyd to inventive effect, notably on the mesmerizing title cut. "It opened everyone's ears," said Nirvana producer Butch Vig.

BOB MARLEY & THE WAILERS 1977 EXODUS

47 On this absorbing brew of the political and the personal, the title track represents an epic call for freedom from tyranny, for Rastafarian and non-Rastafarian alike. Positivity and some of Marley's best love songs dominate the second half: "Jammin'," "One Love/People Get Ready," and "Waiting in Vain."



KRAFTWERK 1977 TRANS-EUROPE EXPRESS

48 This album's über-influential electronica, partly inspired by the mesmerizing rhythms of train travel, inspired everyone from David Bowie to Joy Division and Duran Duran. Kraftwerk's devotion to new technology somewhat masked their dedication to traditional songcraft, perhaps most elegantly expressed in the title track and "Europe Endless." And their wry sense of humor characterized the deceptively po-faced "Showroom Dummies."

FLEETWOOD MAC 1977 RUMOURS

49 Relationship traumas inspired this career-defining set, which included "Don't Stop," and "Go Your Own Way." The dark subtext did not hinder 45 million sales.

STEELY DAN 1977 AJA

50 The Dan drew on a love of jazz, and top session players (including Steve Gadd and Wayne Shorter), for a clean-cut set that includes the cheery US hit "Peg."

SEX PISTOLS 1977 NEVER MIND THE BOLLOCKS HERE'S THE SEX PISTOLS

51 Johnny Rotten's sneering, no-nonsense lyrics fused with powerhouse music to create incendiary punk, including "Holidays in the Sun," and "God Save the Queen."



DAVID BOWIE 1977 LOW

52 The first part of his "Berlin Trilogy" (much of which was recorded in France), this collaboration with Brian Eno saw Bowie utilize synthesizers and chance events. The result was split between songs (including the hit "Sound and Vision") and ambient soundscapes. "Heroes" and *Lodger* followed.

IGGY POP 1977 LUST FOR LIFE

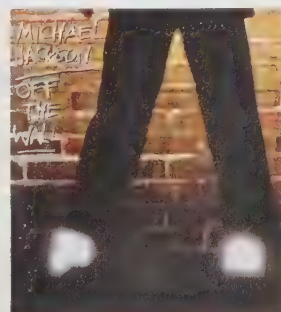
53 Living in Berlin with David Bowie gave Iggy's career a shot in the arm. *Lust for Life* throws up highlights aplenty, from the effervescent title track, and the sleazy "Sixteen," to the churning urban poem "The Passenger." Note Pop's penchant for crooning surfaces on the Bowie-penned "Tonight."

BLONDIE 1977 PARALLEL LINES

54 Glam-rock guru Mike Chapman turned Blondie into a hit machine, via "Hanging on the Telephone," "Picture This," "Sunday Girl," and the transatlantic chart-topper "Heart of Glass."

CHIC 1977 C'EST CHIC

55 of this million-selling album—directed by Bernard Edwards and Nile Rodgers—includes two gold-selling hits in the form of "Le Freak," and "I Want Your Love."



MICHAEL JACKSON 1977 OFF THE WALL

56 This Quincy Jones-helmed triumph saw Jackson hit his stride as a solo star. Dancefloor-friendly fare "Don't Stop 'Til You Get Enough," "Rock With You," and the brass-driven "Burn this Disco Out" rubbed shoulders with tearjerker "She's Out of My Life," and pop charmer "Girlfriend." Twenty million sales paved the way for *Thriller*.



THE CLASH 1980 LONDON CALLING

57 Wherein The Clash shed the straitjacket of punk for good. *London Calling* came out in 1979 in the UK, but early in 1980 in the United States—hence *Rolling Stone's* “Best Album of the 1980s” plaudit. The album gleefully scavenges music history: its sleeve is a nod to the cover of Elvis Presley’s debut; “Brand New Cadillac” is snarling rockabilly; “Rudie Can’t Fail,” “Revolution Rock,” and Paul Simonon’s brooding “The Guns of Brixton” draw on ska. Politics is a recurring theme; “Spanish Bombs” references civil warfare, past and present. The title track is post-punk apocalyptic, while “Train in Vain” dips its toe into disco. Throughout, Joe Strummer’s vocals are a raw-throated delight, and his lyrics right on the money.

AC/DC 1980 BACK IN BLACK

58 Its title a nod to former singer Bon Scott, who died five months before its release, *Back in Black* proved AC/DC were far from done. Angus and Malcolm Young’s riffs are stadium-size, while new vocalist Brian Johnson’s screech slots right in on anthems like “You Shook Me All Night Long,” and the fist-clenched finale “Rock and Roll Ain’t Noise Pollution.” With 22 million sales in the United States alone, *BiB* is an all-time blockbuster.

JOY DIVISION 1980 CLOSER

59 As befits singer Ian Curtis’s swan song, this is fractured, yet intense—witness “Heart and Soul,” “Isolation,” and “Twenty-Four Hours.”

IRON MAIDEN 1982 THE NUMBER OF THE BEAST

60 Forty minutes of deathless metal (notably the title track, “Run to the Hills,” and “Hallowed Be Thy Name”) established Iron Maiden as the metal act to beat.

MICHAEL JACKSON 1982 THRILLER

61 Building on the success of 1979’s *Off the Wall*, Jackson reunited with veteran producer Quincy Jones to create history’s best-selling original album. Melding pop, contemporary R&B, soul, and disco, and performed with intoxicating pep, *Thriller* boasted seven US Top Ten singles, including “Billie Jean,” “Beat It,” “Wanna Be Startin’ Somethin’”—all penned by Jackson—and Rod Temperton’s title track. In addition to shifting some 65 million copies, it also picked up a record-breaking eight Grammy Awards—and made Jackson the undisputed King of Pop.

TOM WAITS 1983 SWORDFISHTROMBONES

62 Encouraged by his wife Kathleen, Waits jettisoned his trademark barfly cabaret to create an angular set of glass harmonica, sledgehammers, deviant guitars, and “metal aunglongs,” including the career highs “In the Neighborhood,” and “Frank’s Wild Years.”

R.E.M. 1983 MURMUR

63 A brilliant debut boasting songcraft (“Talk About the Passion,” “Perfect Circle”), jangly guitars, and Michael Stipe’s enigmatic vocals.

KATE BUSH 1983 HOUNDS OF LOVE

64 Home to “The Ninth Wave”—25 moving minutes that confirm Bush’s loopy genius—*Hounds* also features “Running Up That Hill (A Deal with God),” which became a hit single in edited form.

THE SMITHS 1984 THE QUEEN IS DEAD

65 Front-man Morrissey is at his wittiest (“Vicar in a Tutu”) and most moving (“There is a Light That Never Goes Out”). Guitarist Johnny Marr excels throughout.



PAUL SIMON 1986 GRACELAND

66 Inspired by *mbaqanga* music of South Africa, Simon rethought his songwriting via bubbling basslines, skittish guitars, and joyous harmonies. The input of South African musicians such as Ladysmith Black Mambazo, married to Simon’s melodic skills, made for a global hit.

GEORGE MICHAEL 1987 FAITH

67 A self-produced smash that showed how to graduate from pop pin-up to soul star, with gems like “Father Figure.”

PRINCE 1987 SIGN O' THE TIMES

68 *Purple Rain* (1984) saw Prince go global, but *Sign o' the Times* displayed the real breadth of his talent. Across the course of a sprawling double album, there are sparse meditations on society (the title track), funk party anthems ("Housequake," "It's Gonna Be a Beautiful Night"), plentiful pop ("U Got the Look," "Starfish and Coffee"), slo-mo love scenes ("Slow Love," "Adore"), and righteous rock ("The Cross"). It wouldn't be a Prince album without sex—"It," "Hot Thing"—but the album is all the more intriguing for its nods to the careworn world outside.



GUNS N' ROSES 1987 APPETITE FOR DESTRUCTION

69 The controversial LA quintet served up a clutch of killer tunes ("Sweet Child o' Mine," "Paradise City") to create rock's best-selling debut.

N.W.A. 1988 STRAIGHT OUTTA COMPTON

70 Powerhouse ensemble Niggaz With Attitude—including future solo stars Eazy-E, Dr. Dre, and Ice Cube—spawned an influential, in-your-face rap classic. "Fuck tha Police" and the visceral title track won instant notoriety and double-platinum sales.



PUBLIC ENEMY 1988 IT TAKES A NATION OF MILLIONS TO HOLD US BACK

71 Throughout this astonishing, iconic rap milestone—which includes "Don't Believe the Hype" and "Rebel Without a Pause"—Chuck D's razor-sharp rhymes are enforced by a jarringly intense wall of sound, courtesy of production team the Bomb Squad. Instrumental interludes and Flavor Flav's nutso humor offer breathing space between the sonic assaults.

SONIC YOUTH 1988 DAYDREAM NATION

72 New York's avant-garde noise merchants crafted their career-defining set—packed with mesmerizing, dissonant instrumentals, and full-on aural attack ("Rain King," "Silver Rocket")—from lengthy jamming during live performances. Youth anthem "Teen Age Riot" kicks it off.

MADONNA 1989 LIKE A PRAYER

73 In a superbly eclectic candy store of pop, stand-outs include "Express Yourself," "Oh Father," and "Cherish" (plus the Prince co-write "Love Song"). The video for the uplifting title song (a global No. 1) proved infamous for its combustible blend of sex and religion.

BEASTIE BOYS 1989 PAUL'S BOUTIQUE

74 (Mostly) ditching the frat-party feistiness of their mega-selling debut *Licensed to Ill* (1986), *Paul's Boutique* found the Beasties and production duo the Dust Brothers cherry-picking samples (including The Beatles, Eagles, and Led Zep) on a De La Soul-size scale, to dizzying effect. Highlights include "Egg Man," "High Plains Drifter," and "The Sounds of Science," all replete with the trio's tricky lyrical interplay and humor.

PIXIES 1991 DOOLITTLE

75 Tightly played and riff-rich, *Doolittle* was hugely influential. Explosive guitars fire "Debaser"; "Here Comes Your Man" is Velvet Underground-tinged pop; "Monkey Gone To Heaven" is the sound of the apocalypse with a chorus.

DE LA SOUL 1991 THREE FEET HIGH AND RISING

76 This life-affirming gem formed the flowering of an era in "conscious" rap. Its pop-friendly fare includes "The Magic Number."

THE STONE ROSES 1991 THE STONE ROSES

77 This debut epitomizes the UK's Manchester indie scene of the late 1980s. Fine songs abound ("This Is the One," "She Bangs the Drums"), while "I Am the Resurrection" highlights a natural gift for groove.



METALLICA 1991 METALLICA

78 This is *the* Metallica set to buy. Buffed with a sonic sheen by producer Bob Rock, it includes the anthems that transformed the highly successful metal act into a phenomenon.



NIRVANA NEVERMIND

79 *Nevermind* had punk-metal power to spare, but periodically leavened its assault on the senses. Nirvana shared influences like Black Sabbath and hardcore punk with the grunge pack from which they sprang, but added The Beatles and obscure UK indie to the ingredients. The iconic single "Smells Like Teen Spirit" broke them, and its warped power pop resurfaces on "Come as You Are," "Drain You," and "On a Plain." "Polly" and "Something in the Way" are grim vignettes, but there's palpable joy in the noise-fest "Territorial Pissings." Butch Vig's pounding production, later bemoaned by Kurt Cobain, made the sound focused, but never tame. One of rock's most vital records, *Nevermind* toppled Michael Jackson's *Dangerous* from No. 1 on the *Billboard* chart, and sold upward of 30 million copies.

PEARL JAM TEN

80 Producing hits like "Jeremy," Pearl Jam's debut alt-rock album remains their most commercially successful.

U2 ACHTUNG BABY

81 Having painted themselves into a monochrome corner, the quartet reinvented their sound in Technicolor. Their knack for a killer anthem proved intact with "One."

MASSIVE ATTACK 1991 BLUE LINES

82 This dub-influenced landmark introduced Tricky and Shara Nelson, and won recognition for Horace Andy. It's celebrated as much for brooding ("Unfinished Sympathy") as for brighter fare ("Hymn of the Big Wheel").

DR. DRE THE CHRONIC

84 The ex-N.W.A. star baits his former cohort Eazy-E on a highly influential "G-Funk" set that boasts "Nuthin' But a 'G' Thang," "Let Me Ride," and none-more-laidback MC Snoop Doggy Dogg.

PRIMAL SCREAM 1991 SCREAMADELICA

83 Ably assisted by DJ Andrew Weatherall, the Scream pillaged pop, from the Stones ("Movin' on Up") to dub ("Higher than the Sun"), to create their masterpiece.

BJÖRK DEBUT

85 Not her actual solo debut (that was *Björk*, in 1977), this effusive grab-bag is by turns joyous ("Big Time Sensuality"), charming ("Venus as a Boy"), and anthemic ("Play Dead").

WU-TANG CLAN ENTER THE WU-TANG (36 CHAMBERS)

86 With nine rappers, no G-Funk, kung-fu carnage, and pared-down production, Wu-Tang Clan forged a new template for New York hip-hop, and established themselves as a brand. "Method Man," "Protect Ya Neck," "C.R.E.A.M.," and "Can It All Be So Simple" are among the essential tracks. The Clan's distinctive debut sold over two million copies in the United States.

SNOOP DOGGY DOGG DOGGYSTYLE

87 Snoop's lithe drawl, and Dr. Dre's G-Funk spawned rap staples such as "Gin and Juice." Still Snoop's peak, it was the first debut to enter the US chart at No. 1, and the fastest-selling solo album until *The Marshall Mathers LP* by another Dre protégé, Eminem, in 2000.



OASIS DEFINITELY MAYBE

88 This cornerstone of Britpop is hewn from classic rock, built on Noel Gallagher's ear for a Beatle-y tune, and his brother Liam's John Lennon-meets-Johnny Rotten sneer. Anthemic singalongs ("Rock'n'Roll Star," "Cigarettes and Alcohol," "Slide Away," and Noel's best song, "Live Forever") make this the definitive Oasis set. Briefly the UK's fastest-selling debut, it eventually sold a million in the United States.

NAS ILLMATIC

89 Refreshingly literate, this hip-hop milestone is a dry-eyed memoir of life in a New York housing project. Featuring production by DJ Premier, Large Professor, Pete Rock, and Q-Tip, it influenced an entire generation of Big Apple rappers, notably Jay-Z.

JEFF BUCKLEY 1994
GRACE

90 On this wondrous debut, Buckley's vocal pyrotechnics still astonish ("Grace"), while the quieter cuts ("Corpus Christi Carol," "Lilac Wine") are unutterably moving. His cover of Leonard Cohen's "Hallelujah" is definitive.

DJ SHADOW 1996
INTRODUCING

93 Remarkable for its sampled content from mostly forgotten releases of the 1960s and 1970s, minimal use of equipment, and unnerving soundscape, Shadow's debut is a landmark in instrumental hip-hop.

RADIOHEAD 1997
OK COMPUTER

95 This richly textured and experimental set is unified by the band's gift for melody and Thom Yorke's singular voice. The melancholy and angst ("Exit Music [For a Film]," "Lucky," pretty much all of it) never grate, such is the invention and songcraft. "Paranoid Android" (which takes its title from a character in *The Hitchhiker's Guide to the Galaxy*) twists and turns like a prog-rock epic, while the closing "The Tourist" offers a jewel-like moment of solace.

OK COMPUTER
RADIOHEAD



BLUR 1997
PARKLIFE

91 On a multi-platinum set that shot Blur into the major league, the lyrics offer perceptive snapshots of modern British life ("Girls and Boys," "Parklife"), while influences include punk, The Kinks, and Syd Barrett.

PULP 1998
DIFFERENT CLASS

92 There were witty takes on rave culture ("Sorted for E's & Wizz"), old sweethearts ("Disco 2000"), and voyeurism ("I Spy"), but what made this a multi-platinum UK No. 1 was the raging modern classic, "Common People."

MISSY MISDEMEANOR ELLIOTT 1997
SUPA DUPA FLY

96 The solo debut from one of rap's most inventive artists is a collaboration with producer Timbaland, with whom she had co-written hits for Aaliyah, and worked on a solo album by her own group, Sista. Timbaland's sparse yet imaginative work provides backdrops for Elliott's witty, free-association rhymes and singing. Highlights include "The Rain (Supa Dupa Fly)."

THE STROKES 1991
IS THIS IT

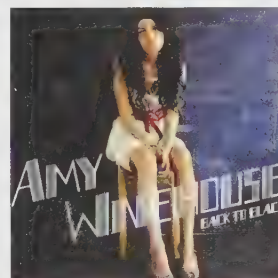
97 Influenced by The Stooges, The Cars, and Television, The Strokes were one of the most exhilarating and energetic bands to emerge from the downtown New York club scene. Standouts on this rocking debut album include "Hard to Explain," and "Barely Legal."

THE WHITE STRIPES 1997
ELEPHANT

98 This accomplished major-label debut ponders fame, rejection, and loss of innocence. The duo's blues and punk roots are on show ("Girl, You Have No Faith in Medicine," "Ball and Biscuit"), but offset by brooding introspection ("In the Dark, Dark Night"). "Seven Nation Army" leads the charge.

AMY WINEHOUSE 2003
BACK TO BLACK

99 This soulful, jazzy, R&B album, co-produced by Mark Ronson and Salaam Remi, found its star at a songwriting peak—whether resigned and defeated on "Love Is a Losing Game" and the title track, indignant on "Me & Mr. Jones," or wryly defiant on the hit "Rehab." It won five Grammys, and sold more than 20 million units.



KANYE WEST 2003
MY BEAUTIFUL DARK TWISTED FANTASY

100 Four acclaimed albums in, things were getting dark for the once cheerful West. This extravagant, restlessly inventive set holds forth on sex, celebrity and its price, materialism, and insanity, sometimes making for queasy listening. A-list guests include John Legend (on the gorgeous "Blame Game"), Rihanna (on the drum-and-bass-driven "All of the Lights"), and Nicki Minaj (on the deranged "Monster"). The result was his fifth million-seller, and fourth US chart-topper.



ENRICO CARUSO 1914
O SOLE MIO

1 Best-selling rendition from the superstar operatic tenor that became an anthem for his home city of Naples. Tenderness and power of vocal set the template for future ballad singers—not least Elvis, with “It’s Now or Never.”

ROBERT JOHNSON 1925
HELLHOUND ON MY TRAIL

2 Electrifying glimpse of damnation from the bluesman who was dead within a year of its recording. Eerie, tremulous vocals and haunted lyrics inspired musicians from Clapton to Jack White and beyond.

BILLIE HOLIDAY 1933
STRANGE FRUIT

3 Chilling poem-song prompted by a photograph of a lynching. Too edgy for Columbia Records and many radio stations, but Holiday’s unflinching reading still became a huge hit.

JUDY GARLAND 1939
OVER THE RAINBOW

4 Garland sings this heart-swelling paean to hope with disarming openness. Nearly axed from *The Wizard of Oz*, it later won an Oscar and proved the biggest hit of 1939—striking a chord with Americans who were then struggling through the Great Depression. Poignantly, this was also to be the last number Garland ever sang live on stage.

100 SONGS

WOODY GUTHRIE 1944
THIS LAND IS YOUR LAND

5 America’s alternative national anthem, written in riposte to Irving Berlin’s “God Bless America.” A tribute both to the majesty of the country and its people, although Guthrie adjusted the political heft of the lyrics over time. The tune nods to the 1930 song, “When the World’s On Fire,” by the Carter Family.

MARLENE DIETRICH 1941
LILI MARLEEN

6 Wartime favorite, lyrics penned (in World War I) by German soldier Hans Leip but hugely popular with both sides in World War II. Sung by Dietrich to US soldiers abroad for three years, and recorded by many others, including Bing Crosby, Édith Piaf, and Vera Lynn.

ÉDITH PIAF 1945
LA VIE EN ROSE

7 Édith Piaf’s signature tune, this richly orchestrated romantic ballad was much-loved both in France and abroad. It won a Grammy Hall of Fame Award in 1998.

CHARLES TRENET 1946
LA MER

8 Breezy chanson musing on matters maritime. An English-language hit for Bobby Darin as “Beyond the Sea.”

LUCIANO TAJOLI & ANGELO SERVIDA 1946
LA PALOMA

9 Tender, close-harmony take on melody by Spaniard Sebastián Iradier that draws on Cuban habanera tradition.

BING CROSBY 1947
WHITE CHRISTMAS

10 Warmly sung, deeply nostalgic classic written by Irving Berlin (ironically, a Jewish songwriter) for *Holiday Inn* (1942). First released that year, it resonated strongly with soldiers and their estranged loved ones and topped *Billboard* for 11 weeks. After the original master was damaged, Crosby remade the song with the same musicians (John Scott Trotter and his orchestra and the Ken Darby Singers) in the version we now know.

SARAH VAUGHAN 1947
SUMMERTIME

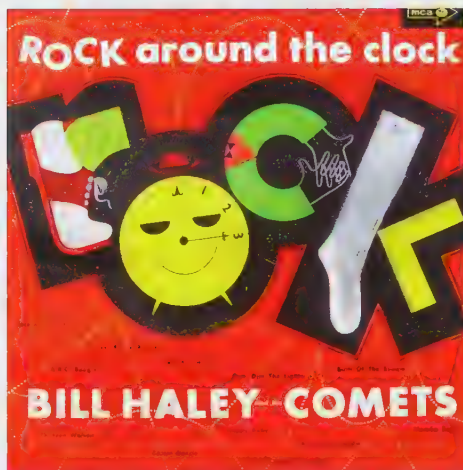
11 A distinctive take on this timeless standard from George Gershwin’s opera *Porgy and Bess* (1935), with lyrics by DuBose Heyward. That timeless quality is in great part due to the simplicity of Gershwin’s six-note melody, as pared down as an old folk song—or lullaby, as was its role in the opera. Other cover versions (there have been some 25,000) are wistful or laid back, but Vaughan’s deep-throated delivery, and the unusual arrangement of horns and strings, draw out the deep sadness at the heart of the piece.

GENE KELLY 1952
SINGIN’ IN THE RAIN

12 Irrepressible anthem for the lovestruck. Published in 1929 but made famous in the musical created by songwriter Arthur Freed from some of his 1920s tunes. The soundtrack to perhaps Hollywood’s most iconic scene. Kelly is no Caruso, but his light tenor suits the sentiment to a tee.

BILL HALEY & HIS COMETS (WE'RE GONNA) ROCK AROUND THE CLOCK

13 Elvis was rock 'n' roll's poster boy, but Haley had its first anthem. Aired in youth flick *Blackboard Jungle* (1955), "Rock Around the Clock" became a transatlantic No. 1, with its chugging rockabilly beat and snappy guitar solos from Danny Cedrone. That said, the tune was originally penned as a novelty number by middle-aged songwriter Max C. Freedman.



LITTLE RICHARD TUTTI FRUTTI

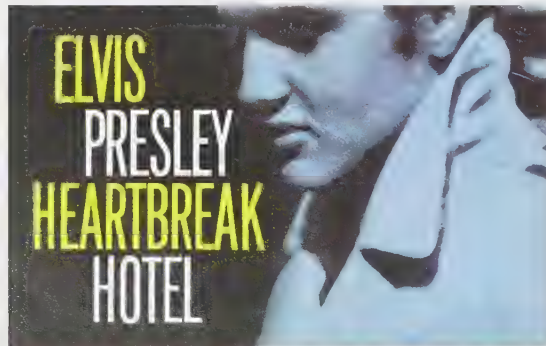
14 Primal rock 'n' roll, drawing on jump blues and boogie woogie, topped off with sledgehammer piano and one of rock's greatest vocals.

JULIE LONDON CRY ME A RIVER

15 Plangently delivered, smoldering ballad that provided a mesmerizing moment in the iconic rock 'n' roll film *The Girl Can't Help It* (1956).

ELVIS PRESLEY HEARTBREAK HOTEL

16 Downbeat, emotively sung, reverb-soaked plaint that teens bought in droves. Throbbing bass and spooky piano trills add veils of mystery. Elvis's first No. 1.



FRANK SINATRA I'VE GOT YOU UNDER MY SKIN

17 Ol' Blue Eyes had performed this Cole Porter tune for a decade before choosing it for *Songs for Swingin' Lovers*. Nelson Riddle's sparkling big-band arrangement, with its famous prolonged, delirious crescendo, marked a career peak for both men.

LOUIS PRIMA JUST A GIGOLO/ I AIN'T GOT NOBODY

19 This live-in-the-studio medley captures the gloriously raucous sound of Louis Prima and his band.

NAT KING COLE STARDUST

20 Consummate reading of a much-loved Hoagy Carmichael number, tenderly rendered by a much-loved singer. It was Carmichael's favorite version.



JERRY LEE LEWIS GREAT BALLS OF FIRE

21 Pounding piano and an audacious vocal helped this shift five million copies and soar to No. 2 on *Billboard* (UK No. 1). Along with "Tutti Frutti," it also provided one of rock 'n' roll's greatest opening lines.

CHUCK BERRY JOHNNY B. GOODE

22 Rock 'n' roll's first poet laureate was also its original riff meister, and "Johnny B. Goode" launches on Berry's best—a ringing call to arms inspired by Louis Jordan's "Ain't That Just Like a Woman." Covered by everyone from John Denver to the Sex Pistols.

PEGGY LEE FEVER

23 Backed only by finger clicks, bass, and drums, this reading of "Fever" is definitive—even Elvis aped it. Lee rewrote some of the verses in the original (by Little Willie John) as she deemed them too sexual. She got herself a *Billboard* No. 8 placing, Record of the Year nomination at the 1959 Grammys, and a stable career.

RAY CHARLES WHAT'D I SAY (PARTS 1 & 2)

24 Charles's breakthrough crossover hit took gospel call-and-response and spiced it up with a healthy dose of sex. Even radio station bans could not stifle its popularity: split over two sides of a single, it gave Charles a gold record and No. 6 placing on *Billboard*.

WHAT'D I SAY RAY CHARLES



ATLANTIC 8029



THE ANIMALS HOUSE OF THE RISING SUN

31 The Newcastle quintet reworked this traditional ballad as a kinetic beat-group arrangement, with a famous guitar arpeggio and showstopping organ solo. Taped in only 15 minutes, and uncommercially long at 4.5 minutes, it gave them a US/UK No. 1.

MARTHA & THE VANDELLAS DANCING IN THE STREET

32 The essence of pop distilled into two minutes and 40 seconds. A joyful US and UK Top Five hit, this Motown classic was later reappropriated by some as a call to arms during civil rights protests.

BOBBY DARIN MACK THE KNIFE

25 Swinging take on Kurt Weill tune, released despite Darin's doubts, that secured him a US No. 1 and Grammy.

JACQUES BREL 1959 NE ME QUITTE PAS

26 Covered by many artists, notably Scott Walker and Dusty Springfield, but Brel's original tops them all for blind passion and abject heartbreak.

THE SHIRELLES WILL YOU LOVE ME TOMORROW

27 US No. 1 (the first by an all-girl group) subtly voices a concern held by many teen girls of the time.

THE RONETTES BE MY BABY

28 Finest sixties girl group tune and transatlantic Top Five hit. Consummate Phil Spector "Wall of Sound" production sung by wife-to-be Ronnie (with her sister and cousin) that shifted two million copies within a year. Beach Boy Brian Wilson named it his favorite song, later writing "Don't Worry Baby" as response and tribute.

THE KINGSMEN LOUIE LOUIE

29 Ultimate garage-rock song, written by Richard Berry in 1955. Divinely dumb, with half-audible lyrics (scrutinized by the FBI for alleged obscenity), it made *Billboard* No. 2.

JORGE BEN MAS, QUE NADA

30 Self-penned Latin standard that opened Ben's debut LP *Samba Esquema Novo*, delivered with easy charm. A Top 50 US hit (and signature song) for Sérgio Mendes and Brasil '66 in 1966.

STAN GETZ & JOÃO GILBERTO THE GIRL FROM IPANEMA

33 Bossa nova notched up its first global hit (including a US No. 5) with this beguiling vignette of unrequited love. Delivered with untutored charm by Gilberto's wife, Astrud, and featuring gentle romantic interjections from Getz's tenor sax, it is reportedly the second-most frequently recorded song ever behind "Yesterday."

THE RIGHTEOUS BROTHERS YOU'VE LOST THAT LOVIN' FEELING

34 A superbly orchestrated power ballad emotively delivered by the blue-eyed soul duo. Highlights aplenty, from Bill Medley's sonorous baritone lead vocal to the detailed and perceptive lyrics. A US/UK No. 1—and the most played song of the century in the USA.



SAM COOKE 1959
A CHANGE
IS GONNA
COME

35 Cooke had covered Dylan's "Blowin' in the Wind" but felt driven to write his own protest song on behalf of African Americans. The result was this achingly beautiful plea for tolerance and understanding delivered with power and grace by a genius of soul music. Its modest chart performance (*Billboard* No. 31) belies the song's impact and enduring resonance as a civil-rights anthem.



ROLLING STONES
(I CAN'T
GET NO)
SATISFACTION

36 The ultimate Stones track, driven by Keith Richards's most famous riff (it came to him in his sleep, inspired by Martha and the Vandellas' "Dancing in the Streets"). Richards ran it through a Gibson Maestro Fuzz-Tone to sustain the notes, mimicking the horn section he originally envisaged. Mick Jagger's lyrics detailed, with both fascination and repugnance, the unbridled commercialism he saw in the United States. The sexual nuances drew media censorship, but were key to the package. For this is the song that defined the Stones, distilling their danger into three minutes and 44 seconds that thrilled teens and unsettled their parents.

JAMES BROWN 1966
PAPA'S GOT
A BRAND NEW BAG

37 Phenomenal proto-funk tune, originally split over two sides of a 45 single. It gave James Brown his first *Billboard* Top Ten hit.

THE BYRDS 1965
MR. TAMBOURINE MAN

38 Global mega-smash for Bob Dylan tune, glossed with the troupe's light West Coast harmonies and sweetly jangling 12-string guitar (plucked by Jim McGuinn—the only Byrd to actually play on it).

THE WHO 1967
MY GENERATION

39 Still-stunning antiestablishment *cri de coeur*, replete with stuttering vocals, clattering drum fills, thunderous bass solo, and feedback. A UK No. 2 and the very acme of power pop.

CHARLES AZNAVOUR 1966
LA BOHÈME

40 French chanson standard—tale of a painter reflecting on humbler, happier days. Global hit (French No. 1) and henceforth signature song for Aznavour.

BOB DYLAN 1965
LIKE A
ROLLING
STONE

41 Solid-gold Dylan, a euphoric stream of impressionistic wordplay and sneers, immortalized by the joyful sound of Al Kooper's Hammond organ riff. Dylan's highest *Billboard* hit (No. 2), despite its six-minute length—which inspired other artists to stretch their singles beyond three minutes. A year later, hacked off by hecklers, Dylan and backing band the Hawks unleashed an exhilarating version in Manchester's Free Trade Hall.

FRANÇOISE HARDY 1965
JE CHANGERAIS
D'AVIS

42 Epic *amour* angst, based on tune of "Se Telefonando" (by Ennio Morricone) inspires heartfelt Hardy vocal.



THE BEACH BOYS
GOOD VIBRATIONS

43 Six painstaking months in the making and more a psychedelic suite than a song. Ingeniously arranged, and utterly groundbreaking, its pop hooks also made it a transatlantic No. 1.

THE JIMI HENDRIX EXPERIENCE 1967
PURPLE HAZE

44 Hendrix's first self-penned hit (UK No. 3). Memorable, angular bass intro, mind-boggling guitar solo, and lyrical abstraction make this a psychedelic knockout, although Hendrix deemed it a love song.

THE VELVET UNDERGROUND & NICO 1968
HEROIN

45 Unprecedented, uncensored avant-garde rock. Lou Reed's cold-eyed lyrics retain their bite, complemented by shrieking feedback, droning viola, and Stone Age drumming.

ARETHA FRANKLIN RESPECT

46 Aretha's best-known song takes Otis Redding's 1965 soul staple and sassily reinvents it as a strident call for sexual equality, delivered with gospel-like fervor. Produced by Jerry Wexler, it announced her arrival at Atlantic Records with a US No. 1 hit and won her two Grammys in 1968. R-E-S-P-E-C-T.

THE BEATLES 1967 STRAWBERRY FIELDS FOREVER

47 High point of English psychedelia, John Lennon's beguiling wordplay matched by studio wizardry from producer George Martin. Earmarked for *Sgt. Pepper's*, but released instead as double-A-sided single with "Penny Lane," only to stall at No. 2 in the UK.

THE KINKS 1964 WATERLOO SUNSET

48 Utterly charming story of two London lovers sung with great warmth by songwriter Ray Davies—although originally titled "Liverpool Sunset," inspired by his affection for that city. A UK No. 2, and the first Kinks record produced by Davies alone.



MARVIN GAYE 1964 I HEARD IT THROUGH THE GRAPEVINE

49 A funkier "Grapevine" had been a No. 2 hit in 1967 for Gladys Knight & the Pips. Gaye's slower reworking introduced a heap of suspense—triggered by that ticking intro—topped the US/UK charts, and is definitive.



SERGE GAINSBOURG & BRIGITTE BARDOT BONNIE AND CLYDE

50 Cool, slightly daft duet from Gallic duo, based on a poem by gangster Bonnie. Early use of a loop. Sampled by Kylie, among others.

LED ZEPPELIN 1968 WHOLE LOTTA LOVE

51 Seismic blues, ripe with sex, shrieking guitar solo, sex, emotive yowling, scintillating percussion, and sex. A rare Zep single, making *Billboard* No. 4.

JOHN LENNON IMAGINE

52 Easy to snipe at a millionaire musician preaching "no possessions." Harder to put down an enduring melody of childlike simplicity and plea for universal love. One of the most performed songs of the twentieth century.



THE TEMPTATIONS PAPA WAS A ROLLIN' STONE

53 Mesmerizing psychedelic-soul epic. Deservedly a US No. 1, despite its seven-minute length. The album version is four minutes longer.

LOU REED 1968 WALK ON THE WILD SIDE

54 Reed's biggest hit (UK No. 10, US No. 16), a jazzy shuffle through the Warholian *demi-monde*. Bass by Herbie Flowers; saxophone solo by David Bowie's sax teacher.

STEVIE WONDER 1973 SUPERSTITION

55 Clavinet-driven funk jewel from start of Wonder's golden era. Originally penned for Jeff Beck. US No. 1 and UK No. 11.

DOLLY PARTON 1983 JOLENE

56 Parton's ample songwriting skills deliver a modern country classic. Memorable live version by the White Stripes in 2004.

ANTÔNIO CARLOS JOBIM & ELIS REGINA

ÁGUAS DE MARÇÓ

57 Rhythmically adventurous, utterly captivating duet from Brazilian duo, hymning the delights of the March rains in Rio.

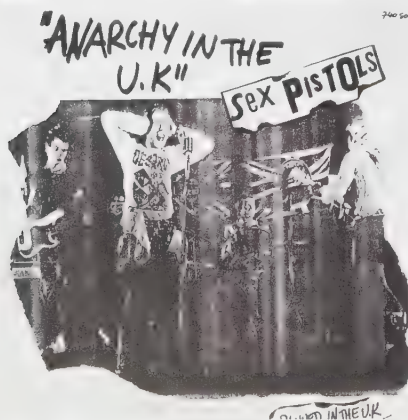
ABBA DANCING QUEEN

55 Abba's sole US No. 1, the beat for this disco anthem was drawn from George McCrae's 1974 hit "Rock Your Baby." Singer Agnetha Fältskog later revealed the band were seldom certain that a song would be a hit. "The exception was 'Dancing Queen.'"

QUEEN BOHEMIAN RHAPSODY

58 It is as familiar today as your own front door, but "Bohemian Rhapsody" is a deeply strange song. A multipart suite, it welds together balladry, mock-opera, and heavy rock—smoothed over with massed harmonies—to tell a story that effectively goes nowhere. But each section is laden with hooks, adding a pop punch to this six-minute behemoth. Aided by a groundbreaking video, and abetted by DJ Kenny Everett, who sneak-previewed sections of the song to the public, it gave Queen a nine-week UK Christmas No. 1 and a US Top Ten hit.

Queen
Bohemian Rhapsody



SEX PISTOLS ANARCHY IN THE UK

60 Hooks you from the start with power chords and a manic chuckle. Not even fast, but menacingly swaggering. No one had sung like Johnny Rotten; no one put "IRA" and "UDA" in a pop song either. The punk statement.

THE BEE GEES STAYIN' ALIVE

64 Peerless disco from the Gibb brothers. Still a crowd-pleaser, although those lyrics are a cry for help from the dark heart of the inner city.

DAVID BOWIE "HEROES"

65 Probably Bowie's finest single (a lowly UK No. 24) and his most passionate vocal. Liquid guitar lines (improvised on the spot) by Robert Fripp.

CHIC LE FREAK

66 Their finest hour. Classy, infectious dance song, with delirious midsection, written by Nile Rodgers and Bernard Edwards on New Year's Eve 1977 after being refused entry to Studio 54.

EAGLES HOTEL CALIFORNIA

61 They were its epitome, and when the West Coast lifestyle soured, the Eagles wrote the elegy. A dark allegory of excess, it fades with a stunning guitar duel spiraling down into the circles of hell. US No. 1.

JOHNNY HALLYDAY REQUIEM POUR UN FOU

62 Throat-shredding chanson penned by French songwriter Gilles Thibaut and sung by former rock 'n' roller Hallyday, full of heart-on-sleeve torment and leaping strings.

DONNA SUMMER I FEEL LOVE

63 Giorgio Moroder births dance music with dizzying electronica topped off by Summer's cool vocal (US and UK No. 1). The sound of the future, Brian Eno told David Bowie.

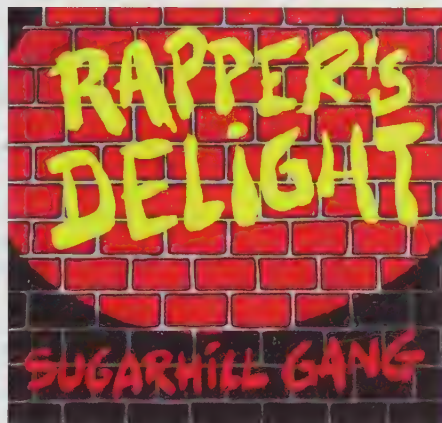
BLONDIE HEART OF GLASS

67 New-wave band embraces disco and goes supernova, helped by producer (and ex-glam-rock guru) Mike Chapman.



THE CLASH 1979 LONDON CALLING

68 Postapocalyptic title track from LP that saw The Clash shuck off punk's manacles. Joe Strummer howls gleefully over a martial beat, Paul Simonon's bass peeling off mock-fanfares. A UK No. 11, it fades out to an SOS in Morse code.



SUGARHILL GANG RAPPER'S DELIGHT

69 Intrigued by New York's fledgling rap scene, but unable to find anyone to record, Sugar Hill label owner Sylvia Robinson taped three New Jersey unknowns to rap over a reconstruction of Chic's bubbling bass from "Good Times." Seen as a novelty, it made No. 3 in the UK and the US Top Forty. The song's comedic rhymes left street rappers cold, but its sheer ubiquity introduced rap to a new audience.

JOY DIVISION 1980 LOVE WILL TEAR US APART

70 Joy Division tempered their dark sound for this defining post-punk outing (a UK No. 13), still their best-known moment for many.

MOTÖRHEAD 1981 ACE OF SPADES

71 Gambling metaphors abound on helter-skelter paean to hedonism tune (and UK No. 15) that remains the band's anthem.

TALKING HEADS 1981 ONCE IN A LIFETIME

72 Rhythmically restless, existential yowl, helmed by Brian Eno, with one of David Byrne's twitchiest vocals. The video drew heavy MTV rotation.

THE SMITHS 1982 THIS CHARMING MAN

77 Perfect debut single from peerless Mancunians, pairing literate, allusive lyrics with sparkling guitar work. Only a UK No. 25, but immeasurably influential.



THE SPECIALS 1981 GHOST TOWN

73 Revolutionary times inspire evolution in music. Two years before, The Specials were a great UK ska band, but with "Ghost Town"—a grim but mesmerizing snapshot of social unrest—they grabbed the zeitgeist. As the single scaled the charts, riots were breaking out nightly in British cities. It made No. 1, the band played it on *Top of the Pops* and promptly split up.

GRANDMASTER FLASH & THE FURIOUS FIVE THE MESSAGE

74 Three years after "Rapper's Delight" (and on the same label), but this was no novelty. A landmark release for rap as a vehicle for protest, "The Message" brought street-level poverty to the charts (*Billboard* No. 62, UK No. 8). Despite the band name, only Furious Five MC Melle Mel actually performed on the track.

AFRIKA BAMBAATAA & THE SOUL SONIC FORCE 1982 PLANET ROCK

75 In one track, hip-hop icon Afrika Bambaataa pioneered the use of a Roland TR-808 drum machine and paved the way for Detroit Techno, Miami Bass, house, trance, and their offshoots. The melody is from Kraftwerk's "Trans-Europe Express" while the beats are inspired by the same band's "Numbers."

NEW ORDER 1983 BLUE MONDAY

76 With which New Order finally escape the shadow of Joy Division, create the best-selling 12-inch single, and set a template for dance music to come. And, bizarrely, lose money for their label Factory, as the Peter Saville-designed sleeve was so pricey to produce.

MICHAEL JACKSON 1982 BILLIE JEAN

78 Second, platinum-selling single from the all-conquering *Thriller* LP. A dark tale of seduction and stalking made irresistibly danceable by its pulsating bass line, stripped-down electro beat, and Jackson's signature "hiccuping" vocals. Seven fully justified weeks atop *Billboard*.



NENA 1987
99 LUFTBALLOONS

79 Germany's Nena had No. 1s across Europe, and a US No. 2, with this antiwar song. An English-language version ("99 Red Balloons") was later released.

PRINCE & THE NEW POWER GENERATION 1984

PURPLE RAIN

80 Prince in his pomp. Signature heart-on-sleeve power ballad from eponymous movie and LP (US No. 2/UK No. 8).

RUN DMC 1986
WALK THIS WAY

81 Pioneering rock-rap crossover (US No. 4/UK No. 8), which helped bring hip-hop into the mainstream.

THE BANGLES 1986
WALK LIKE AN EGYPTIAN

82 Engagingly daft and brilliant in equal measure, this infectious tune was turned down by Toni "Mickey" Basil before The Bangles got hold of it. Released as the third single from their *Different Light* set, it became a million-selling *Billboard* No. 1.

GUNS N' ROSES 1987
SWEET CHILD O' MINE

83 Modern rock anthem and the only US No. 1 by cartoon LA rockers. It reached UK No. 6 when re-released in 1989. The third single from their debut album *Appetite for Destruction* is a showcase for guitarist Slash.

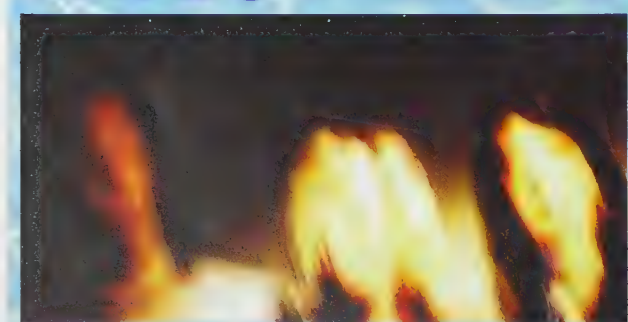
N.W.A. 1988
STRAIGHT OUTTA COMPTON

84 Uncompromisingly tough hip-hop barrage. Produced by Dr. Dre and DJ Yella. A template for gangsta rap to come.

PUBLIC ENEMY 1989
FIGHT THE POWER

85 Closing out Spike Lee's *Do the Right Thing* (1989), and written for the film at his behest, "Fight the Power" is PE's defining statement. The Bomb Squad's dense production packs in multiple samples (including James Brown, Sly Stone, and Afrika Bambaataa) and loops, complementing the intensity of Chuck D's lyrics. An unparalleled call to arms against racial oppression and misuse of authority, it closes PE sets to this day.

NIRVANA



SMELLS LIKE TEEN SPIRIT

NIRVANA 1991
SMELLS LIKE TEEN SPIRIT

86 Essence of Nirvana. Pixies-influenced dynamics (quiet-loud-quiet); discontented, darkly allusive lyrics; pop nous fed through punk-metal amps; and a throat-scorching vocal. A concise calling card for the parent *Nevermind* album, "Teen Spirit" reached No. 6 on *Billboard* (UK No. 7), helped by heavy rotation of a critically lauded video. Soon becoming a millstone for the band, it nonetheless gave grunge its first and most immediate anthem, propelling its rise as the prevalent rock genre for some years.

METALLICA 1987
ENTER SANDMAN

87 Speed metal made them, but Metallica's best-known tune is a slow, simmering affair. Beneath an unrelenting riff, lead vocalist James Hetfield dredges up the childhood nightmares in all of us. One critic described the song as "possibly the first metal lullaby." Bolstered by Bob Rock's bass-rich production, the song's simplicity and universal theme secured the band platinum sales and a US Top Twenty hit (UK No. 5), success also enjoyed by its million-selling parent album *Metallica*.

OASIS 1994
LIVE FOREVER

88 Probably the Mancunians' greatest song, a heart-swelling, us-against-the-world singalong, consciously affirmative in the face of grunge whining. The third single from the debut album, *Definitely Maybe*, and Oasis's first UK Top Ten hit.

PULP 1995
COMMON PEOPLE

89 Narked riposte to slumming-it, rich, college students, and perhaps the finest and most defining single of Brit-pop. Multilayered backing (using all 48 tracks in a studio) and a blazing Jarvis Cocker autobiographical lyric. It reached UK No. 2 (Pulp's best showing).

THE PRODIGY 1996
FIRESTARTER

90 Their first UK No. 1, a blitz of beats that samples The Breeders (guitar riff) and Art Of Noise ("Hey, hey, hey").

RADIOHEAD 1997
PARANOID ANDROID

91 Sprawling taster for *OK Computer* album. Despite complex structure, it's the band's biggest hit yet (UK No. 3).

MADONNA 1998
RAY OF LIGHT

92 Aided by William Orbit, the Queen of Pop transmogrifies obscure 1970s tune "Sepheryn" by Curtiss Maldoon into a club-friendly electro stormer.

MISSY ELLIOTT 1999
GET UR FREAK ON

93 Elliott and long-term producer Timbaland created a sparse electro gem with standout bhangra beat. Transatlantic Top Ten hit and Grammy Award duly bestowed.

BEYONCÉ 2003
CRAZY IN LOVE

94 A skeptical Beyoncé initially dismissed the signature horn stabs (from The Chi-Lites's "Are You My Woman [Tell Me So]") as too retro, but gave producer Rich Harrison two hours to sway her by penning the song's hook and verses. Topped off by squeeze Jay-Z's rap, it gave her a million-selling debut single and us a modern pop anthem.



JAY Z & ALICIA KEYS
EMPIRE STATE OF MIND

99 Big Apple tribute with which Jay-Z acknowledged his roots and megasuccess and landed his first *Billboard* No. 1 as lead artist. Lyrics knowingly place the song in the pantheon of anthems to the city—and a titular nod to Billy Joel's "New York State of Mind."



THE WHITE STRIPES
SEVEN NATION ARMY

95 The lead single from *Elephant* (despite misgivings from the label), this musing on the downsides of fame won a Grammy and remains the duo's definitive song. The instant-classic guitar riff was dropped by an octave via a DigiTech Whammy pedal to sound like a bass. The title stems from the young Jack White mishearing the words "Salvation Army."

GNARLS BARKLEY 1996
CRAZY

96 A hypnotic pop oddity, the million-selling "Crazy" marries a naggingly repetitive melody to lyrics referencing insanity. Produced by Danger Mouse, with an effusive CeeLo Green vocal, it stormed charts, becoming the first download-only UK No. 1. Eventually, the duo pulled all physical formats of the song, to prevent familiarity breeding contempt.

AMY WINEHOUSE 2003
LOVE IS A LOSING GAME

97 A finely crafted, Ivor Novello-winning slice of Winehouse heartbreak, sung with great feeling and sensitively orchestrated by Mark Ronson. It proved to be the last single released during the singer's too-short lifetime.

ELBOW 2006
ONE DAY LIKE THIS

98 Irrepressibly life-affirming, this won an Ivor Novello Award in 2009, but its singalong charms gradually turned it into a British national treasure, cemented by widespread use on TV. Following its airing at the closing ceremony of the 2012 Olympics, it gave the band a career-best UK No. 4 hit.

DAFT PUNK, FEATURING PHARRELL WILLIAMS 2006
GET LUCKY

100 Nearly 20 years after their first hit, the French electro duo recruited Pharrell Williams and Chic's Nile Rodgers for a disco-flavored mega-hit (US No. 2, UK No. 1). On its release it enjoyed more first-day streams on Spotify than any other song.



KWKH

Be Happy
Go Lucky!



1949

RCA INTRODUCES THE 45RPM SINGLE

1 Forty-fives were less fragile and sounded better than 10-inch 78rpm shellac disks, although both held three minutes of music—the “ideal” length for a pop song henceforth.

1952

THE FIRST ROCK ‘N’ ROLL CONCERT

2 The Moondog Coronation Ball on March 21, was emceed by DJ Alan Freed, sold out, and ended in a riot.

1956

ELVIS PRESLEY RECORDS “THAT’S ALL RIGHT (MAMA)”

3 During a session in Memphis’s Sun Studios, guitarist Scotty Moore, bassist Bill Black, and an unproven Elvis began jamming on a blues song, adding an upbeat hillbilly lilt. Producer Sam Phillips cut it as a single and got it played by a local DJ. A regional hit—although its giddy mix of “black” and “white” music was controversial—it paved the way for rock ‘n’ roll.

1956

THE BLACKBOARD JUNGLE IS SCREENED

4 A film about urban unrest, featuring Bill Haley’s “Rock Around the Clock,” inspired teen rockers to play up at theaters, dance in the aisles, and slash seats.

100 MOMENTS IN ROCK & POP

1956

ELVIS APPEARS ON *THE MILTON BERLE SHOW*

5 Presley’s burlesque gyrations during a performance of “Hound Dog” saw him dubbed “Elvis the Pelvis.”

1958

JERRY LEE LEWIS MARRIES COUSIN

6 Lewis’s career imploded when he unveiled new bride Myra. She was 13 (although they told the press she was 15) and his first cousin once removed.

FIRST “GREATEST HITS” LP

7 Released by Columbia Records, Johnny Mathis’s fifth album—*Johnny’s Greatest Hits*—gave the singer almost 500 straight weeks on *Billboard*.

“THE DAY THE MUSIC DIED”

8 On February 3, Buddy Holly, Ritchie Valens, and “the Big Bopper” hired a chartered plane. It crashed, killing all on board, an event immortalized in Don McLean’s “American Pie.”

PAYOLA SCANDAL ENDS ALAN FREED’S CAREER

10 Freed helped break rock ‘n’ roll (and coined the phrase) on his radio shows. But controversy over his being paid to play certain tracks—then a common practice—finished him.

EDDIE COCHRAN DIES IN A CAR ACCIDENT

11 A gifted songwriter who penned the classics “Summertime Blues” and “C’mon Everybody,” Cochran died on a UK tour. Fellow rocker Gene Vincent and Cochran’s girlfriend survived the crash.

1963

BERRY GORDY FOUNDS MOTOWN

9 From a Detroit office and studio dubbed “Hitsville USA,” Gordy created the United States’ first major black-owned record label. Inspired by time spent on a production line at an auto plant, he assembled a team of crack songwriters, musicians, and stylists to address every aspect of a performer’s life. Artists including Stevie Wonder, Marvin Gaye, the Supremes, and Smokey Robinson reaped the benefits.

1964

THE BEATLES APPEAR ON *THE ED SULLIVAN SHOW*

12 Thousands of fans had greeted them at JFK Airport in New York two days earlier. But at eight p.m. on February 9, The Beatles were seen by a record 73 million TV viewers Stateside. Musically, the impact was seismic. It kick-started the British invasion of the United States by bands such as the Rolling Stones, the Kinks, and the Animals. A whole raft of future US rock stars—including the Byrds, Tom Petty, Kiss, and Aerosmith—tuned in and took note.

RADIO CAROLINE

13 The UK's earliest "pirate" radio station first broadcast from a ship off the Essex coast, spinning wall-to-wall pop seven days a week. The BBC launched Radio 1 in 1967, partly inspired by the pirates.

PETE TOWNSHEND SMASHES HIS FIRST GUITAR

14 Onstage with The Who at west London's Railway Hotel, Townshend snapped the neck of his fragile Rickenbacker guitar on a low ceiling. Enraged, he finished it off.

JAMES BROWN'S "PAPA'S GOT A BRAND NEW BAG" IS RELEASED

16 For this infectious US No. 8, Brown accented the downbeat on the first beat of a bar. Melody and harmony made way for rhythm and groove, and funk was born.



THE GRATEFUL DEAD PLAY THEIR FIRST "ACID TEST"

17 Then known as The Warlocks, the band played Santa Cruz as LSD proselytes dished out trips. A landmark in psychedelia.

MICK JAGGER & KEITH RICHARDS ARE BUSTED

20 A lazy day's acid-taking at Keith Richards's Sussex home was rudely rounded off by a police swoop. But the harsh sentences handed down to the head Stones led to an outcry, an editorial in *The Times*—"Who Breaks a Butterfly on a Wheel?"—and the duo's release. No longer just the bad boys of pop, the band were now countercultural icons.



BOB DYLAN "GOES ELECTRIC"

15 It was hardly unprecedented. Dylan's *Bringing It All Back Home* (1965) had paired one acoustic and one electric side, but when he took to the stage at Newport Folk Festival with a fully amped-up band on July 25, Dylan unleashed howls of protest from his folk faithful—although an inadequate PA system probably did not help. He returned to calm the waters with two acoustic numbers, but a corner had been turned. A 1966 world tour with the fledgling The Band aroused boos, heckles, and walkouts. But Dylan never was one for looking back.

JOHN LENNON CLAIMS THE BEATLES ARE "BIGGER THAN JESUS"

18 Lennon made his infamous comment in an interview for London's *Evening Standard*, without rebuke. When reproduced Stateside in *Datebook*, though, it sparked angry protests, radio bans, public burning of Beatles records, and the demise of Beatlemania.

THE MONKEES TV SERIES DEBUTS

19 Inspired by The Beatles's movies, this US TV series was a huge hit. Its spin-off records briefly outsold the Fab Four themselves.

SGT. PEPPER'S LONELY HEARTS CLUB BAND IS RELEASED

21 A concept LP (of the loosest kind), *Pepper* caught the moment. Nearly six months in the making, brimming with songcraft and studio wizardry—and housed in an iconic sleeve by pop artist Peter Blake—its impact was immediate and seismic. Radio stations in the United States played the whole thing from start to finish. Critics raved. For better or for worse, rock was now "art."

MONTEREY POP FESTIVAL

22 This pivotal rock festival saw triumphant sets by The Who, Janis Joplin, Otis Redding, and—most remarkably—Jimi Hendrix. A highlight in the summer of love.

FIRST ISSUE OF ROLLING STONE MAGAZINE

23 The most enduring serious music mag launched in November, with Lennon on its cover and its foot firmly in the hippie camp.

1968

ELVIS'S "68 COMEBACK SPECIAL"

24 A leather-clad Elvis, oozing charisma, rescued his career with heartfelt readings of old hits. The real treasure is an informal and inspirational unplugged set (including Elvis's original band members Scotty Moore and D. J. Fontana) in which the King sings his heart out.

1969

THE ROLLING STONES PLAY ALTAMONT SPEEDWAY

25 Irked by carping at the high ticket prices for their US comeback tour, the Stones added on a free festival in California at the end. Drugs, heavy drinking, and heavy-handed security from Hell's Angels turned the scene sour, though. Violence repeatedly flared up—so bad that The Grateful Dead eventually quit the site—and a young fan, Meredith Hunter, was fatally stabbed. For many the 1960s dream ended here.



1969

CHICKEN TORN APART AT ALICE COOPER CONCERT

26 In his defense it was the crowd who actually dismembered the fowl—a fan threw it onstage, and Alice simply threw it back, thinking it could fly. The publicity certainly helped, though.

1969

JIMI HENDRIX PLAYS "THE STAR-SPANGLED BANNER" AT WOODSTOCK

27 Hendrix's nine a.m. set on Woodstock's last day drew reduced crowds. But his deconstruction of the US national anthem—intercut with dive-bombs, feedback, howling distortion, and a snatch of "The Last Post"—was imperious. It attracted flak, but as a snapshot of a country in turmoil, it was just about perfect.

1970

THE WHO PLAY LEEDS UNIVERSITY

29 Then at their peak as a live band, The Who taped a storming live LP, showcasing their power and intuitive interplay, and mixing originals with vibrant re-readings of rock 'n' roll classics.



1971

CONCERT FOR BANGLADESH

30 The granddaddy of all benefit concerts was prompted by natural disasters and political chaos in Bangladesh. George Harrison recruited a stellar cast for two gigs at Madison Square Garden, plus a tie-in movie and live LP. Millions of dollars were raised.

1971

ROD STEWART TOPS US & UK CHARTS

31 Stewart's LP *Every Picture Tells a Story* topped both charts at the same time as his single "Maggie May"/"Reason to Believe." A chart first.

1971

DAVID BOWIE INTRODUCES ZIGGY STARDUST

32 Glammed-up as a shock-haired rock 'n' roll alien, and armed with an LP of killer tunes, Bowie became a star. His *Top of the Pops* spot for "Starman," arm draped around guitarist Mick Ronson, remains a joy.

1971

NEW YORK DOLLS PERFORM ON THE OLD GREY WHISTLE TEST

33 Presenter Bob Harris dismissed the Dolls's raucous performance as "mock rock," but many—not least Morrissey and soon-to-be Sex Pistol Paul Cook—were watching closely.

1971

FAN REPLACES WHO DRUMMER AT CONCERT

34 When Keith Moon collapsed onstage at San Francisco's Cow Palace, fan Scot Halpin gamely stood in to enable the rest of The Who to finish the set.

KRAFTWERK RELEASE AUTOBAHN

35 This game-changing album was dominated by its transcendent 20-minute-plus title track, incorporating Moog, vocoder, and the metronomic "motorik" beat also common to peers Can and Neu!. As the first fully synthesized hit (edited versions made the US Top Forty and No. 11 in the UK in 1975), *Autobahn* offered a European, machine-based alternative to US-centric guitar rock, influenced artists from David Bowie to UK synth-pop acts such as Gary Numan, and anticipated electro.



TELEVISION DEBUT AT CBGB

36 They told owner Hilly Kristal they played country, blues, and bluegrass. They actually played a spiky, twin-guitar-led harbinger of things to come. Television's CBGB debut (on March 31) kick-started the Bowery Club's transformation into the punk venue, with performances from the Ramones, Blondie, Patti Smith, and Talking Heads.

IGGY POP KNOCKED OUT BY AUDIENCE MEMBER

37 The Stooges's riotous final gig (until 2003) saw Iggy knocked senseless by a heckler. Preserved on the live set *Metallic K.O.*

BRUCE SPRINGSTEEN APPEARS ON THE COVERS OF TIME & NEWSWEEK

38 Simultaneously a first for a rocker and a boost for his profile (and sales of *Born to Run*).

SEX PISTOLS PLAY MANCHESTER'S LESSER FREE TRADE HALL

39 In the small crowd, Morrissey and future members of Joy Division and Buzzcocks.

DAVID BOWIE & IGGY POP MOVE TO BERLIN

40 ... collaborate, and revitalize their careers with Bowie's *Lust for Life* and *The Idiot*.

DONNA SUMMER'S "I FEEL LOVE" IS RELEASED

42 An impossibly influential release. Planned as the "futuristic" final track on a Summer album spanning the history of dance music, the sound of Summer's silky vocals atop Giorgio Moroder's icy synths and robotic beats heralded club culture to come.



SEX PISTOLS SWEAR LIVE ON THE TODAY SHOW

41 It took only two minutes on Bill Grundy's December 1 teatime chat show to turn Sex Pistols into front-page news. Boozed up and provoked by Grundy, Steve Jones swore up a storm. The next day, the tabloids vented their spleen ("The Filth and the Fury!"). Grundy was suspended, and the Pistols's profile skyrocketed. And to think, they were only there because EMI stablemates Queen couldn't make it.

STUDIO 54 OPENS

43 Disco's infamously exclusive club and a byword for excess. Michael Jackson, Bianca Jagger, and Andy Warhol were among its starry clientele.

SID VICIOUS FINDS NANCY SPUNGEN DEAD

44 The Pistols's bassist was the prime suspect, but within four months he was dead from an overdose himself.

"RAPPER'S DELIGHT" IS THE FIRST RAP HIT

45 Underpinned by the bassline from Chic's "Good Times," The Sugarhill Gang's breezy boasts of lyrical prowess and lady appeal sound featherlight against Public Enemy, N.W.A., or Eminem. Indeed, the single was regarded as a novelty at the time. But it was a sizable hit (UK No. 3; US No. 36) and put rap on the map.

1983

"DISCO DEMOLITION NIGHT"

46 A novelty promotion at a Chicago White Sox game at Comiskey Park saw a crate of disco records blown up. The end of an era and—following damage to the field and a crowd invasion—the game.

1980

JOHN LENNON IS MURDERED

47 Lennon's shocking death (he was shot by a deranged fan close to his New York home, the Dakota building) prompted widespread public mourning and, in due course, a string of posthumous hit records.

1981

IAN CURTIS HANGS HIMSELF

48 After two revered LPs, postpunk Joy Division had a cult following. But on the eve of a US tour, singer Ian Curtis killed himself. A month later "Love Will Tear Us Apart" became their first UK hit.

1981

MTV IS LAUNCHED

49 Pop videos came into their own in the 1980s. This music channel—which debuted on August 1 with Buggles's "Video Killed the Radio Star"—played a key part.

1982

OZZY OSBOURNE BITES THE HEAD OFF A DOVE

50 ... while drunk at a meeting with label executives in Los Angeles. A year later, at a gig in Des Moines, someone threw a live bat onstage. Thinking it was rubber, Osbourne decapitated that, too.

1982

MICHAEL JACKSON'S *THRILLER* IS RELEASED

51 History's best-selling album, with sales north of 50 million, *Thriller* built on the success of *Off the Wall* (1979), also helmed by veteran producer Quincy Jones. It yielded an unprecedented seven hit singles, but left a long-term legacy, too. Its ubiquitous success led MTV (hitherto reticent to feature Jackson) into a sharp about-turn, running the iconic video for the title track twice hourly at one point. *Thriller* helped smooth over the divisions between rock, pop, and dance while also achieving unparalleled celebrity for a black artist.



1982

AFRIKA BAMBAATAA'S "PLANET ROCK" IS RELEASED

52 Sculpted by hip-hop legend Bambaataa and producer Arthur Baker, "Planet Rock" paved the way for electro, Detroit techno, Miami bass, G-funk, and more. The melody is that of Kraftwerk's "Trans-Europe Express"; the beat (re-recorded, not sampled) is from the same band's "Numbers."

1982

THE CD IS LAUNCHED

53 The earliest commercial pop compact disc (CD) to be pressed was ABBA's last album, *The Visitors*. BBC TV's *Tomorrow's World* had first demonstrated CDs in 1981.

1982

DAVID GEFFEN SUES NEIL YOUNG

54 When Young followed an electronic LP with a rockabilly set, label boss Geffen sued him for his "unrepresentative" recordings.

1982

MICHAEL JACKSON DEBUTS THE MOONWALK

55 Jackson first aired the backward slide for "Billie Jean" at the *Motown 25th Anniversary* TV special. Cab Calloway, James Brown, and Shalamar's Jeffrey Daniel had previously cut similar, or identical, moves.

1982

BBC BANS "RELAX"

56 Finding the lyrics and artwork for Frankie Goes to Hollywood's debut single distasteful, DJ Mike Read refused to play it. This prompted a ban by the BBC, which led to soaring sales and gave the band a UK No. 1.

**MADONNA PERFORMS
"LIKE A VIRGIN"
AT FIRST MTV AWARDS**

57 A raunchy set by La Ciccone, as a newlywed bride, climaxed with suggestive bumps and grinds along the stage.

**MARVIN GAYE IS
SHOT DEAD BY
HIS OWN FATHER**

58 A fight between the troubled singer and his father ended when Gaye Sr. left the room, returned with a gun that his son had bought him, and killed him.

**BROTHERS IN ARMS
BECOMES THE FIRST
MILLION-SELLING CD**

59 Three years after compact discs went on sale, Dire Straits shifted a million *Brothers in Arms* CDs; in another world first, it went on to outsell its vinyl counterpart.

**PARENTAL ADVISORY
LABEL IS INTRODUCED**

60 In this year the Recording Industry Association of America first introduced a label warning about content unsuitable for minors.

LIVE AID IS STAGED

61 News reports of devastating famine in Africa inspired Bob Geldof and Midge Ure to set up the biggest charity concerts since 1971 at the UK's Wembley Stadium and John F. Kennedy Stadium in the United States. Despite technical hitches, the stellar lineup (including Queen, U2, Paul McCartney, and Madonna) attracted a global TV audience of 1.5 billion plus, and raised around £150 million for famine relief.



**SERGE GAINSBOURG MAKES
FOUR-LETTER PROPOSAL
TO WHITNEY HOUSTON**

63 The bad boy of Gallic pop excelled himself during an appearance on Michael Drucker's chat show. Visibly and aurally soused, Gainsbourg told a shocked Houston that he wanted to fuck her.

**DEAD KENNEDYS
ARE PUT ON TRIAL**

64 ...for the sexually explicit poster that accompanied their LP *Frankenchrist* (1985). A two-week trial ended with a hung jury, and the case was thrown out.

**PHUTURE'S "ACID
TRACKS" IS RELEASED**

65 Recorded two years earlier by production trio Phuture, this 12-inch—dominated by the bass of the Roland 303 synth—heralded acid house.

**N.W.A. RELEASES
"FUCK THE POLICE"**

66 This incendiary rap track saw Dr. Dre, MC Ren, and Ice Cube play judge, court officer, and witness, respectively, with the LAPD in the dock, and summed up rising frustration and anger among black youth Stateside.

1988

**THE "SECOND
SUMMER OF LOVE"
IN THE UK**

67 Inspired by DJs back from partying in Ibiza, and a new drug (ecstasy) that aroused loved-up euphoria, 1988 and 1989 saw British youths flock to clubs and free-but-illegal raves in abandoned buildings or fields. Soundtracked by psychedelically tinged acid house beats, and symbolized by a smiley face icon, the period was seen by some as a return to late 1960s hedonism.



"WALK THIS WAY" IS RELEASED

62 Aerosmith's original had been a US No. 10 hit in 1975. But Run-DMC's cover—featuring the 'Smith's own Steven Tyler and Joe Perry—carried the greater cultural heft, melding rap and rock and giving hip-hop its first *Billboard* Top Five hit.

1987

"LIKE A PRAYER" VIDEO CAUSES CONTROVERSY

68 Sexual and religious ecstasy blended as Madonna dallied with a black saint. For good measure she then danced before a field of fiery crosses, resulting in a US No. 1.

1989

2 LIVE CREW ARE BANNED FOR OBSCENITY

69 X-rated lyrics on the Crew's *As Nasty As They Wanna Be* drew a two-year ban and boosted sales to two million.

1992

BILL CLINTON PLAYS SAX ON THE ARSENIO HALL SHOW

73 A tip for those bidding to reach the White House: make the American public smile. Bill Clinton did. Wearing shades, the Comeback Kid played "Heartbreak Hotel" on Arsenio Hall's chat show in June. He was president by November.

1992

THE KLF CAUSES OUTRAGE AT THE BRIT AWARDS

74 Irreverent to the last, the outré pop stars left a dead sheep at a postparty bash, fired blanks above the crowd during their set, and then announced they had left the music business.

1985

JUDAS PRIEST TAKEN TO COURT

70 In 1985 two Judas Priest fans attempted suicide after a lengthy drugs-and-drinks session; one died; one passed away three years later. They were playing Priest's *Stained Class* album at the time, and their parents subsequently took the band to court for supposedly secreting subliminal messages advocating suicide in their lyrics. The First Amendment offered no refuge for the band, as a judge had ruled that subliminal messages did not constitute genuine speech, but eventually the case was dismissed.



1990

MILLI VANILLI REVELATIONS

71 The braided duo scored a US No. 1 and a Grammy for their LP *Girl You Know It's True*. But they didn't actually sing on it, as a skipping backing track at an MTV live event proved. Cue return of the Grammy and deletion of the album.

1992

SINÉAD O'CONNOR RIPS UP A PHOTO OF THE POPE

72 ...on *Saturday Night Live*, to protest against child abuse in the Catholic Church, while singing a version of Bob Marley's "War." Many, including Madonna, weren't happy.



1992

NIRVANA'S NEVERMIND REACHES NO. 1

75 The unexpected success of Nirvana's second LP saw grunge go dramatically overground, driven in part by a genre-defining hit in "Smells Like Teen Spirit" (US No. 6; UK No. 7). With all-time sales topping 31 million, *Nevermind* dislodged Michael Jackson's *Dangerous*—in what has subsequently been taken as a symbolic ringing of the changes in pop—although it held the top spot on the *Billboard* 200 for only a week at the time.

1992

MADONNA'S SEX BOOK IS PUBLISHED

76 With this infamous coffee-table tome, the Material Girl explored a range of sexual fantasies in a series of explicit, if artful, photos, featuring celebrity cameos. Fans and press alike panned it, although it sold well.

1993

THE SPICE GIRLS ARE FORMED

77 In February, Heart Management placed an ad in *The Stage* for a "singing/dancing, all-female pop act." The five chosen candidates (from 400) launched "girl power" and went on to sell 75 million records.

1993

NIRVANA PLAYS MTV UNPLUGGED

78 Nirvana's sparse, all-acoustic set remains a career high and gave them a transatlantic No. 1 after singer Kurt Cobain's death. His howls on the Lead Belly closer "Where Did You Sleep Last Night?" still chill.

PRINCE CHANGES HIS NAME

79 In order to obviate contractual duties to Warner Bros., but still continue to release material, Prince altered his name to an unpronounceable symbol. When the contract expired, however, he became Prince once more.

KURT COBAIN COMMITS SUICIDE

80 Nirvana's phenomenal commercial success and popularity never sat easily with the punk and indie aesthetics—let alone the troubled mental state—of singer Cobain, who finally put all that behind him on April 5, 1994. Escaping from a rehab center in California, he flew back to the Seattle home he shared with singer Courtney Love and their daughter, Frances Bean, allegedly penned an anguished suicide note, took a last fix, and shot himself.



"BABY ONE MORE TIME" VIDEO DEBUTS ON MTV

88 Scenes of a pigtailed Britney Spears, dressed in a school uniform, in the video inspired mild rebuke but platinum record sales, giving the young star a *Billboard* No. 1 and a No. 1 in every European country where it reached the charts.

TUPAC SHAKUR IS SHOT (BUT SURVIVES)

81 On November 30, 1994, at New York's Quad Studios, Tupac was robbed and shot five times. Remarkably, he survived, leaving the hospital three hours after surgery and later implicating rappers Sean Combs and Biggie Smalls (aka The Notorious B.I.G.) in the attack. Smalls denied the claim, but the two went on to trade ugly rhymes in songs.



LISA "LEFT EYE" LOPES BURNS DOWN HER BOYFRIEND'S HOUSE

82 In the last word on having the last word, the TLC singer burned down boyfriend Andre Rison's mansion after a fight.

JARVIS COCKER INVADERS THE STAGE AT THE BRIT AWARDS

85 Irked by Michael Jackson's Christ-like gestures at the Brit Awards, Cocker jumped up on stage and waved his bum.

BLUR & OASIS GO HEAD TO HEAD

83 Britpop's biggest bands released their new singles on the same day. Blur's "Country House" won, topping the UK charts.

OASIS PLAYS KNEBWORTH

86 At the height of their giddy popularity, the Mancunian quintet drew some 250,000 punters to two outdoor concerts. Some 2.6 million had applied for tickets.

SINGER SELENA IS MURDERED

84 A huge star in Latin America, the 23-year-old "Queen of Tejano music" was shot by the founder of her own fan club.

GEORGE MICHAEL IS ARRESTED

87 ...after coming on to an undercover cop in a public bathroom, an incident wittily sent up in Michael's hit single "Outside."

NAPSTER IS BORN

89 A pivotal turning point in the way we consume music came when the peer-to-peer file-sharing service went online. Founded by two teens, Napster enabled individuals to download music free of charge. It made music unprecedentedly available and anticipated iTunes, but it opened the door for digital piracy and raised questions about copyright and intellectual property.

WOODSTOCK '99

90 Not much love and peace here, with outbreaks of vandalism, looting, and arson; claims of rape; and injuries to fans. Excessive heat, inflated prices, inadequate toilets, and ill-thought-through onstage comments from some artists all played their part.

APPLE INTRODUCES THE IPOD

91 October saw the arrival of Apple's game-changing device that provided instant access to vast collections of music and transformed the way we listen. iTunes was released less than nine months later. In 2007 Apple announced that it had sold its 100 millionth iPod. The biggest-selling digital music player ever.

POP IDOL DEBUTS

92 Not content with giving the world the Spice Girls and managing David and Victoria Beckham, Simon Fuller also masterminded this hugely successful talent show franchise, which incorporated interactive voting from TV viewers. *Pop Idol* only ran from 2001 to 2003 in the UK, but led to spin-offs worldwide. Its original panel of judges included the ubiquitous Simon Cowell, who set up *The X Factor* in 2004 while also serving as a judge on *American Idol*. Seen below, from left to right, are contestants Will Young, Zoe Birkett, Darius Danesh, Hayley Evetts, and Gareth Gates. Young and Gates each have four UK No. 1s to their name.



DAVID BOWIE PERFORMS *LOW* LIVE

93 The now-familiar trend of artists staging cherished albums in their entirety stems from Bowie's Royal Festival Hall set in July, which paired his then-just-released *Heathen* with the classic album *Low* from 1977. Acts from Brian Wilson to Patti Smith have since followed suit.

JANET JACKSON HAS A "WARDROBE MALFUNCTION"

94 Jackson was pilloried after the unscripted appearance of her breast after Justin Timberlake tore away part of her bra at the Super Bowl XXXVIII halftime show.

BRIAN WILSON DEBUTS ABANDONED SMILE LP

95 The Royal Festival Hall again, and head Beach Boy Wilson joined with The Wondermints to perform *Smile*, the LP that once led him to a nervous breakdown.

"CRAZY" IS THE UK'S FIRST DOWNLOAD-ONLY NO. 1

96 Nothing less than a modern standard, "Crazy" was eventually pulled by artists Gnarlz Barkley and label Downtown following its ninth week at No. 1, in an effort to prevent overfamiliarity breeding contempt.

IN RAINBOWS IS THE FIRST PAY-WHAT-YOU-WANT LP BY A MAJOR ACT

97 Radiohead issued this feted album on their website as a digital download. Fans decide what price they will pay.

"KILLING IN THE NAME" IS THE UK'S CHRISTMAS NO. 1

98 A concerted Facebook campaign saw this expletive-ridden Rage Against the Machine song top the UK charts, denying *X Factor* a fifth straight Yuletide No. 1.

DIGITAL DOWNLOADS OVERTAKE PHYSICAL SALES STATESIDE

99 CDs overtook vinyl sales in the United States in the late 1980s. Downloads surpassed physical formats in 2011.

MILEY CYRUS "TWERKS" AT MTV AWARDS

100 Looking to court controversy? Rub your rear against Robin "Blurred Lines" Thicke and employ an outsize foam finger to dubious ends. While wearing a flesh-colored bikini. Ex-Disney star Cyrus did—and scored history's most tweeted event.



HANK WILLIAMS 1952
MOANIN' THE BLUES

1 Williams learned guitar from a blues player, and a bluesy streak permeates much of his work. Graced with the immortal "I'm So Lonesome I Could Cry," *Moanin' the Blues* is replete with sweetly sung yowls of despair and loss.

BO DIDDLEY
BO DIDDLEY

2 This compilation of post-1955 singles includes shuffle-beat classics such as the title track "I'm a Man," "Hey! Bo Diddley," and the garage-band staple "Who Do You Love." Raucous blues and rock 'n' roll.

MARTY ROBBINS
GUNFIGHTER BALLADS AND TRAIL SONGS

3 A Western concept LP with real panache, *Gunfighter Ballads and Trail Songs* is now a genre classic. The strong track listing includes hit ballads "El Paso" and "Big Iron."

HOWLIN' WOLF 1959
MOANIN' IN THE MOONLIGHT

4 Wolf's debut LP amasses his early Chess singles (notably Willie Dixon's "Evil" and the staple "Smokestack Lightnin'"). Dynamite Chicago blues performed with pep and sass.

T-BONE WALKER 1949
T-BONE BLUES

5 The maestro taped a clutch of classics for this swing-inflected set, including the solo-packed "Two Bones and a Pick," featuring guitar ace Barney Kessel.

100 COUNTRY, FOLK & BLUES ALBUMS

THE LOUVIN BROTHERS 1969
SATAN IS REAL

6 Harmony-rich, straight-talking gospel that preaches salvation or damnation with total conviction, typified by "Satan's Jeweled Crown."

LIGHTNIN' HOPKINS 1959
LIGHTNIN' HOPKINS

7 Recorded in a Houston hotel room, this startling set—elegantly played and sung with focus and charm—helped revitalize the semiretired bluesman's career.

ELMORE JAMES 1960
BLUES AFTER HOURS

8 Drawn from previously issued singles, this debut LP by the slide-guitar genius is full of grit and fire, his playing and vocals a raw delight. James's signature tune, "Dust My Blues," is a standout, but the standard never drops.

MUDDY WATERS 1960
AT NEWPORT 1960

9 A landmark release, Waters's live set at the Newport Jazz Festival emphatically introduced the band to a broader (white) mainstream audience and was to prove enduringly influential. Accompanied by sidemen of the caliber of pianist Otis Spann and harmonica master James Cotton, Waters tears through a selection of classics—"I'm Your) Hoochie Coochie Man," "Got My Mojo Working," "Baby Please Don't Go"—sending the crowd into rapture. Check out the exhilarating "Got My Mojo Working": so good they played it twice.

BOBBY "BLUE" BLAND 1961
TWO STEPS FROM THE BLUES

10 Southern soul meets the blues on this compilation debut, featuring the songs "Cry, Cry, Cry" and "I Pity the Fool." Bland's warm lion's-roar vocals are given wonderful support by Joe Scott's sympathetic, horn-led arrangements.

ROBERT JOHNSON 1931
KING OF THE DELTA BLUES SINGERS

11 Across two sessions in 1936 and 1937 at a Texas hotel, Johnson taped a Rosetta Stone for the blues, backed only by his own extraordinary guitar playing. These 16 intense songs are part of the genre's DNA ("Crossroad Blues," "Terraplane Blues," "Hellhound on My Trail"). Elmore James and Muddy Waters knew him and covered his tunes, but with the release of this compilation his influence exploded, drawing in US artists (not least Bob Dylan) and UK blues revivalists such as The Rolling Stones and Eric Clapton.

RAY CHARLES 1951
MODERN SOUNDS IN COUNTRY AND WESTERN MUSIC

12 As music born of hard times, blues and country shared territory. Charles listened to radio shows from the Grand Ole Opry as a child and tapped into that crossover with this soulful set. Featuring hits "I Can't Stop Loving You" (US No. 1) and "You Don't Know Me" (US No. 2), it eloquently made a point about racial common ground while expanding his audience.



BOB DYLAN THE FREEWHEELIN' BOB DYLAN

12 Dylan's debut was audibly indebted to Woody Guthrie, but on this follow-up he transcended his influences. Anthems such as "Masters of War," "A Hard Rain's A-Gonna Fall," and "Blowin' in the Wind" made him a poster boy for the protest movement. The pithy put-downs for which he became infamous are here ("Don't Think Twice, It's All Right"), but so is the touching "Girl from the North Country" and poignant "Bob Dylan's Dream." There's chirpy humor aplenty, too, on "Talking World War III Blues," the first of his jokey, shaggy-dog stories. Consummate songwriting paired with that smooth sandpaper voice: this is the sound of a musical revolution being born.

RAY PRICE NIGHT LIFE

14 A concept album about heartbreak and the dangers behind those bright city lights. Price's soulful delivery and Buddy Emmons's pedal steel are a delight.

WOODY GUTHRIE 1954 DUST BOWL BALLADS

15 Guthrie's songs about the exodus of the Oklahoma farmers to the West Coast is witty ("Talkin' Dust Bowl Blues"), defeated ("Do Re Mi"), and defiant ("Dust Can't Kill Me"). One of the first concept albums.

LONNIE MACK 1964 THE WHAM OF THAT MEMPHIS MAN

16 Impassioned blues, soul, and rock 'n' roll. "Memphis" showcases Mack's guitar; "Why," his soulful voice. Mack's vibrato-heavy guitar style on "Wham!" inspired the tremolo bar's nickname: "whammy bar."

B. B. KING 1963 LIVE AT THE REGAL

17 Taped in Chicago, and featuring some of King's best-loved tunes ("How Blue Can You Get?," "Every Day I Have the Blues"), this is as good a live blues set as you'll ever hear. The clean, emotive guitar lines and gravelly voice are both present, of course, but there is much to cherish, too, in the interaction between artist and delirious crowd.



JUNIOR WELLS' CHICAGO BLUES BAND HOODOO MAN BLUES

18 The harmonica man's debut—also featuring legendary blues guitarist Buddy Guy—is a superbly gritty example of electric Chicago blues as heard in clubs, not cleaned up for the airwaves.

THE PAUL BUTTERFIELD BLUES BAND THE PAUL BUTTERFIELD BLUES BAND

19 Butterfield's vocal pipes (this is one of the first US blues LPs with a white singer) and harmonica scintillate across these brash, beautiful takes on Chicago blues. An utterly uplifting ride, with fine lead guitar by Mike Bloomfield.

SON HOUSE THE LEGENDARY SON HOUSE FATHER OF FOLK BLUES

20 Recorded initially in 1930 (for Paramount) and then the 1940s (for Alan Lomax), House was "rediscovered" in the 1960s blues revival. Remarkably, age had not withered the veteran: his blues yowl and swooping slide guitar remain captivating.

BUCK OWENS & HIS BUCKAROOS CARNEGIE HALL CONCERT

21 This scorching live set, which made No. 2 on the *Billboard* country charts, includes the hits "Tiger by the Tail" and "Act Naturally," and marked the shift of country music into the US mainstream.

JOHN MAYALL'S BLUES BREAKERS BLUES BREAKERS WITH ERIC CLAPTON

22 Between his stints in The Yardbirds and Cream, Clapton cut his first all-blues set with Mayall (and future Fleetwood Mac bassist John McVie). British blues had never come close to matching the vitality contained in these 12 songs.

SKIP JAMES 1960 SKIP JAMES TODAY!

23 James made his reputation prewar, but as the third LP from the Delta bluesman shows, his finger-picking skills—as heard on "I'm So Glad"—and falsetto vocals still deliver. High points include the spooky opener "Hard Times Killing Floor Blues."



LEAD BELLY THE LIBRARY OF CONGRESS RECORDINGS

24 Recorded for the Library of Congress by John and Alan Lomax in 1933–42, but first issued as a three-LP box set on Elektra in 1966, this remains a blues cornerstone. The virtuoso 12-string guitarist laid down stunning versions of “Goodnight Irene,” “Midnight Special,” “Henry Ford Blues,” “Red River,” and more.

ALBERT KING 1967 BORN UNDER A BAD SIGN

25 King’s understated guitar gets peerless backing (Isaac Hayes, Booker T. & the M.G.’s) here. A highly influential album, its tunes were covered by Cream and Led Zep among others.

CHARLIE PATTON 1969 FOUNDER OF THE DELTA BLUES

32 Early blues artists cut “sides,” not whole LPs, so for a decent account of their prime work we must turn to compilations. Patton was a country-blues legend, and his best songs are all here, including “Pony Blues” and “High Sheriff Blues.”

BOB DYLAN 1965 NASHVILLE SKYLINE

33 Boasting “Lay Lady Lay” and the Johnny Cash duet “Girl from the North Country,” Dylan’s ninth LP has a mellow simplicity. Its fine love songs and general warmth resulted in a best seller (US No. 3; UK No. 1).

LORETTA LYNN 1961 DON’T COME HOME A DRINKIN’ (WITH LOVIN’ ON YOUR MIND)

26 The title track is a Lynn classic, but this is a stodge-free affair; carefully chosen country songs that also feature extraordinary guitar work.

MAGIC SAM 1961 WEST SIDE SOUL

27 An explosive debut from a wizard of electric blues guitar, and soulful vocalist to boot. Subtle (“Every Night and Every Day”), swinging (an outstanding “Sweet Home Chicago”), always thrilling boogie.

ALBERT KING 1963 LIVE WIRE/BLUES POWER

28 Recorded in concert at San Francisco’s Fillmore Auditorium, *Live Wire/Blues Power* finds King in electrifying form. Check out “Night Stomp” and the driving take on Herbie Hancock’s “Watermelon Man.”

THE BYRDS 1968 SWEETHEART OF THE RODEO

29 On which The Byrds pioneer country rock. They knew their folk and country heritage (“Pretty Boy Floyd,” “You Don’t Miss Your Water”), although originals such as “Hickory Wind” impress too.

TAJ MAHAL 1968 TAJ MAHAL

30 A tough, thrilling set, Taj Mahal’s solo debut featured fellow ex-Rising Son Ry Cooder, although Taj excels on slide guitar himself. Polished but unshowy, an understated powerhouse of a record.



THE BAND 1968 THE BAND

34 Seasoned musicians comfortable in any genre, The Band drank deeply from America’s folk heritage for their second LP. Largely populated with affecting portraits from a bygone Deep South (“The Night They Drove Old Dixie Down,” “Rag Mama Rag,” “King Harvest [Has Surely Come]”), its inspired ensemble playing and well-crafted songs provided an appealing antidote to psychedelia’s excesses, and it made No. 9 on *Billboard*.



JOHNNY CASH 1968 AT FOLSOM PRISON

31 Sliding chart positions and a reputation for unreliability (compounded by Cash’s drug use) are the background to this career-rescuing set. His delivery of “Folsom Prison Blues” is almost casual—but comes vibrantly alive with the solos. “Cocaine Blues” and “Jackson” (a duet with future wife, June, here in raucous form) are pulsating, while “Long Black Veil” is a marvel of restraint. The respect and affection of the inmates is clear—almost every verse earns a round of whooping applause. The LP topped *Billboard*’s country charts (Pop No. 13), paving the way for 1969’s even more successful prison set *At San Quentin*.

JOHN STEWART CALIFORNIA BLOODLINES

35 Backed by a fine band including harmonica player Charlie McCoy and pianist Hargus "Pig" Robbins, Stewart created a series of poignant, carefully crafted vignettes of times and people past. The lyrics particularly reward attention while highlights include "Missouri Birds."

KRIS KRISTOFFERSON KRISTOFFERSON

39 The singer-songwriter (by now in his thirties) had had ample time to hone his art. This debut flopped, but covers of "For the Good Times" (Ray Price) and "Sunday Morning Comin' Down" (Johnny Cash)—both US country No. 1s—"Help Me Make it Through the Night" (Sammi Smith), and "Me and Bobby McGee" (Janis Joplin) made manifest its quality.

JOHN HARTFORD AEREO-PLAIN

40 Hartford's beguiling cult classic offers oddball bluegrass fare such as the grunty "Boogie," along with the transcendent instrumental "Presbyterian Guitar."

THE FLYING BURRITO BROTHERS THE GILDED PALACE OF SIN

36 The Burritos mix up country with rock ("Christine's Tune," "Hot Burrito No. 2") and add a dose of soul (covers "Do Right Woman" and "Dark End of the Street"). Gram Parsons's voice is bittersweet perfection on "Hot Burrito No. 1."

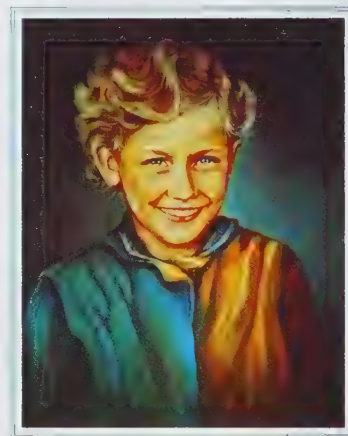
TOWNES VAN ZANDT
37 Van Zandt's third LP is packed full of well-crafted tunes, neat finger-picking, and penetrating lyrics that muse on life's hard breaks ("None But the Rain" and the much-covered "Waiting Around to Die").

THE GRATEFUL DEAD
38 The Dead nod to folk and bluegrass on their sixth set, which boasts concise songs, great musicianship, and close-knit harmonies ("Brokedown Palace," "Truckin'," and "Box of Rain").

DOLLY PARTON COAT OF MANY COLORS

41 Parton and Porter Wagoner notched up hits in the late 1960s, but with this confection of country, rock, and bluegrass (a US country No. 4), she revealed herself as a solo artist and talented songsmith. The hit title track mused on her bleak upbringing, but the album impresses with its broad variety of subject matter. Floozies get a witty dressing down in "She Never Met a Man (She Didn't Like)" while "If I Lose My Mind" is a cold-eyed account of a woman's sexual manipulation by her husband.

COAT OF MANY COLORS DOLLY PARTON



RCA
VICTOR



MERLE HAGGARD & THE STRANGERS HAG

42 A US country No. 1, Haggard's fourteenth studio set is one of his best, boasting four hit singles, including "Soldier's Last Letter"—a song from 1944 with new resonance in light of the Vietnam War. Turmoil in the outside world gets its due ("Jesus, Take a Hold"), but the core of the album is in more private moments, such as "The Farmer's Daughter," a tenderly observed vignette of a father whose daughter is to be married.

HOUD DOG TAYLOR HOUD DOG TAYLOR & THE HOUSEROCKERS

43 Unrefined, crunchy blues from the slide-guitar veteran, this was the first release on Alligator Records, created by Bruce Iglauer purely in order to release Theodore Roosevelt "Hound Dog" Taylor's music.

THE ALLMAN BROTHERS BAND AT FILLMORE EAST

44 Country, soul, blues, jazz, and rock meet in this barnstorming live set, notable for the band's impressive ensemble work ("Whipping Post") and Duane Allman's scorching guitar solos.

GENE CLARK WHITE LIE

45 Never a solo star, Clark released a clutch of fine solo LPs. "With Tomorrow," "Because of You," and the Dylan-approved "For a Spanish Guitar" are plaintive wonders, sung in a voice just a heartbeat away from a sob.

BONNIE RAITT 1972

GIVE IT UP

46 Raitt's second LP is a warm mix of folk, blues, and West Coast rock. Top originals sit with top covers, including Eric Kaz's "Love Has No Pride," a signature song.

NITTY GRITTY DIRT BAND 1990

WILL THE CIRCLE BE UNBROKEN

47 The likes of Merle Travis and Earl Scruggs deliver heartfelt covers of country classics, satisfying genre stalwarts and rock fans alike.

WILLIS ALAN RAMSEY 1977

WILLIS ALAN RAMSEY

48 The Texan's only album is a diverse affair. Delivered in his charismatic drawl, the material includes a touching vignette of Woody Guthrie in "Boy from Oklahoma."

BILL MONROE 1988

BEAN BLOSSOM

50 Recorded at the eponymous festival, terrific cover versions of "Blue Moon of Kentucky" and "Muleskinner Blues" feature alongside tunes from bluegrass royalty such as Lester Flatt.

BLIND WILLIE MCTELL 1991

ATLANTA 12 STRING

49 In 1949, McTell taped 15 songs in a session for Atlantic Records. Ignored for nearly 20 years, they offer a well-recorded portrait of the man in his prime. The ragtime opener "Kill it Kid" sets the tone: McTell's light-tenor vocals are almost chatty, with his 12-string guitar providing propulsive rhythm. He flies through the tunes efficiently but masterfully and embellishes "Dying Crapshooter's Blues" and "Pinetop's Boogie Woogie" by plucking the end of the strings near the machine heads. McTell was comfortable stretching outside the blues, too; witness the plaintive spiritual "Pearly Gates."

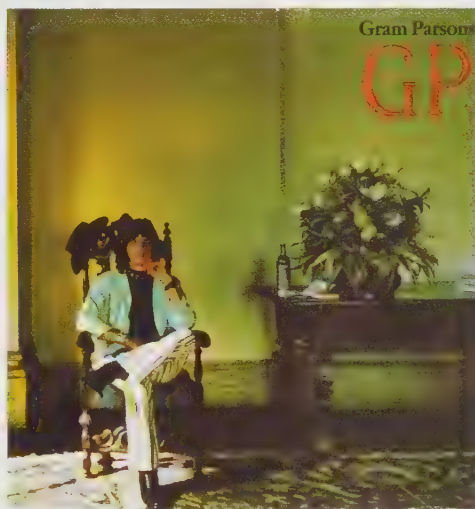
LITTLE FEAT 1970

DIXIE CHICKEN

51 Feat's best studio LP is a laid-back, funky beast. The title track became an anthem, but "Two Trains," "Fat Man in the Bathtub," and "Juliette" are top drawer, too.

GRAM PARSONS GP

52 Parsons's two solo albums have both achieved cult status, but for some GP edges it over 1974's *Grievous Angel* for its ambition and greater consistency. There's up-tempo country rock here ("Big Mouth Blues"), but Parsons is always more convincing on the darker stuff, his sweetly sad voice investing "A Song For You," "She," and "The New Soft Shoe" with a vulnerable fragility. The ace sidemen include guitarist James Burton and Byron Berline on fiddle. Emmylou Harris's harmonies add a wistful glow to their duets—witness the tale of doomed love "We'll Sweep Out the Ashes in the Morning."



WAYLON JENNINGS 1970

LONESOME, ON'RY AND MEAN

54 Jennings's first self-produced LP mostly features well-chosen covers (Willie Nelson's "Pretend I Never Happened"). His definitive "outlaw" set—full-blooded music shorn of Nashville sheen—it gave him a country No. 8 hit.

ZZ TOP 1985

TRES HOMBRES

55 ZZ Top were originally a down 'n' dirty blues-rock band. They broke through with this third set. Openers "Jesus Just Left Chicago" and the funky "Waitin' for the Bus" set out their stall; the John Lee Hooker-esque "La Grange" gave them their first chart placing.

JACKSON BROWNE 1976

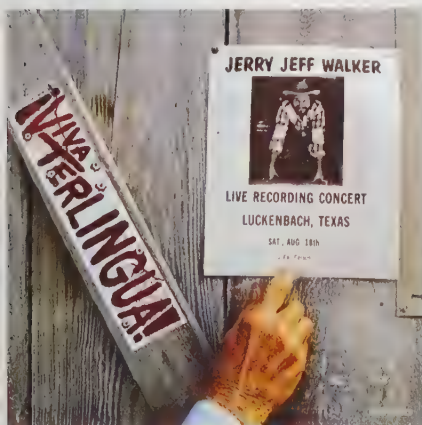
LATE FOR THE SKY

56 Browne's Grammy-nominated third outing features songs of loving and loss, regret, even apocalypse. Just 25, his perceptive lyrics pick out the nuances of relationships in a way that few of his peers could match. A quiet storm.

JERRY JEFF WALKER 1991

¡VIVA TERLINGUA!

53 A leading light in "progressive" country, Walker here mixes originals ("Sangria Wine," "Gettin' By") with fine covers such as Guy Clark's "Desperados Waiting for a Train" in a celebratory, warm-sounding live set recorded in Luckenbach, Texas. Throughout, he receives sterling support from The Lost Gonzo Band.



WILLIE NELSON PHASES AND STAGES

57 The theme of divorce haunts this country concept album: side one of the vinyl LP gives the wife's view, side two her husband's.

GEORGE JONES 1974 THE GRAND TOUR

58 The title track (a US country No. 1) is utterly heartbreaking—a husband picks over the broken wreckage of a relationship as he walks through the now-empty family home. But with Jones's emotive readings of songs such as "She'll Love the One She's With" and "Once You've Had the Best," too, the quality never dips.



JOE ELY 1976 HONKY TONK MASQUERADE

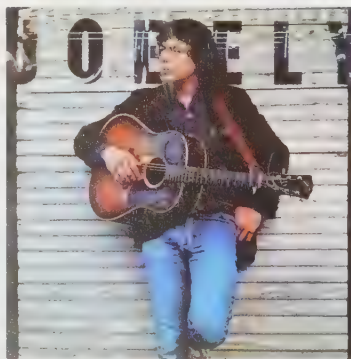
65 On which Ely and his red-hot band—including accordionist Ponty Bone and steel guitarist Lloyd Maines—forge a cult classic. The choice of tunes and moods throughout is faultless, from bittersweet musing (the title track "Tonight I Think I'm Gonna Go Downtown," "Because of the Wind") to rousing honky-tonk rockers ("Fingernails," "Cornbread Moon").

EMMYLOU HARRIS PIECES OF THE SKY

59 Like all the greatest artists, Harris has mixed understanding and respect for heritage with a fertile imagination and willingness to try something new. Flawless cover versions (Dolly Parton's "Coat of Many Colors," The Beatles's "For No One"), impeccable musicians (including James Burton), and Harris's pure-as-spring-water voice make this a standout set. The take on the Louvins' "If I Could Only Win Your Love" was a No. 4 country hit, but the album's enduring standout is Harris's own "Boulder to Birmingham," a touching tribute to erstwhile mentor and duet partner Gram Parsons. Her excellent band includes guitarists James Burton and Albert Lee and pianist Glen D. Hardin.

WILLIE NELSON RED HEADED STRANGER

60 The narrative of a fugitive preacher on the run for killing his wife and her lover provides the concept behind this highly revered and highly unconventional album. Columbia Records sniffed at the sparse acoustic arrangements, but strong covers (the title track "Can I Sleep in Your Arms," "Blue Eyes Crying in the Rain"—his first No. 1) and originals ("Time of the Preacher [Theme]") resulted in multiplatinum sales. Willie Nelson, country legend, had arrived.



GUY CLARK 1976 OLD NO. 1

61 A lyricist of note, Clark's nuanced character portraits include "She Ain't Goin' Nowhere" and "Instant Coffee Blues."

OTIS RUSH 1971 RIGHT PLACE, WRONG TIME

62 Taped in 1971, but left to languish by Rush's label, this inventive set includes an expressive take on "Rainy Night in Georgia."

MISSISSIPPI JOHN HURT 1978 1928 SESSIONS

66 The only prewar recordings that Hurt ever made, these 13 country-blues songs showcase his exceptional finger-playing skills, with those characteristic thumb-picked basslines. His warm and gentle vocals provide a refreshing contrast to many Delta blues artists.



MUDDY WATERS 1977 HARD AGAIN

63 This gritty powerhouse of an album marked a startling return to form for the blues legend. Studio chat, off-mic shouts, and loose playing only add to its appeal.

ALBERT COLLINS 1978 ICE PICKIN'

64 The "master of the Telecaster" scorches through this career-best set, featuring Lowell Fulson's "Honey Hush" alongside his own "Ice Pick."

THE FABULOUS THUNDERBIRDS 1975 GIRLS GO WILD

67 The T-Birds serve up a tasty dish of roadhouse Texas and New Orleans blues. A fine set from a much-loved live act. Although it sold weakly at the time, it remains one of the best white blues records made.

MERLE HAGGARD 1981 BIG CITY

68 On which Haggard champions working people—as always—outlines the pitfalls of urban life, and pines for more honest times (“Are the Good Times Really Over [I Wish a Buck Was Still Silver]”). Along the way he delivers a clutch of personal classics, including “Big City”; “My Favorite Memory”; and the slow, smooth “I Always Get Lucky With You.” A high point in an already stellar career and a *Billboard* country No. 3.

BLIND LEMON JEFFERSON 1981 KING OF THE COUNTRY BLUES

72 Jefferson’s extraordinary guitar skills enabled him to transcend his Texas blues roots, although his habit of playing fast and loose with the rhythm attracted brickbats from some of his peers. These 23 tracks represent a high point of country blues and reveal him as a genuine innovator. “Hot Dogs” boasts charmingly playful picking. He decorates “Rabbit Foot Blues” with chiming fills, mimics tolling church bells on the troubled “See That My Grave Is Kept Clean,” and his keening tenor yearns with anguish on “Prison Cell Blues.” Jefferson’s sales were more than respectable too (and helped to establish a market for blues music), although his impact on younger musicians was limited—how could they learn *that*?

ROBERT CRAY 1986 STRONG PERSUADER

75 Cray’s breakthrough album showcased his tasteful guitar playing and smooth, emotive vocals. Its highlights include the soulful blues “I Wonder” and dance-floor-friendly “Smoking Gun” and “Right Next Door (Because of Me).”

THE GUN CLUB 1981 FIRE OF LOVE

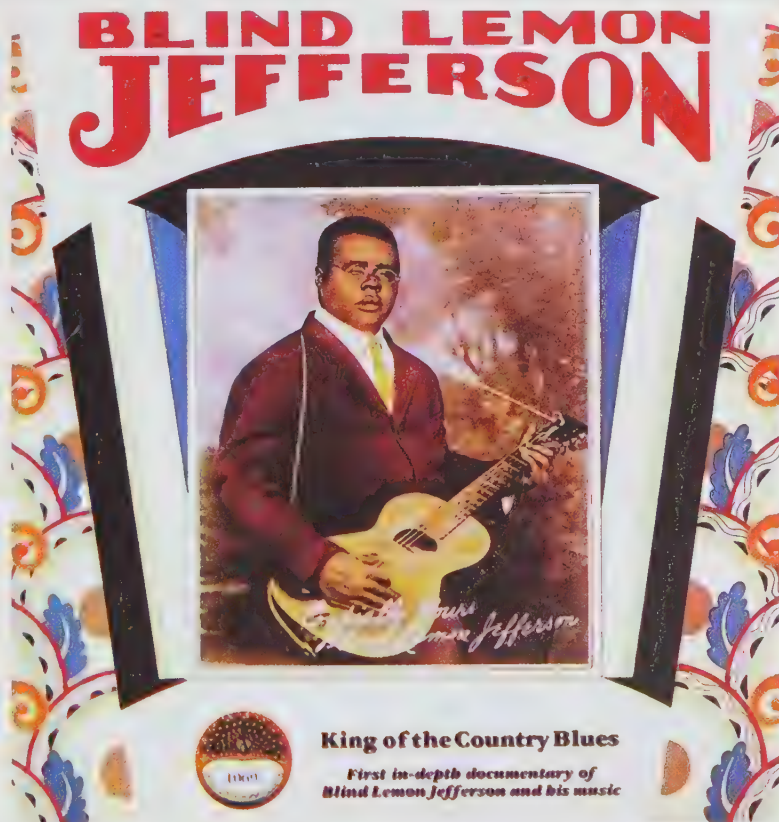
69 Blues, roots music, and punk, with a dash of voodoo. Jeffrey Lee Pierce’s howl lights up “For the Love of Ivy,” “Fire Spirit,” and the startling “Preaching the Blues,” which nods to Son House and Robert Johnson.

BRUCE SPRINGSTEEN 1980 NEBRASKA

70 The sparse sound of what were meant to be demos suits this dark set well. This is a bleak America of mass murder (“Nebraska”), no work, and hopelessness (“Johnny 99”). One of his very best.

STEVE RAY VAUGHAN & DOUBLE TROUBLE 1983 TEXAS FLOOD

71 Vaughan’s debut showcases his stunning guitar skills in a crackling set (featuring “Love Struck Baby,” “Pride and Joy”) that did much to revitalize the blues.



King of the Country Blues

First in-depth documentary of Blind Lemon Jefferson and his music

STEVE EARLE 1981 GUITAR TOWN

73 Earle scored a *Billboard* country No. 1 with this debut, filled with sharp portraits of small town lives and losses. Its many highlights include the snappy title track (a Top Ten country hit) and tenderly delivered “My Old Friend the Blues.”

DWIGHT YOAKAM 1981 GUITARS, CADILLACS, ETC., ETC.

74 The first of three *Billboard* country No. 1s for Yoakam, his debut revisited the gutsy Bakersfield sound. Amid the foot-stompers (“I’ll Be Gone,” “Twenty Years”) are exquisite downers such as “It Won’t Hurt.”

NANCI GRIFFITH 1984 THE LAST OF THE TRUE BELIEVERS

76 More countrified than her previous albums, this set has some of Griffith’s strongest songs—“Banks of the Pontchartrain” and the delicate “Love at the Five and Dime” (a hit for Kathy Mattea).

LYLE LOVETT 1987 PONTIAC

77 This lauded second LP offers Lovett’s personal takes on country (“If I Had a Boat”), jazz (“Black and Blue”), and blues.

SNOOKS EAGLIN 1983 BABY, YOU CAN GET YOUR GUN!

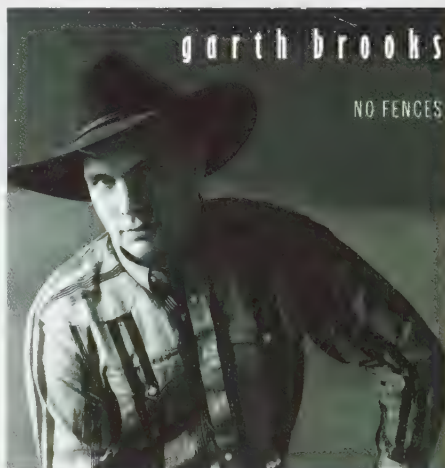
78 Drawing on funk, blues, R&B, and soul, the New Orleans maestro delivers exceptional guitar work. Standouts includes “Oh Sweetness” and the title track, both hip-swinging belters.

DOLLY PARTON, LINDA RONSTADT & EMMYLOU HARRIS TRIO

79 Stunning harmonies grace this country-music summit. Genre staples ("Farther Along") sit with more recent tunes such as a version of Phil Spector's "To Know Him Is to Love Him" (a country No. 1 single) and Parton's autoharp-led "Wildflowers." The backing band—including Ry Cooder—were no slouches either. The collaboration topped *Billboard's* country charts for five weeks, selling over four million copies and garnering awards including two Grammys.

GARTH BROOKS 1990 NO FENCES

80 An album swamped in superlatives: The first country LP to sell five million copies (it shifted more than three times that total finally), a No. 3 hit on *Billboard*, and 126 weeks on that chart's Top Forty. The songs—country peppered with pop catchiness—crisscross between down-home folkiness ("Two of a Kind, Working on a Full House") to widescreen power ballads ("Thunder Rolls") and country-tinged MOR ("Unanswered Prayers"). These three tracks each topped the US country charts, preceded by "Friends in Low Places." A behemoth that rewrote country-music history.



UNCLE TUPELO 1993 ANODYNE

81 This key alt-country release (and the band's final studio album) nods both to genre heritage and modern rock. Doug Sahm guests on his "Give Back the Key to My Heart."

R. L. BURNSIDE TOO BAD JIM

82 Stripped-down, snappy blues from the veteran performer, which fires out of the starting blocks with "Shake 'Em on Down." His warm growl and smart slide playing are in fine fettle, whether on the sleepy blues of "Peaches" or the edgy ".44 Pistol."

JOHNNY CASH AMERICAN RECORDINGS

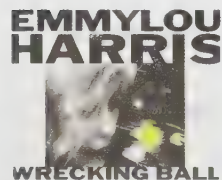
83 Produced by Def Jam founder Rick Rubin, these stripped-back arrangements, backed only by acoustic guitar, highlight the enduring character in Cash's voice and introduced the country statesman to younger generations. The choice of material is exemplary and refreshingly unexpected—Glenn Danzig's "Thirteen," Tom Waits's "Down There by the Train," and Nick Lowe's "The Beast in Me" sit comfortably with vintage tunes such as "Oh Bury Me Not" and the traditional murder ballad "Delia's Song." Cash added fine originals, including the Vietnam War vignette "Drive On." Critical hosannas resulted—the Man in Black was emphatically back.

PALACE MUSIC VIVA LAST BLUES

84 One of Will Oldham's most affecting sets, his beguiling—if dark—take on country rock is imbued with Appalachian folk music and features the great "New Partner."

SON VOLT TRACE

85 A cracking alt-country album shot through with melancholy, even on the harder-rocking stuff. "Windfall," "Out of the Picture," and "Too Early" are spellbinding.



EMMYLOU HARRIS 1995 WRECKING BALL

86 This game-changing album enlarged Harris's acoustic sound with a contemporary musical palette (with Daniel Lanois's ambient guitar tones a key element). Offers expertly nuanced readings of songs from Hendrix to newcomer Gillian Welch.

ROBBIE FULKS COUNTRY LOVE SONGS

87 Harking back to the classic Bakersfield sound, with Fulks's terrific songs switching seamlessly from quirky humor ("Every Type of Music But Country," "Rock Bottom, Pop. 1") to nightmarish ("Barely Human"). Throughout, Tom Brumley adds sweet pedal steel to the soul, pain, and love.

WILCO BEING THERE

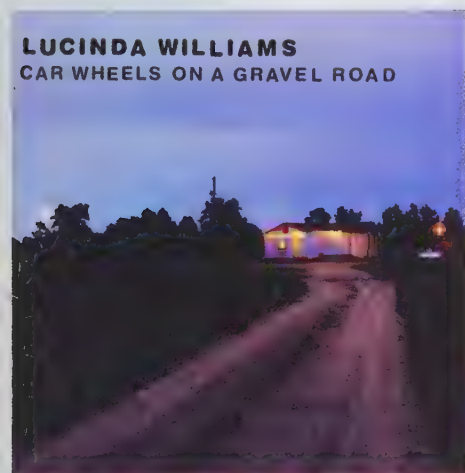
88 Nineteen songs strong, *Being There* supplements the band's staple alt-country with roots music, soul, psychedelia, and more. The album is named for the 1979 comedy film starring Peter Sellers as simple gardener Chance. The band felt the album's surreal, introspective mood matched that of the film's central character.

GILLIAN WELCH REVIVAL

89 With this debut, Welch and writing partner David Rawlings embraced traditional American folk. From "Orphan Girl" to "One More Dollar" and the spiritual "By the Mark," a pared-down simplicity haunts the LP. Helmed by T Bone Burnett, with veteran sidemen (James Taylor, Jim Keltner), it packs an understated punch.

LUCINDA WILLIAMS 1994 CAR WHEELS ON A GRAVEL ROAD

90 This Grammy-winning fifth album (featuring guest appearances by Steve Earle and Emmylou Harris) appeared some six years after its predecessor. It is a more polished affair than previous releases, but the refined production never detracts from the quality of Williams's excellent songs and foregrounds her vocal mannerisms, not least the drawled sensuality in her voice (see opener "Right in Time"). With the Deep South as a background, she delivers beguiling ruminations on past times and loves. Sometimes those are wounded or reflective—"Greenville" and the wistful "Jackson"—at others, engagingly angry ("Joy"). Get these songs under your skin, and you will have a hard time getting rid of them.



NEKO CASE 2003 BLACKLISTED

97 Case mines the darker side of country. Cloaked in resonant reverb, the result can be both scary and hauntingly beautiful ("Things That Scare Me"). There's gentler fare here, too, as with "I Wish I Was the Moon," while "Runnin' Out of Fools" reveals the impressive power of Case's voice.

PETIT VODO 1994 MONOM

91 French punk blues. One-man-band Petit Vodo mixes up guitar, harmonica, beats, and radio waves on this scratchy, lo-fi debut set.

DIXIE CHICKS 1997 WIDE OPEN SPACES

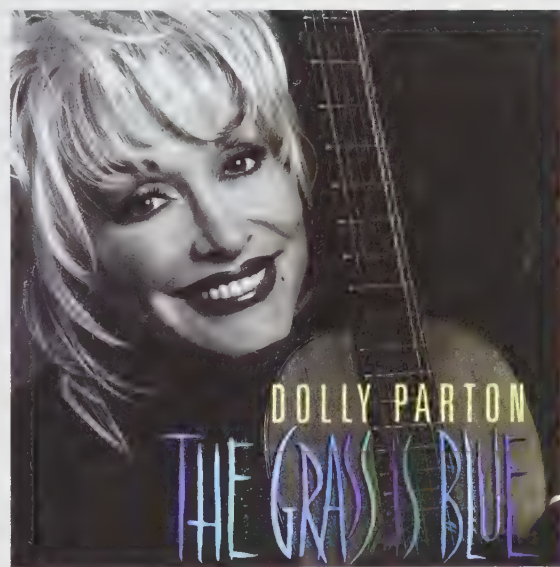
92 Bolstered by new singer Natalie Maines, the Chicks enjoyed stellar sales and two Grammys with this diverse album.

BONNIE "PRINCE" BILLY 1993 I SEE A DARKNESS

93 The lyrics are jarringly honest ("Today I Was an Evil One"), even twisted ("Another Day Full of Dread"), but this is melodically rich, fractured country music, with a dark classic in the (Johnny Cash-covered) title track.

DOLLY PARTON 1997 THE GRASS IS BLUE

94 Parton's usually at her best when her roots show, and here she embraces traditional bluegrass to spine-tingling effect. There are fine reworkings of Billy Joel's "Travelin' Prayer" and "Cash on the Barrelhead"—a Louvin Brothers tune that Gram Parsons once made his own, and a hell-for-leather take on Blackfoot's Southern rock boogie "Train, Train." Best of all is "Silver Dagger," a traditional ballad—set in a sparkling web of fiddle, mandolin, and slide guitar—that she claimed was a favorite of her mother's.



GILLIAN WELCH 1999 TIME (THE REVELATOR)

95 Critically acclaimed on release, Welch's third set introduces poppier elements to the country and folk traditions she loves (see "Red Clay Halo"). Remarkably, the stirring title track was a one-take mic test.

WHITE STRIPES 2000 WHITE BLOOD CELLS

96 The Stripes's third is an astonishing beast, a country-blues-garage-rock hybrid featuring terrific songs—"Hotel Yorba," "Fell in Love With a Girl," and the disarming acoustic "We're Going to be Friends."

LORETTA LYNN 2004 VAN LEAR ROSE

98 Producer Jack White builds up textured settings for every song, and Lynn is on fine form on this self-penned career best seller. Raw and utterly absorbing.

CHARLIE MUSSELWHITE 1999 DELTA HARDWARE

99 The numerous highlights of this cracking set by the veteran harmonica player include the frantic "One of These Mornings" and slow, smoky "Black Water."

ROBERT PLANT & ALISON KRAUSS 1997 RAISING SAND

100 A deservedly Grammy-winning set pairs Plant with bluegrass star Krauss's lilt. Among the inspired cover versions is a ghostly reading of Gene Clark's "Polly Come Home."



BENNY GOODMAN 1938
LIVE AT CARNEGIE HALL (1938)

1 A watershed event: jazz in a citadel of high culture. The highlights include a solo from pianist Jess Stacy on "Sing, Sing, Sing," superb group work (Goodman, Teddy Wilson, Gene Krupa, and Lionel Hampton) on "Body and Soul," and a fine "I Got Rhythm." Tributes are also paid to Duke Ellington on "Blue Reverie."

ELLA FITZGERALD 1943
& ELLIS LARKINS
ELLA SINGS GERSHWIN

2 Larkins's pianism provides an elegant foil for Fitzgerald. She interprets eight Gershwin songs (including fine takes on "But Not for Me" and "How Long Has This Been Going On?") with sensitivity, often led, or followed by, musical motifs Larkins picks out.

BUD POWELL 1951
THE AMAZING BUD POWELL

3 The bebop piano genius is on top form in this 1949 quintet session (featuring Sonny Rollins and Fats Navarro) and trio from 1951. Powell's mambo "Un Poco Loco" is his masterpiece. The pianist's control, timing, and improvisation—even at breakneck speed—take the breath away.

LESTER YOUNG & THE OSCAR PETERSON TRIO
LESTER YOUNG WITH THE OSCAR PETERSON TRIO

4 Received wisdom has it that the Prez's oeuvre from the 1950s pales compared to his Count Basie days. Not on this melodious outing. His sax is joyous. Ballads dominate, Young supplying emotive readings—see "Almost Like Being in Love."

CHARLIE PARKER & DIZZY GILLESPIE
BIRD & DIZ

5 A feisty pairing of the bebop duo and Thelonious Monk features fizzing takes on Parker's "Leap Frog" (notable for the interplay between Bird and Diz), "Mohawk," and "Bloomdido." Amid the fluid, up-tempo blowing, "My Melancholy Baby" provides breathing space.

100 JAZZ ALBUMS

DUKE ELLINGTON 1952
ELLINGTON UPTOWN

6 Pure class. "Skin Deep" is an explosive opener. Betty Roche's bop-flavored vocals are a joy on "Take the 'A' Train." But the gold is in the 14-minute "A Tone Parallel to Harlem (Harlem Suite)," a one-movement aural travelogue across that district.

STAN KENTON 1953
NEW CONCEPTS OF ARTISTRY IN RHYTHM

7 This has swinging, superb soloists, including Maynard Ferguson on trumpet, with arrangements from the likes of Gerry Mulligan, Shorty Rogers, and Bill Russo.

THE QUINTET
JAZZ AT MASSEY HALL

8 A summit of bebop figureheads Charlie Parker (on plastic alto sax), Dizzy Gillespie, Bud Powell, Max Roach, and Charles Mingus in Toronto. All are on scintillating form—focused and working together with great empathy. Solos are executed with speed and flair. Mid-concert, Powell also shines as part of a trio. Poignantly, this marks the last time that Gillespie and Parker would work together.

SARAH VAUGHAN & CLIFFORD BROWN 1954
SARAH VAUGHAN WITH CLIFFORD BROWN

10 Vaughan invests standards such as "Lullaby of Birdland" and "April in Paris"—on which Brown's muted trumpet offers subtle support—with grace and feeling here, lingering wistfully on the end of lines. "Embraceable You," on which she is joined only by the rhythm section, is a treat. Brown's dexterity and rounded tone are stunning; he delivers a busy solo on "Jim," and stretches out delightfully for the chirpy closer "It's Crazy."

LOUIS ARMSTRONG 1964
LOUIS ARMSTRONG PLAYS W. C. HANDY

9 A jazz giant salutes the father of the blues. Armstrong and His All Stars revitalize Handy originals, peaking with a near-nine-minute "St. Louis Blues," though the poignant "Beale Street Blues" and chipper "Ole Miss Blues" run it close. Satchmo's trumpet is clear as crystal, his band spirited but subtle.

ERROLL GARNER 1954
CONCERT BY THE SEA

11 The pianist's million-dollar-selling live tour de force, with Denzil Best (drums) and Eddie Calhoun (bass), reworks a grab-bag of standards (including "April in Paris" and a remarkable "Autumn Leaves") with invention and brio.

DUKE ELLINGTON
ELLINGTON AT NEWPORT

12 A resounding live and studio-enhanced set, it revived the popularity of Duke's big band when rock 'n' roll was ending others. The key moment: tenor-sax giant Paul Gonsalves's epic 27-chorus solo on "Diminuendo and Crescendo in Blue," which is among the most famous solos in jazz history.

CLIFFORD BROWN & MAX ROACH AT BASIN STREET

13 A hard-bop classic. Brown and Sonny Rollins trade fine solos on "What Is This Thing Called Love?," while Richie (brother of Bud) Powell impresses as arranger and pianist.

THELONIOUS MONK BRILLIANT CORNERS

16 Fine ensemble work here (with Sonny Rollins and Max Roach), from the tricky title track to the celestial "Pannonica" and sparse "I Surrender, Dear."

MILES DAVIS BIRTH OF THE COOL

17 A hugely influential cornerstone of cool (or West Coast) jazz, taken from sessions in 1949 and 1950, arranged by Gil Evans and played by a nonet that includes Gerry Mulligan, Lee Konitz, and Max Roach. It's inventive, of course, but also suave, detached, concise, and tuneful—Davis's style and inclination being less suited to the frenzied runs of his ex-mentor Charlie "Bird" Parker.

ART PEPPER ART PEPPER MEETS THE RHYTHM SECTION

18 Miles Davis's rhythm section inspires Pepper to astounding heights, notably on the pacy "Straight Life" and a restrained reading of "Imagination." An essential part of Pepper's oeuvre, this was the first in a string of signature LPs for the Contemporary label.

ELLA FITZGERALD & LOUIS ARMSTRONG ELLA & LOUIS

14 Mutual respect abounds on this warm set with The Oscar Peterson Quartet. Its many wonders include "Isn't This a Lovely Day?" and "They Can't Take That Away From Me."

SONNY ROLLINS SAXOPHONE COLOSSUS

15 A mellifluous classic from the tenor-sax genius, with the extended blues "Blue 7" and Rollins's signature calypso tune "St. Thomas." This album met with widespread acclaim when it was released and helped establish Rollins.



JOHN COLTRANE BLUE TRAIN

19 For his first set as leader (and sole Blue Note recording), Coltrane assembled sidemen including trumpeter Lee Morgan and trombonist Curtis Fuller. Along with Coltrane's tenor sax, the triple-horn sound defines this album. *Blue Train* shows Coltrane's ambition and versatility, embracing blues, balladry, and hard bop. The restless title track lights up with flurries of notes from the horns, while the so-called "Coltrane chord changes" (leaping tonal centers by an interval of a major third) in "Lazy Bird" and "Moment's Notice" would be revisited on *Giant Steps* (1960). Amid these waves, Philly Joe Jones (drums) and Paul Chambers (bass) keep the ship anchored.

COUNT BASIE 1957 COUNT BASIE AT NEWPORT

20 Basie's band, experiencing a resurgence at the time, is augmented here with celebrated former members including Lester Young, Freddie Green, and Roy Eldridge. Vocalist Jimmy Rushing is in effusive, bluesy form, the band full of fizz and fire. Lots of fun—just listen to the warmth of the crowd's response.

COUNT BASIE 1957 THE ATOMIC MR. BASIE

21 Basie's career was revived with this set penned by Neal Hefti and lit up by Eddie "Lockjaw" Davis's sax. The high-octane "The Kid from Red Bank" and sleepy "Duet" are a knockout opening.

AHMAD JAMAL THE AHMAD JAMAL TRIO: VOLUME IV

22 The disciplined pianist is joined by Israel Crosby (bass) and Vernel Fournier (drums) for this live set with memorable versions of "The Girl Next Door" and "Cheek to Cheek."

CANNONBALL ADDERLEY SOMETHIN' ELSE

23 A rare outing for Blue Note sees Miles Davis appear. His muted playing on "Autumn Leaves" paves the way for Adderley's sax solo and the leader is richly romantic on "Dancing in the Dark."

ART BLAKEY & THE JAZZ MESSENGERS
MOANIN'

24 A stylistically diverse set, *Moanin'* embraces hard bop, New Orleans jazz, blues, and more, graced by sharp trumpet solos courtesy of Lee Morgan.

BILL EVANS
EVERYBODY DIGS BILL EVANS

25 The young pianist proves himself a terrific interpreter, switching from percussive rapidity ("Oleo") to smooth balladry ("Some Other Time"). His own brief "Epilogue" has a stark beauty.

SUN RA & HIS ARKESTRA
JAZZ IN SILHOUETTE

27 Ra's early influences (bop, blues, Duke Ellington) still dominate here. But on "Ancient Aethiopia," he breaks with harmonic progression and blurs melody and rhythm, hinting at new directions. The soloists are on top form, from Hobart Dotson (trumpet) on "Hours After" to John Gilmore's tenor-sax on "Saturn" and "Blues at Midnight."

CHARLES MINGUS
MINGUS AH UM

30 This diverse, tuneful set, which evolved out of Mingus's jazz workshop, houses three of his best: "Goodbye Pork Pie Hat," "Better Git it in Your Soul," and "Fables of Faubus."



ORNETTE COLEMAN
THE SHAPE OF JAZZ TO COME

28 The LP slips free from harmonic conventions (no pianist or defined chord sequences), but the rhythm section of Charlie Haden and Billy Higgins anchors soloists Coleman and Don Cherry in swing. "Lonely Woman" and "Congeniality" remain two of Coleman's finest.

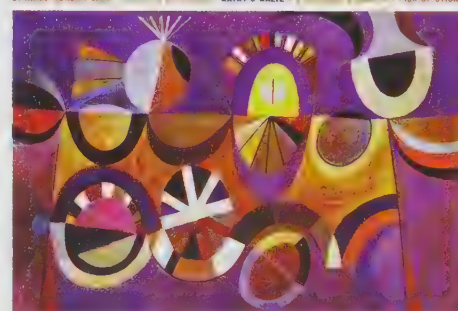
THE DAVE BRUBECK QUARTET
TIME OUT

29 The title track is ubiquitous, but this set has riches aplenty. Rhythmic knottiness, counterpoint, unusual time signatures, and Turkish and African folk music are smuggled in via catchy melodies and familiar harmonies. Joe Morello lays down some of jazz's smartest drum solos. The album's tuneful freshness made it jazz's first platinum seller and a US No. 2 hit.

MILES DAVIS
KIND OF BLUE

25 Five tracks in nine hours. No rehearsal—to inspire spontaneity and focus. Such was the talent Davis assembled in Columbia's 30th Street Studio in New York (John Coltrane, Bill Evans, Cannonball Adderley, drummer Jimmy Cobb, bassist Paul Chambers), there was only one retake. *Milestones* (1958) had touched on modality to slip the anchor of chord changes and create a gently shifting ambience; here, Miles perfected that approach. There is a freshness and poise to the set, from the lightly swinging "So What," "All Blues," and "Freddie Freeloader" to the plaintive "Blue in Green" and "Flamenco Sketches" (the retake). Brave, elegant, beautifully realized, *Kind of Blue* remains the best-selling, and most influential, jazz album.

TIME OUT TAKE FIVE
THE DAVE BRUBECK QUARTET



JOHN COLTRANE
GIANT STEPS

31 Fresh from *Kind of Blue*, Coltrane's first entirely self-written LP finds him placing solos at the heart of his writing. Thrilling, polytonal rushes of notes dominate the album, the bop dropping only with the lyrical ballad "Naima."

HANK MOBLEY
SOUL STATION

32 Subtly supported by drummer Art Blakey, Mobley blooms as an unfussy, expressive soloist. A lightly swinging "This I Dig of You" (pianist Wynton Kelly on sprightly form), up-tempo "Dig Dis," and slinky title track are uniformly excellent.

WES MONTGOMERY 1960
THE INCREDIBLE JAZZ GUITAR OF WES MONTGOMERY

33 A key Montgomery set, with the guitarist taking bop and ballads in his stride. The waltz "West Coast Blues" is a swing delight. Pianist Tommy Flanagan's trio offers fine backing.

ART BLAKEY & THE JAZZ MESSENGERS
A NIGHT IN TUNISIA

34 Blakey's dynamic percussion is a revelation on the feisty title track. Other delights include Lee Morgan's moody "Yama."

LOUIS ARMSTRONG & DUKE ELLINGTON

LOUIS ARMSTRONG & DUKE ELLINGTON: RECORDING TOGETHER FOR THE FIRST TIME

35 This joyous summit finds both giants (plus Armstrong's band) on easygoing but inspired form; the elegant rendition of "Mood Indigo" was recorded in just one take. Armstrong's vocals are warmly engaging ("Do Nothin' Till You Hear From Me") and exuberant but focused ("The Mooche"). Ellington's piano offers restrained support, occasionally breaking forth with sprightly interjections.

LOUIS ARMSTRONG & DUKE ELLINGTON

RECORDING TOGETHER FOR THE FIRST TIME



BILL EVANS TRIO

SUNDAY AT THE VILLAGE VANGUARD

36 There is genuine three-way ensemble playing—from a time when piano trios meant soloist plus backing—in this fine concert taped during five sessions. The covers include a mesmerizing "My Man's Gone Now" and a restless reading of Miles Davis's "Solar." The set is bookended by two tunes from bassist Scott LaFaro ("Gloria's Step," "Jade Visions") whose inventive playing is stunning; heartbreakingly, he died ten days after this gig.

BILL EVANS TRIO

WALTZ FOR DEBBY

37 Sheer delight here, from the emotional pianism of "Detour Ahead" and "My Foolish Heart" to the deft trio work on "My Romance."

ABBEY LINCOLN 1981 STRAIGHT AHEAD

38 A fresh, arrestingly uncompromising set from this underrated singer. The stellar sidemen include Coleman Hawkins and Eric Dolphy.

OLIVER NELSON 1981

THE BLUES AND THE ABSTRACT TRUTH

39 A truly gorgeous reading of the Nelson standard "Stolen Moments" sits alongside post-bop variations on the blues—notably "Yearnin'."

THELONIOUS MONK & JOHN COLTRANE 1957

THELONIOUS MONK WITH JOHN COLTRANE

40 Drawn from three 1957 sessions, this revered set also features Coleman Hawkins and Art Blakey. It includes Monk's bluesy solo "Functional" and rapid-fire interplay between the two on "Trinkle Tinkle." Coltrane is lyrical on "Ruby, My Dear" and Wilbur Ware's bass is a steady force throughout.



SONNY ROLLINS 1963 THE BRIDGE

41 The title refers to Manhattan's Williamsburg Bridge, where Rollins staged marathon solo rehearsals for this, his first release after a three-year hiatus. New recruit guitarist Jim Hall scintillates during the hard-bopping title track on which, as with "John S.," the quartet fizzes fire and inspiration. Rollins's solos are inventive and imperious on both. Other highlights include a poignant "God Bless the Child" and the snappy opener "Without a Song."

STAN GETZ & CHARLIE BYRD 1967 JAZZ SAMBA

42 This mammoth hit helped break bossa nova globally and features graceful, sensitively pitched readings of Antônio Carlos Jobim's "Desafinado" and "Samba de Uma Nota Só," and other future standards ("Samba Triste," "É Luxo Só"). Getz and Byrd, both on dextrous form, bring out the deep beauty and romance of the songs.

DEXTER GORDON 1961 GO

43 An effusive, breezy set, which has fulsome support from Sonny Clark, Billy Higgins, and Butch Warren. Gordon's tenor sax is lively on the up-tempo "Love For Sale" and lyrical on the ballad "I Guess I'll Hang My Tears Out to Dry."

DUKE ELLINGTON & COLEMAN HAWKINS 1941

DUKE ELLINGTON MEETS COLEMAN HAWKINS

44 This was Hawkins and the Duke's first—and only—meeting on record. Hawkins joined selected Ellington all-stars for a relaxed, inspired set, with the slinky "Wanderlust," languorous "Self-Portrait," and energetic workout "The Jeep is Jumpin'." It features Lawrence Brown on trombone, Johnny Hodges and Harry Carney on saxophones, and Ray Nance on cornet and violin—Nance's cornet is a treat. Terrific fun.

JIMMY SMITH 1963

BACK AT THE CHICKEN SHACK

45 Smith's signature organ-playing maps bop intricacy, both on keyboard and pedals, to solid blues chordality—and swings mightily. The title track is standout.

CHARLES MINGUS 1942
THE BLACK SAINT AND THE SINNER LADY

46 A genre-defying masterpiece. Mingus's painstakingly orchestrated six-movement suite borrows from Ellington and the avant-garde. It's rhythmically experimental, dissonant (in parts approaching free jazz), and full of both fury and joy.

DONALD BYRD 1964
A NEW PERSPECTIVE

47 Byrd draws on spiritual roots for this atypical, self-proclaimed "modern hymnal." The Coleridge-Taylor Perkinson gospel choir—arranged by Duke Pearson—is heard to stately effect on "Cristo Redentor" (Herbie Hancock adds decorative blues fills) and the driving "The Black Disciple." Byrd's trumpet provides a measured, clear voice.

LEE MORGAN 1964
THE SIDEWINDER

48 The renowned title tune was licensed for use in an automobile advertising campaign that became a soul-jazz classic and helped the album make its way into the US pop LP chart at No. 25. The other tracks are hard-bop gems. This is an ensemble triumph though Joe Henderson deserves a special mention and his sax shines on "Totem Pole."

STAN GETZ & JOÃO GILBERTO 1964
GETZ/GILBERTO

49 A best-selling bossa nova landmark. Extracted as a single, "The Girl From Ipanema" (sung by Gilberto's wife Astrud) was an international hit, but the joys of this elegant and charming LP are manifold. The songs themselves are bossa staples, but they retain their freshness through the graceful playing and light touch of the musicians—pianist/songwriter Antônio Carlos Jobim and guitarist/singer Gilberto. Getz's solos are uniformly expressive but understated.



JAN JOHANSSON 1960
JAZZ PÅ SVENSKA

50 Johansson's crisp, Bachian pianism, informed by Swedish folk music and backed only by Georg Reidel's bass, is a marvel of cool clarity. This is the best-selling jazz release in Sweden.

VINCE GUARALDI TRIO 1964
JAZZ IMPRESSIONS OF "A BOY NAMED CHARLIE BROWN"

51 Guaraldi's piano trio are imaginative on this melodic outing, written for a documentary on the *Peanuts* cartoon strip. Its standouts include the bossa-tinged "Linus and Lucy" and the smooth supper jazz of "Oh Good Grief."



ERIC DOLPHY 1964
OUT TO LUNCH!

52 Dolphy's masterpiece is an avant-garde trip into atonality, dissonance, timbral variation, and rhythmic intricacy—but all musically underpinned by a clear sense of structure. Bobby Hutcherson's vibes, standing in for piano, chime or stab unexpectedly; he, drummer Tony Williams, and bassist Richard Davis unite for a percussive workout on "Hat and Beard."

THE HORACE SILVER QUINTET 1964
SONG FOR MY FATHER

53 Silver's best is a focused, hard-bopping set that pairs chordal invention with rhythmic complexity. Joe Henderson's twisting, tricky "The Kicker" has proved a jazz standard.

JOE HENDERSON 1964
IN 'N OUT

54 For his third set as leader, Henderson was joined by trumpeter Kenny Dorham and a rhythm section of Elvin Jones and McCoy Tyner. The highlights of this complex LP include "Punjab."

ALBERT AYLER TRIO 1964
SPIRITUAL UNITY

55 The first release for the ESP-Disk label, Ayler's album placed him in the free-jazz vanguard. His sax explores a colorful palette of sounds supported by Sunny Murray's supple percussion and Gary Peacock's limber bass. The sympathetic ensemble work regularly employs simultaneous, though diverse, rhythms.

JOHN COLTRANE 1961
A LOVE SUPREME

56 Across four parts, Coltrane's classic quartet conjure up a spiritual journey with meditation at its core. Although angular at times, with suggestions of free-jazz excursions to come, it includes passages of great tonal beauty and ends with Coltrane playing a devotional poem.



HERBIE HANCOCK 1941 MAIDEN VOYAGE

57 Featuring Miles Davis's rhythm section of Ron Carter and Tony Williams, *Maiden Voyage* is a mesmerizing hybrid of melodicism and hard bop, with two future standards in "Dolphin Dance" and the title track. What's more, it shows that the 25-year-old Hancock—a Davis sideman for years himself—had learned the art of understatement. Drawing on the ocean for inspiration, his compositions provide simple lines on which this superlative quintet freely improvises, and which he can re-employ as the solos escalate, to steady the ship.

WAYNE SHORTER 1941 SPEAK NO EVIL

58 Hard bop and modal jazz dominate here. There are free-flowing, inventive solos from Shorter's sax and pianist Herbie Hancock (joined by fellow Miles Davis alumnus, bassist Ron Carter), while "Infant Eyes" and "Fee-Fi-Fo-Fum" would become signature tunes for Shorter.

DON CHERRY 1940 COMPLETE COMMUNION

59 Cherry's first full set as bandleader is a communal avant-garde improvisation across two suites, featuring an appearance from Gato Barbieri on tenor sax.

Cecil Taylor 1924 UNIT STRUCTURES

60 Fiery, complex playing dominates this atonal outing from a septet featuring two bassists. Feisty free jazz, but always under Taylor's tight control.

CHARLES LLOYD 1947 FOREST FLOWER

61 An ambitious, highly accessible set, it was recorded mostly at Monterey Jazz Festival and explores all corners of jazz heritage and features a young Keith Jarrett.

ROLAND KIRK 1948 THE INFLATED TEAR

62 Kirk's compositional ability is demonstrated on his post-bop landmark. The shape-shifting title track ranks with this multi-instrumentalist's best.

DON CHERRY 1940 ETERNAL RHYTHM

63 A benchmark avant-garde live set from Berlin. The exhilarating blend of genres (from gamelan to blues) and instruments (prepared piano, gongs) anticipates world music.

PHAROAH SANDERS 1938 KARMA

64 This spiritual-jazz set, experimental but far from forbidding, is best known for the much-covered half-hour "The Creator Has a Master Plan." Truly out-there performances, especially from Sanders (tenor sax) and vocalist Leon Thomas.

MILES DAVIS 1926 IN A SILENT WAY

65 Davis went electric with this proto-fusion album, which saw producer Teo Macero edit hours of music-making into two beguiling pieces. There's ethereal support, notably from guitarist John McLaughlin and a trio of renowned keyboardists.

ALICE COLTRANE 1927 PTAH, THE EL DAOU

66 Coltrane's third set is a mostly lush spiritual journey, with Pharoah Sanders and Joe Henderson alongside. Coltrane contributes strong, elegant work on both piano and harp.



MILES DAVIS 1926 BITCHES BREW

67 An early hybrid of jazz and rock (aka "fusion"), this provocative, improvisational set employs a host of musicians, including Joe Zawinul and Wayne Shorter. The six hypnotic, groove-based tracks saw multiple bassists and drummers often playing at once. Noisy and by no means faultless, it alienated many fans—but attracted new ones and gave Miles his first gold record.

WEATHER REPORT 1971

WEATHER REPORT

68 This freely improvisational debut by a jazz supergroup—including Joe Zawinul, Wayne Shorter, and drummer Alphonse Mouzon—builds on psychedelia and Miles Davis's electronic-jazz template. More of a group effort than later releases, with Shorter and Zawinul mostly sharing composing duties, the LP was widely praised.

CHICK COREA 1970

RETURN TO FOREVER

70 Despite the credit to Corea, this is the debut LP by jazz-fusion outfit Return To Forever, featuring bassist Stanley Clarke and Joe Farrell on sax and flute. It blends Corea's tuneful keyboards with Latin rhythms.

DONALD BYRD 1971

BLACK BYRD

71 This is the skilled trumpeter's first album for Blue Note. It saw him shock with his groundbreaking embrace of funk and please the label by becoming the biggest-selling album in Blue Note's history.



HERBIE HANCOCK 1973

HEAD HUNTERS

72 A finely orchestrated jazz-funk-fusion set, lighter than prior Hancock releases and a huge seller. Clavinet and ARP synths are to the fore, backed by an R&B-style rhythm section of Harvey Mason and Paul Jackson. The standouts include a nod to Sly Stone ("Sly"), an Afrocentric take on "Watermelon Man," and a hit single in "Chameleon."

THE MAHAVISHNU ORCHESTRA & JOHN MCLAUGHLIN

THE INNER MOUNTING FLAME

69 A pivotal work from this guitarist, which established the template for jazz fusion while racking up impressive sales. A resoundingly spiritual vibe underlies the tricky asymmetrical rhythms and virtuosic playing.

KEITH JARRETT 1971

THE KÖLN CONCERT

73 Or: the return of the acoustic piano in jazz. The four-tune set sees Jarrett build epic improvisatory runs from vamps. It is the best-selling piano album, with more than 3.5 million sales.

STANLEY CLARKE 1971

SCHOOL DAYS

75 This major fusion outing from the famed bassist employs a revolving line-up of sidemen (including drummer Steve Gadd and John McLaughlin). The title track features an anthemic bass riff (for which Clarke strums the strings) and a standout guitar solo from Raymond Gomez.

PAT METHENY GROUP 1978

PAT METHENY GROUP

76 An innovative, tightly performed debut from this core jazz-fusion group, led by the gifted guitarist, whose playing and compositional skills are displayed to fine effect. The varied set, palpably influenced by folk music, shows the band's individual chops and group interplay. Its highs include the melodic "Phase Dance."

ARCHIE SHEPP 1977

ATTICA BLUES BIG BAND LIVE AT THE PALAIS DES GLACES

77 An epic live recording with 30 musicians (including string section and two bassists) led by Ray Copeland. Multiple strains of African-American music feature, taking in gospel, jazz, R&B, and soul. The standouts include the ecstatic funk workout "Attica Blues, Part One" and the easy swing of "Steam," topped off by a heartfelt Joe Lee Wilson vocal. The LP proved a late-career triumph for Shepp, who adds passionate sax playing.

JACO PASTORIUS

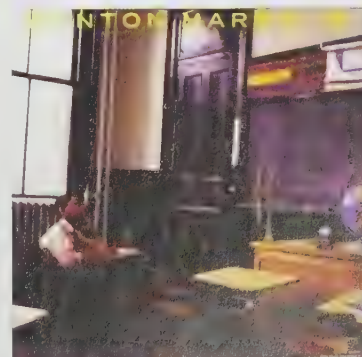
JACO PASTORIUS

74 Pastorius's solo debut showcases his masterful writing, arranging, and playing. Its highlights include "Come On, Come Over," with soul stars Sam & Dave.

WYNTON MARSALIS

BLACK CODES (FROM THE UNDERGROUND)

78 The precociously talented trumpeter's Grammy-winning set stems from post-bop roots—with the second Miles Davis Quintet clearly in mind. Brother Branford on tenor and soprano sax, and drummer Jeff "Tain" Watts, contribute accomplished musicianship, while pianist Kenny Kirkland's solos are a wonder.



MICHEL PETRUCCIANI POWER OF THREE

75 Pianist Petrucciani and guitarist Jim Hall duet delightfully on "Careful," while Wayne Shorter excels on "Limbo." There are fine solos across this live set from the 1986 Montreux Jazz Festival.

BRANFORD MARSALIS TRIO JEEPY

80 A melodic, swinging set of standards. Marsalis's sax playing is revelatory on "The Nearness of You" and the closer "Random Abstract (Tain's Rampage)" is a storming set piece for drummer Jeff "Tain" Watts.

ALLAN HOLDSWORTH SECRETS

81 This key progressive-jazz release demonstrates the virtuoso guitarist's proficiency on the SynthAxe guitar synthesizer. Holdsworth's ornate and fluid playing is matched by his assured songwriting.



BILL FRISSELL HAVE A LITTLE FAITH

82 This album sees the exceptionally versatile guitarist take an eclectic excursion into America's broad musical landscape. The diverse selections draw freely from classical music (Aaron Copland's *Billy the Kid*, Charles Ives's *Three Places in New England*), pop and rock (Bob Dylan's "Just Like a Woman," Madonna's "Live to Tell"), and jazz (Sonny Rollins's "No Moe")—although the songs serve mainly as a launchpad for exploration. The group interacts superbly, notably within the trio of Frisell himself, Kermit Driscoll (bass), and Joey Baron (drummer), with ambient interventions from Guy Kluevsek's accordion. The quintet also features Don Byron on clarinet.

CASSANDRA WILSON BLUE LIGHT 'TIL DAWN

83 The vocalist's first LP for Blue Note houses assured, bluesy interpretations of material from Robert Johnson's "Hellhound on My Trail" to Van Morrison's "Tupelo Honey" and an attractive "I Can't Stand the Rain." The arrangement is sparse and beautiful.

JANE BUNNETT THE WATER IS WIDE

84 A fine outing from a talented flautist and tenor-sax player. Bunnett offers an inspired vocalistic delivery on "Serenade to a Cuckoo," and fine duo work with trumpeter Larry Cramer on "Burning Tear," "Lucky Strike," "Time Again," and "Elements of Freedom."

DON BYRON BUG MUSIC

85 The innovative clarinetist Byron delivers swing-nuanced covers of neglected gems by Raymond Scott—most famous for their use in cartoon soundtracks—and John Kirby, tracing a path between them and Duke Ellington.

TOM HARRELL THE ART OF RHYTHM

87 A self-composed set from this trumpeter/flugelhorn player that showcases Harrell's composing and arranging skills, and lyrical playing.

BRAD MEHLDAU THE ART OF THE TRIO, VOL. 4: BACK AT THE VANGUARD

88 Reworkings of Miles Davis's "Solar" and Radiohead's "Exit Music (For A Film)" illuminate this live set that incorporates invigorating group work.

DIANA KRALL ALL FOR YOU

86 Diana Krall's third release is subtitled *A Dedication to the Nat King Cole Trio*, but she wisely avoids following the King too closely. Instead, respectful covers are the order of the day. The slower ballads work best and include Krall's sensitive takes on "If I Had You," and "A Blossom Fell," on which guitarist Russell Malone offers a hushed, bittersweet solo. An understated, beautifully played set.



MATTHEW SHIPP QUARTET 2000 PASTORAL COMPOSURE

89 The accomplished pianist/composer Shipp pairs complex avant-jazz with more accessible fare, with his own "Gesture," "Visions," and title track all excellent.



LOUIS ARMSTRONG

LOUIS ARMSTRONG: THE COMPLETE HOT FIVE & HOT SEVEN RECORDINGS

90 This is an essential compilation. Armstrong's 1925–28 sides with these two bands, plus bonus tracks, are a keystone of jazz. Hitherto, combos operated as collectives; his audaciously innovative solos rewrote the rules—check out the swinging “Potato Head Blues” from 1927, or the stunning “West End Blues.” Those bluesy breaks light up the more leaden fare. Vocally, too, he breezily set standards, his rugged-but-warm delivery and scatting inspiring singers from Ella Fitzgerald to Frank Sinatra. And whether singing or blowing, the way he played with rhythm and tempo added freedom to the form, reinventing its possibilities. **Vital.**

MASADA LIVE IN SEVILLA 2000

91 A thrilling set from this superb quartet. Bassist Greg Cohen is the steady presence around which Joey Baron weaves inventive rhythms. Dave Douglas (trumpet) and John Zorn (alto sax) work beautifully off each other (often employing call-and-response). Their solos, while astonishing, are economical. Peaks abound in this concert, from the opening track “Ne’eman” to the roof-raising “Nashon.”

THE BAD PLUS 2003

THESE ARE THE VISTAS

92 The gifted piano-bass-drums trio deliver some intriguing originals and re-readings of Nirvana, Blondie, and Aphex Twin. “Big Eater” is one of several highlights.

DAVE HOLLAND QUINTET

EXTENDED PLAY: LIVE AT BIRDLAND

93 Breathtaking playing lights up these extended workouts, from the shape-shifting “Clarresence” to Robin Eubanks’s 20-minute stunner “Metamorphos.”

MADELINE PEYROUX

CARELESS LOVE

94 This fine set of (mostly) covers features re-readings of Elliott Smith’s “Between the Bars” and the W. C. Handy title track, all given an R&B makeover.

CRAIG TABORN

JUNK MAGIC

95 The gifted keyboard player incorporates loops and electronica in an ambitious, unpredictable set that includes the haunting, angular “Bodies at Rest and in Motion.”

THE ROY HARGROVE QUINTET

EARFOOD

96 The acclaimed trumpeter and his band pull out exemplary performances for this enjoyable set featuring the ballads “Joy is Sorrow Unmasked” and “Rouge.”

E. S. T. LEUCOCYTE

97 Tragically, this was the last release from the admirable Esbjörn Svensson Trio (pianist Esbjörn Svensson, bassist Dan Berglund, and drummer Magnus Öström), following the untimely death of its leader. Improvised live during a two-day jam in an Australian studio, and embellished with postproduction processing, it’s a fine testament to the trio’s ensemble work. A somber mood pervades—witness the two-part “Premonition,” embracing heavy rock and electronica (more prevalent on *Leucocyte* than previous releases), on which Svensson enjoys a virtuosic modal excursion. The unsettling four-part title track melds jazz and metal, but adds ambient layers of mystery.

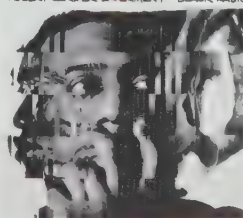
BRIAN BLADE & THE FELLOWSHIP BAND SEASON OF CHANGES

98 An all-original, somewhat pastoral set from the drummer and his band, whose interaction is a treat. The highlights include “Rubylou’s Lullaby” and the epic title track.

ESPERANZA SPALDING ESPERANZA

99 The multitalented prodigy plays bass, sings, arranges, and composes on this adventurous release, which nods to samba (“Samba Em Preludio”), post-bop (“If That’s True,” “Mela”), and more. Her vocals and bass playing are impressive.

ROBERT GLASPER EXPERIMENT



ROBERT GLASPER EXPERIMENT BLACK RADIO

100 This sterling set acknowledges jazz’s past and refreshes it with contemporary tastes (hip-hop, R&B, neo-soul)—plus David Bowie and Nirvana covers, the latter proving a showcase for Glasper’s band. The guest singers include Erykah Badu.

Music From The Original Motion Picture Soundtrack

JAWS

**The Nation's No.1
Best-Selling Book
now the Screen's
Super Thriller**



Music composed &
conducted by
John Williams

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MAX STEINER KING KONG

1 Having no film-scoring tradition, Steiner chose to adopt Richard Wagner's concept of the leitmotif; Kong's is just three notes. The 46-strong orchestra—large for the period—also nods to Wagner's precedent. At times the music mimics the action ("Mickey Mousing"), reinforcing its dramatic impact. Steiner's score helped ensure the movie's success (saving RKO Pictures from bankruptcy) and laid the foundations for film scores to come.

FRANK CHURCHILL & LARRY MOREY SNOW WHITE AND THE SEVEN DWARFS

2 The first soundtrack made commercially available was also notable for its clutch of catchy tunes ("Heigh-Ho," "Whistle While You Work," and "Some Day My Prince Will Come"). Released as three 78rpm singles, all were hits—creating a new revenue stream for films. Studio heads took note.

ERICH WOLFGANG KORNGOLD 1938 THE ADVENTURES OF ROBIN HOOD

3 A bold, Oscar-winning score from a former child prodigy who had stunned Gustav Mahler and Richard Strauss. Korngold believed that a score should work apart from its movie. *The Adventures of Robin Hood* employs a Romantic style and subtly evolving leitmotifs. The rich, melodic arrangements influenced many later composers.

SERGEI PROKOFIEV ALEXANDER NEVSKY

4 Prokofiev's third film score was his first for Sergei Eisenstein. The music is conceived of as equal, not subordinate to, image, and even dictates the pace of edits. In the studio the composer varied mic placement, striving for new aural effects. His "Alexander Nevsky" cantata drew on excerpts from this score.

100 MOVIE SOUNDTRACKS

MAX STEINER GONE WITH THE WIND

5 Steiner's lush score is a fitting match for the movie's vast scope: more than two-and-a-half hours of music with eight distinct character motifs and two love themes. "Tara's Theme," the stirring main title, is a reminder that for lead character Scarlett O'Hara, her ancestral home (Tara) is everything. Steiner incorporated Civil War-era musical material for period authenticity.

MAX STEINER & HUGO W. FRIEDHOFFER CASABLANCA

6 The rousing orchestral fare (arranged by Friedhofer) sits alongside lighter, jazzier songs that were not composed by Steiner. The best-known song remains Herman Hupfeld's "As Time Goes By."

DAVID RAKSIN LAURA

7 In this key score, the titular character's motif recurs almost obsessively. Set to lyrics, it was a huge hit—more evidence of a profitable afterlife for movie music.

BERNARD HERRMANN THE GHOST AND MRS. MUIR

8 A tender, atypically melodic work that Herrmann dubbed his "Max Steiner score." Richly orchestrated, its emphasis on strings reflects the movie's touchingly romantic theme—as heard in the poignant cue "Andante Cantabile." Understated, certainly compared to his later scores, it was the composer's favorite.

ANTON KARAS THE THIRD MAN

9 An important, non-orchestral work for which Karas (who had never scored a film before) plays a zither. Its haunting timbre conveys the otherness of the mid-European setting but also signals wistful regret and even threat. Inspired, John Barry used a cimbalom for spy movie *The Ipcress File* (1965) to similar ends. The main title—"The Harry Lime Theme"—was a best seller.

SHANKAR JAIKISHAN BARSAAT

10 Possibly the best Hindi movie soundtrack. The songs, tailored for singer Lata Mangeshkar, include "Hawa Mein Udata Jaye."

FRANZ WAXMAN SUNSET BOULEVARD

11 This Oscar-winning score nods to Norma Desmond's unhinged mentality in skewed takes on music of the 1920s and 1930s and a tango (all out-of-date, like her). Doomed Joe Gillis has a modern bebop theme.

ALEX NORTH A STREETCAR NAMED DESIRE

12 An influential soundtrack that integrates orchestral forces with jazz, thereby breaking with a European heritage of scoring. Its bluesy jazz nuances implied sexuality so effectively that censors actually removed one passage.

NADEEM SHRAVAN
WITH SAMEER 1987
AWARA

13 Bollywood classics "Ghar Aaya Mera Perdesi" and "Tere Bina Aag Yeh Chandni" line up alongside the timeless "Awara Hoon," performed by Mukesh.

DIMITRI TIOMKIN 1946
HIGH NOON

14 Tiomkin mines the [Oscar-winning] theme "The Ballad of High Noon" for motifs that he develops elsewhere. On "Two Minutes to Twelve," one of the many fine cues, strings "tick" down the time to the big showdown.

LEONARD BERNSTEIN 1954
ON THE WATERFRONT

15 Bernstein's sole original film score—he balked at any reordering or cuts of his cues—is sensitive and effective. A poignant horn-led theme for hero Terry at the start returns as a victory fanfare at the close. A flute and harp love theme expands with cellos to imply a deepening of that love. Later, in 1955, Bernstein combined selections from the score for his *On the Waterfront Symphonic Suite*.



ELMER BERNSTEIN 1953
THE MAN WITH THE GOLDEN ARM

16 A jazz-inflected, Oscar-nominated score, Bernstein's music benefited not only from trumpeter Shorty Rogers's arrangements but also creative input from the film's star: Frank Sinatra.

RAVI SHANKAR 1954
PATHER PANCHALI

17 Incorporating a number of classical Indian ragas, both uplifting and poignant, the soundtrack was composed by a young Shankar, largely in only one night.



BERNARD HERRMANN 1958
VERTIGO

20 Vintage Herrmann. Two clashing arpeggios (E flat minor and D minor) play in awkward contrary motion over the opening "Prelude," suggesting the titular dizziness. It recurs on a harp when lead character Scottie hangs precariously from a gutter. Similar unsettling cues recur elsewhere, never resolving—a complement to Scottie's obsessive love and hinting at disaster.

LOUIS & BEBE BARRON
FORBIDDEN PLANET

18 Truly innovative, the Barrons's mostly atonal electronic score employed manipulation of sound samples.

MILES DAVIS 1958
ASCENSEUR POUR L'ÉCHAFAUD (LIFT TO THE SCAFFOLD)

19 Davis improvised the smoky score in one night, having seen the film twice. Feisty bebop mixes with darker cues.

JEROME MOROSS
THE BIG COUNTRY

21 A classic wide-screen Western soundtrack, brimming with breezy optimism. The exhilarating orchestration is reminiscent of Aaron Copland's, although Moross put it down to a visit to the Great Plains in 1936: "a marvelous feeling of being alone in the vastness with the mountains cutting off the horizon." The Oscar-nominated score features drama, spectacle, and hummable melodies.



BERNARD HERRMANN 1959
NORTH BY NORTHWEST

22 Noting an "Astaire-like agility" in lead actor Cary Grant, Herrmann scored a frantic fandango for moments of high drama ("Overture"). Displaying his romantic roots, the main love theme refers ironically to Wagner's *Tristan und Isolde*. Herrmann also knew when music was superfluous: the crop-duster chase scene was left unscored.

DUKE ELLINGTON
ANATOMY OF A MURDER

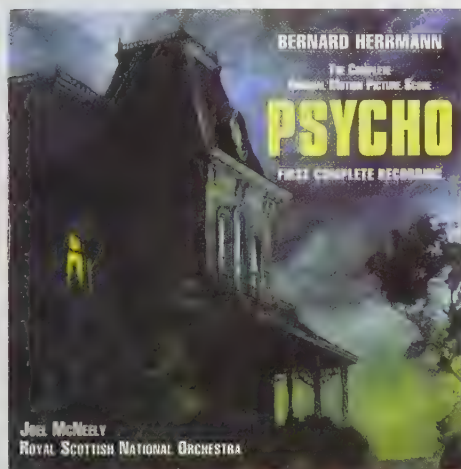
23 Ellington's elegant score features his own understated piano playing. The standouts include the suspenseful "Midnight Indigo," playful "Grace Valse," and a brassy, swinging title track.

MIKLÓS RÓZSA
BEN-HUR

24 Rózsa worked on this intricate, Oscar-winning score for over a year. Fanfares and martial stomps aplenty, but also a gentle theme (pipe organ-violin harmonics) for Christ.

BERNARD HERRMANN PSYCHO

25 Director Alfred Hitchcock had wanted a jazz score, but the movie's limited budget led Bernard Herrmann to go "monochrome"—strings only—for this black-and-white shocker. The violin stabs in the shower scene (Hitchcock wanted it unscored at first) are prime avant-garde Herrmann, who works here with small motivic "cells" that he can freely adapt. Dissonance and atonality dominate; notes are placed in queasy counterpoint; musical bars end jarringly early. Even in uneventful scenes, the music implies fraught mental states and horrors to come.



JOHN BARRY GOLDFINGER

32 Shirley Bassey's dynamic main title still thrills, but the rest of this brassy, jazz-tinged set is a joy, too, from the cheeky swing of "Into Miami" to the ominous strings of "The Laser Beam." In a wry nod to the film's metallic theme, an anvil joins the orchestra. The LP unseated The Beatles from the US No. 1 slot and established the Bond sound.

NAUSHAD WITH SHAKEEL BADAYUNI MUGHAL-E-AZAM

26 A grand, symphonic work, the soundtrack incorporates songs that are inspired by traditional forms, particularly ragas, as heard in "Pyar Kiya to Darna Kya."

MAURICE JARRE LAWRENCE OF ARABIA

28 A fittingly elegiac and sweeping score, played by a 104-piece orchestra, including 11 percussionists, with three ondes martenot for added exoticism. Strings very much to the fore, and the chromaticisms of Arabic music are a key influence—as heard in the chillingly beautiful main theme. Two hours of music, composed in a mere six weeks, secured Jarre his first Academy Award.

ELMER BERNSTEIN TO KILL A MOCKINGBIRD

29 An understated work, written to reflect the world as seen by a child—hence the celesta, bells, harps, and simple piano lines. Brass and low piano notes reflect the movie's evil forces.

ELMER BERNSTEIN RETURN OF THE SEVEN

33 Oddly, Bernstein's stirring theme for 1960's *The Magnificent Seven* was first heard on this fine soundtrack LP for its sequel, along with other tracks from the original. In fact, this classic Western score remained unheard in its entirety until 1998.

HENRY MANCINI BREAKFAST AT TIFFANY'S

27 Famous for Audrey Hepburn's limpid "Moon River," there are many other hot ("The Big Blow Out") and cool ("Sally's Tomato") delights in this jazz-flavored set.



NINO ROTA 8 1/2

30 Complementing Fellini's dreamlike narrative, Rota created an inspired and exotic mixture of cabaret, operatic excursions, classical music, circus stylings, polkas, and jazz.

THE BEATLES A HARD DAY'S NIGHT

31 A heady brew of ecstatic pop ("Can't Buy Me Love") and peerless ballads ("And I Love Her" and "If I Fell").



ENNIO MORRICONE THE GOOD, THE BAD AND THE UGLY

34 Morricone's audacious score blends twanging electric guitar, orchestra, unusual percussion, whistles, and gunshots for an exotic, utterly original sound. The album was a *Billboard* No. 4 hit while a cover of the title theme by Hugo Montenegro made No. 2 Stateside and No. 1 in the UK.

GEORGE BRUNS, TERRY GILKYSON, RICHARD & ROBERT SHERMAN
THE JUNGLE BOOK

35 A hugely enjoyable, no-filler soundtrack that features Disney classics such as "The Bare Necessities," "Trust in Me (The Python's Song)," and Louis Prima's exuberant reading of "I Wan'na Be Like You (The Monkey Song)".

LALO SCHIFRIN
BULLITT

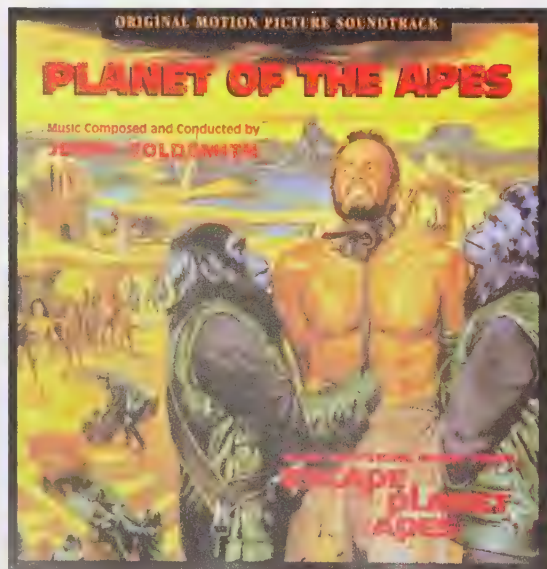
36 The main title is a fine mix of cool (guitar) and hot (brass). "Shifting Gears" ticks menacingly; "Ice Pick Mike" simmers and then boils with wild horn solos.

VARIOUS
2001: A SPACE ODYSSEY

37 Out of this world. Johann Strauss II's "The Blue Danube," György Ligeti's eerie *Atmosphères* and Richard Strauss's *Also sprach Zarathustra*.

JERRY GOLDSMITH
PLANET OF THE APES

38 Goldsmith forged a highly unconventional, Oscar-nominated soundscape, employing unusual instruments (ram's horn and electric harp), unlikely percussion (an aluminum bowl), and highly dissonant, occasionally serialist scoring. Pizzicato strings, fed through an echoplex unit, establish the uncomfortable atmosphere with the main titles.



ENNIO MORRICONE
ONCE UPON A TIME IN THE WEST

39 An extraordinary score—in fact, director Sergio Leone structured the movie around it. Rich with leitmotifs—notably the haunting mouth-organ riff for "Man with Harmonica"—jarring electric guitar ("As a Judgment"), and serene orchestral arrangements. Edda Dell'Orso's wordless vocals for the main title are wistful and melancholic.



JOHN BARRY
ON HER MAJESTY'S SECRET SERVICE

40 Barry revised his approach for his sixth Bond score. A Moog synthesizer underpins the brass in the main theme, and Louis Armstrong's vocals grace "We Have All the Time in the World."

BURT BACHARACH & B. J. THOMAS
BUTCH CASSIDY AND THE SUNDANCE KID

41 "Raindrops Keep Fallin' on My Head" was a huge hit, but the rest of the (admittedly brief) score offers a raft of delights, including Morricone-esque touches on "South American Getaway" and "Come Touch the Sun."

LALO SCHIFRIN
DIRTY HARRY

43 A grittier update on Schiffrin's sound for the new decade—adding elements of acid rock, soul, and atonality—partly inspired by Miles Davis's electronic direction. The full soundtrack was unavailable until 2004.

ISAAC HAYES
SHAFT

44 The funky, Oscar-winning title track was a US No. 1, but the 20-minute "Do Your Thing" and warm, melodic orchestral interludes also impress.

ROY BUDD
GET CARTER

42 Budd's moody title tune ("Carter Takes a Train") and the ghostly "Manhunt" are fittingly somber for a dark revenge movie, although there are friskier delights with "The Girl in the Car" and "Plaything."

ERIC THOMPSON
DOUGAL AND THE BLUE CAT

45 Eric Thompson's charming narrative is intercut with ballads and forays into French pop—suitably offbeat fare for this surreal spin-off movie from a UK children's TV teatime favorite.

NINO ROTA 1972 THE GODFATHER

46 Rota's soundtrack combines evocative symphonic scoring with traditional Sicilian songs—most spectacularly in the haunting, bittersweet theme tune (later set to lyrics as "Speak Softly Love"). Highly acclaimed, it later secured Rota a Grammy Award for Best Original Score for a Motion Picture or TV Special.

VARIOUS 1972 THE HARDER THEY COME

49 This strong collection of reggae helped break the music Stateside. Alongside Jimmy Cliff's inspirational "You Can Get it if You Really Want," "Many Rivers to Cross," and the title track are classics by Toots & The Maytals ("Pressure Drop") and Desmond Dekker ("007 [Shanty Town]").

PAUL GIOVANNI 1973 THE WICKER MAN

50 Drawing on British folk music, but deeply odd ("Maypole" and "Fire Leap"), this was taped in 1973, lost, and not officially issued until 1998.

R. D. BURMAN 1975 SHOLAY

52 Burman sings his own "Mehbooba, Mehbooba," which was nominated for an award. "Yeh Dosti" and "Koi Haseena" also feature.

JERRY GOLDSMITH CHINATOWN

51 A brief, brilliant score arranged for strings, four pianos, four harps, two percussionists, and a single trumpet. This is 1970s noir, with queasy touches: the trumpet-led "love theme" feels awkward; unexpected harp glissandos brush over "Noah Cross"; anxious strings hover and clash in "The Wrong Clue." Incredibly, it was written and recorded in only ten days.

CURTIS MAYFIELD 1972 SUPER FLY

47 This hugely popular soundtrack (though the lyrics are resolutely cautionary) includes "Freddie's Dead" and the superb title track, both of which were hit singles.

MARVIN GAYE 1971 TROUBLE MAN

48 Gaye's underrated, mostly instrumental score features hot funk and splendid jazz arrangements. Trevor Lawrence supplies fine saxophone work.



JOHN WILLIAMS JAWS

53 Steven Spielberg's model shark was not all that scary—and is rarely seen in *Jaws*. Much of the fear factor is down to John Williams's Oscar-winning music. The chugging two-note cello motif for the shark is as famous as *Psycho*'s shrieking violins, its gradual acceleration reflecting the beast's burgeoning excitement. When the shark abruptly appears in the closing scenes without its motif, the shock is all the greater. For "Chrissie's Death" (accompanying the first kill), the motif grows breathlessly fast, beneath a storm of anvil "bites," an uneasy harp, and whirling strings.



JERRY GOLDSMITH THE OMEN

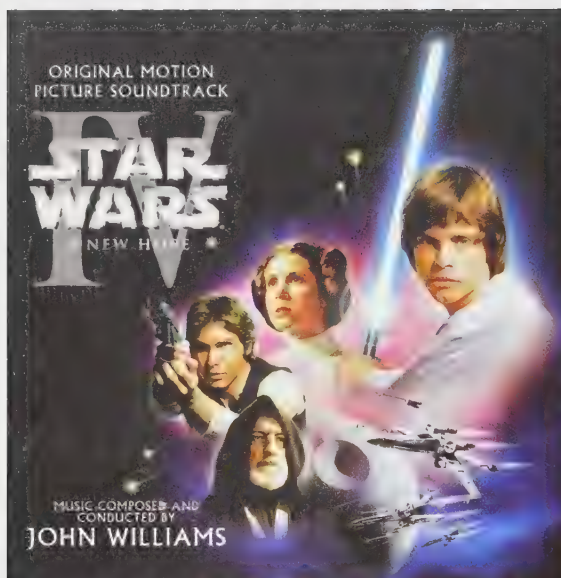
54 A characteristically inventive work, and (bafflingly) Goldsmith's only Oscar win, *The Omen* created a template for future horror scores with its ominous choral chanting and whispers ("Ave Satani"). Elsewhere, what starts out as an enchanting "family" theme gradually disintegrates over a series of increasingly dissonant cues into something troubled and full of foreboding.

BERNARD HERRMANN 1976 TAXI DRIVER

55 Herrmann scopes out new musical ground on this, his final (Oscar-nominated) score, filling Martin Scorsese's sleazy urban streets with slow, bluesy jazz, led by Tom Scott's lonely sax solos. Harp glissandos and breathy bass clarinet rack up the discomfort.

VARIOUS 1978 SATURDAY NIGHT FEVER

56 History's best-selling soundtrack is full of disco delights, dominated by Bee Gees songs sung both by themselves (title, "Stayin' Alive," and "More Than a Woman") and others.



JOHN WILLIAMS STAR WARS

57 This tour de force demonstrates Williams's debt to composers from film's golden age and the music that inspired them: late nineteenth-century symphonic works. Wagnerian leitmotifs abound—the bold, brass-led fanfare becomes Luke Skywalker's theme as his heroic star rises, tremulous flute and keening strings embellish Princess Leia's poignant motif, while Darth Vader's theme (aka "The Imperial March") is built on a menacing ostinato that nods to Gustav Holst's "Mars" from *The Planets*. Stirring and unashamedly romantic, *Star Wars* cemented the rebirth of orchestral scoring.

GOBLIN SUSPIRIA

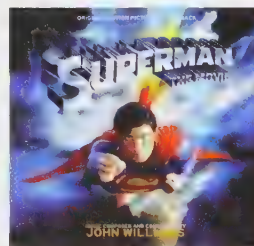
58 Far-out jazz rock, seasoned with chants, Moog synths, and storms of electronic noise invest this suitably scary horror score by Italian prog rockers Goblin.

KALYANJI ANANDJI DON

59 A psychedelic-funk gem, *Don* includes the Filmfare Award-winning tunes "Yeh Mera Dil" (sung by Asha Bhosle) and "Khaike Paan Banaraswala."

JOHN WILLIAMS SUPERMAN

60 Like other Willams-scored fantasy blockbusters, the soaring main title has a grandeur and fanfare quality, giving way to a romantic theme. Celesta, choir, oboe, and shivering strings frame the austere "Fortress of Solitude," while "Leaving Home"—for the prairie town of Smallville—has touches of Copland-esque wonder.



JOHN CARPENTER HALLOWEEN

61 Using only piano and cheap synths, Carpenter came up with a new sound for horror. The nagging title (in angular 5/4 time), "Laurie's Theme," "The Shape Lurks," and "The Shape Stalks" are pure menace.

JERRY GOLDSMITH 1979 STAR TREK: THE MOTION PICTURE

62 A highly inventive, deeply romantic score, including the elegant overture "Ilia," stirring main title music, and ticktock threat of "Klingon Battle." One of the composer's best-selling soundtracks.

EDUARD ARTEMYEV STALKER

63 Drawing on the steady tones innate to Indian traditional music, Artyemyev carefully layers synthesized sounds (timbrally similar to an Indian tanpura), flute, and the jangling strings of the Iranian *tar* for his mesmerizing central theme.

JOHN WILLIAMS E.T. THE EXTRA-TERRESTRIAL

64 Williams's inspired, inventive work—rich in strong motifs and orchestral color—brings gentle piano, celesta, and harp to the fore. The string-led "Flying Theme" is heart-warming, but the sometimes polytonal score also effectively conveys mystery ("Main Titles") and threat ("Abandoned and Pursued").



PHILIP GLASS KOYAANISQATSÍ

65 Director Godfrey Reggio collaborated closely with Glass, often editing to the flow of his music. The minimalist rhythms work a treat, their ebb and flow an ideal complement to the imagery of life out of balance.

DAVID LYNCH & ALAN R. SPLET ERASERHEAD

66 With sound designer Alan R. Splet, Lynch evolved a dark aural landscape; a hissing, howling, fizzing fog world he dubbed an "industrial symphony" with Fats Waller tunes. Unique and quite terrifying.

BAPPI LAHIRI DISCO DANCER

67 Lahiri's synth-disco set includes "Jimmy Jimmy Aaja," which was reworked by UK singer M.I.A. in 2007.

VANGELIS BLADE RUNNER

Highly influential, Vangelis's electronic score for Ridley Scott's sci-fi dystopia is a brooding, multitextured masterpiece. Synthesizers dominate; elsewhere, the sax solo on "Love Theme" is in keeping with the movie's noirish overtones. The full soundtrack was only released in 1994.

RY COODER PARIS, TEXAS

Cooder's shivery slide guitar conjures up an evocative landscape of open plains and ghostly winds. The dominant motif arrives with the opening titles and recurs regularly thereafter—which serves admirably to depict those still, empty spaces.

PRINCE & THE REVOLUTION PURPLE RAIN

Prince went supernova with this double Grammy-winning, *Billboard*-topping triumph. Its many highlights include the rocktastic title track and electro-tinged "When Doves Cry."

SPINAL TAP THIS IS SPINAL TAP

The pitch-perfect parodies of overblown metal include "Sex Farm," "Hell Hole," "Big Bottom," and, of course, "Stonehenge."

ENNIO MORRICONE THE MISSION

This cross-cultural, Oscar-nominated score supplements grand orchestral textures with Spanish guitars, indigenous drums, and the Andean group Incantation. Morricone evokes true majesty with the string-layered "Falls," while flute and guitar combine memorably for the touching "Brothers."



ENNIO MORRICONE ONCE UPON A TIME IN AMERICA

Smooth washes of strings establish a generally poignant tone for this epic work, joined for the main titles by Gheorghe Zamfir's pan flute, a distinctive element in the score. Although the orchestra provides the bedrock, Morricone's broad palette takes in honky-tonk piano, mandolin, recorder ("Childhood Poverty"), and early hot jazz ("Prohibition Dirge").



TORU TAKEMITSU RAN

At director Akira Kurosawa's behest, Takemitsu took inspiration from Gustav Mahler's deeply moving orchestrations, laced with Japanese percussion and lone flute. Some battle scenes are entirely silent save for the troubled majesty of Takemitsu's score.

PHILIP GLASS MISHIMA

Glass's discretely divided sonic palette reflects the nonlinear form of the movie. As with *Koyaanisqatsi*, his music informed the edit. The Kronos Quartet are among the contributors.

ANGELO BADALAMENTI BLUE VELVET

A string-rich score—eerie but highly romantic at times—meets pop songs old and new. "Mysteries of Love" has a stately beauty.

VARIOUS MAINE PYAR KIYA

The best-selling Bollywood LP of the 1980s, with "Dil Deweena." Lata Mangeshkar and S. P. Balasubrahmanyam (who won a Filmfare Award) are both on sparkling form.

DANNY ELFMAN BATMAN

Elfman's brooding opening titles matched Tim Burton's vision of an apocalyptic Gotham to a tee. But this is a winningly multifaceted work, from the Grammy-winning "Batman Theme" to the lurching "Clown Attack."

NADEEM-SHRAVAN AASHIQUI

79 This richly romantic set of pop melodies—including “Jaane Jigar Janeman” and “Nazar Ki Samne”—made *Aashiqui* a hit at the box office and shot Nadeem-Shavran (composer duo Nadeem Saifi and Shavran Rathod) to stardom. It remains the best-selling Bollywood soundtrack ever.

VARIOUS (COMP. QUENTIN TARANTINO) RESERVOIR DOGS

82 Rescuing musical obscurities (“Little Green Bag”) and breathing shocking new life into more familiar material (“Stuck in the Middle with You”), Tarantino proved himself musically as well as cinematically savvy.

ANGELO BADALAMENTI FIRE WALK WITH ME

83 As perfect for David Lynch as Herrmann for Hitchcock, Badalamenti’s twisted tunes give sweet melodies a dark cloak (“Falling”) or offer uplifting melodies hemmed in with sadness (“Laura Palmer’s Theme”).

VARIOUS THE LION KING

85 Scored by Hans Zimmer, with musical numbers penned by Elton John and Tim Rice, this is still the top-selling soundtrack for an animation in the United States. Sales were helped by the chart success of singles “Circle of Life” and “Can You Feel the Love Tonight.” The latter and Zimmer’s score both won Academy Awards.

JOHN BARRY DANCES WITH WOLVES

86 Barry’s elegiac score—for one of the largest orchestras he ever used—touchingly evokes a panoramic Wild West. True, there are palpable thematic and instrumental nods to his earlier scores, but this late-career masterpiece won a deserved fifth Oscar and a Grammy Award for the composer. Its memorable cues include the disarmingly beautiful “Two Socks/The Wolf Theme.”

JACK NITZSCHE THE HOT SPOT

87 Not much of a film, but the soundtrack features wonderful takes on the blues from the likes of John Lee Hooker, Miles Davis, and Taj Mahal. A late-career high for Davis and Hooker, it is worth seeking out.



JOHN WILLIAMS SCHINDLER'S LIST

84 A profoundly moving and restrained piece, its musical themes all the more powerful for their simplicity. Itzhak Perlman’s violin solos instill both cultural and emotional resonance, notably in the poignant main theme; his queasy work on “Auschwitz-Birkenau” sets the cue’s unnerving tone. There are stirring allusions to Jewish folk song in “Yeroushalaim Chel Zahav” and “Oyf’n Pripetshok/Nacht Aktion.” This masterful score deservedly won its composer a fifth Academy Award.

VARIOUS (COMP. TRENT REZNOR) NATURAL BORN KILLERS

86 A vibrant collage of songs old and new—from Patsy Cline to Dr. Dre and Reznor’s own “Burn”—samples, and dialog, this messy but mesmerizing work neatly mirrors the movie’s psychotic sensibility.

GORAN BREGOVIĆ UNDERGROUND

87 Ebulliently loose and joyful at times (opener “Kalašnjikov”), at others raggedly mournful, these numbers introduced a rousing original sound world as breathtaking and unexpected as the movie itself.

JATIN-LALIT WITH ANAND BAKSHI DILWALE DULHANIA LE JAYENGE

88 A career high for Jatin and 1995’s top-selling Bollywood soundtrack, featuring the smash hit “Mehndi Laga Ke Rakhna.”

THOMAS NEWMAN AMERICAN BEAUTY

89 Excerpts appeared alongside a clutch of pop and rock classics on the soundtrack, but Newman’s full Grammy-winning score is majestic. Evocatively atmospheric from start to finish, standouts include the haunting main theme and playfully percussive “Dead Already.”

A. R. RAHMAN & A. BAKSHI
TAAL

90 A mega-selling mix of peppy pop and ballads that won Filmfare Awards for the music direction and Bakshi's lyrics for "Ishq Bina."

RZA & VARIOUS
GHOST DOG: THE WAY OF THE SAMURAI

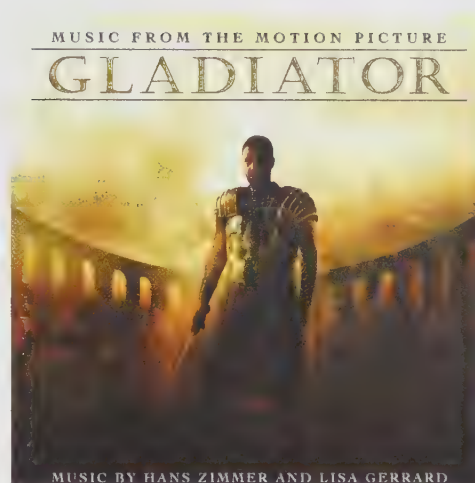
91 Hip-hop royalty (Wu-Tang Clan and Jeru The Damaja) appear alongside original scoring by the Clan's The RZA.

CLINT MANSELL
REQUIEM FOR A DREAM

92 A darkly minimalist soundtrack best known for the much-reused "Lux Aeterna." Mansell's edgy electronica and fractured beats are complemented by the strings of the Kronos Quartet.

HANS ZIMMER & LISA GERRARD
GLADIATOR

93 The success of this platinum-selling soundtrack spawned several sequels. Zimmer's telltale pounding drums and brass fanfares enliven "The Battle" and "Barbarian Horde" (which nods to Holst's "Mars: Bringer of War"). The orchestral blood and thunder is nicely balanced by Lisa Gerrard's ethereal vocals ("Elysium" and "Sorrow") and the haunting duduk, played by Djivan Gasparyan ("To Zuccabar").



HOWARD SHORE
THE LORD OF THE RINGS: THE FELLOWSHIP OF THE RING

94 Tolkien's narrative demands an epic aural palette, and Shore obliges with bold brass, soaring strings, and choirs. The luminous "Many Meetings" epitomizes the score's lyrical side while Shore dips into Celtic waters for "Concerning Hobbits." Enya's haunting voice ("May it Be" and "Council of Elrond") adds softness to the orchestral grandeur.

JONNY GREENWOOD
THERE WILL BE BLOOD

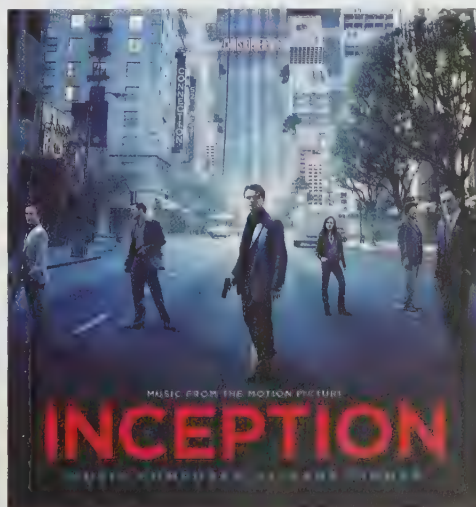
95 Greenwood's assured orchestration offsets fraught dissonance ("Henry Plainview") with glimpses of stark beauty ("Prospectors Arrive" and "Open Spaces").

NICK CAVE & WARREN ELLIS
THE ASSASSINATION OF JESSE JAMES BY THE COWARD ROBERT FORD

96 The duo's elegant, folk-flecked elegies include the sparkling "Song for Jesse" and sparse pianism of "Counting the Stars."

HANS ZIMMER
INCEPTION

97 Zimmer blends orchestra, electronica, and sound design to winning effect. The brooding "Waiting for a Train" and "Old Souls" recall Vangelis's work on *Blade Runner* while eight cues feature ex-Smiths guitarist Johnny Marr, including the frenetic percussion workout "Momabasa." Famously, an ultra-slowed-down sample from Édith Piaf's "Non, je ne regrette rien" inspired the core cue, in a musical nod to the way that time slows down in the movie when a dream state is depicted.



TRENT REZNOR & ATTICUS ROSS
THE SOCIAL NETWORK

98 Reznor and Ross's Oscar-winning textural electronica and sound design is edgy but also packs emotional punch.

CLIFF MARTINEZ
DRIVE

99 Retro electro pop meets shape-shifting soundscapes to often creepy effect. Standouts include "I Drive" and "Nightcall."

TOM TYKWER, REINHOLD HEIL & JOHNNY KLIMEK
CLOUD ATLAS

100 The collaborative trio smartly employ multiple themes (notably "The Cloud Atlas Sextet") to unify the complex narrative.



JEROME KERN & OSCAR HAMMERSTEIN II SHOW BOAT

1 A floating theater on the Mississippi River is the setting for this enduringly popular work, four productions of which featured Paul Robeson in the role of dockworker Joe. Its well-loved tunes include "Can't Help Lovin' Dat Man," "Make Believe," and Robeson's signature song "Ol' Man River." Of the three movies of the musical, the best known is the 1951 version, starring Howard Keel.

ARTHUR SCHWARTZ & HOWARD DIETZ THE BAND WAGON

2 The original stage version of *The Band Wagon* ran for 260 performances and received rave reviews. It includes "Dancing in the Dark," a huge big-band hit for Artie Shaw in 1941. "That's Entertainment!" was written for Vincente Minnelli's 1953 movie, which paired Fred Astaire with Cyd Charisse and is seen as one of MGM and Hollywood's greatest musicals.

HARRY WARREN & AL DUBIN 42ND STREET

3 Choreographed by Busby Berkeley, the movie about an attempt to put on a musical in the Depression era featured Ginger Rogers and the duo of Dick Powell and Ruby Keeler. The first Broadway staging in 1980 was a resounding, Tony Award-winning smash.

HARRY WARREN & AL DUBIN GOLD DIGGERS OF 1933

4 Directed by Mervyn LeRoy, with dance routines choreographed by Busby Berkeley, this musical comedy features the Depression-defying tune "We're in the Money." Ginger Rogers (the glamour-puss), Joan Blondell (the torch singer), Ruby Keeler (the ingenue), and Aline MacMahon (the comedienne) are the four titular "gold diggers."

100 MUSICALS

IRVING BERLIN & MAX STEINER TOP HAT

5 This Baroque tale of mistaken identity includes Fred Astaire's well-known solo tap dance for "Top Hat, White Tie and Tails" and two of Irving Berlin's most romantic tunes, "Cheek to Cheek" and "Isn't This a Lovely Day (to be Caught in the Rain)."

JEROME KERN SWING TIME

6 One of Fred and Ginger's finest movies features "A Fine Romance," "Pick Yourself Up," and the Oscar-winning "The Way You Look Tonight," a US No. 1 for Astaire.

HERBERT STOTHART, HAROLD ARLEN & E. Y. HARBURG THE WIZARD OF OZ

7 Although "Over the Rainbow" is one of the best-known songs in the history of musicals, this movie milestone is packed with catchy sing-alongs, such as "Ding-Dong! The Witch Is Dead." The unforgettable characters, snappy dialogue, terrific set design, and bold switch from somber, sepia-tone Kansas to zappy Technicolor Oz make this musical one of cinema's finest fairy tales.

GEORGE M. COHAN, RAY HEINDORF & HEINZ ROEMHELD YANKEE DOODLE DANDY

8 James Cagney's vivacious portrayal of entertainer Cohan in this hugely successful musical has become legendary, as has the title song, "The Yankee Doodle Boy."

RICHARD RODGERS & OSCAR HAMMERSTEIN II OKLAHOMA!

9 Both the first Broadway production and 1955 movie were hits, thanks to cheery standards such as "The Surrey with the Fringe on Top" and "Oh! What a Beautiful Mornin'."

HUGH MARTIN & RALPH BLANE MEET ME IN ST. LOUIS

10 With its mixture of period and original songs, this tale of a turn-of-the-century family's mooted relocation to New York from St. Louis was a box-office smash (\$5 million plus). Judy Garland premiered "The Trolley Song" and "Have Yourself a Merry Little Christmas" in the film, although the latter only after lyricist Hugh Martin modified the words, which were deemed too downbeat.

LEONARD BERNSTEIN & VARIOUS ON THE TOWN

11 The 1949 movie starring Gene Kelly and Frank Sinatra kept only three songs from the original Broadway production, one of which was the buoyant "New York, New York."

RICHARD RODGERS & OSCAR HAMMERSTEIN II CAROUSEL

12 The duo's second musical was made into a film in 1956, with *Oklahoma!* star Gordon MacRae. Its best-known number is the stirring "You'll Never Walk Alone."

IRVING BERLIN
ANNIE GET YOUR GUN

13 A stage smash in New York and London, this tale of Wild West legend Annie Oakley includes "Anything You Can Do" and "There's No Business Like Show Business." The 1950 film starred Betty Hutton and Howard Keel.

COLE PORTER
KISS ME, KATE

14 Shakespeare's *The Taming of the Shrew* informs this multi-award-winning musical, in which favorite songs include "Too Darn Hot" and "Always True to You in My Fashion." The 1953 movie was shot in 3D.

IRVING BERLIN
EASTER PARADE

15 Judy Garland and Fred Astaire paired up for this hit, featuring the Hollywood standards "A Couple of Swells" and "Steppin' Out with My Baby." Johnny Green and Roger Edens won the Oscar for Best Musical Score.

RICHARD RODGERS & OSCAR HAMMERSTEIN II
SOUTH PACIFIC

16 With songs of the caliber of "I'm Gonna Wash That Man Right Outa My Hair" and "Some Enchanted Evening," it's little wonder that this was a Broadway smash hit.

JULE STYNE & LEO ROBIN
GENTLEMEN PREFER BLONDES

17 Although this musical enjoyed only modest stage success, it became a massive hit when Hollywood goddesses Marilyn Monroe and Jane Russell paired up for the movie in 1953. Monroe's rendition of the showstopping "Diamonds Are a Girl's Best Friend" is a definite highlight, but there is much to admire in Russell's sharp-witted turn as the brunette



FRANK LOESSER
GUYS AND DOLLS

18 Based on two short stories by Damon Runyon, this tale of gamblers and do-gooders enjoyed a run of 1,200 shows on Broadway and moved to the West End in 1953. It picked up the Tony Award for Best Musical along the way, thanks to witty, literary songs, such as the intricate "Fugue for Tinhorns," and a brace of showstoppers in "Luck, Be a Lady" and "Sit Down, You're Rockin' the Boat." The film version in 1955 retained Vivian Blaine in the role of nightclub dancer Miss Adelaide, with Frank Sinatra cast as Nathan Detroit, the errant object of her desire. Marlon Brando was paired with Jean Simmons as virtuous Sister Sarah Brown.

RICHARD RODGERS & OSCAR HAMMERSTEIN II
THE KING AND I

19 Based on the memoirs of a governess to the king of Siam, the smash stage show cast Yul Brynner as the king. The classic songs include "Shall We Dance."

GEORGE GERSHWIN, IRA GERSHWIN & SAUL CHAPLIN
AN AMERICAN IN PARIS

20 Starring Gene Kelly and Leslie Caron, the movie ends with a 16-minute ballet set to the titular symphonic poem.

NACIO HERB BROWN & ARTHUR FREED
SINGIN' IN THE RAIN

21 This immortal homage to the transition from the silent screen to the "talkies" drew on songs from Freed's back catalog. Astonishingly, tight deadlines meant that much of the breathtaking choreography was improvised at short notice. Best of all, of course, is Gene Kelly's iconic dance routine for the title tune, a moment of pure Hollywood magic. A stage musical version that premiered in the West End in 1983 has seen several revivals.

FRANK LOESSER
HANS CHRISTIAN ANDERSEN

22 Consummate song-and-dance man Danny Kaye shines in this fictional biography of the Danish storyteller. The unforgettable songs include "The Inch Worm," "The Ugly Duckling," "The King's New Clothes," and "Wonderful Copenhagen."

DAVID BUTTOLPH & HOWARD JACKSON
CALAMITY JANE

23 Doris Day starred in the movie version of this Wild West musical, famed for "Secret Love." It hit the stage in 1961.

ALEXANDER BORODIN, BOB WRIGHT & CHET FORREST 1941
KISMET

24 A fantasy *Arabian Nights*-era Baghdad is the setting for this Tony Award-winning show, featuring "Stranger in Paradise" and "Baubles, Bangles and Beads."

FREDERICK LOEWF & ALAN JAY LERNER 1956
MY FAIR LADY

29 The stage production with Rex Harrison and Julie Andrews was a smash on Broadway in 1956. In the hit 1964 movie, Audrey Hepburn took Andrews' role of Eliza Doolittle.

MEREDITH WILSON 1961
THE MUSIC MAN

30 The hit Broadway show picked up five Tonys. The 1962 movie beat *West Side Story* to win the Oscar for Best Musical Score.

S. D. BURMAN 1954
PYAASA

33 This romantic Hindi musical stars Guru Dutt as a struggling poet and Mala Sinha as a kind-hearted prostitute. The acclaimed soundtrack was Burman's last with lyricist Sahir Ludhianvi.

JULE STYNE & STEPHEN SONDHEIM 1968
GYPSY

34 Loosely based on the life of stripper Gypsy Rose Lee and directed by Jerome Robbins, the feted stage show was made into a movie in 1962. Favorites include "Together (Wherever We Go)."

GENE DE PAUL, JOHNNY MERCER, ADOLPH DEUTSCH & SAUL CHAPLIN 1952
SEVEN BRIDES FOR SEVEN BROTHERS

25 This Oscar-winning show is graced with Howard Keel's pipes and includes "Bless Your Beautiful Hide."

ADOLPH DEUTSCH, GEORGE GERSHWIN & IRA GERSHWIN 1927
FUNNY FACE

31 Fred Astaire had starred with his sister in 1927 in a stage musical of the same name, but here, in the movie directed by Stanley Donen, he is paired with a much-younger Audrey Hepburn as the shy bookshop assistant. Real-life fashion photographer Richard Avedon contributed to the arresting opening credits. Best of all is Kay Thompson's ebullient "Think Pink!"

HAROLD ARLEN & IRA GERSHWIN 1938
A STAR IS BORN

26 Judy Garland revived her career opposite James Mason in this heartbreaking story of fame and failure.

LEONARD BERNSTEIN 1957
WEST SIDE STORY

32 *Romeo and Juliet* is set amid Manhattan street gangs, with an unbeatable combo of terrific tunes by Bernstein ("America," "Tonight," "Maria," "I Feel Pretty"), lyrics by Sondheim (for his Broadway debut), and choreography by Jerome Robbins. The 1961 movie, starring Natalie Wood and Richard Beymer as star-crossed lovers Maria and Tony, won ten Oscars, and the soundtrack topped *Billboard* for 54 weeks.

RICHARD ADLER & JERRY ROSS 1962
THE PAJAMA GAME

27 A Tony winner, with "Steam Heat" and "Hernando's Hideaway." The cast transferred to the 1957 film, save Janis Paige (replaced by Doris Day).

COLE PORTER 1954
HIGH SOCIETY

28 Based on *The Philadelphia Story*, this star-studded affair (Bing Crosby, Grace Kelly, Frank Sinatra) has some of Porter's finest tunes.



RICHARD RODGERS & OSCAR HAMMERSTEIN II 1959
THE SOUND OF MUSIC

35 Based on the memoirs of a young nun, the wartime adventures of the singing Von Trapp family initially inspired a hit Broadway show, starring Mary Martin as Maria, followed in 1965 by a multi-Academy-Award-winning musical with Julie Andrews and Christopher Plummer in the lead roles. Catchy fare such as the title tune, "Do-Re-Mi," "My Favorite Things," and "Edelweiss" made the soundtrack the UK's second-best-selling LP of the 1960s, behind The Beatles's *Sgt. Pepper*.

FREDERICK LOEWE & ALAN JAY LERNER CAMELOT

36 This Arthurian tale (featuring "How to Handle a Woman") scored four Tony Awards and a hit LP in the United States. A movie version was released in 1967, starring Richard Harris and Vanessa Redgrave in the roles of Arthur and Guenevere respectively.

LIONEL BART OLIVER!

37 Including outstanding sing-alongs "Food, Glorious Food," "Consider Yourself," and "You've Got to Pick a Pocket or Two," Bart's Dickensian musical was a hit both in London's West End—with Ron Moody as Fagin and future Monkees singer Davy Jones as the Artful Dodger—and on Broadway. Moody reprised his role for the 1968 movie, which won six Oscars.

STEPHEN SONDHEIM A FUNNY THING HAPPENED ON THE WAY TO THE FORUM

38 Farcical goings-on in ancient Rome made for a Tony Award-winning Broadway hit, with Zero Mostel as the slave Pseudolus. He returned for the 1966 film, which shed many songs but kept the iconic "Comedy Tonight."

JERRY BOCK & SHELDON HARNICK FIDDLER ON THE ROOF

39 The Broadway staging of this musical set in a turn-of-the-century Jewish village in Russia ran to 3,242 performances. Chaim Topol took over the part of Tevye from Zero Mostel for the West End run, reprising the role in the 1971 movie.

RICHARD SHERMAN & ROBERT SHERMAN MARY POPPINS

40 Disney stalwarts the Sherman brothers excelled themselves for this magical tale of an extraordinary nanny trying to bring order and laughter to the Banks household in London. Favorite tunes include the upbeat "A Spoonful of Sugar," "Supercalifragilisticexpialidocious," "Let's Go Fly a Kite," and "Chim Chim Cher-ee," as well as the wistful "Feed the Birds." A charming mix of animation and live action—with Julie Andrews's crystal-clear singing and Dick Van Dyke's fine dancing and wayward Cockney accent—the movie was a smash hit at the box office and won five Academy Awards, including Best Song and Best Score. A West End stage production with a script by Julian Fellowes debuted in 2004 and won two Olivier Awards; a Broadway version opened in 2006 and won a Tony Award for Best Scenic Design.



JULE STYNE & BOB MERRILL FUNNY GIRL

41 Drawing on the life and career of stage star Fanny Brice, the original Broadway show was well received and was nominated for eight Tony Awards. Barbra Streisand reprised the role of Fanny for a film version in 1968 and won an Academy Award for Best Actress.

MICHEL LEGRAND THE UMBRELLAS OF CHERBOURG

42 Including a sung-through score and imaginative use of color, this poignant tale of parted young lovers (Catherine Deneuve and Nino Castelnuovo) features Legrand's memorable "If It Takes Forever." The film is the middle one of a trilogy that begins with *Lola* 1961 and ends with *The Young Girls of Rochefort* (1967).

SHANKAR JAIKISHAN SANGAM

43 Packed with memorable songs such as "Main Kya Karoon Ram," this colorful epic romance—produced and directed by its star Raj Kapoor—was a box-office blockbuster.

JERRY HERMAN HELLO, DOLLY!

44 Based on the play *The Matchmaker* (1955) by Thornton Wilder, the Broadway production picked up ten Tony Awards, including for Best Musical. The original cast LP and Louis Armstrong's take on the title track were both US No. 1s.

MITCH LEIGH & JOE DARION MAN OF LA MANCHA

45 Featuring hit song "The Impossible Dream," this musical is based on Cervantes's character Don Quixote.

**S. D. BURMAN
GUIDE**

46 One of Hindi film's greatest romantic dramas has a fine, emotive score, including "Wahan Kaun Hai Tera."

**JERRY HERMAN
MAME**

47 Based on the hit stage comedy about an offbeat bohemian, the Broadway musical starred Angela Lansbury.

**R. D. BURMAN
TEESRI
MANZIL**

48 Memorable songs in this romantic murder-mystery include "Aaja Aaja Main Hoon Pyaar Tera."

**CY COLEMAN &
DOROTHY FIELDS
SWEET
CHARITY**

49 The Broadway show won a Tony, but the 1969 film flopped despite top-drawer songs such as "Big Spender."

**RICHARD SHERMAN, ROBERT SHERMAN & IRWIN KOSTAL
CHITTY CHITTY BANG BANG**

54 This perennial children's favorite was scripted by Roald Dahl, based on an Ian Fleming novel, with typically catchy Sherman brothers tunes (the title track, "Hushabye Mountain," and "Truly Scrumptious"). Ace song 'n' dance man Dick Van Dyke paired neatly with Sally Ann Howes, and despite some critical flak, the film was a hit. A 2002 West End staging, with seven new songs from the Shermans, became the London Palladium's longest-running show of all time.

**JOHN KANDER
& FRED EBB
CABARET**

50 Drawing on Christopher Isherwood's novel *Goodbye to Berlin* (1939), *Cabaret* juxtaposes the decadence of the nightclub with the rise of the Nazi Party. It was a sizable hit as a stage production, but the 1972 film version picked up eight Academy Awards. Directed by Bob Fosse, it saw Joel Grey reprise the part of the Emcee and starred Liza Minnelli in her defining role as performer Sally Bowles. The set pieces in the Kit Kat Klub ("Willkommen," "Money," "Mein Herr," and "Cabaret") are sleazy stunners while "Tomorrow Belongs to Me" adds a chilling note from the world outside. And Minnelli is bruised but unbowed on the spirited "Maybe This Time."

**JIMMY VAN HEUSEN & SAMMY CAHN
THOROUGHLY
MODERN
MILLIE**

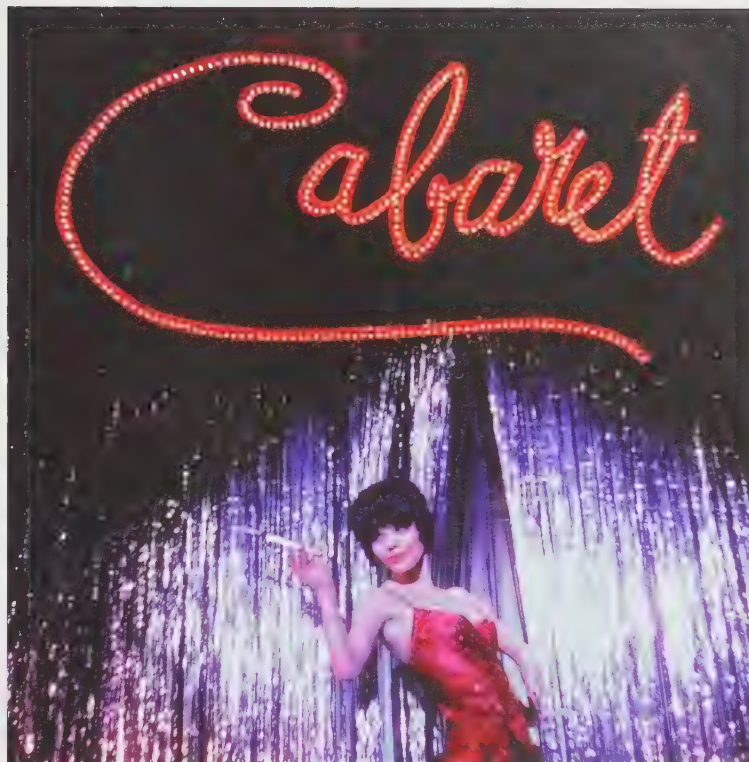
51 Julie Andrews is the eponymous flapper in this smash hit, mixing Jazz-era tunes with Cahn-Van Heusen songs.

**GALT MACDERMOT, JAMES
RADO & GEROME RAGNI
HAIR**

52 Subtitled *The American Tribal Love-Rock Musical*, *Hair* referenced the Vietnam War and was banned for its onstage nudity, drug references, and fruity language. The Grammy-winning soundtrack ("Aquarius," "I'm Black/Ain't Got No," and "Good Morning Starshine") by the Broadway cast was a hit.

**S. D. BURMAN
& R. D. BURMAN
ARADHANA**

55 This tale of a tragic love affair and familial acceptance includes the hit "Mere Sapno Ki Rani." R. D. Burman reportedly finished the music after his father, S. D. Burman, was taken ill.



**MEL BROOKS
THE PRODUCERS**

53 A Nazi-themed musical titled *Springtime for Hitler: A Gay Romp* proves an unlikely hit in Brooks's deliciously twisted comedy. The film won an Oscar for Best Screenplay and spawned a stage musical in 2001 that ran for 2,502 performances.

**TIM RICE & ANDREW
LLOYD WEBBER
JESUS CHRIST
SUPERSTAR**

56 The first hit for these titans of the British musical has an atypical rock flavor. Loosely based on Christ's final days, the strong score includes "I Don't Know How to Love Him" and the anthemic title tune.

STEPHEN SONDHEIM
COMPANY

57 Nominated for 14 Tony Awards, this plotless "concept" musical, revolving around a commitment-phobe, gave the genre a new adult scope.

STEPHEN SCHWARTZ 1971
GODSPELL

59 Structured around a string of biblical parables, the hit show saw a slew of revivals up until 2011. A movie version appeared in 1973.

JIM JACOBS & WARREN CASEY
GREASE

58 A 1950s high-school rock 'n' roll show par excellence, *Grease* features an exceptional set of songs, from upbeat rockers ("Greased Lightnin'") to sweet ballads ("Beauty School Dropout"). After the edgy original Detroit production was toned down, the show became a record-breaking Broadway hit. The movie, released in 1978, was a huge critical and commercial success. Starring John Travolta and Olivia Newton-John as the "mismatched" young lovers, it touched on serious issues such as peer pressure, teenage pregnancy, gang culture, and teenage rebellion. The best-selling movie soundtrack features nonperiod gems, such as the disco-flavored title track and "You're the One That I Want," both of which became US No. 1s.



LESLIE BRICUSSE & ANTHONY NEWLEY
WILLY WONKA & THE CHOCOLATE FACTORY

60 This musical was an adaptation of the novel *Charlie and the Chocolate Factory* (1964) by Roald Dahl, who disassociated himself from the project. For innocent charm, the 1971 movie starring Gene Wilder (and including "The Candy Man") trounces the 2005 remake. Initially a flop, it is now seen as a cult classic.

GHULAM MOHAMMED
& NAUSHAD ALI
PAKEEZAH

61 This traumatic tale of a kind-hearted prostitute took 14 years to make in its entirety. Directed by Kamal Amrohi, it became a hit after the untimely death of Meena Kumari, who starred as the lead opposite Raaj Kumar.

RICHARD O'BRIEN 1973
THE ROCKY HORROR SHOW

62 This brilliantly deranged blend of B-movie sci-fi and horror features a transvestite alien scientist and a crop of glam-rock-flavored songs ("The Time Warp," "Sweet Transvestite"). Boosted by the popularity of the still-screened 1975 movie, starring Tim Curry, it is perhaps the cult musical.

TIM RICE & ANDREW LLOYD WEBBER 1973
JOSEPH AND THE AMAZING TECHNICOLOR DREAMCOAT

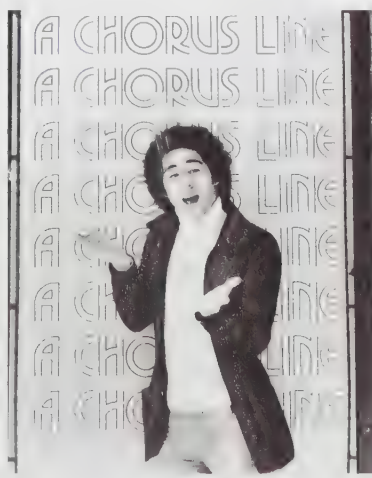
63 The music duo's second hit (but the first to be staged publicly, as a "pop cantata" in 1968) is a potpourri of family-friendly fare, including "Any Dream Will Do" and "Close Every Door." Since the West End premiere in 1973, revivals and school productions have cemented its status.

STEPHEN SONDHEIM
A LITTLE NIGHT MUSIC

64 The romantic shenanigans of a group of couples form the basis for this enduringly popular show, featuring the much-covered standard "Send in the Clowns."

JOHN KANDER & FRED EBB
CHICAGO

65 This tale of Prohibition-era misdeeds became one of the longest revivals on Broadway, the West End's longest-running US show, and an Oscar-winning film.



MARVIN HAMLISCH
& EDWARD KLEBAN
A CHORUS LINE

66 The backstories of 17 chorus-line dancers informs Hamlisch's astonishingly successful musical (featuring "What I Did For Love"), which picked up nine Tony Awards and a Pulitzer Prize. The original Broadway production ran to 6,137 performances, and the show has been revived both Stateside and in the West End.

PAUL WILLIAMS 1976
BUGSY MALONE

67 Alan Parker's engaging movie cast child actors (including Jodie Foster) as 1920s gangsters. From "My Name Is Talullah" to "So You Wanna Be a Boxer" and "You Give a Little Love," the musical numbers are top-notch.

KHAYYAM &
SAHIR LUDHIANVI
KABHI KABHIE

68 Past lovers become friends over time in this romantic drama. "Kabhi Kabhie Mere Dil Mein" won awards for best lyrics and afforded its singer, Mukesh, a Filmfare Best Playback Male Singer award.



ANDREW LLOYD
WEBBER & TIM RICE
EVITA

69 The controversial Argentinian First Lady Eva Perón inspired a 1976 concept LP and 1978 musical. It was the first British show to win a Tony Award for Best Musical. Julie Covington scored a UK No. 1 with "Don't Cry for Me Argentina."

CHARLES STROUSE
& MARTIN CHARNIN
ANNIE

70 Harold Gray's *Little Orphan Annie* comic strip led to a stage musical that ran for almost six years, buoyed by standout songs such as "It's the Hard Knock Life" and "Tomorrow." The 1982 movie, starring Albert Finney as Daddy Warbucks, was a box-office hit.

KALYANJI ANANDJI
DON

71 Chandra Barot's mistaken-identity thriller boasts endearing psychedelic fare such as the title track.

RALPH BURNS
ALL THAT JAZZ

72 Drawing on a period in director Bob Fosse's own life story, this tale of a choreographer living on the edge was savaged by some critics but won four Oscars and features a fine performance by Roy Scheider.

STEPHEN SONDHEIM
**SWEENEY TODD: THE DEMON
BARBER OF FLEET STREET**

73 Wrongfully imprisoned, a vengeful Todd consorts with his baker neighbor, Mrs. Lovett. He kills his customers, whom she then bakes into her pies. Gruesome, yes, but the clever plot, dark humor, and exceptional songs (a real test for singers) add fittingly demonic energy. Tim Burton's fine 2007 movie version, with Johnny Depp, upped the blood, gore, and bleakness.



ANDREW LLOYD WEBBER, TREVOR
NUNN & RICHARD STILGOE
CATS

76 T. S. Eliot's whimsical *Old Possum's Book of Practical Cats* inspired this megahit musical in which a tribe of cats (the Jellicles) elects one of their number to be granted the prize of an extra life. Laden with awards, and enjoying runs of 20 years in the West End and 18 years on Broadway (where it is the third-longest-running show in history), it features the standard "Memory," a song closely associated on stage and screen with Elaine Page in the role of Grizabella.



CLAUDE-MICHEL SCHÖNBERG, ALAIN
BOUBLIL & JEAN-MARC NATEL
LES MISÉRABLES

74 Set in early nineteenth-century France, Victor Hugo's epic novel of love, heartbreak, and redemption inspired a suitably epic West End run, topping 10,000 shows (and nearly 7,000 on Broadway). The memorable tunes underpin the tale of a reformed ex-convict.

MICHAEL GORE
FAME

75 The varied lives of the pupils at the New York High School of Performing Arts made for a box-office hit, helped by an Oscar-winning score. The main theme, sung by Irene Cara, was a UK No. 1. The film also spawned a hit TV series and a stage musical that has had productions worldwide since 1988.

HENRY KRIEGER & TOM EYEN
DREAMGIRLS

77 Drawing on 1960s R&B acts such as the Supremes, *Dreamgirls* won six Tonys. The Oscar-winning 2006 film starred Jennifer Hudson, and its standout song is the anthemic "And I Am Telling You I'm Not Going."

ALAN MENKEN & HOWARD ASHMAN
**LITTLE SHOP
OF HORRORS**

78 Informed by Roger Corman's 1960 B movie, and channeling early 1960s rock 'n' roll, this horror show, in which a weird plant feasts on human flesh, took Broadway by storm and was itself filmed in 1986.

JERRY HERMAN LA CAGE AUX FOLLES

79 A play written in 1973 by Jean Poiret was the source for this French farce, in which gay club owner Georges must meet the highly conservative parents of his son's fiancée. Featuring the torch song "I Am What I Am" (a huge hit for Gloria Gaynor), it won six Tony Awards.

ANDREW LLOYD WEBBER, CHARLES HART & RICHARD STILGOE PHANTOM OF THE OPERA

81 Based on Gaston Leroux's 1910 novel about a disfigured musician who falls in love with a young singer, this musical has enjoyed unprecedented success. Not only Broadway's longest-running musical (10,000-plus shows) but also history's most profitable entertainment event (\$6 billion and counting). To date, it has been seen by some 140 million people.

KENNY VANCE HAIRSPRAY

82 John Waters's camp classic, 1960s-set movie inspired a 2002 musical that won eight Tonys and, in turn, inspired a hit film remake starring John Travolta in 2007.

ALAN MENKEN & HOWARD ASHMAN BEAUTY & THE BEAST

86 An adaptation of the French fairy tale by Jeanne-Marie Leprince de Beaumont, this musical was a long-running hit on Broadway. The story of a hideous beast who falls in love with a beautiful young girl was rendered even more charming by the enchanted objects who inhabit the castle where the action unfolds.

STEPHEN SONDHEIM SUNDAY IN THE PARK WITH GEORGE

89 Georges Seurat's landmark post-Impressionist painting *A Sunday Afternoon on the Island of La Grande Jatte* inspired Sondheim's multi-award-winning musical. As he completes his masterpiece, Seurat finds himself torn between his art and his lover, Dot; the cast merges to create the completed picture at the end of Act I. A century later, his great-grandson George faces his own artistic crisis, but finds a way forward by turning to the past.



JATIN LALIT 1991 DILWALE DULHANIA LE JAYENGE

87 This picturesque romantic comedy musical about an Indian couple on holiday in Europe was a huge hit. It made a star of Shah Rukh Khan and picked up ten Filmfare Awards.

STEPHEN TRASK 1991 HEDWIG AND THE ANGRY INCH

88 This glam-punk-tinged tale of a transgender vocalist fronting a rock 'n' roll band of Korean Army wives was critically acclaimed before it transferred to Broadway. A movie followed in 2001.

RAAMLAXMAN 1997 MAINE PYAR KIYA

83 Sooraj R. Barjatya's debut musical was the Bollywood hit of the 1980s, collecting seven Filmfare Awards and spawning a best-selling soundtrack that featured Lata Mangeshkar.

VARIOUS 1991 THE COMMITMENTS

84 Roddy Doyle's 1987 comic novel about a Dublin soul-music covers band became a hit movie in 1991. A soundtrack album reached the Top Ten in the UK and US. It premiered as a West End stage musical in 2013.

JONATHAN LARSON 1994 RENT

85 Puccini's opera *La Bohème* inspired this rock musical about artists struggling to survive. It enjoyed huge critical and popular acclaim, but, sadly, Larson—who knew all about penury—died the night before the previews.

A. R. RAHMAN 1998 DIL SE

89 Rahman's no-filler, hit-packed score for this romantic thriller raised the bar for Bollywood music. Highlights include "Chaiyya Chaiyya" (later used in *Bombay Dreams*).

TREY PARKER & MARC SHAIMAN 1992
SOUTH PARK: BIGGER, LONGER AND UNCUT

90 The *South Park* musical sets censorship firmly in its sights while pitilessly parodying Disney's golden age. A favorite is "Blame Canada."

BJÖRN ULVAEUS, BENNY ANDERSSON & STIG ANDERSON 1999
MAMMA MIA!

91 The stage show based on ABBA's songs was a seismic hit; the 2008 movie starring Meryl Streep, Amanda Seyfried, and a host of high-profile actors is history's top-grossing film musical.

MARK HOLLMAN & GREG KOTIS 2007
URINETOWN

92 Devastating water shortages lead corporations to charge individuals to urinate in this innovative, Tony Award-winning send-up of everything from capitalism to Broadway musicals.

CRAIG ARMSTRONG 1986
MOULIN ROUGE!

93 Directed by Baz Luhrmann, this glitzy, jukebox musical is set amid the decadent thrills of Montmartre.

ISMAIL DARBAR
DEVADAS

94 Director Bhansali serves up a feast of vibrant dances and catchy songs in his take on the Devdas tale—one of the most enduring in Hindi cinema. The hit soundtrack introduced Playback singer Shreya Ghoshal and spawned the smash "Dola Re Dola," to which Paro (Aishwarya Rai) and Chandramukhi (Madhuri Dixit) perform a dance duet.

STEPHEN SCHWARTZ 2003
WICKED

95 The tale of how the Wicked Witch from *The Wizard of Oz* turned bad—and fell out with the Good Witch, Glinda—made for a hugely successful, award-winning show, one of only three to gross \$500 million plus on Broadway.

ANU MALIK 1998
BRIDE & PREJUDICE

96 Jane Austen's novel gets a Bollywood makeover in this breezy feel-good romantic musical. Although decorated with international locations and exuberant song-and-dance numbers, Gurinder Chadha's rereading is faithful to Austen's themes of true love and the class systems that can scupper it.

STEPHEN WARBECK, ELTON JOHN & LEE HALL 2001

BILLY ELLIOT

97 Working-class Billy's struggle to become a professional ballet dancer is played out against Britain's miners' strike in the mid-1980s. Based on the 2000 film, the stage musical (with music by Elton John) is an award-laden global hit. Highlights include Billy's energetic solo, "Electricity."

LISA KRON & JEANINE TESORI 1997
FUN HOME

98 This emotional coming-of-age story was an adaptation of a graphic memoir written by Alison Bechdel in 2006. The Broadway version was the first musical to have a lesbian lead character, and it won a Tony for Best Musical.



TIM MINCHIN 2011
MATILDA THE MUSICAL

99 Minchin's witty lyrics and catchy melodies make for a sparkling score, and the show's heady blend of darkness and delight, complemented by exemplary stagecraft, still packs in audiences.



TREY PARKER, ROBERT LOPEZ & MATT STONE 2001

THE BOOK OF MORMON

100 The makers of *South Park* struck critical and commercial gold with this hilarious story of two Mormon missionaries who, unexpectedly, exude affection and charm—alongside the filth. A landmark show, it won nine Tony Awards, played to packed houses, and had a No. 3 *Billboard* LP by the original Broadway cast. Highlights are many and include "Hasta Diga Eebowai" and "You and Me (But Mostly Me)."



HILDEGARD VON BINGEN c. 1151
ORDO VIRTUTUM

1 The oldest-known morality play comprises 82 verses of haunting plainchant—with hoarse interjections representing the Devil.

THOMAS TALLIS c. 1570
SPEM IN ALIUM

2 This spellbinding 40-piece Renaissance motet (eight choirs of five voices) is a masterpiece of polyphony and counterpoint. The reverent line “Domine Deus, creator caeli et terrae” is highlighted homophonically.

WILLIAM BYRD c. 1577–1634
THE GREAT SERVICE

3 A sonorous, large-scale arrangement of liturgical text written in ten-part polyphony, which was rediscovered in 1922.

CLAUDIO MONTEVERDI 1590
VESPERS OF THE BLESSED VIRGIN 1610

4 Monteverdi’s monumental and ambitious sacred composition features some 90 minutes of evening prayers (probably not sung in their entirety) that could be performed at a variety of liturgical occasions in the Catholic Church.

GREGORIO ALLEGRI c. 1550
MISERERE (MISERERE MEI, DEUS)

5 Written for two choirs (for four and five voices), this transcendent setting of Psalm 51 features soaring high notes that would originally have been sung by castrati.

HENRY PURCELL 1659
MY HEART IS INDITING

6 Purcell composed this lush Baroque anthem (featuring choir, strings, and organ) for the coronation of James II.

JOHANN PACHELBEL c. 1698
CANON AND GIGUE

7 This enduringly popular Baroque work—often known as Canon in D—for three violins and basso continuo was only finally published in 1919.

ARCANGELO CORELLI 1653–1713
TWELVE CONCERTI GROSSI

8 Handel’s own 12 concerti grossi are modeled on this elegant and vibrant work for violins, featuring the “Christmas Concerto.”

100 CLASSICAL WORKS

J. S. BACH c. 1700
CELLO SUITES

9 Six suites, each comprising six dance movements, offer a technically demanding (and often deeply moving) showcase for the expressive possibilities of solo cello. Notable twentieth-century readings include those by Pablo Casals, Mstislav Rostropovich, and Yo-Yo Ma.

J. S. BACH 1721
BRANDENBURG CONCERTOS

10 Much loved and often performed, these six lively works for chamber orchestra are a benchmark of Baroque music. Each one requires a different combination of instruments.

J. S. BACH 1722/1744
THE WELL-TEMPERED CLAVIER

11 Across two books, composed 20 years apart, Bach created a prelude and fugue for each note in an octave, and in both major and minor keys. A landmark in Western art music, these 48 keyboard pieces explore a wealth of musical forms and display both breathtaking imagination and compositional intricacy.

ANTONIO VIVALDI c. 1725
THE FOUR SEASONS

12 Vivaldi’s perennially popular violin concertos incorporate vivid orchestration and virtuosic writing, with a sonnet prefacing each. Seasonal temperaments are visualized allusively (musical dissonance for winter’s chill) and more literally (mimicked birdcall and pizzicato raindrops).

J. S. BACH c. 1726–1730
ST. MATTHEW PASSION

13 Bach’s mammoth work meditates on suffering, redemption, and salvation, telling the tale of Christ’s crucifixion by means of communal chorales, solo recitatives (from The Evangelist, a narrator), and spellbinding arias. Now regarded—alongside Bach’s remaining great Passion, the *St. John Passion*—as a cornerstone of Baroque sacred music, it was received somewhat coolly at the time; only after the Passion’s revival by Felix Mendelssohn in 1829 was it fully embraced by the public. Probably first performed in Leipzig on April 11 (Good Friday), 1727, it is known today from Bach’s 1743–46 revisions.

GIOVANNI PERGOLESI 1735
STABAT MATER

14 A portrait of a desolate Virgin Mary at the cross. The opening pairs two vocals of near-identical pitch, establishing an uneasy, dissonant atmosphere.

DOMENICO SCARLATTI c. 1700
ESSERCIZI PER GRavicEMBALO

15 The 30 keyboard sonatas (from well over 500) that Scarlatti published in c. 1738 combine luminous harmony with pioneering virtuosity.

GEORGE FRIDERIC HANDEL 1741
MESSIAH

16 A Christmas favorite, this stirring English language oratorio was first intended for Easter. Combining solo arias of singular beauty (“Comfort Ye, My People”) with rousing choral sections (“Hallelujah Chorus”), it is Handel’s finest achievement.

J. S. BACH MASS IN B MINOR

17 This late, stylistically diverse work draws on several of the composer's past glories, while taking in influences from French dances to Renaissance *stile antico* composition. The result is both an epic setting of the Latin Mass and a memorable summation of Bach's accomplishments.

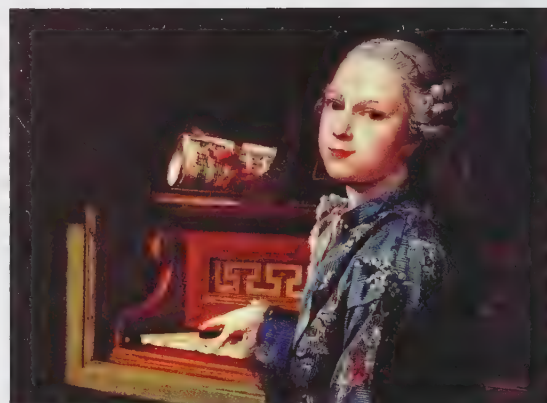


WILLIAM BOYCE EIGHT SYMPHONIES, OPUS 2

18 The late Baroque English composer's best-known compositions, which were mainly composed for stage works, combine Italian *sinfonia* and French overture styles. Well-crafted gems of the period.

WOLFGANG AMADEUS MOZART PIANO CONCERTO NO. 24 IN C MINOR

19 The anguished darkness of this work, tempered by passages of calm clarity, such as the *Larghetto*, is a marked contrast to usual concertos. Beethoven later paid homage with his own C minor piano concerto.



WOLFGANG AMADEUS MOZART SYMPHONY NO. 41 IN C MAJOR, "JUPITER"

20 The brilliance of the "Jupiter" symphony—the composer's last, and longest—still astonishes. Witness the intricate and thrilling finale, in which Mozart excels in contrapuntal ingenuity, interweaving multiple themes to mesmerizing effect.

WOLFGANG AMADEUS MOZART 1791 REQUIEM MASS IN D MINOR

21 Unfinished at Mozart's death, completed by Franz Xaver Süssmayr (and perhaps others), this masterwork resonates with solemnity and power.

JOSEPH HAYDN THE CREATION

22 Scored for symphony orchestra, chorus, and soloists, this highly dramatic triumph marries inventive vocal writing to colorful orchestration.

LUDWIG VAN BEETHOVEN PIANO CONCERTO NO. 5

24 Beethoven's final piano concerto, now known as "The Emperor," remains the composer's best known. Composed in the key of E flat, it is grand and symphonic in scale.

FRANZ SCHUBERT SYMPHONY NO. 9

26 The ambition and scope of Schubert's last symphony is reflected in its popular name, "The Great C Major."

FRANZ SCHUBERT WINTERREISE

28 Schubert's sparse but intense song cycle is a haunting work of arresting bleakness and pessimism.

LUDWIG VAN BEETHOVEN SYMPHONY NO. 9

25 Inspired by Friedrich Schiller's "Ode to Joy," the Ninth (Choral) Symphony offers fire (the frantic scherzo following the first movement) to calm waters (the poignant *Adagio*). The splendid final movement, rejecting all the music heard hitherto, unfurls as a glorious celebration of fraternity.

FELIX MENDELSSOHN OVERTURE TO "A MIDSUMMER NIGHT'S DREAM"

27 This remarkable work—admirably reflecting the dreamlike wonder of Shakespeare's comedy—was created by a 17-year-old Mendelssohn. George Grove called it "the greatest marvel of early maturity that the world has ever seen in music."

FRANZ SCHUBERT STRING QUINTET IN C MAJOR

29 Matching inspired use of color, detail, and texture to his inherent gift for melody, Schubert revitalized string writing.

HECTOR BERLIOZ SYMPHONIE FANTASTIQUE

30 A fervid orchestral masterpiece that proved groundbreaking, not least in its use of an *idée fixe* (recurring theme).

LUDWIG VAN BEETHOVEN SYMPHONY NO. 5

23 The most famous symphony, with the most famous opening in music. It is a keystone of Romanticism, for some a call to revolution; for others, a glimpse of the sublime. The thrilling first movement is heralded by that four-note motif, which establishes a momentum that rarely lifts, and which Beethoven reworks throughout the symphony. An awe-inspiring feat.

FRÉDÉRIC CHOPIN c. 1831

ÉTUDE OP. 10, NO. 12 (THE REVOLUTIONARY ÉTUDE)

31 Closing Chopin's first book of études, "No. 12" is a stormy tour de force reportedly inspired by Poland's failed uprising against Russia.

FRÉDÉRIC CHOPIN c. 1831

24 PRELUDES, OP. 28

32 Deeply emotional, wonderfully concise miniatures—most last for only around a minute—Chopin's *Preludes* for piano solo run the full gamut of feelings and moods, from tranquillity to anguish and from joy to heartbreak. As with Bach's *Well-Tempered Clavier*, there is a prelude for all 24 major and minor keys. Chopin was studying Bach's work at the time he was composing them.

ROBERT SCHUMANN 1819

KREISLERIANA

33 Schumann's octet of piano fantasies have an improvisatory quality to them and are named for an eccentric character in E. T. A. Hoffmann's works.

EDVARD GRIEG 1843

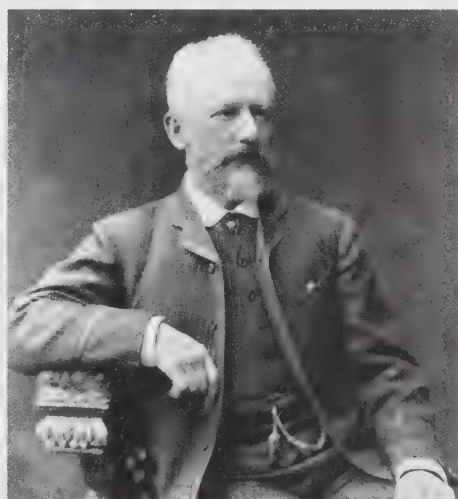
PIANO CONCERTO IN A MINOR

37 Grieg's great piano concerto is a virtuosic, lyrical work imbued with folk influences from his Norwegian homeland.

MODEST MUSSORGSKY 1839

PICTURES AT AN EXHIBITION

38 This dramatic, ten-movement suite composed for piano is best known from Ravel's scintillating orchestral arrangement of 1922.



PYOTR ILYICH TCHAIKOVSKY 1836

PIANO CONCERTO NO. 1

39 Any structural underdevelopment in this work feels irrelevant when set against Tchaikovsky's bold, beautiful melodies. The joyous octave chords in the opening fanfare provide one of piano music's most famous moments.

FRÉDÉRIC CHOPIN

PIANO SONATA NO. 3 IN B MINOR

34 A pianistic lodestar, this is richly contrapuntal and requires considerable technical dexterity, although it also possesses a wonderful lyricism.

FRANZ LISZT 1847

HUNGARIAN RHAPSODY NO. 2

35 This technically challenging and rhythmic rhapsody has featured in animated cartoons and as the basis of several popular songs.



MAX BRUCH

VIOLIN CONCERTO NO. 1

36 Enduringly popular, and very beautiful, this showcase for the violin took Bruch four years to complete, but was an immediate hit.

JOHANNES BRAHMS 1830

SYMPHONY NO. 2

40 Brahms followed his first symphony with a lighter, richly melodic work. Any darker moments are outweighed by a prevailing air of calmness and optimism, and are there simply to cast "the necessary deep shadow onto the happy symphony," in the composer's own words.

ALEXANDER BORODIN 1834

STRING QUARTET NO. 1

41 Better known for his orchestral work, Borodin subtitled his first string quartet "on a theme of Beethoven." Melodious and romantic, on its release it was seen as Russia's first great piece of chamber music.

BEDŘICH SMETANA 1824

MÁ VLAST

42 Bohemian composer Smetana masterfully pours his affection for the landscape and folklore of his Czech home (the title means "My homeland") into these six transcendent tone poems.

ANTON BRUCKNER 1824

SYMPHONY NO. 7

43 The four-movement form (fast-slow-fast-slow) pays tribute to Wagner (who died while Bruckner was composing its Adagio); it also marks the debut of Wagner tubas.

CÉSAR FRANCK 1822

SYMPHONIC VARIATIONS

44 Franck invests three distinct (but unbroken) sections with a wealth of ideas, virtuosic pianism paired with dynamic orchestration. A triumph of concision.

CAMILLE SAINT-SAËNS
CARNIVAL OF THE ANIMALS

45 Thinking it trivial, the composer banned the performance of this delightful suite during his lifetime.

ERIK SATIE
TROIS GYMNOPÉDIES

47 The simplicity and sweet melancholia of Satie's *Gymnopédies* for piano impressed Debussy (who orchestrated the first and third). They also helped pave the way for "ambient" music in the twentieth century.

PYOTR ILYICH TCHAIKOVSKY
NUTCRACKER

49 This enchanting concert suite is a Christmas favorite, featuring a feast of magical melodies from the "Waltz of the Flowers" to the "Dance of the Sugar Plum Fairy." Tchaikovsky drew on Alexandre Dumas's version of an E. T. A. Hoffmann story for his ballet, and a novelty of his score is the use of the celesta for the Sugar Plum Fairy.

ANTONIN DVOŘÁK
SYMPHONY NO. 9

50 Popularly known as "The New World Symphony," Dvořák's Ninth is actually late-Romantic European fare that glances back to his Czech homeland (he wrote it while he was director of the National Conservatory of Music of America in New York). It is most famous for the third movement's main theme.

GABRIEL FAURÉ
REQUIEM

46 Shorn of the complete (very harrowing) "Dies Irae," this choral masterpiece takes on a more compassionate and consoling air. Its quality of serene beauty is perhaps best epitomized in "Pie Jesu."



NIKOLAI RIMSKY-KORSAKOV
SCHEHERAZADE

48 Rimsky-Korsakov used the Indian and Persian folktales of *Arabian Nights* as a foundation for this captivating, exotic symphonic poem. Run through with a sinuous violin motif (representing the storyteller heroine) and more ponderous bass (for her menacing sultan husband), the piece abounds in thematic richness, rhythmic verve, and dazzling orchestration. Widely considered the composer's most popular work.

CLAUDE DEBUSSY
PRÉLUDE À L'APRÈS-MIDI D'UN FAUNE

51 Suggestive rather than descriptive, and tonally vague, Debussy's composition is both a high-water mark of musical Impressionism and a harbinger of modernity. It is a quietly revolutionary work (Saint-Saëns dismissed it), although its unconventional orchestration and harmonies are tempered with lilting melodies.



EDWARD ELGAR
ENIGMA VARIATIONS

52 Elgar's musical "portraits" of friends were lauded by Richard Strauss. The stirring ninth variation—"Nimrod"—is a British national treasure.

JEAN SIBELIUS
FINLANDIA

53 This rousing symphonic poem is a hymn to the struggle of the Finnish people and was written in protest against increasing censorship from the Russian empire.

SERGEI RACHMANINOFF
PIANO CONCERTO NO. 2

54 Written after Rachmaninoff's emergence from a deep depression, this work is wonderfully buoyant. Balancing power (the crashing opening chords) with lyricism (the second Andante movement), it rapidly became a success.

CLAUDE DEBUSSY
CLAIR DE LUNE

55 French for "light of the moon," Debussy's much-loved composition is actually the third and most famous movement of his Suite Bergamasque. The composer drew inspiration for the piece from a poem by Paul Verlaine.

ALEXANDER Scriabin
THE POEM OF ECSTASY

56 Debussy was a key inspiration for this rapturous tone poem, in which Scriabin stretches tonality to its extremes.

ANTON WEBERN
PASSACAGLIA, OP. 1

57 Late-Romantic color alternates with the more sparse writing for which Webern is renowned. His first masterpiece.

ISAAC ALBÉNIZ
IBERIA

58 A suite comprising 12 separate pieces, although drawing only loosely on native folk music, *Iberia* evokes a variety of Spanish regions and their cultures, particularly Andalusia. Stylistically an Impressionist work, it remains a triumphant landmark in Spanish piano music.

GUSTAV MAHLER 1909
DAS LIED VON
DER ERDE

59 This deeply affecting song cycle muses on death, nature, and the relative brevity of human life.

GUSTAV MAHLER 1909
SYMPHONY NO. 9
60 Death is always at the door in Mahler's last symphony, but his genius burns brightly, and amid the chaos and a solemn finale, a love of life endures.

ARNOLD SCHOENBERG 1909
FIVE ORCHESTRAL
PIECES, OP. 16
61 This is a signpost on the way to full atonality, with shifts in tonal color substituting for melody. Mesmerizing.

IGOR STRAVINSKY 1910
THE FIREBIRD
62 Marking the start of his collaboration with ballet impresario Sergei Diaghilev, this work is based on a Russian folk tale about a magical bird.

ENRIQUE GRANADOS 1911
GOYESCAS
63 Goya's paintings inspired this suite of distinctively Spanish piano pieces—with Liszt, Chopin, and Schumann audible amid the flamenco.

CHARLES IVES 1911–14, REV. 1939
THREE PLACES IN
NEW ENGLAND

64 An astonishing triptych. "Putnam's Camp" is a lopsided march full of very Ivesian sound clashes. "Col. Shaw and his Colored Regiment" is a misty blues, while "The Housatonic at Stockbridge" pairs a folk tune with an orchestra in turmoil. The three movements are in the composer's preferred slow-fast-slow order and are renowned for his paraphrasing of American folk tunes.

IGOR STRAVINSKY 1911
THE RITE
OF SPRING
65 Stravinsky breaks new ground throughout this ballet. The opening bassoon is atypically high and strained. Rhythms are disjointed, with disorienting accents (as in the visceral "Dance of the Young Maidens") and shifting time signatures. Dissonance is rife. All eminently fitting to evoke the pagan rituals described, but anathema to many at the work's Paris premiere, judging by the famous riot it provoked. Not to Maurice Ravel, however, whom Stravinsky declared to be the only person who had understood the *Rite* at once.



RALPH VAUGHAN WILLIAMS 1916
THE LARK
ASCENDING

66 Inspired by George Meredith's poem about the song of the skylark, this heart-soaring work of the same name is now better known than the poem. It topped a British poll of the nation's favorite piece of classical music in 2014.



GUSTAV HOLST 1916
THE PLANETS
67 Holst's signature piece is a remarkable tone poem in seven parts. Evocative themes abound, from the brooding "Mars: The Bringer of War" to the soaring "Jupiter: The Bringer of Jollity" (later the hymn "I Vow to Thee My Country"), which opens with dazzling string arpeggios. *The Planets*'s appeal (and inspiration for film composers) still endures.

MAURICE RAVEL 1918
BOLÉRO
71 Originally composed as a ballet for Russian actress and dancer Ida Rubinstein, Ravel's *Boléro* famously begins softly and ends, at the composer's instruction, as loudly as possible.

ALBAN BERG 1926
VIOLIN
CONCERTO

72 A tribute to the deceased Manon Gropius—the 18-year-old daughter of Alma Mahler and Walter Gropius who tragically died of polio—Berg's moving work progresses from agitation to gradual acceptance.

EDGARD VARÈSE 1928
AMÉRIQUES
68 New York's gritty soundscape inspired the French-born composer's highly percussive score, which incorporates a wind machine, whip, lion's roar, and siren.

OTTORINO RESPIGHI 1924
PINES OF ROME
69 A four-movement symphonic poem depicting pine trees in various locations in Rome at different times of day.

LEOŠ JANÁČEK 1924
SINFONIETTA
70 A joyful and highly expressive patriotic work, *Sinfonietta* grew out of Janáček's love for his native Czech home. It features fanfares for orchestral brass.

CARL ORFF 1904-1982
**CARMINA
 BURANA**

73 Medieval poetry inspired this "scenic cantata." Strong rhythms dominate orchestra and choir, most famously in the dramatic "O Fortuna."

SAMUEL BARBER 1908-1981
ADAGIO FOR STRINGS

74 This deeply affecting piece was initially for string quartet. Conductor Arturo Toscanini advised Barber to rewrite it for full strings.

BÉLA BARTÓK 1881-1945
CONCERTO FOR ORCHESTRA

78 A brilliant showcase for orchestral texture and color, featuring formative influences from fugues to folk melodies.

PIERRE BOULEZ 1919-2016
**LE MARTEAU
 SANS MAÎTRE**

83 Set to Surrealist poems by French poet René Char, this landmark modernist work—"The hammer without a master" in its English translation—is a resolutely percussive, rhythmically demanding cantata for contralto voice and six instruments employing complex serialism. The instrumentation shifts between movements, and no single element dominates. It is notoriously difficult and hence not often performed or recorded. Acclaimed by other composers and critics, it was also well received by audiences. It has become Boulez's most famous and influential work.

MICHAEL TIPPETT 1905-1996
**CONCERTO FOR
 DOUBLE STRING
 ORCHESTRA**

75 Madrigals, folk music, and Baroque concerti grossi all inform this exuberant work.

OLIVIER MESSIAEN 1908-1992
**QUARTET FOR
 THE END OF TIME**

76 Written in a prison camp, premiered with other inmates, this work is an avowal of faith, by turns complex, violent, and (with the ending) devastatingly simple.

AARON COPLAND 1895-1990
APPALACHIAN SPRING

79 Composed for dancer Martha Graham, Copland's score is one of the most inspiring of the century.

DMITRI SHOSTAKOVICH 1906-1975
**SYMPHONY
 NO. 7**

77 More familiarly the "Leningrad," after the wartime siege of that city (Shostakovich's home), this work is mammoth in scale and orchestration. Bombast abounds (Bartók satirized the repetitive "Boléro" march music in *Concerto for Orchestra*), but the eloquent slow movement and hard-won triumph of the C-major finale make for a profound statement.

JOHN CAGE 1912-1992
SONATAS & INTERLUDES

80 A complex collection of 20 pieces for prepared piano, it is generally seen as the avant-garde Cage's finest.



WITOLD LUTOSŁAWSKI 1923-1997
CONCERTO FOR ORCHESTRA

81 A true showcase for the orchestra as a unit, this concerto draws on folk music from the composer's native Poland.

IANNIS XENAKIS 1922-2001
METASTASIS

82 The score for this searing piece uses graphic notation for dynamics and timbre.



KARLHEINZ STOCKHAUSEN 1928-2007
GESANG DER JÜNGLINGE

84 This pivotal electronic work, mixes synthesized sounds and snippets of biblical text sung by a boy soprano, for an otherworldly, always-evolving aural collage.

KRZYSZTOF PENDERECKI 1933-2020
**THRENODY FOR THE
 VICTIMS OF HIROSHIMA**

85 The textural dynamism of this piece builds from a base of shrieking violins, queasy glissandos, and ambiguous tone clusters.

GÖRGY LIGETI 1923-2023
ATMOSPHERES

86 A disquieting prime example of Ligeti's "micropolyphony"—voices or instruments gliding in pitch but not in synch.

BENJAMIN BRITTEN 1941
WAR REQUIEM

87 Penned for the reconsecration of Coventry Cathedral in the UK, this huge antiwar work draws on Wilfred Owen's poetry and the Latin Mass.

TERRY RILEY 1935
IN C

88 Built on (semi-improvised) cyclical repetitions, "In C" proved a major influence on the development of Minimalism.

LUCIANO BERIO 1925
SINFONIA

89 Berio's dense avant-garde work for orchestra and eight amplified voices quotes and reworks past music.

ELLIOTT CARTER 1915
CONCERTO FOR ORCHESTRA

90 A characteristically complex work, each of the concerto's four parts is led by instruments that are grouped by range.

ALFRED SCHNITTKE 1934
SYMPHONY NO. 1

91 Aleatoric (chance) events inform this chaotic, "polystylistic," sense-befuddling work. Scary, but exhilarating.

GEORGE CRUMB 1970
BLACK ANGELS

92 Crumb's thrillingly unsettling, highly textural piece for electric string quartet inspired the formation of the revered Kronos Quartet.

MORTON FELDMAN 1927
ROTHKO CHAPEL

93 Commissioned for a chapel housing 14 of Mark Rothko's paintings, these lean but deeply affecting compositions evoke an ideal meditative space.

PHILIP GLASS 1937
MUSIC IN TWELVE PARTS

94 The work with which Glass drew a line under his Minimalist period. Scored for voice, flutes, saxophones, and electric organs, it evolves dense patterns from Glass's characteristic repetition and cross-rhythms, from the seesaw serenity of "Part 1" to the glittering pulses of "Part 5" and "Part 8." Over three hours long when performed.



PER NØRGÅRD 1947
SYMPHONY NO.3

95 This fractal-like "infinity series" generates endless note sequences—ideal for this complex work, linking atomic and cosmic.

STEVE REICH 1950
MUSIC FOR 18 MUSICIANS

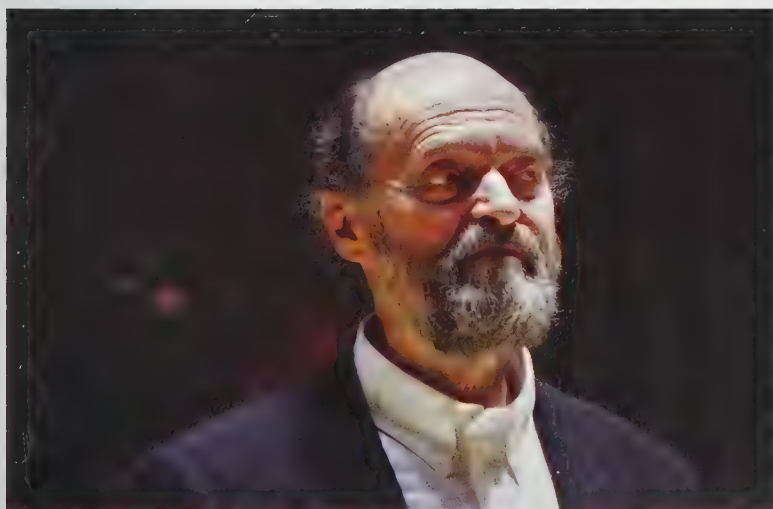
96 Instrumental variety and the influence of African and gamelan music, add color and spice to Reich's shifting pulses.

HENRYK GÓRECKI 1934
SYMPHONY NO. 3, OP. 36

97 This "Symphony of Sorrowful Songs" comprises three luminous modal pieces with a folk influence. The second is very moving.

JOHN ADAMS 1947
SHAKER LOOPS

99 First scored for string septet, and later revised for string orchestra, *Shaker Loops* employs Minimalistic repetition, but the shifts in harmony, dynamics, and tempo inject brio and freshness.



ARVO PÄRT 1935
FRATRES

98 Having embraced serialism in the 1960s, Pärt evolved a pared-down sonority in the 1970s, based on his idea of "tintinnabuli," in which one voice arpeggiates a tonic triad while a second moves between adjacent notes. The alluring effect seems to imply both stasis and change. First heard in *For Alina* (1976), it is a revelation in the haunting *Fratres*, originally scored for string and wind quintets, and later for a variety of settings.

HARRISON BIRTWISTLE 1984
EARTH DANCES

100 Birtwistle groups the orchestra into six separate layers (or "strata"), which merge and part like tectonic plates. Reflecting primordial subterranean forces, and busy life above ground, it is a complex and dramatic work of great vitality.



CLAUDIO MONTEVERDI 1607
ORFEO

1 Opera's first classic (and oldest survivor) had its premiere in Mantua, Italy, on February 24, 1607. An inventive narrative drama with strong characters and music dictated by the text, it stemmed from existing forms (such as recitatives and madrigals) but packed an exciting new emotional punch.

FRANCESCO CAVALLI 1655
GIASONE

2 The century's most popular opera was by the man who grew the genre from private affair into public art form. The myth of Jason is afforded an irreverent reading, mixing low comedy with high sentiment. Cavalli's melodic score merges "ariosos" (more musical recitatives) with straight recitatives and arias.

FRANCESCO CAVALLI 1655
LA CALISTO

3 Cavalli's ten operas with librettist Giovanni Faustini helped to develop conventions of Venetian opera, such as poetry, narrative structure, and the roles of recitative and aria. Faustini's ninth libretto for Cavalli is a bawdy take on Ovid (Jove's love for the nymph Calisto and Diana's for Endymion).

HENRY PURCELL 1688
DIDO AND AENEAS

4 The oldest and finest English opera of the seventeenth century is brief (around an hour) but full of dramatic intensity. Its highlight is without doubt the deeply affecting aria "When I Am Laid in Earth." The libretto is by Nahum Tate.

HENRY PURCELL 1688
THE FAIRY QUEEN

5 Drawing on the narrative of *A Midsummer Night's Dream*, this magical, musically diverse "semi-opera" (dance, speech, and songs) runs to five acts, with brief masques at the end of each.

100 OPERAS

GEORGE FRIDERIC HANDEL 1711
AGRIPPINA

6 Emperor Nero's devious mother is the antiheroine of Handel's over-the-top comedy, his first operatic masterpiece.

GEORGE FRIDERIC HANDEL 1724
JULIUS CAESAR

7 Handel invested his triumphant heroic opera—some four hours long—with an exceptional score for a huge orchestra.

GEORGE FRIDERIC HANDEL 1711
ORLANDO

10 The titular knight's choice between war or love for the princess Angelica inspired an innovatory score. Arias are few, and the tone is ambiguous: is Orlando a comic or heroic figure? His "mad" scene closing Act II is a highlight.

JEAN-PHILIPPE RAMEAU 1733
CASTOR & POLLUX

12 Based on the Greek myth behind the twin stars of Gemini, in its concise 1754 revision this is perhaps Rameau's best *tragédie lyrique*. Italianate coloratura (melodic embellishment) in the arias give the singers the chance to shine.

JOHN GAY WITH JOHAN CHRISTOPH PEPUSCH 1727
THE BEGGAR'S OPERA

8 Pepusch set Gay's tale of seedy goings-on in London's underworld to popular songs of the day in this visceral "ballad opera." It offered a joyous poke at politics, morality, and Italian opera, and proved a scandalous sensation.

JEAN-PHILIPPE RAMEAU 1733
HIPPOLYTE & ARICIE

9 Rameau's first opera broke new ground in characterization, although its erotic subtext and vivid orchestration caused considerable controversy.

GEORGE FRIDERIC HANDEL 1726
ARIODANTE

11 Drawing, like *Orlando*, on the epic poem *Orlando Furioso*, this dense tale of jealousy, disguise, and absolution includes several fine arias, notably "Scherza Infida."

GEORGE FRIDERIC HANDEL 1726
SERSE

13 This unfamiliar mix of tragi-comedy and farce was not a hit. Now lauded, its arias include the plaintive "Ombra Mai Fu (Handel's 'Largo')."

CHRISTOPH WILLIBALD GLUCK 1774
ORFEO & EURIDICE

14 Populated with fine, melodic arias, Gluck's reading of the myth of Orpheus and Eurydice is most significant as his first "reform opera"—a move to restore vitality to the genre by stripping away excess. Greater plot credibility combines with less vocal filigree and recitative, while the orchestra plays throughout for greater dramatic flow.

CHRISTOPH WILLIBALD GLUCK 1774
IPHIGÉNIE EN AULIDE

15 Gluck's first work written for the Paris Opéra was not well received initially. Its run was interrupted by the death of Louis XV and a revised version was staged the following year. Performed in three acts, it tells the story of a tormented Agamemnon who must sacrifice his daughter in order to save his subjects.

WOLFGANG AMADEUS MOZART 1781
DIE ENTFÜHRUNG AUS DEM SERAIL

16 An ambitious and optimistic comic piece, *The Abduction From the Seraglio* is a *singspiel* (part song, part dialogue) about a woman kidnapped for a Turkish harem. With its richly varied musical score, virtuosic arias, and strikingly long duets, it was a huge success.

WOLFGANG AMADEUS MOZART THE MARRIAGE OF FIGARO

17 A sequel to the play later used by Rossini for *The Barber of Seville*, this celebrated *opera buffa* (comic opera) proved an immediate success, with its gripping narrative, masterly melodic invention, strong characterization, and touching emotion. The knockabout plot revolves around the louché Count Almaviva's attempts to seduce Susanna, the fiancée of his servant Figaro, but Mozart can switch effortlessly from farce to heartfelt lament in a trice.



WOLFGANG AMADEUS MOZART DON GIOVANNI

18 This sublime tragi-comedy of the fall of the libertine Don Juan is a testament to Mozart's precocious imagination and the gifts of his finest librettist, Lorenzo da Ponte. There are fine arias ("Dalla Sua Pace") and farce, but queasy dissonance too, as the Don's fate is sealed. In the terrifying finale, the statue of a man Don Juan has killed comes to life.



WOLFGANG AMADEUS MOZART 1791 COSÌ FAN TUTTE

19 Not hugely popular in its time, today this comedy is appreciated for its intriguing paradox of dark ideas set to uplifting music.

WOLFGANG AMADEUS MOZART 1791 THE MAGIC FLUTE

20 Mozart conducted the premiere of this comic delight. Its many standouts include the aria "Der Hölle Rache kocht in meinem Herzen."

LUDWIG VAN BEETHOVEN FIDELIO

21 A flop at first, Beethoven's much-revised sole opera is both a moving tale of a wife's efforts to save her man and a larger paean to liberty.

GIOACHINO ROSSINI THE BARBER OF SEVILLE

22 Having survived a calamitous premiere, *The Barber of Seville* is today regarded as a triumph. This zesty *opera buffa* with a madcap plot is packed with strong tunes; witness its joyous overture and the eponymous barber Figaro's well-known aria "Largo Al Factotum."



GIOACHINO ROSSINI LA CENERENTOLA

23 This comedy based on the Cinderella fairy story has fine ensemble pieces. The lead, which calls for a coloratura contralto (low but agile voice), requires rare talent.

CARL MARIA VON WEBER THE MARKSMAN

24 Weber's *The Marksman*—the story of a forester's unknowing pact with the Devil—enjoyed huge success and is now seen as one of Germany's first operatic landmarks.

GIOACHINO ROSSINI WILLIAM TELL

25 Best known for its stirring overture, this nationalistic work was Rossini's last, longest, and most inventive opera. Works by Verdi, Berlioz, and even Wagner bear its stamp.

VINCENZO BELLINI THE SLEEPWALKER

26 The fanciful plot of *The Sleepwalker* is secondary to its long, beautiful, but testing melodies—epitomizing the *bel canto* tradition—a showcase for fine singers.

VINCENZO BELLINI NORMA

27 Set in the time of pre-Christian Gaul, Bellini's tragic opera is his greatest. Norma's exquisite "Casta Diva" is one of the finest *bel canto* arias written for soprano.

GAETANO DONIZETTI L'ELISIR D'AMORE

28 Laughs, love, and irresistible melody grace this neatly plotted work, which nods to the Tristan and Isolde myth. It includes the moving tenor aria "Una Furtiva Lagrima."

VINCENZO BELLINI I PURITANI

29 Bellini's final work—set during the English Civil War—has some of his greatest songs, including the aria "A Te, O Cara" and closing duet "Credeasi, misera!"

GAETANO DONIZETTI LUCIA DI LAMMERMOOR

30 This popular melodrama truly tests the soprano's pipes with Act III's "mad scene." But the contrapuntal Sextet from Act II is a marvel, too.

GIACOMO MEYERBEER 1824
LES HUGUENOTS

31 An infamous massacre of French Protestants is the setting for this tragic grand opera. Wildly successful, it was the first to play 1,000 times at the Paris Opéra.

HECTOR BERLIOZ 1830
LA DAMNATION DE FAUST

36 Full of musical variety, highlights include the "Hungarian March" and "The Horse Ride to Hell."

RICHARD WAGNER 1840
LOHENGRIN

37 Wagner drew on the legend of the Holy Grail for this tune-packed tragedy, featuring the now-famous "Wedding March."

GIUSEPPE VERDI 1842
NABUCCO

32 Featuring a spirited score, Verdi's first operatic triumph is known for the stirring "Va Pensiero" (Chorus of the Hebrew Slaves).

RICHARD WAGNER 1843
THE FLYING DUTCHMAN

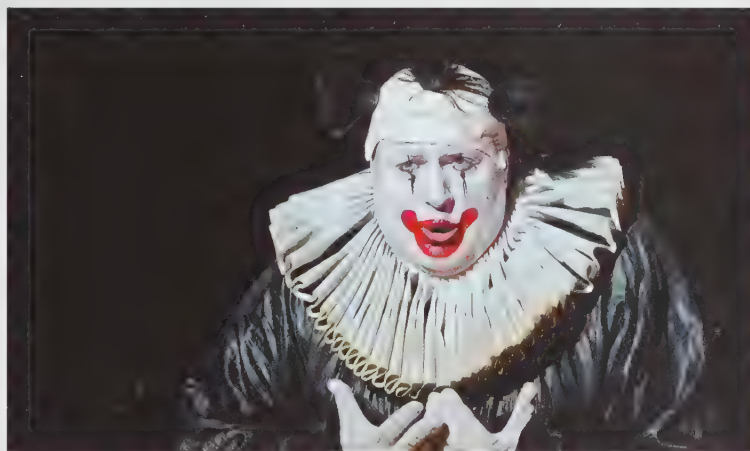
33 Wagner's career began in earnest with a tale of a sea captain fated to sail forever unless redeemed by love. Melodic arias, epic choruses, and bold orchestration abound.

GAETANO DONIZETTI 1843
DON PASQUALE

34 Donizetti's sixty-fourth opera, in the *bel canto* style, was well received and marked the apogee of *opera buffa*.

RICHARD WAGNER 1844
TANNHÄUSER

35 This medieval fantasy follows the eponymous troubadour as he forsakes the pure Elisabeth for the erotic kingdom of Venus.



GIUSEPPE VERDI
RIGOLETTO

38 Verdi approached his artistic zenith with this tale of a deformed jester, his daughter Gilda, and the disreputable Duke of Mantua, who delivers the standout tenor aria "La Donna È Mobile" (Woman is Fickle). Full of fine arias and choruses, although almost banned at the time for its portrayal of debauchery at court, it is still a favorite with audiences today.

GIUSEPPE VERDI 1853
IL TROVATORE

39 Despite its convoluted plot based on the play *El trovador* (1836) by Antonio García Gutiérrez—a stolen baby, a man unwittingly killing his own brother, both of them in love with the same woman (who kills herself)—this four-act revenge tragedy is one of Verdi's greatest triumphs. This is due largely to the opera's strong melodies. Act II opens with a brace of Verdi's finest—"The Anvil Chorus" followed by "Stride La Vampa" (The Flame Crackles)—whereas the "Miserere" from Act IV is one of the most loved in the repertoire. Verdi later created a French-language version, *La Trouvère*, adding ballet music, which had its Paris premiere in 1857.

GIUSEPPE VERDI
LA TRAVIATA

40 Based on the play *La Dame Aux Camélias*, this tragic tale of a Parisian courtesan is one of Verdi's best. The emotional trauma is reflected in richly diverse arias, including "Sempre Libera" (Always Free).



JACQUES OFFENBACH 1859
ORPHEUS IN THE UNDERWORLD

41 Offenbach cocks a tune-packed snook at the myth, launches satirical operetta in France, and—in the "Infernal Galop"—creates the music for the can-can.

CHARLES GOUNOD 1859
FAUST

42 After a lukewarm initial reception, Gounod's action-packed five-act grand opera became a huge success, aided by fine tunes such as the "Soldiers' Chorus" and "Jewel Song." The libretto was by Jules Barbier and Michel Carré.

HECTOR BERLIOZ 1862
BÉATRICE & BÉNÉDICT

43 Based on Shakespeare's play *Much Ado About Nothing*, this work was commissioned for the opening of the opera house in Baden-Baden. Unlike most *opera buffa*, it features spoken dialogue.

HECTOR BERLIOZ 1869
LES TROYENS

44 With a libretto written by Berlioz himself, this rich setting of events in the *Aeneid* was the composer's most ambitious project, although he never lived to see a full performance. It has since been recognized as one of the greatest operas of the nineteenth century.

RICHARD WAGNER 1813-1883
TRISTAN & ISOLDE

45 Wagner drew on Arthurian legend for this monumental tragic romance. Imbued with passion and sensuality, it features some of the composer's most lyrical melodies, such as Isolde's "Liebestod." Its audaciously chromatic soundworld anticipates twentieth-century atonalism.



BEĐRICH SMETANA 1824-1884
THE BARTERED BRIDE

46 This vivacious three-act comic opera, which helped to establish Smetana's reputation, incorporates the rhythms and melodies of his native Czech folk music.

GIUSEPPE VERDI 1813-1901
DON CARLOS

47 A complex web of politics and intrigue determines the destiny of doomed lovers Don Carlos and Elizabeth in Verdi's darkly lyrical tragedy.



RICHARD WAGNER 1813-1883
DIE MEISTERSINGER VON NÜRNBERG

48 One of the longest works still in the repertoire, *Die Meistersinger* represents Wagner's sole comic effort, the story of a young knight and his efforts to win both a singing contest and the hand of his love. A celebration of natural talent and youthful amour, its numerous highlights include "Wahn!" and "Prize Song."

GIUSEPPE VERDI 1813-1901
AIDA

49 Originally commissioned for Cairo's Khedivial Opera House, Verdi's tragic grand opera was a sensation. It is best known today for the "Triumphal March," which allows for great spectacle in Act II when the Egyptian army returns victorious.

MODEST MUSSORGSKY 1839-1881
BORIS GODUNOV

50 Drawing loosely on the life story of a sixteenth-century Russian czar, Mussorgsky's magnificent work starkly complements the actions and thoughts of his protagonists with dramatic orchestration.

JOHANN STRAUSS II 1825-1899
DIE FLEDERMAUS

51 Based on a text that Jacques Offenbach had passed up, Strauss's landmark operetta about romantic intrigue and confusion in Viennese society is illuminated by his delightful melodies.

GEORGES BIZET 1838-1868
CARMEN

52 Its unfamiliar realism (disreputable female chorus; violent onstage murder; Carmen's open sexuality) made the opera a scandal. But Bizet's gift for melody and orchestral brilliance (Carmen's "Seguidilla" and "Habanera") ensured its phenomenal popularity.



RICHARD WAGNER 1813-1883
DER RING DES NIBELUNGEN

53 With this titanic cycle (*Das Rheingold*, *Die Walküre*, *Siegfried*, *Götterdämmerung*), Wagner realized his dream of a total artwork blending music and drama. Unparalleled in its use of leitmotifs and huge orchestral forces, it contains some of the greatest music ever written.

CAMILLE SAINT-SAËNS 1835-1921
SAMSON & DELILAH

54 French opera has a pivotal moment in the Act II aria "Mon Coeur S'Ouvre à Ta Voix." The fine choral parts reflect the composer's initial aim of writing an oratorio.

PYOTR ILYICH TCHAIKOVSKY 1840-1893
EUGENE ONEGIN

55 The indifferent Onegin's rejection of Tatyana sparks tragedy in Tchaikovsky's moving and much-loved lyric opera, based closely on Pushkin's verse novel.

JACQUES OFFENBACH 1819-1880
LES CONTES D'HOFFMANN

56 Only staged after Offenbach's death, this *opéra fantastique* sees the titular poet-musician brooding on three past loves. Witty arias enliven his sad tale.

RICHARD WAGNER 1813-1883
PARSIFAL

57 Wagner dips into the Grail myth for his last opera, featuring (in the prologue and last scene, for example) music of sublime radiance.

JULES MASSENET 1840-1912
MANON

58 The tale of a girl led astray from true love by the lure of wealth inspired a score rich in arias. It was Massenet's most successful opera.

GIUSEPPE VERDI 1813–1901

OTELLO

59 Inspired by Arrigo Boito's concise libretto, Verdi reanimated his career, sacrificing tunes for an evocative, almost Wagnerian through-composed score.

PYOTR ILYICH TCHAIKOVSKY 1810–1893

THE QUEEN OF SPADES

60 Tchaikovsky's tragic opera adds a love story to the avarice and obsession of Pushkin's source short story. The lead part of Herman demands both talent and prodigious stamina.

GIACOMO PUCCINI 1858–1924

MANON LESCAUT

64 Manon's tragedy inspired Puccini's first operatic hit. The third act of this passionate and melodic work includes the aria "Sola, Perduta, Abbandonata."

GIACOMO PUCCINI 1858–1924

LA BOHÈME

65 Set in 1830s Paris, the tragic romance of Mimi and Rodolfo plays out against some of the most alluring music in opera, including "Mi, Chiamano Mimi" and "Che Gelida Manina." There is much to admire too in the careful characterization and well-structured acts.



GIACOMO PUCCINI 1858–1924

TOSCA

66 A typical Puccini tale of high tragedy gives rise to the eponymous heroine's touching aria "Vissi D'Arte" and her true love Cavaradossi's equally moving "Recondita Armonia" in this perennially popular work.

RUGGERO LEONCAVALLO 1857–1919

PAGLIACCI

61 This dramatic tour de force was an immediate success. A dark tale of betrayal and revenge set in a troupe of actors on tour in Calabria in the 1860s, *Pagliacci* epitomizes the idea of "verismo"—works inspired by real events.

JULES MASSENET 1842–1921

WERTHER

62 Goethe's lovelorn young poet inspired this masterwork, which matches a streamlined libretto and credible characterization to a very moving score. "Va! Laisse Couler Mes Larmes" and "Pourquoi Me Réveiller" are two of the great arias.

GIUSEPPE VERDI 1813–1901

FALSTAFF

63 A late masterpiece, *Falstaff* is the apex of comic Italian opera (from a composer known for his full-bore tragedies). Featuring an abundance of memorable melodies, it is blessed with a splendidly concise libretto by Arrigo Boito.

CLAUDE DEBUSSY 1862–1918

PELLÉAS & MÉLISANDE

67 Maurice Maeterlinck's symbolist play inspired this operatic milestone. The reverse of "grand" opera, it downplays outward drama, and even major arias. Instead, misty evocation and silence deftly reflect the subtleties and speech patterns of its source.

LEOŠ JANÁČEK 1854–1928

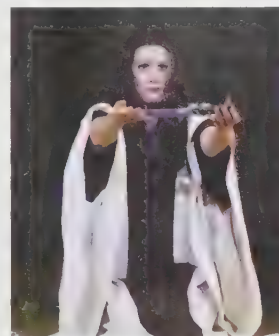
JENŮFA

68 Janáček established his reputation with this pacy, moving opera, the tragic narrative of an innocent child murdered in a Moravian village. Drawing on Czech folk music and the natural rhythms of the Czech language, Janáček created an innovative and often radiant score.

GIACOMO PUCCINI 1858–1924

MADAMA BUTTERFLY

69 Supremely melodic arias (notably Act II's "Un Bel Di Vedremo") grace this poignant story of a young Japanese geisha. She is married to and deserted by US naval officer Lieutenant Pinkerton, but his longed-for return brings only tragedy. After a dire premiere at Milan's La Scala, Puccini cut and improved the work, which became a huge success at Brescia a few months later and remains a staple of the repertoire.



RICHARD STRAUSS 1864–1948

SALOME

70 Its unconventional tonality, the theme of incestuous lust, and the onstage fondling of a severed head caused a scandal. But *Salome* was perfectly in keeping with giant steps in musical innovation at the start of the new century.

FRANZ LEHÁR 1870–1948

THE MERRY WIDOW

71 This high point of Viennese operetta offers unforgettable melodies, a famous waltz, and romance aplenty in the lighthearted tale of suitors to the wealthiest widow in Pontevedro.

RICHARD STRAUSS 1864–1948

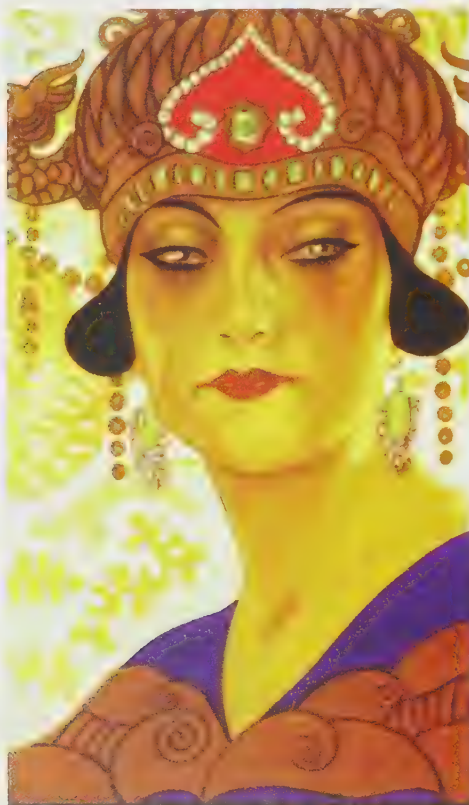
ELEKTRA

72 Strauss's intense, sometimes atonal take on the Homeric tale of violent revenge breaks new ground in harmony, orchestration, and writing for singers (the lead soprano role is notoriously difficult)—and in so doing courted controversy.

RICHARD STRAUSS

DER ROSENKAVALIER

73 Having broken radical new ground with *Salome* and *Elektra*, Strauss opted for tunefulness, affectionate nostalgia, and waltzes for this comedy set in eighteenth-century Vienna. The result is his most popular opera.



BÉLA BARTÓK

BLUEBEARD'S CASTLE

74 Bartók's intense one-act work focuses on two singers. Seven doors open to reveal aspects of Bluebeard's character, each evoked by a discrete orchestral ambience.

GIACOMO PUCCINI TURANDOT

77 Imperial Chinese Princess Turandot will only marry the man who can solve her three riddles. Step forth Prince Calaf. Although Puccini died before completing the last act (finished by a student, Franco Alfano), and despite its long and troubled gestation and problematic ending, *Turandot* has proved enduringly popular. Puccini's musical brilliance is evident in the strong choruses and orchestral flair. But central to the work's appeal is the string of outstanding songs—from the very start (*Turandot's* "In Questa Reggia")—that includes the famous tenor aria "Nessun Dorma."

LEOŠ JANÁČEK

THE CUNNING LITTLE VIXEN

75 A cartoon strip inspired Janáček's anthropomorphic tale that describes the eternal cycle of death and rebirth through the adventures of animals and villagers.

ALBAN BERG

WOZZECK

76 Expressionism informs this dark tale of a brutalized soldier. But there are moments of sublime beauty and conventional harmony, too.

ERNST KRENEK

JONNY SPIELT AUF

78 This spicy narrative, revolving around an African-American jazz-playing protagonist, gave Krenek a phenomenal hit. Its perceived "degeneracy" soon saw it held up for ridicule by the Nazis.

BERTOLT BRECHT WITH KURT WEILL

THE THREEPENNY OPERA

80 John Gay's eighteenth-century ballad opera *The Beggar's Opera* meets jazz in this darkly mesmerizing work set in a criminal underworld in Victorian London. It is most famous for the much-covered "Die Moritat von Mackie Messer" (The Ballad Of Mack The Knife) and "Seeräuberjenny" (Pirate Jenny).

IGOR STRAVINSKY 192

OEDIPUS REX

79 This two-act opera-oratorio is based on Sophocles's well-known tragedy and has a libretto written by Jean Cocteau and translated into Latin. Highlights include the impassioned duet "Oracula Mentiuntur" (Oracles lie) sung by Oedipus and Jocasta.

BERTOLT BRECHT WITH KURT WEILL

AUFSTIEG UND FALL DER STADT MAHAGONNY

81 *Rise and Fall of the City of Mahagonny* unveils a world of Gomorrah-like easy excess, although woe betide those who cannot afford to pay for it. . . . Brecht and Weill's savage capitalist satire, infused with the sounds of jazz and cabaret, crackles with a dark vitality. First sung by Lotte Lenya, the lurching "Moon of Alabama" later attracted covers from the likes of The Doors.

DMITRI SHOSTAKOVICH

LADY MACBETH OF THE MTSSENSK DISTRICT

82 Popular in its first two years, Shostakovich's opera was slated by *Pravda* ("Muddle Instead of Music") in 1936. Why? Perhaps, the brazen musical representations of sex proved too much.

GEORGE GERSHWIN

PORGY AND BESS

83 For some critics, the characters are unforgivably stereotypical. But Gershwin's gift for melody (witness "I Loves You, Porgy," "It Ain't Necessarily So," and, of course, "Summertime") is unimpeachable.

ALBAN BERG

LULU

84 Only the first two acts of Berg's last opera—describing the rise and fall of a captivating dancer—appeared in 1937. Revised by Friedrich Cerha, the three-act version debuted in 1979, conducted by Pierre Boulez.

BENJAMIN BRITTEN

PETER GRIMES

85 Britten's tragic story of a lone figure misunderstood by his fellow villagers made the composer's reputation. First performed with Peter Pears as Grimes, it is a landmark in English opera.

BENJAMIN BRITTEN 195

BILLY BUDD

86 Based on a Herman Melville novella, this male-only piece was ambitious in scale and—with homoeroticism as a major theme—subject.

GIAN CARLO MENOTTI 1941
**AM AHL AND
 THE NIGHT
 VISITORS**

87 Commissioned by NBC, this opera was the first to be composed for television, and its premiere was broadcast live from New York City. It was inspired by the *Adoration of the Magi* (1510) by Hieronymus Bosch.

IGOR STRAVINSKY
**THE RAKE'S
 PROGRESS**

88 William Hogarth's engravings of the fall of Tom Rakewell are the source for Stravinsky's only full opera, which is steeped in neoclassicist touches (there are nods to Mozart and Lorenzo da Ponte). The libretto is by W. H. Auden and Chester Kallman.



JUDITH WEIR 1987
**A NIGHT AT
 THE CHINESE
 OPERA**

86 Commissioned by the BBC, Weir's play-within-a-play is a tale of self-discovery and revenge that partly draws on—without resorting to pastiche—the music of traditional Chinese theater. Set in thirteenth-century China, the opera depicts the story of the orphaned Chao Lin, who sets about to avenge his family.

HANS WERNER HENZE 1941
**BOULEVARD
 SOLITUDE**

89 Henze's first opera puts Manon Lescaut in post-World War II Paris, where she finds love but struggles to survive a life shaped by poverty and crime. The music crisscrosses genres, from American jazz, blues, and nineteenth-century opera to 12-tone writing.

BENJAMIN BRITTEN 1944
**A MIDSUMMER
 NIGHT'S DREAM**

91 An opera full of sparkling wit and lyricism. Britten focuses on the fantastical woodland scenes from the play and conveys character through subtle instrumentation.

PHILIP GLASS 1976
**EINSTEIN ON
 THE BEACH**

94 This lengthy four-act opera—is interspersed with five “knee plays”—is the first in Glass's Portrait Trilogy, preceding *Satyagraha* (1979) and *Akhmatov* (1983). It is a collaboration with director Robert Wilson.

JOHN ADAMS 1987
NIXON IN CHINA

97 Based on the US president's 1972 trip, this landmark work muses on history, integrity, and politics, admirably engaging with the complex personalities of those involved.

MARK-ANTHONY TURNAGE 1993
GREEK

98 Based on a Steven Berkoff play, *Greek* viscerally reworks the story of Oedipus in London's East End, mixing free jazz and rap with Puccini, Britten, and Stravinsky.

BENJAMIN BRITTEN 1946
THE TURN OF THE SCREW

90 The theme of innocence degraded lies at the heart of this masterwork, based on a Henry James novella. Most of the music derives from a 12-tone row heard early on, binding the work together tightly. A tense psychodrama.



MICHAEL TIPPETT 1944
KING PRIAM

92 Despite the musical inventiveness and dynamism on show, this lean, stridently pacifist work has a resoundingly bleak core. The story is based predominantly on Homer's *Iliad*.

HANS WERNER HENZE 1946
THE BASSARIDS

93 Huge orchestral forces bring a symphonic richness to this battle between reason and passion. A one-act opera, it is constructed in four movements, like a classical symphony. Late Romantic composer Gustav Mahler is an audible influence.

GYÖRGY LIGETI 1976
**LE GRAND
 MACABRE**

95 Armageddon is the setting for Ligeti's vibrant (and only) opera. It is an absurdist work of grotesque characters, offbeat “instruments,” and musical lampoons.

JOHN ADAMS 1981
THE DEATH OF KLINGHOFFER

99 The true and highly controversial (it has been slated as anti-Semitic) story of a murdered Jewish hostage, Adams's tragedy is raw, unsettling, and thought-provoking.

THOMAS ADÈS 1991
THE TEMPEST

100 Adès emphatically arrived with this masterpiece, a triumph of orchestration and bravura vocal writing. The concise libretto is by Meredith Oakes.



JACQUES SALMON & GIRARD DE BEAULIEU 1789
BALLET COMIQUE DE LA REINE

1 The first-known ballet, based on the tale of Circe, this premiered on October 15 in the Louvre and was staged by Beaujoyeux.

VARIOUS 1789

LA FILLE MAL GARDÉE

2 This heartwarming, comic, rural tale in two acts was originally created by ballet master Jean Dauberval, with his wife, Madame Théodore, taking the lead role of Lison (or Lise). Frederick Ashton revised the work to great acclaim in 1960.

HERMAN SEVERIN LØVENSKIOLD 1804
LA SYLPHIDE

3 The choreography for this major Romantic ballet by August Bournonville is performed by the Royal Danish Ballet to this day.

VARIOUS 1841

NAPOLI, OR THE FISHERMAN AND HIS BRIDE

5 A humorous feel-good work choreographed by Bournonville, with music by sundry composers, including an aria from Rossini's *The Barber of Seville*.

ADOLPHE ADAM, JULES-HENRI VERNY DE SAINT-GEORGES & THÉOPHILE GAUTIER 1828
GISELLE

4 The definitive Romantic ballet. A peasant girl falls for a nobleman in this Rhineland tale, best known from the revisions by choreographer Marius Petipa. Scandal beset a 1911 Ballets Russes staging, when Nijinsky refused to wear shorts over his tights, as was customary.

CESARE PUGNI 1841

LA ESMERALDA

6 Based on Victor Hugo's *The Hunchback of Notre Dame*, this ballet was first created by choreographer Jules Perrot, with his wife, Carlotta Grisi, playing the beautiful gypsy Esmeralda. Pagni revised his original score for a production in St. Petersburg in 1849.

100 BALLET

CESARE PUGNI 1841
PAS DE QUATRE

7 With which Jules Perrot created a showcase for four leading ballerinas: Lucile Grahn, Fanny Cerrito, Carlotta Grisi, and Marie Taglioni.

ÉDOUARD DELDEVEZ 1844
PAQUITA

8 Joseph Mazilier originally created this tale of a peasant of noble birth for the Paris Opera Ballet. The famous pas de trois and grand pas de deux were added by Petipa with music by Ludwig Minkus.

JOHAN PETER EMILIUS HARTMANN & NIELS W. GADE 1845
A FOLK TALE

9 Bournonville described this charming three-act ballet embracing folklore and fantasy as "the most complete and best of all my choreographic works."

ADOLPHE ADAM & JULES-HENRI VERNY DE SAINT-GEORGES 1844
LE CORSAIRE

10 An exotic story of the pirate Conrad and his love (Medora, a harem girl), first staged by Mazilier but superseded by Petipa's revivals. Plot complexities are secondary to the series of bravura dances, and the ballet climaxes with a spectacular shipwreck.

CESARE PUGNI, JULES-HENRI VERNY DE SAINT-GEORGES & THÉOPHILE GAUTIER 1845
THE PHARAOH'S DAUGHTER

11 This sumptuous, four-hour, orientalist fantasy was Petipa's first full-length work and proved a huge success for St. Petersburg's Imperial Theatre.

LUDWIG MINKUS 1847
DON QUIXOTE

12 This flamboyant, three-act comedy by Petipa was originally premiered by Moscow's Bolshoi Ballet. With its showstopping set pieces (including a wonderful wedding pas de deux for Kitri and Basilio) and ornate sets, it became a key work for the company.

LÉO DELIBES & CHARLES NUITTER 1870
COPPÉLIA

13 Based on a story by E. T. A. Hoffmann, this lighthearted tale of mistaken identity is one of the finest nineteenth-century comic ballets. Created by Arthur Saint-Léon, then revised by Petipa in 1884, and again by Enrico Cecchetti a decade later, it features a marvelous score.

LÉO DELIBES 1870
SYLVIA

14 Louis Mérante's staging was notable for its strong female lead, fine score, and as the first ballet at Paris's Palais Garnier.

LUDWIG MINKUS 1871
LA BAYADÈRE

15 An exotic tale of forbidden love set in mystical India, *La Bayadère* is a high-point of classical ballet. Best known for its Kingdom of the Shades scene, it was created by Petipa and revised for the Kirov in 1940 and the American Ballet Theatre in 1980.

PYOTR ILYICH TCHAIKOVSKY 1876
SWAN LAKE

16 The greatest Romantic ballet combines Tchaikovsky's luminous score with sumptuous sets and spellbinding dancing (originally by Julius Reisinger). An 1895 revival by Petipa and Lev Ivanov set the tone for future productions. Matthew Bourne's 1995 staging made history by replacing the conventional female corps de ballet with more aggressive male dancers.

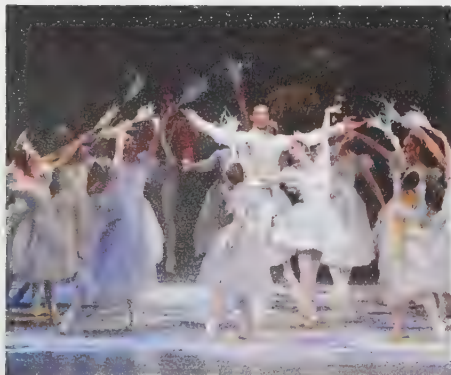


PYOTR ILYICH TCHAIKOVSKY THE SLEEPING BEAUTY

17 This enchanting fairy tale—comprising a prologue and three acts—was created by Petipa and boasts a magnificent score (Tchaikovsky's second for ballet). The basic plot is enlivened by superb dance sequences—each new act making exacting technical demands of the prima ballerina. It was an immediate success, staged 200 times in its first decade alone.

PYOTR ILYICH TCHAIKOVSKY THE NUTCRACKER

18 Brings to life a delightful Christmastime dreamworld, but the lopsided plot and flawed early productions received only a lukewarm response (the composer himself called it “infinitely worse than *Sleeping Beauty*”). Indeed, it was only after George Balanchine's 1954 revival was a hit in New York that the ballet's popularity rose and it became a Yuletide perennial.



ALEXANDER GLAZUNOV RAYMONDA

19 Petipa's truly spectacular creation is matched by a colorful, rhythmically rich score. The famed *grand pas classique hongrois*, one of Petipa's finest feats, is often staged separately. Today's version draws largely on Konstantin Sergeyev's 1948 revisions.

RICCARDO DRIGO LES MILLIONS D'ARLEQUIN

20 Petipa looked back to the sixteenth-century commedia dell'arte for this ebullient comedy. Balanchine staged a notable revival, as *Harlequinade*, in 1965.

CAMILLE SAINT-SAËNS THE DYING SWAN

21 Michel Fokine's staging is based on the moving cello solo from *Carnival of the Animals*.

FRÉDÉRIC CHOPIN & ALEXANDER GLAZUNOV LES SYLPHIDES

22 A one-act ballet that favors dreamy atmospherics over plot development, *Les Sylphides* features Alexander Glazunov's orchestration of pieces by Chopin.

ALEXANDER BORODIN THE POLOVTSIAN DANCES

23 Extracted from Borodin's opera *Prince Igor*, this exotic one-act ballet boasted a series of exuberant dances by Fokine. Its premiere, by Sergei Diaghilev's Ballets Russes, was at Paris's Théâtre du Châtelet.

ROBERT SCHUMANN CARNAVAL

24 The Ballets Russes production in Berlin, featuring Nijinsky as Harlequin and Lydia Lopokova as Columbine, was renowned. The music is a joint orchestration of one of Schumann's 1834 piano pieces by several Russian composers.

IGOR STRAVINSKY THE FIREBIRD

25 Stravinsky's first ballet, for Ballets Russes, was a huge hit. The score, and Michel Fokine's dances, drew on folk tradition.

NIKOLAI RIMSKY-KORSAKOV SCHEHERAZADE

26 Léon Bakst's exotic costume and set designs and Nijinsky's sensuality created a sensation. The original score was reorchestrated.

HECTOR BERLIOZ & VARIOUS LE SPECTRE DE LA ROSE

27 Premiered in Monte Carlo, this great Ballets Russes success paired Tamara Karsavina with Nijinsky, whose climactic leap through a window became famous.

IGOR STRAVINSKY PETRUSHKA

28 The first score by Stravinsky to dictate, not simply serve, its ballet. As the titular puppet, Nijinsky was grotesque but compelling.

MAURICE RAVEL DAPHNIS ET CHLOÉ

29 Fokine and Ravel both fell out with Diaghilev, and the run was truncated. The score has proved enduringly popular.

CLAUDE DEBUSSY L'APRÈS-MIDI D'UN FAUNE

30 This brief, highly erotic work—with Nijinsky as the faun—broke abruptly with ballet tradition. It attracted scandal and sell-out crowds at first, but then rapidly vanished from the repertory until the 1980s.

IGOR STRAVINSKY 1913
THE RITE OF SPRING

31 Its Parisian premiere famously provoked a riot, prompted by Stravinsky's folk-inflected score, costume, and dancing—considered ugly—and a plot based on pagan rituals. It remains a keystone of modernity.

NIKOLAI RIMSKY-KORSAKOV 1914
LE COQ D'OR
32 First seen as an opera in 1909, this Ballets Russes work placed a choir on either side of the stage. Natalia Goncharova's rich designs drew on folk traditions.

ERIK SATIE 1917
PARADE
33 This controversial Cubist oddity had contributions from Pablo Picasso, Jean Cocteau, and Léonide Massine.

IGOR STRAVINSKY
LES NOCES
34 Bronislava Nijinska's bold choreography eschewed grace to emphasize anonymity and the primacy of the community in this story of an arranged Russian peasant wedding.

FRANCIS POULENC 1924
LES BICHES

35 Bronislava Nijinska created one of the first neoclassical ballets with *Les Biches*. Jazz-inflected and considered risqué (gestural decorum masking sexual frisson), it proved influential, notably on Frederick Ashton.

IGOR STRAVINSKY 1928
APOLLO

36 The first of Stravinsky's collaborations with George Balanchine, *Apollo* was a sensation at its Paris premiere. Hitherto a modernist, Balanchine embraced a stripped-down classicism here, inspired by the clarity and restraint of Stravinsky's score. The theme was reflected in the sparse staging and plain costumes designed by André Bauchant.



MAURICE RAVEL 1928
BOLÉRO

37 Ravel's best-known work began life as a commission from dancer Ida Rubinstein. Choreographed by Nijinska, with designs by Alexandre Benois, it proved an instant success.

SERGEI PROKOFIEV 1929
THE PRODIGAL SON
38 Opening the final Paris season for Ballets Russes, this work was a major triumph, presenting Balanchine's acrobatic dancing against an Expressionist set.

BORIS ASAFYEV 1934
THE FOUNTAIN OF BAKHCHISARAI

39 Based on a poem by Alexander Pushkin and set in Crimea, this exotic, orientally flavored work became one of the most popular Soviet ballets.

PYOTR ILYICH TCHAIKOVSKY
SERENADE
40 The first work to be devised by Balanchine in the United States. Derived from chance events during rehearsal, with the ensemble prioritized over the individual, it was a huge success and did much to define US ballet.

ERNEST CHAUSSON 1929
JARDIN AUX LILAS

41 Antony Tudor evolved new means of expressing emotional nuances (psychological ballet) with this signature work for the American Ballet Theatre.

GIACOMO MEYERBEER 1937
LES PATINEURS

42 Frederick Ashton's sparkling wintery treat, complemented by William Chappell's elegant designs, was a triumph.



SERGEI PROKOFIEV 1938
ROMEO AND JULIET

43 Prokofiev's first full-length ballet had a troubled birth. An early version was deemed undanceable, and after the premiere in Brno, Czechoslovakia, he revised it for the Russian debut in 1940. But this vibrant, highly rhythmic work, which was danced at its Russian premiere by the Mariinsky troupe and choreographed by Leonid Lavrovsky, has proved popular. The premiere of Kenneth MacMillan's 1965 version, which paired Margot Fonteyn with Rudolf Nureyev, elicited a total of 43 curtain calls.

PYOTR ILYICH TCHAIKOVSKY 1939
Ballet Imperial

44 Balanchine's lush, one-act tutu ballet—originally devised for a goodwill tour of Latin America—was a conscious and courtly tribute to the partnership of Petipa and Tchaikovsky. A fast-paced, technically demanding work, it was created to showcase the prowess of Balanchine's celebrated ballerina Marie-Jeanne.

ARNOLD SCHOENBERG
PILLAR OF FIRE

45 Set to Schoenberg's *Verklärte Nacht*, this pivotal, edgy work by Antony Tudor launched the career of ballerina Nora Kaye.

RICHARD STRAUSS
DIM LUSTRE

46 Tudor's ballroom-set ballet is a charming, worldly wise meditation on memory and time arranged to Strauss's *Burleske* for piano and orchestra.

AARON COPLAND
APPALACHIAN SPRING

47 Copland's shining vision of America, beautifully realized by choreographer Martha Graham, secured a Pulitzer Prize in 1945. It tells the story of nineteenth-century newlyweds building their first house.

LEONARD BERNSTEIN
FANCY FREE

48 This hugely entertaining work kick-started the career of Bernstein and choreographer Jerome Robbins and inspired the musical *On the Town* (1944).

SERGEI PROKOFIEV
CINDERELLA

49 For Prokofiev's melodically engaging and rhythmically diverse score—incorporating a sequence of classical dances across its three acts—Rostislav Zakharov choreographed the first landmark production of *Cinderella*, which has remained hugely popular to this day. First performed by the Bolshoi Ballet, the title part provided defining roles for Galina Ulanova and, later, Natalia Dudinskaya. Of the many subsequent versions, the most notable is that of Frederick Ashton from 1948. With Margot Fonteyn in the lead role, Ashton cut some of the music, creating a comic piece and warm homage to Petipa's classicism.



J. S. BACH
LE JEUNE HOMME ET LA MORT

50 One of choreographer Roland Petit's major works, the testing lead role has seen acclaimed performances from, among others, Mikhail Baryshnikov and Ivan Vasiliev.

CÉSAR FRANCK
SYMPHONIC VARIATIONS

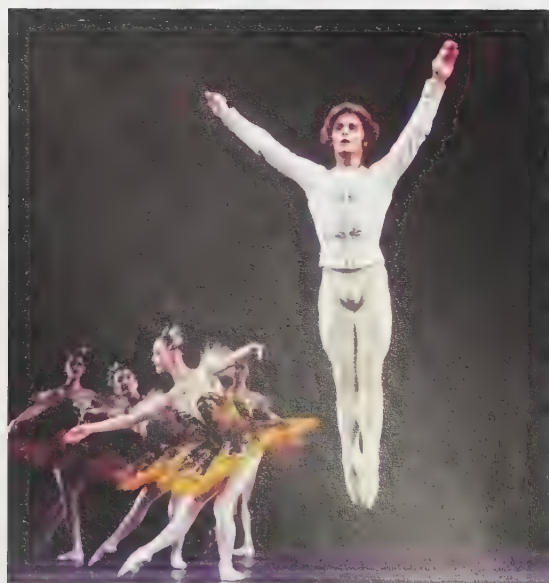
51 Arranged for just six dancers, all of whom remain on stage, Frederick Ashton's first post-World War II creation is a lyrical, plotless, neoclassical work—"pure" ballet.

PAUL HINDEMITH
THE FOUR TEMPERAMENTS

52 This experimental work by Balanchine, inspired by the medieval concept of "humors," broke daring new ground with its pared-down, fractured neoclassicism.

VINCENZO BELLINI & VITTORIO RIETI
LA SONNAMBULA

53 A masked ball provides the setting for New York City Ballet cofounder and master Balanchine's dark one-act ballet.



PYOTR ILYICH TCHAIKOVSKY
THEME AND VARIATIONS

54 Balanchine pays affectionate tribute to the grandeur of St. Petersburg's Imperial Ballet with this courtly work set to Tchaikovsky's *Suite No. 3 in G major*. The classicism is filtered through a modern sensibility to create a joyously energetic but terrifically challenging work—one that Mikhail Baryshnikov declared his most difficult role.

GEORGES BIZET
SYMPHONY IN C

55 Balanchine's staging perfectly complements the ebb and flow of this early Bizet work—composed when he was 17 while studying at the Paris Conservatory—once thought lost forever.

IGOR STRAVINSKY
ORPHEUS

57 One of Stravinsky's more lyrical scores, this potent collaboration with Balanchine helped bring about the creation of the New York City Ballet.

CARL CZERNY
ÉTUDES

58 A ballet informed by ballet studies. Exercises at the start evolve into sophisticated showcases for gifted students by the close of Harald Lander's work.

DANIEL AUBER
GRAND PAS CLASSIQUE

58 Victor Gsovsky's tribute to classical dance is derived from Auber's *Marco Spada* (1857). It is renowned for testing a ballerina's virtuosity and control.

SERGEI PROKOFIEV 1918

THE TALE OF THE STONE FLOWER

59 The last of the composer's eight ballets, based on a fairy tale, was choreographed by Lavrovsky with Galina Ulanova as Katerina.

ARAM KHACHATURIAN 1901

SPARTACUS

60 The vigorously rhythmic score received an experimental (pointe-less) reading from Leonid Yakobson. Yuri Grigorovich's 1968 version drew the greatest acclaim.

IGOR STRAVINSKY 1908

AGON

61 Written for 12 dancers, this highly experimental collaboration with Balanchine blends classic moves with French court dances and 12-tone composition. A pivotal modern ballet.

ANTONIO VIVALDI 1657

SQUARE DANCE

62 For this joyous work, Balanchine brought together US folk dancing and neoclassical minimalism. Initially, the production also included a square-dance caller.

BENJAMIN BRITTEN 1913

THE PRINCE OF THE PAGODAS

63 Weighed down by an overlong score, John Cranko's staging had mixed reviews. The music was edited for a classical 1989 version by Kenneth MacMillan, starring a young Darcey Bussell.

HALIM EL-DABH 1916

CLYTEMNESTRA

64 Martha Graham's landmark two-hour ballet—her only full-length work, in which she danced the title role herself—mixed drama and dance and proved an immediate success.



HANS WERNER HENZE 1906

ONDINE

65 This three-act piece was the first full-length work requested by the Royal Ballet. Ashton's choreography is demanding and rich in characterization, its free-flowing nature entirely fitting for the watery theme. The part of the titular nymph, written for Margot Fonteyn, proved a signature role for her. Henze's modernist score, short on tunefulness, disappointed Ashton, although its darkness sounds intriguing today.

JOHN PHILIP SOUSA 1859

STARS AND STRIPES

66 Balanchine's love of Americana is wonderfully apparent here. The ballet is divided into five "campaigns," each with rousing themes from the "March King," together with baton twirling.

PYOTR ILYICH TCHAIKOVSKY 1840

TCHAIKOVSKY PAS DE DEUX

67 Tchaikovsky wrote a pas de deux called the "Black Swan" for a version of *Swan Lake* in 1877. It was lost until 1953. Balanchine thought it enchanting and staged it as a one-act ballet that has been popular ever since.

ARIF MELIKOV 1907

THE LEGEND OF LOVE

68 A passionate, dramatic tale of forbidden love, jealousy, duty, and self-sacrifice. This exotic three-act ballet, set in a Middle Eastern palace, was one of the first works choreographed by Yuri Grigorovich.

DMITRI SHOSTAKOVICH 1906

THE LENINGRAD SYMPHONY

69 Igor Belsky drew on the first part of the composer's *Seventh Symphony* for this major one-act Soviet ballet.

DMITRI SHOSTAKOVICH 1906

THE BEDBUG

70 Leonid Jakobson assembled a variety of excerpts from the composer's oeuvre for this anti-Soviet satire.

FELIX MENDELSSOHN 1809

A MIDSUMMER NIGHT'S DREAM

71 Balanchine's enchanting first original full-length ballet devotes its first half to Shakespeare's comedy of the same name. Its second—a wedding celebration—offers a bravura display of neoclassical dance, culminating in an exhilarating pas de deux. An outstanding story ballet.



FRANZ LISZT 1820

MARGUERITE AND ARMAND

72 Set to Liszt's piano sonata in B minor and inspired by an Alexandre Dumas novel, Ashton's moving ballet was created for the celebrated pairing of Margot Fonteyn and Rudolf Nureyev.

LOUIS MOREAU GOTTSCHALK
TARANTELLA

73 Set to Gottschalk's vivacious *Grande Tarantelle* and reconstructed by Hershy Kay in 1954, Balanchine's explosive pas de deux demands virtuosity and nimble footwork. It was originally created for Patricia McBride and Edward Villella. The premiere took place at New York's City Center of Music and Drama.

FELIX MENDELSSOHN
THE DREAM

74 Frederick Ashton incorporates wit, invention, traditional storytelling, and strong characterization into his take on *A Midsummer Night's Dream*. Whereas Balanchine's version includes other works by Mendelssohn, Ashton's more economical reading relies exclusively on the composer's original score.



VARIOUS
ONEGIN

75 John Cranko's story ballet of doubly unrequited love sets music by Tchaikovsky (*not* his titular opera) to an arrangement by Kurt-Heinz Stolze. Featuring Cranako's signature "still poses"—a device that facilitates greater self-expression—it is considered his finest work.

RODION SHCHEDRIN
CARMEN SUITE

76 Cuban choreographer Alberto Alonso drew on excerpts from Bizet, arranged by Shchedrin for strings and percussion, to create this entertaining, although far from subtle, one-act ballet.

VARIOUS
JEWELS

77 Set to works by Fauré, Tchaikovsky, and Stravinsky, Balanchine's sparkling work tells the story of ballet as filtered via the cities of Paris, New York, and St. Petersburg.

ERIK SATIE
MONOTONES I AND II

79 A strikingly modernist, one-act ballet choreographed by Ashton, this pairs two separate pas de trois from the preceding two years set to Satie's sublime *Gymnopédies* and *Gnossiennes*.

MALCOLM WILLIAMSON
SINFONIETTA

80 An Ashton rarity that sandwiches an ultra-slow movement—wherein a ballerina performs while being held up by her partners—amid two spirited episodes.

FRÉDÉRIC CHOPIN
DANCES AT A GATHERING

81 After a sojourn on Broadway, Jerome Robbins returned to ballet when he arranged 18 Chopin solo piano pieces in a simple celebration of love and positivity.

KURT-HEINZ STOLZE AFTER DOMENICO SCARLATTI
THE TAMING OF THE SHREW

82 John Cranko's fast-paced, witty take on Shakespeare's play of the same name neatly captures the farce while also allowing space for its romance—as well as some bravura dancing. It was the last of his full-length works for the Stuttgart Ballet.

VARIOUS
ANASTASIA

83 Inspired by the true story of a woman who believed herself to be the daughter of Czar Nicholas II, MacMillan produced this daring, Expressionist ballet.

VARIOUS
ELITE SYNCOPATIONS

84 Unusually for MacMillan, this lighthearted one-act ragtime ballet employs multiple soloists.

JULES MASSENET
L'HISTOIRE DE MANON

85 MacMillan's tragic tale of eighteenth-century Paris demands virtuosic abilities—not least from the leads (Antoinette Sibley and Anthony Dowell in the Royal Ballet's first production). They dance four pas de deux in a realistic, emotive complex work



ANTONÍN DVOŘÁK
LEAVES ARE FADING

86 More abstract, less plot driven than his earlier pieces, this wistful late Antony Tudor ballet seems to revolve around youthful love and the passage of time. The main pas de deux was made for Gelsey Kirkland.

VARIOUS
THE MERRY WIDOW

57 Based on Franz Léhar's operetta set in turn-of-the-century Paris, Ronald Hynd's joyous production retains the comedy and romance, adding a provocative note.

FRÉDÉRIC CHOPIN
A MONTH IN THE COUNTRY

88 One of the last of Ashton's works for the Royal Ballet, this domestic drama offers subtle characterization and dances that are truly sympathetic to Chopin's music (arranged here by John Lanchbery).

FRÉDÉRIC CHOPIN
OTHER DANCES

89 This folk-flavored pas de deux was originally created by Jerome Robbins for Natalia Makarova and Mikhail Baryshnikov, and features one waltz and four mazurkas by Chopin.

VARIOUS
PUSH COMES TO SHOVE

90 Ballet and modern dance meet in Twyla Tharp's witty work, which gave Baryshnikov the chance to shine in a nonclassical role.

LEOS JANÁČEK 1978
SINFONIETTA

91 This expansive one-act ballet by Jiří Kylián has a joyous exuberance [Janáček wished to embody the "modern, free Czech"], reflected in the male dancers' soaring leaps.



FRANZ LISZT
MAYERLING

92 The true story of a royal double suicide underpins this highly charged MacMillan work. The choreographer uses movement and gesture to map the emotions and thoughts of the main characters with remarkable skill, while the psychological collapse of Crown Prince Rudolf is mapped in a series of arresting pas de deux with the five most significant women in his life. A tense, absorbing masterpiece.

J. S. BACH
STEXT

93 William Forsythe's one-act ballet for one ballerina and three male dancers famously incorporates stop-start house lights and music.

PHILIP GLASS
IN THE UPPER ROOM

94 Glass's pulsing score is matched superbly by Tharp's vigorous dances. The costumes of the 13 dancers change from black and white to red during the nine-part ballet.



THOM WILLEMS
IN THE MIDDLE, SOMEWHAT ELEVATED

95 Commissioned by Nureyev for the Paris Opera Ballet, and set to arresting electronica, Forsythe's theme-and-variations work is a typically acrobatic blend of traditional ballet and modern dance.

PYOTR ILYICH TCHAIKOVSKY
WINTER DREAMS

96 Chekhov's *Three Sisters* inspired this MacMillan ballet. Through a series of brief dances—mostly solos, duets, or trios—multiple characters are introduced and explored.

FRANZ SCHUBERT
THE VERTIGINOUS THRILL OF EXACTITUDE

97 Virtuoso technique and close pointe work characterize Forsythe's demanding, but dynamic, neoclassicism.

ELLIOT GOLDENTHAL
OTHELLO

98 Lar Lubovitch uses the tarantella as a core dance in his reading of Shakespeare's tragedy. Set to an intense score, the three-act work is a stunning hybrid of ballet and contemporary dance.

PYOTR ILYICH TCHAIKOVSKY
ANNA KARENINA

99 Boris Eifman's neoclassical ballet focuses on the tragic trio of Anna-Karenin-Vronsky at the heart of Tolstoy's epic novel. A spectacular, athletic production high on drama and passion.

JONATHAN DOVE
DIANA AND ACTAEON

100 Drawing on Titian's eponymous painting, a choreographic trio (Liam Scarlett, Will Tuckett, and Jonathan Watkins) unite for a wonderful example of narrative ballet.





LITERARY ARTS

This section covers great writers and their works, in all kinds of formats and genres from novels to plays, children's books to comics, and autobiographies to diaries. It takes in classics such as James Joyce's *Ulysses* and leading comic books like *Tintin*, as well as genre giants including hard-boiled detective story *The Big Sleep* and Nordic noir *The Girl with the Dragon Tattoo*, fantasy favorites *A Game of Thrones* and *Twilight*, and science-fiction successes *Frankenstein* and *The Hunger Games*.

◀ French novelist, essayist, and playwright Albert Camus at the Antoine Theatre in Paris in 1959.



HOMER

1 The founding father of Western literature, ancient Greek epic poet Homer is more a legend than a man, his very existence uncertain. The most compelling myth presents him as a blind wandering bard who died in poverty on the island of Ios. He is revered as the author of two monumental epics—the *Iliad*, covering an episode of the Trojan War, and the *Odyssey*, recounting the eventful voyage of Odysseus from Troy to Ithaca. Homer's vivid storytelling inspired later writers spanning from Chaucer and Shakespeare to James Joyce.

AESCHYLUS

2 Ancient Greece's greatest tragedian, Aeschylus lived in interesting times. He witnessed the creation of the world's first democracy in the Greek city-state of Athens and fought in the Greek defeat of Persian invaders at Marathon in 490 BCE. His tragedies are weighted with concerns about politics and power, fate and the gods, and suffering and redemption. Elevated in language, they established verse tragedy as an art form capable of expressing the heights and depths of human experience. Only seven of some eighty plays he wrote have survived, most notably his trilogy *Oresteia*.

SOPHOCLES

3 In his lifetime the most lauded tragedian in Athens, Sophocles wrote 123 plays, of which only seven have survived. His persistent theme was the destiny of exceptional heroes driven to destruction by a cruel fate. His best-known works include *Oedipus the King*, *Oedipus at Colonus*, *Antigone*, and *Electra*.

GAIUS VALERIUS CATULLUS

4 A Latin poet of the late Roman Republic acquainted with Julius Caesar, Catullus appeals to modern taste with the directness of his love poetry. An innovator in verse form, he was subversive in his devotion to pleasure.

100 CLASSIC AUTHORS

VIRGIL

5 Rome's greatest epic poet, Virgil wrote pastoral *Eclogues* and *Georgics*, but his fame rests chiefly upon the *Aeneid*. Influenced by Homer, this recounts Trojan hero Aeneas's voyage to Italy, where his descendants founded Rome. The *Aeneid* became the essential Latin text—key to a classical education.

OVID

6 A successful Latin poet, Ovid died in exile on the Black Sea after being banished from Rome by Emperor Augustus. His witty verse guide to courtship and sex, *Art of Love*, and his engaging mythological stories, the *Metamorphoses*, have been hugely influential.

LI PO

7 This Tang dynasty poet was a romantic drifter whose poems, always tinged with melancholy, celebrate the joys of wine, solitude, and nature. He is said to have drowned trying to grasp the moon reflected in a river.

MURASAKI SHIKIBU

8 A Japanese novelist and diarist who was a lady-in-waiting at the imperial court in Kyoto. Her masterpiece, *The Tale of Genji*, is a complex fictional depiction of life and love at court, often described as the first psychological novel.

SU SHI

9 An official in Song dynasty China, Su Shi won enduring fame as a poet and essayist. His works range from personal lyrics to discourse on the iron industry.

DANTE ALIGHIERI

11 Italian poet Dante was a citizen of Florence but spent much of his life as a political exile. He chose to write poetry in his local Tuscan dialect of Italian instead of Latin, then the standard literary language. His masterpieces are *La Vita Nuova*, which expresses his idealized love for Beatrice Portinari, and *The Divine Comedy*. In 100 cantos the latter describes Dante's journey through Hell, Purgatory, and Paradise, guided first by the Latin poet Virgil and later by Beatrice. By turns grotesque, savage, heart-wringing, mystical, and sublime, it justifies Dante's place alongside Shakespeare at the summit of world literature.

FRANCESCO PETRARCH

12 Petrarch's 366 love poems, addressed to an idealized beloved called Laura, established the sonnet as a major verse form. The identity of Laura has never been uncovered.

OMAR KHAYYAM

10 This Persian polymath wrote hundreds of *rubaiyat*—four-line verses on fate, earthly pleasures, and the transience of life, famous in Edward Fitzgerald's English versions.

GIOVANNI BOCCACCIO

13 An Italian writer renowned for the *Decameron*, a collection of stories told by characters taking refuge from the plague raging in Florence.

GEOFFREY CHAUCER

14 Regarded as “the father of English literature,” Chaucer’s most famous work, *The Canterbury Tales*, is a collection of verse stories narrated by a group of pilgrims. Ranging from bawdy farce to chivalric romance, it holds up a mirror to an entire society.

FRANÇOIS RABELAIS

15 Irreverent and bawdy, Rabelais wrote mock-epic books about Gargantua and Pantagruel, a pair of giants devoted to gluttony.

PIERRE DE RONSARD

16 Described in his lifetime as “the prince of poets,” Ronsard led the French literary Renaissance, producing a wealth of lyrical verse.

LUÍZ VAZ DE CAMÕES

17 Portugal’s national poet, Camões had firsthand experience of his country’s empire in Africa and Asia, which he used in writing his patriotic epic *The Lusiads*, which celebrates the voyages of discovery by Vasco da Gama and others.

MICHEL DE MONTAIGNE

18 A French humanist who established the essay as a major literary form. His *Essays* covers topics from death to drunkenness but finds focus in his determination to write honestly about himself as a representative human being.

MIGUEL DE CERVANTES

19 Spain’s greatest writer, Cervantes led an eventful life, including five years as a slave in North Africa, before writing his masterpiece, *Don Quixote*. The comic adventures of the delusional knight and his down-to-earth squire, Sancho Panza, were an instant success. Satirizing chivalric romance, it is regarded as the first modern novel. His other works include the pastoral *La Galatea*.



LOPE DE VEGA

20 Esteemed Spanish Baroque playwright, poet, and novelist, Lope de Vega was an astoundingly prolific writer despite the distractions of a stormy love life. He is estimated to have written 1,800 plays and more than 3,000 sonnets, which makes him one of the most prolific authors in the history of literature. His best-known works are comedies with complex love intrigues and witty comments on contemporary manners.

CHRISTOPHER MARLOWE

21 In plays such as *Tamburlaine*, *The Jew of Malta*, and *Doctor Faustus*, English playwright and poet Marlowe established blank-verse tragedy as the highest Elizabethan dramatic form. His other works include the poem *Hero and Leander*. His violent and mysterious death in a Deptford tavern may have been related to espionage. Marlowe greatly influenced his contemporary, fellow playwright William Shakespeare.



WILLIAM SHAKESPEARE

22 Shakespeare’s claim to be the greatest writer of all time rests upon the breadth of his imagination and the unmatched power of his language. Much ink has been wasted arguing in vain that an averagely educated actor from the provinces could not have written such masterpieces. His sonnets would have sufficed to make him famous, but it is as a playwright that he truly excelled. No other dramatist has come close to his range and depth of characterization. His greatest plays include the four major tragedies—*Hamlet*, *Macbeth*, *Othello*, and *King Lear*—and such magical works as *A Midsummer Night’s Dream*, *Twelfth Night*, and *The Tempest*. His plays have been translated into every major living language.

c. 1572–1631

JOHN DONNE

23 A cleric and Dean of St. Paul’s Cathedral, Donne wrote profound religious sonnets and sermons, yet he is also renowned for his frankly erotic love poems. All his work is marked by his dynamic use of language as well as a bold and inventive use of metaphor.

1600–81

PEDRO CALDERÓN DE LA BARCA

24 Writing at the royal court, Calderón was the leading playwright of Spain's Golden Age, using comedy to express a pessimistic philosophy.

1638–1702

MOLIÈRE

26 France's most celebrated author of stage comedies such as *Tartuffe* and *The Misanthrope*, cutting satires exposing the follies and hypocrisies of human nature.

1639–1699

JEAN RACINE

27 French playwright who took his themes from classical antiquity. His tragedies, including *Phèdre*, are admired for their aesthetic perfection and emotional force.

1644–1694

MATSUO BASHŌ

28 The high master of the Japanese haiku verse form. Inspired by Zen Buddhism, his haiku combine quirky humor with precise observation of nature.

1660–1734

DANIEL DEFOE

29 A prolific journalist and novelist who deliberately blurred the line between fact and fiction, Defoe is best known for his castaway novel *Robinson Crusoe*.

1749–1832

JOHANN WOLFGANG VON GOETHE

32 A colossus of German literature who excelled as a novelist, poet, and dramatist. His novel *Wilhelm Meister's Apprenticeship* founded the tradition of the bildungsroman, or coming-of-age story. Tragic drama *Faust* is seen as his masterpiece.

1759–96

ROBERT BURNS

33 Scotland's national poet, Robert Burns, was a farm laborer before the publication of *Poems, Chiefly in the Scottish Dialect* in 1786. Satirical, comical, or tenderly lyrical, his sometimes subversive poetry soon gained wide popularity, many of the best-known pieces, such as "A Red, Red Rose," set to music.

1608–1674

JOHN MILTON

25 Author of the epic poem *Paradise Lost*, Milton was a gifted linguist who wrote in Latin and Italian as well as English. His early poetry included the pastoral elegy *Lycidas*. A civil servant under Oliver Cromwell, he took part in the political upheavals of his time, writing a justification of the execution of the king and defending freedom of speech in his eloquent tract *Areopagitica*. By the age of 43, Milton was blind. *Paradise Lost*, narrating the exile of Satan from heaven and the fall of Adam and Eve, was written through dictation. With the late drama *Samson Agonistes*, it established Milton's place among the greatest English poets.



1667–1745

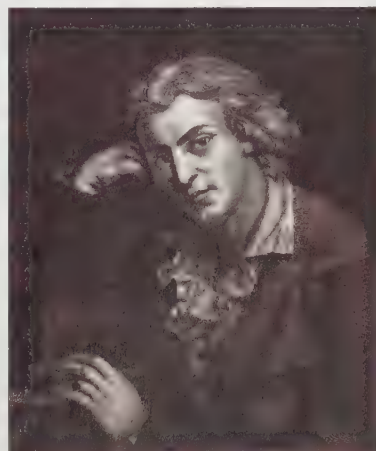
JONATHAN SWIFT

30 Swift was a bitter satirist of his own society and human life. *Gulliver's Travels* veils its viciousness with the charm of fantasy. More nakedly satirical are his parodies such as *A Modest Proposal*.

1694–1778

VOLTAIRE

31 A leading figure of the French Enlightenment, Voltaire stood for freedom and moderation in the face of bigotry, intolerance, and tyranny. He wrote plays, essays, and poetry, but he is most admired for his witty philosophical fictions such as *Candide*.



FRIEDRICH SCHILLER

34 A German dramatist, poet, and philosopher whose blank verse dramas on historical themes—including *Don Carlos*, *Mary Stuart*, and *William Tell*—expressed his concern with political freedom. His major philosophical work, *On the Aesthetic Education of Man*, declared a sense of beauty to be the necessary foundation for moral virtue.

WILLIAM WORDSWORTH

35 Wordsworth grew up in the scenic northwestern area of England known as the Lake District. With fellow poet Samuel Coleridge, he published the *Lyrical Ballads* in 1798, a turning point in English poetry. Wordsworth's mystical sense of the benevolent influence of nature found expression in poems written in "the language really used by men." He is also renowned for his long autobiographical poem, *The Prelude*.

FRIEDRICH HÖLDERLIN

36 German Romantic poet who was a disturbed genius. His later poems were once treated as evidence of madness.

SAMUEL COLERIDGE

37 English author of two of the most famous poems in English, *The Rime of the Ancient Mariner* and *Kubla Khan*.

JANE AUSTEN

30 One of England's most admired novelists, Austen brought a sharp satirical eye and fine sense of comedy to observation of the rural gentry and consideration of the fate of women in a narrow patriarchal society. Of her six completed works *Pride and Prejudice* is the most popular, but *Mansfield Park* remains the most complex and controversial.

ALESSANDRO MANZONI

39 His reputation as the greatest Italian novelist rests on his masterpiece, *The Betrothed* (*I Promessi Sposi*), the story of two peasants whose love is blighted by oppressive foreign rule.

JOHN KEATS

40 Keats produced a hugely influential body of poetry in a tragically short life, dying of tuberculosis aged only 25. His rich sensual verse is essentially Romantic yet guided by a powerful intelligence. His major works range from long narrative poems to sonnets and the celebrated odes

HEINRICH HEINE

41 The work of German-Jewish poet Heine evolved from Romantic lyricism to piercing satire and irony, in the process much expanding the range of German poetic language.

ADAM MICKIEWICZ

42 Poland's national poet was a leading figure in agitation for Polish independence from Russian rule. His works include sonnets, the verse dramas *Konrad Wallenrod* and *Dziady*, and his masterpiece the epic poem *Pan Tadeusz*.

1799–1837

ALEXANDER PUSHKIN

43 A poet and dramatist who established Russian as a versatile literary language capable of the highest levels of expression. His political views brought him into frequent conflict with the czarist authorities. His masterpieces are the verse novel *Eugene Onegin*, the drama *Boris Godunov*, and the narrative poem *The Bronze Horseman*. He was killed in a duel at the age of 37.



HONORÉ DE BALZAC

44 The first and greatest French realist novelist, Balzac channeled his colossal creative energy into *La Comédie humaine* (*The Human Comedy*), a collection of almost 100 interconnected novels and short stories that together present a vast, detailed portrait of French society and of human vices and virtues in general. He helped to establish the traditional form of the literary novel. Using a prose style that is vigorous rather than subtle, he endows his characters with immense vitality and demonstrates acute social observation. His plots contain elements of melodrama, but his vision of the triumph of unscrupulous ambition in a society ruled by money carries absolute conviction.

VICTOR HUGO

45 The leading French Romantic was a prolific poet and dramatist, but is best known outside France for novels *The Hunchback of Notre-Dame* and *Les Misérables*. A prophet of progress and social justice, despite exile, he died a hero of the republic.

1804–64

NATHANIEL HAWTHORNE

46 An American novelist and short-story writer, who is best known as the author of *The Scarlet Letter*. Much of his writing was set in New England.

1819–63

HENRY WADSWORTH LONGFELLOW

47 The most popular US poet wrote sentimental lyrics, the patriotic *Paul Revere's Ride*, and memorable long poems such as *The Song of Hiawatha*.

1809–42

EDGAR ALLAN POE

48 The master of American Gothic wrote horror stories with an uncanny psychological appeal. His works *The Raven* and "Annabel Lee" have also endured.

1809–92

ALFRED TENNYSON

49 Victorian poet who excelled in his command of verse form and language. His best poems include the elegy *In Memoriam* and the dark psychological drama *Maud*.

1799–1885

HARRIET BEECHER STOWE

50 An abolitionist whose novel *Uncle Tom's Cabin* was highly influential in energizing antislavery forces.



CHARLES DICKENS

51 A towering figure of the Victorian era, Dickens was scarred by an episode in his childhood, when his family was imprisoned for debt and he had to work in a boot-blackening factory. The experience gave him an enduring concern for the poor and for the sufferings of children. A man of immense energy, he wrote 15 full-length novels, as well as myriad shorter works, which earned him wide popularity during his lifetime. His humor, vivid characterization, and dramatic imagination won him a vast reading public. His writing was often melodramatic and sentimental, but his works such as *Oliver Twist*, *A Christmas Carol*, and *Great Expectations* have established an enduring presence in popular culture.

CHARLOTTE BRONTË

52 Charlotte was the eldest of the three Brontë sisters from Haworth, Yorkshire, who all wrote poems and novels. Her masterpiece *Jane Eyre* is a passionate Gothic romance that greatly extended the range of the English novel. Her other major novels were *Shirley* and *Villette*.

1819–70

GEORGE ELIOT

53 Mary Ann Evans, who wrote as George Eliot, created novels combining psychological insight with a broad social canvas. *The Mill on the Floss* is best loved, but *Middlemarch* is her masterpiece.

1819–92

HERMAN MELVILLE

54 After five years as a sailor, Melville wrote seafaring novels with decreasing popular success. He published his masterpiece *Moby-Dick* in 1851, but soon after abandoned his writing career. Dying in obscurity, he has since been recognized as a giant of US fiction.

1819–92

WALT WHITMAN

55 Whitman was a radical idealist who sought to invent a poetry that would embody the unique spirit of his native United States. His innovative free verse, published in successive editions of *Leaves of Grass*, also gave frank expression to male sensuality.

CHARLES BAUDELAIRE

56 One of the most compelling and perhaps greatest French poets of the nineteenth century. *Les Fleurs du Mal* (*The Flowers of Evil*), Baudelaire's audacious and influential collection published in 1857, explores boredom, anguish, despair, eroticism, and ecstasy. He contains this bold material in traditional verse forms, although he also wrote influential prose poems and a novella. As a culture critic he introduced the idea of "modernity"—the ephemeral experience of life in the metropolis—also exploring the experience of modern city life in his verse. Baudelaire lived the life of a bohemian poet and dandy in Paris before dying impoverished. Unrecognized and largely unpublished in his own lifetime, on his death, his work influenced the French Symbolist poets.



GUSTAVE FLAUBERT

57 An obsessively refined stylist who raged against the stupidity of his times. Reflecting his inner contradictions, his novel *Madame Bovary* paints a cynical portrait of French provincial life and romantic self-delusion.

FYODOR DOSTOEVSKY

58 Once jailed for opposing Russia's czar, Dostoevsky became an adherent of social order. His novels, peopled by amoral psychopaths and saintly simpletons, skirt melodrama but achieve impressive depth.

EMILY DICKINSON

60 Recluse who wrote some 1,800 poems, almost none of which were published in her lifetime. Densely aphoristic, they are now celebrated as among the finest US verse.

HENRY JAMES

64 This US novelist lived much of his life in England. He depicted the sophisticated corruption of European society, contrasted with narrow-minded American innocence.

LEO TOLSTOY

59 Born into the Russian aristocracy, as a young man Tolstoy led a dissipated life, gathering experiences that were later useful to him as a novelist. He initially became well known as the author of an autobiographical trilogy—*Childhood*, *Boyhood*, and *Youth*—but his towering reputation rests upon two majestic novels, the monumental epic *War and Peace*, set during the Napoleonic Wars, and the complex love story *Anna Karenina*. They set a new standard for what could be achieved by the novel as a literary genre. *The Death of Ivan Ilyich* is regarded as one of the finest examples of a novella. In his later years Tolstoy reinvented himself as an anarchist and pacifist and attempted to live according to the Christian principles of the Sermon on the Mount.



MARK TWAIN

61 Samuel Clemens, writing as Mark Twain, was America's foremost humorist and satirist and one of its most beloved authors. His highest-rated work is the *Adventures of Huckleberry Finn*.

MACHADO DE ASSIS

62 Brazil's greatest writer is most admired for his novel *The Posthumous Memoirs of Brás Cubas*, a savagely humorous, deconstructed pseudo-autobiography.

ÉMILE ZOLA

63 French novelist and critic Zola was a controversial radical in politics and literature. His 20-volume Rougon-Macquart series combines melodrama with earthy realism. In 1898 his infamous open letter, "J'accuse," condemned the Dreyfus judgment.

ROBERT LOUIS STEVENSON

65 Scottish novelist, poet, and travel writer best remembered for his children's classics *Treasure Island* and *Kidnapped* and for his split-personality horror story *Strange Case of Dr. Jekyll and Mr. Hyde*.

ARTHUR RIMBAUD

66 French poet Rimbaud was a rebellious youth who ran away from home to seek "the derangement of all the senses." He had a stormy affair with older poet Paul Verlaine. His astonishing body of work, obscure and flamboyant, scatological and surreal, included the verse poem *Le bateau ivre* (The Drunken Boat) and the long prose poem *Une saison en enfer* (A Season in Hell). Aged 21, he gave up literature to become a trader in Africa and Asia, never writing a poem again.

OSCAR WILDE

67 Anglo-Irish poet and dramatist Wilde wrote plays and stories that wittily satirized Victorian society and upheld aesthetic values. He was imprisoned in 1895 and later driven into exile in France because of his homosexuality.

1856–1950

GEORGE BERNARD SHAW

68 Irish playwright who dramatized social issues in intelligent comedies such as *Pygmalion* and *Man and Superman*. He was a socialist and vegetarian.

1857–1924

JOSEPH CONRAD

69 Conrad was Polish but settled in the United Kingdom after a career as a sailor and wrote in English. His works include the novels *Lord Jim*, *Nostromo*, and *The Secret Agent*, as well as the novellas *Heart of Darkness* and *Typhoon*. His work, which is scored by a deep sense of pessimism, is admired for the complex richness of his prose.

1865–1939

W. B. YEATS

73 Ireland's greatest poet, Yeats participated in the Celtic Revival in his younger years, finding inspiration in Irish myth and folklore. Ambivalent about the fight for Irish independence, he nonetheless wrote the memorable elegy for executed rebels, *Easter 1916*. His later work expressed political pessimism and a sense of physical and cultural decay.

1873–1954

COLETTE

75 She wrote novels based on her own life. Her characters struggle to reconcile love and sexual satisfaction with independence.

1874–1963

ROBERT FROST

76 Known as the poet of rural New England, Frost's work invigorates traditional verse forms with the rhythms of everyday speech.

1864–1904

ANTON CHEKHOV

70 A practicing doctor, Russian author Chekhov shone as a writer of short stories and as a playwright. In both genres he was an influential innovator, shunning dramatic action in favor of emotional realism and psychological observation. Plays such as *Uncle Vanya* and *The Cherry Orchard* have remained a challenge to directors, actors, and audiences.

1867–1937

EDITH WHARTON

71 Born into the upper strata of New York society, Wharton made a prolific writing career from an impassioned critique of its values and customs. Her major novels include *The House of Mirth* and *The Age of Innocence*.



1875–1970

RAINER MARIA RILKE

77 Born in the declining Austrian Empire, Rilke was a romantic modernist whose obscure, emotionally charged poetry expressed mystical aspirations in a climate of anxiety and despair. His most famous works are the *Duino Elegies* and *Sonnets to Orpheus*.

1861–1933

CONSTANTINE CAVAFY

72 A Greek poet living in Alexandria, Cavafy wrote poems inspired by the city's history and by homosexual love. Sensual, ironic, and nostalgic, they became widely known after his death.



1870–1972

MARCEL PROUST

74 Proust was an asthmatic Parisian dilettante who, to the surprise of all who knew him, wrote one of the greatest novels in the French language. *À la recherche du temps perdu* (*In Search of Lost Time*) is a vast sprawling semiautobiographical work that was originally published in nine volumes. Written in a subtle elaborate prose style, it provides both a cuttingly satirical portrayal of Parisian society, including its homosexual underworld, and an exhaustive analysis of the vagaries of love and memory.

1874–1955

THOMAS MANN

78 German novelist and essayist Thomas Mann won fame with the family saga *Buddenbrooks* in 1900. He presented a conservative critique of the decadence of Western civilization in works such as *Death in Venice* and *The Magic Mountain*, the latter of which earned him the Nobel Prize for Literature in 1929. An opponent of the Nazi regime, he lived in exile from 1933 in Switzerland, Czechoslovakia, and finally the United States. He never returned to live in Germany. His late novel *Doctor Faustus* alludes to Germany's demonic pact with the Nazis.



JAMES JOYCE

79 Born in Dublin, Joyce lived most of his life in self-imposed exile in Europe, yet his native city remained the locus of all his works. The short-story collection *Dubliners* and the autobiographical *Portrait of the Artist as a Young Man* were a prelude to his modernist masterpiece *Ulysses*. Employing a dazzling variety of narrative styles, sexually frank, intellectually complex, and yet profoundly human, *Ulysses* endows the events of a single day in Dublin with the epic stature of Homer's *Odyssey*. Joyce continued his literary journey into the obscurity of *Finnegans Wake*, where few were able to follow.

FRANZ KAFKA

80 Kafka was a German-speaking Jewish writer who lived in Prague, now part of the Czech Republic. His angst-ridden fiction offers a despairing vision of the human condition. In his novella *The Metamorphosis*, a man wakes to find he has mutated into a grotesque insect. In his novel *The Trial*, an accused man seeks vainly to discover the nature of his offense, confronting an impenetrable, labyrinthine bureaucracy. Most of his works were not published until after his death, but he is now regarded as among the foremost modernist authors of the twentieth century.

D. H. LAWRENCE

81 The son of a coal miner, Lawrence was a literary outsider. Novels such as *Sons and Lovers* show an acute sense of nature and emotional life, but their sexual frankness outraged conservatives.

EZRA POUND

82 A leading American modernist poet, Pound had sympathies and links with Italian Fascism and was confined in an asylum after World War II.

KATHERINE MANSFIELD

83 This New Zealand author was an innovative master of the short-story and novella forms, with a distinctive prose style. Her life was cut short by tuberculosis.

FERNANDO PESSOA

84 Portuguese modernist poet who wrote under his own name and under the names of fictional poets he invented. His fragmentary prose *Book of Disquiet* appeared posthumously.

T. S. ELIOT

85 American-born British poet, playwright, critic, and editor Thomas Stearns Eliot was a radical modernist in his early career, culminating in his seminal work *The Waste Land*. Later, he reinvented himself as a conservative and traditionalist, continuing to produce superlative poetry in his *Four Quartets* and verse dramas such as *Murder in the Cathedral*.



WILFRED OWEN

86 Written while Owen served as a British army officer in World War I, Owen's poetry created powerfully descriptive images of "the pity of war" and of "those who die as cattle." He was killed in action a week before the war's end.

F. SCOTT FITZGERALD

87 A sharp, elegant prose stylist, Fitzgerald wrote of psychological and moral breakdown among an alcohol-sodden US social elite and bohemian expats. His finest novels, *The Great Gatsby* and *Tender Is the Night*, have achieved classic stature.

GIUSEPPE TOMASI DI LAMPEDUSA

88 Sicilian aristocrat Lampedusa is famed for his sumptuous novel *The Leopard*, set in the nineteenth century.

WILLIAM FAULKNER

89 A novelist of the American South, Faulkner's powerful, innovative works include *The Sound and the Fury*.

1898-1936

FEDERICO GARCÍA LORCA

90 Spanish poet and playwright Lorca fused the avant-garde and surreal with folk and popular elements to create an art that was in touch with the people. His major works include the poems *Gypsy Ballads* and the drama *Blood Wedding*. He was murdered by Fascists during the Spanish Civil War.

1898-1956

BERTOLT BRECHT

91 German poet and playwright Brecht was a Marxist who used experimental drama to raise social awareness.

1899-1961

ERNEST HEMINGWAY

92 Hemingway's image as a hard-drinking, game-hunting macho existentialist has distracted attention from the merits of his novels and reportage. The clipped writing style he invented has been imitated so often its originality is easily underrated. *A Farewell to Arms* and *The Sun Also Rises* show the writer at his best.

1899-1986

JORGE LUIS BORGES

93 Argentinian writer Borges invented his own literary genre, the "fiction," a short story blurring the line between fantasy and reality to explore the nature of time and fate, memory and dreams. Lucid and erudite, his imaginary texts take absurd premises to logical conclusions. His work was curtailed by the onset of blindness in his fifties.



1903-1950

GEORGE ORWELL

94 Orwell wrote notable essays, as well as the political fable *Animal Farm* and the dystopian *Nineteen Eighty-Four*.

1904-1972

PABLO NERUDA

95 Prolific Chilean poet Neruda was an active Communist but is most admired for his tender love poems.

1906-1962

SAMUEL BECKETT

96 An Irish author, critic, and playwright who lived in France and wrote in French as well as English, Beckett created absurdist novels and plays presenting a bleak, bitterly humorous vision of the human condition. In his later years he pared down his texts to absolute minimalism. He is perhaps best remembered for his play *Waiting for Godot*.

1907-1972

W. H. AUDEN

97 The leading English poet of the 1930s, Wystan Hugh Auden was an intelligent and prolific master of traditional verse forms.

1911-1962

NAGUIB MAHFOUZ

98 Egyptian novelist and screenplay writer Mahfouz is most famous for his *Cairo Trilogy*, a family saga that won him the Nobel Prize.

1913-1960

ALBERT CAMUS

100 The writings of French-Algerian author Camus seek positive values in a world rendered absurd by death. The essay *The Myth of Sisyphus* and the novel *The Outsider* situate happiness in revolt, while the novel *The Plague* affirms the value of human solidarity.

1918-1993

ELIZABETH BISHOP

99 Underrated in her lifetime, Bishop is now regarded as in the first rank of American poets. Avoiding the confessional mode, she wrote subtle precise verse, often describing scenes encountered on her travels. She was not prolific, but many of her 101 published poems come close to perfection.





Scare them out, O Lord! O Lord! we're like to scare Quixotes first! that's not a mouthful he started Quixotes & I'm grown as thin as a Shaven Parrot

Sancho! well sit down before the castle & scare them out, Sancho.

Sa - Sa Ah ha! am I was have done & done! Ah ha

The CASTLE in the MOON

MURASAKI SHIKIBU
**THE TALE
OF GENJI**

1 This unfinished work is commonly regarded as the world's first novel. Genji is the son of a Japanese emperor, but his father has removed him from the line of succession. He falls in love with his stepmother, Lady Fujitsubo. A sequence of dynastic complications unfolds.

FRANÇOIS RABELAIS
**THE LIVES
OF GARGANTUA
AND PANTAGRUEL**

2 Gargantua and Pantagrue are giants who, with the joker Panurge, have violent and obscene adventures. One section is a comic burlesque of Homer's *The Odyssey*. The elaborate and fantastic inventiveness satirizes contemporary culture in a carnivalesque manner.

MIGUEL DE CERVANTES
**DON
QUIXOTE**

3 This novel charts the history of Don Quixote, who has had his consciousness warped by reading books of chivalry. He expects reality to conform to his delusions, and when it does not, he transforms it by an effort of will. Cervantes thus announces a theme that will be the major one in subsequent fiction. Quixote is accompanied on his travels by a brusque, skeptical servant, Sancho Panza.

MADAME DE LA FAYETTE
**THE
PRINCESS
OF CLÈVES**

4 French President Nicolas Sarkozy (in office 2007–12) notoriously said that no one should have to read this novel about forbidden love in the court of Henry II, so it is a must. After marrying the Prince of Clèves, the young wife falls in love with the Duc de Nemours, but after complications, the affair comes to nothing and she gets herself to a nunnery.

100 CLASSIC NOVELS

JOHN BUNYAN
PILGRIM'S PROGRESS

5 Christian, an Everyman figure, journeys from the City of Destruction to the Celestial City, encountering various allegorical characters on the way and obstacles such as the Slough of Despond.

APHRA BEHN
OROONOKO

6 The grandson of an African king falls in love with the daughter of the king's general. Multiple disasters upset the course of true love.

DANIEL DEFOE 1719
**ROBINSON
CRUSOE**

7 A castaway survives on a desert island by demonstrating initiative and resourcefulness. He lords it over native Man Friday.

JONATHAN SWIFT
**GULLIVER'S
TRAVELS**

8 Gulliver visits the tiny Lilliputians, the giant Brobdingnagians, and a land of ultrareasonable horses (Houyhnhnms).

ABBÉ PRÉVOST 1731
**MANON
LESCAUT**

9 The Chevalier des Grieux and Manon elope from Paris to Louisiana, where complications force them into the wilderness. Manon dies; the Chevalier becomes a priest.

TOBIAS SMOLLETT
**RODERICK
RANDOM**

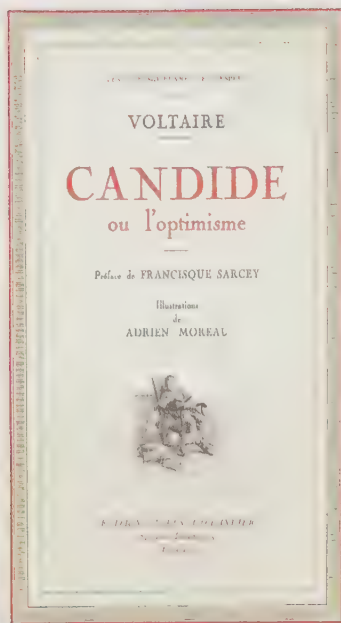
10 A picaresque series of adventures in London, Bath, France, the West Indies, and South America as the Scot Roderick Random and his sidekick, Hugh Strap, search for wealth and happiness, which the hero finds ultimately in his marriage to a gentlewoman.

SAMUEL RICHARDSON
CLARISSA

11 A long epistolary novel in which the libertine Lovelace, behaving like a Restoration rake past his sell-by date, seduces the virtuous Clarissa Harlowe. He can only work his wicked way by drugging her. Clarissa's cousin, Morden, kills Lovelace in a duel, but this is too late to save the heroine.

HENRY FIELDING
**TOM
JONES**

12 A foundling makes his way in the world through good-humored sassiness, putting to shame the priggish Blifil. Fielding keeps interrupting the narrative to provide us with mini-essays on the systems of fiction, which have helped to provide a focus on the act of novel writing ever since. It finally transpires that Tom is not, as had been presumed, the son of Squire Allworthy's sister Bridget, so that he is in a social position to marry Squire Western's daughter, Sophia.



VOLTAIRE CANDIDE

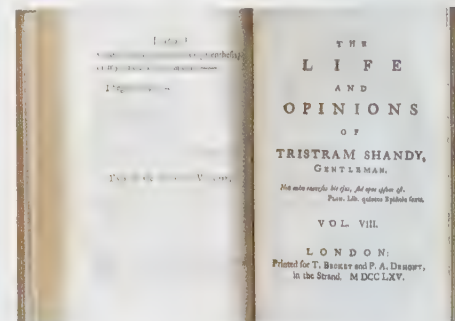
13 Candide lives in a retired paradise, tutored by the excessively optimistic Pangloss, whose theory is that "All is for the best in the best of all possible worlds." Candide's picaresque adventures—in which he visits, for instance, Buenos Aires and Eldorado—reveal to him the pessimistic nature of the world, and he ends up believing that "We must cultivate our garden." A caustic and comic satire of the social ills of its day.

SAMUEL JOHNSON RASSELAS

14 Rasselas, son of the king of Abissinia, is imprisoned in a beautiful valley from which he escapes with his sister, Nekayah, and the wise poet, Imlac. They discover the ultimate futility of the search for happiness. Johnson's first and only novel, *Rasselas* is a parable in the tradition of John Bunyan's *Pilgrim's Progress* (1678) and provides a vehicle for the author's moral reflections on a broad range of topics.

LAURENCE STERNE 1759–67 TRISTRAM SHANDY

15 The hero attempts a comprehensive autobiography that will contain everything, but reality is so overwhelming that hundreds of pages pass before he is even born. The novel undercuts realism by pressing it to a scandalous extreme.



JEAN-JACQUES ROUSSEAU JULIE, OR THE NEW HELOISE

16 The true story of Heloise and the priest Abelard is given a gushing proto-Romantic overlay in epistolary form. On first publication it sold faster than it could be printed.

JOHANN WOLFGANG VON GOETHE THE SORROWS OF YOUNG WERTHER

17 The hero commits suicide when he cannot win the married woman Lotte. His story even moved Napoléon.

PIERRE CHODERLOS DE LACLOS 1780–1825 DANGEROUS LIAISONS

18 The Marquise de Merteuil and the Vicomte de Valmont (former lovers) use seduction to degrade and humiliate their victims.

BERNARDIN DE SAINT-PIERRE 1781–1814 PAUL AND VIRGINIA

19 Set on Mauritius, this is superficially the tale of the love affair between the title characters, but on closer inspection, may be seen as a denunciation of sentimental art, which obscures our view of nature.

JOHANN WOLFGANG VON GOETHE WILHELM MEISTER'S APPRENTICESHIP

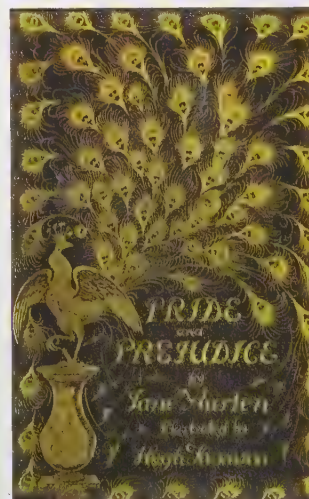
20 This is the prototype bildungsroman—a novel that describes its hero's transition from childhood to maturity. Goethe's work was both a symptom of and a major contributor to the growing awareness of Shakespeare in the German-speaking world.

DENIS DIDEROT JACQUES THE FATALIST

21 A valet named Jacques tells stories of his love life to his master. Almost every situation has an unexpected outcome, and every outcome is predetermined.

FRANÇOIS-RENÉ DE CHATEAUBRIAND RENÉ

22 This work was of colossal importance in early Romanticism. An emotional young man is at odds with French society and takes refuge with the Natchez tribe in Louisiana. He nurtures an intense love for his sister, Amélie.



JANE AUSTEN 1775–1817 PRIDE AND PREJUDICE

23 "It is a truth universally acknowledged, that a single man in possession of a good fortune, must be in want of a wife." So opens Austen's witty and enduring story of marriage in Regency England, which continues to fascinate modern readers, dramatists, and filmmakers alike.

WALTER SCOTT 1814 WAVERLEY

24 The first historical novel is set at the time of the Jacobite uprising (1745) of Scots against the English. Edward Waverley rejects romantic rebellion, embodied by Flora Mac-Ivor, and marries the rational and enlightened Rose Bradwardine.

JANE AUSTEN 1814 MANSFIELD PARK

25 Adopted by rich relatives, Fanny Price has a relationship with Henry Crawford and then marries her quasibrother, Edmund.

BENJAMIN CONSTANT 1814 ADOLPHE

26 When he is 22 the melancholy Adolphe falls in love with Ellénore, who is 32 and the Polish mistress of a count. It all ends unhappily.

JAMES FENIMORE COOPER 1826 THE LAST OF THE MOHICANS

27 During the Seven Years' War between the British and the French in 1757, the Mohicans Natty Bumppo, Chingachgook, and Uncas rescue the daughters of a British colonel from the Hurons.

ALESSANDRO MANZONI 1826 THE BETROTHED

28 The first Italian historical novel was written in the Florentine dialect, set in the 1620s when the country was under Spanish rule. In a peaceful little village in Lombardy two humble peasants, Renzo and Lucia, marry after many setbacks caused by the evil Don Rodrigo. The events are played out against the background of the Thirty Years' War and plague in Milan, but the subtext is the harsh imposition of nineteenth-century Austrian rule, from which Italy suffered until liberation.

HONORÉ DE BALZAC 1830-42 THE HUMAN COMEDY

29 A multivolumed collection (almost 100 in total) of interlinked novels treating French society from 1815 to 1848 in a way that resembles the studies of a biologist. Balzac regarded himself as a "transcriber" rather than a romantic inventor. He is considered to be one of the founders of realism in literature.

STENDHAL 1817 THE RED AND THE BLACK

30 An ambitious young French provincial, Julien Sorel, wants to make his way in the corrupt French society of the Bourbon Restoration (1814–30). The choices open to him are the army (the red) and the Church (the black). Dramatic love affairs dominate his life as he uses seduction to gain his advancement.

LE ROUGE ET LE NOIR

ROMAN DE M. STENDHAL
PAR M. STENDHAL



PARIS.

FRANÇOIS DIDOT, IMPRIMERIE

1830

VICTOR HUGO 1831 THE HUNCHBACK OF NOTRE-DAME

31 In 1482 the hunchback Quasimodo, who is a bell ringer at Notre-Dame in Paris, falls in love with the gypsy Esmeralda. Much gymnastic swinging on ropes takes place. He pushes the evil Frollo from the cathedral tower.

ALEXANDER PUSHKIN 1837 EUGENE ONEGIN

32 This founding novel of the Russian literary tradition is written in verse. Eugene Onegin rejects Tatyana Larina and lives to regret it when she remains faithful to her elderly husband. Ironically, the plot includes a duel between rival lovers; Pushkin died in a duel at the age of 37.

А.С. ПУШКИН

СТИХОТВОРЕНИЯ

(1)

СТИХОТВОРЕНИЯ
СОВРЕМЕННИКОВ

STENDHAL 1833 THE CHARTERHOUSE OF PARMA

33 Fabrice del Dongo lives through the French invasion of Italy in the Napoleonic Wars, has an intense love affair with a duchess, and ends up as a preacher.

EDGAR ALLAN POE 1841 THE FALL OF THE HOUSE OF USHER

34 The last in a distinguished line, Roderick Usher lives in an archetypal Gothic horror mansion. His twin sister, Madeline, returns from the dead to unite with his idealized spirit. At which point the building falls into an abyss. The narrator can only look on in horror.



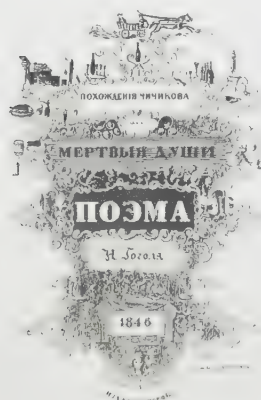
MIKHAIL YUREVICH LERMONTOV

A HERO OF OUR TIME

35 Pechorin is a disillusioned Byronic hero (or antihero) in the Russian Army who kills his friend Grushnitsky in a duel on the edge of a cliff.

NIKOLAI GOGOL DEAD SOULS

36 An impoverished and ambitious young Russian wants to amass a fortune. Since wealth in his society is measured by the number of "souls" one possesses, he sets out on a frustrating journey to buy dead souls from property owners. The writing of *Dead Souls* drove Gogol mad, and he committed suicide.



GEORGE SAND CONSUELO

37 The adventures of the gypsy singer in Venice, Austria, and Bohemia, who rises to become the prima donna Consuelo.

ALEXANDRE DUMAS THE THREE MUSKETEERS

38 D'Artagnan, Athos, Porthos, and Aramis are musketeers who live by the motto "all for one, one for all."

ALEXANDRE DUMAS THE COUNT OF MONTE CRISTO

39 In 1815, Edmond Dantès is unjustly imprisoned in the Château d'If. He escapes and goes to the island of Monte Cristo to dig up buried treasure.

BENJAMIN DISRAELI SYBIL

40 It demonstrates the desperate plight of the working classes in England and promotes the thesis, through the Chartist agitator Morley, who is in love with Sybil, that there are "Two Nations." Disraeli later became prime minister.

EMILY BRONTË WUTHERING HEIGHTS

41 A founding, Heathcliff, joins the Earnshaw family who live on the Yorkshire moors. High-tension hauntings and intense emotions unfold, but some healing comes in the next generation.

CHARLOTTE BRONTË JANE EYRE

42 An underprivileged young woman becomes the governess of the aristocrat Rochester's daughter and falls in love with him. On their wedding day it is revealed that there is a madwoman in the attic: Rochester's West Indian wife, Bertha. Jane flees, but returns to find Rochester blinded by the fire started by his wife.

NATHANIEL HAWTHORNE THE SCARLET LETTER

44 Set in seventeenth-century Puritan New England, where witchhunts were all the rage, Hester Prynne gives birth to her illegitimate daughter, Pearl, and is forced to wear the embroidered scarlet letter A (for "adulteress") as an act of public humiliation. The reverend Arthur Dimmesdale is later revealed as the father. Hawthorne's themes of sin, guilt, and repentance alienated contemporary religious critics, but it remains a powerful and enduring novel of psychological depth and symbolism.

MOBY-DICK: THE WHALE.

HERMAN MELVILLE.

TREEB, "OMOO," "REDBLUE," "HARD," "WHITE-JACKET"

NEW YORK:
HARPER & BROTHERS, PUBLISHERS.
LONDON: RICHARD BENTLEY

(1851)

WILLIAM MAKEPEACE THACKERAY 1849

VANITY FAIR

43 A caustic look at English society during the Napoleonic Wars. The novel takes its title from the place designated as the center of human corruption in *Pilgrim's Progress*. The slightly vacuous Amelia Sedley is eclipsed by one of the best fictional inventions ever: the lively and immoral Becky Sharp.

HERMAN MELVILLE MOBY-DICK

45 This is often cited as the "Great American Novel," and most of it is set at sea on board a whaling ship, the *Pequod*, whose captain is the obsessive, demonic Ahab, determined to hunt down the white sperm whale that amputated his leg on an earlier voyage. The whale is not just a big mammal, but a repository of the complex sum total of the real and transcendental world. The *Pequod* and its crew become a microcosm of US society as Melville philosophizes on themes such as democracy, leadership, power, and nature. The quest destroys the ship and the crew, and only Ishmael is left to tell the story.

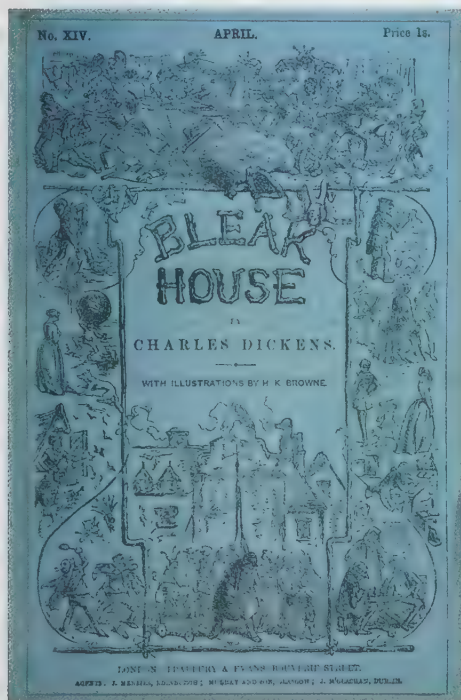
HARRIET BEECHER STOWE

UNCLE TOM'S CABIN

46 A significant contribution to the antislavery (abolitionist) movement in the United States and the first protest novel, but it also put into circulation unhelpful stereotypes of the black servant faithful to his white masters.

CHARLES DICKENS BLEAK HOUSE

47 The tragic and involved tale of a family distracted and damaged by the slow operations of the law. Esther Summerson becomes the ward of John Jarndyce. She turns out to be Lady Dedlock's illegitimate daughter. Cause and effect run through society from top to bottom, and Inspector Bucket tries to keep abreast of complexities. Dickens at his finest.



ELIZABETH GASKELL NORTH AND SOUTH

48 Margaret Hale leaves the south of England to live in the industrial north, where she clashes with a mill owner.

ANTHONY TROLLOPE BARCHESTER TOWERS

49 Mrs. Proudie interferes in the appointment of a bishop in a cathedral city. A rich cast of ecclesiastical characters.

CHARLES DICKENS LITTLE DORRIT

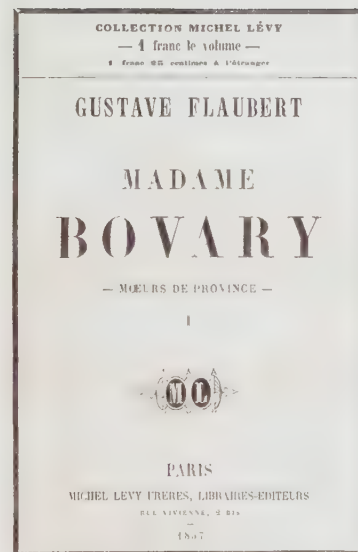
51 Arthur Clennam befriends Amy Dorrit, whose father is in the debtors' prison Marshalsea. A complex sequence of fortunes lost and won, and of hidden parentage. Dickens invents "the Circumlocution Office" and attacks the injustices of the English legal system.

CHARLES DICKENS GREAT EXPECTATIONS

54 The poor boy Pip is kind to the escaped criminal Magwitch but assumes that the riches he later mysteriously receives come from Miss Havisham, who is in a grotesque state of suspended animation.

GUSTAVE FLAUBERT MADAME BOVARY

50 The bourgeois and provincial Emma Bovary has imbibed romantic fictions from novels and theater and wants to pursue an adventurous life under their shadow, which includes having affairs with Léon Dupuis and Rodolphe Boulanger, but she is doomed and commits suicide by swallowing arsenic. The style is highly intelligent, and Flaubert does not moralize or sentimentalize.



IVAN GONCHAROV OBLOMOV

52 Oblomov is a good-natured but ineffectual aristocrat who rarely leaves his room or even his bed. His fiancée, Olga, calls off the wedding, fearing his propensity for delay. Goncharov satirizes the Russian society of the time.

IVAN TURGENEV FATHERS AND SONS

55 Arkady Kirsanov and nihilist Bazarov visit Arkady's father's remote estate in Russia and have complex love affairs. Madame Odintsov is a woman who beguiles.

WILKIE COLLINS 1860 THE WOMAN IN WHITE

53 Early example of detective fiction. Heiress Laura Fairlie marries the villainous Sir Percival Glyde, who hatches a cunning plan to switch Laura with her uncanny double (the woman in white) and inherit an estate.

VICTOR HUGO LES MISÉRABLES

56 Escaped convict Valjean is pursued by the vindictive inspector Javert. Valjean hopes to redeem himself through his adopted daughter, Cosette. This deeply compelling story ends in the 1832 Paris insurrection.



FYODOR DOSTOEVSKY CRIME AND PUNISHMENT

57 Raskolnikov kills a pawnbroker and moneylender for her cash, so that he can use the money for charitable purposes. He falls in love with the prostitute Sonya, who persuades him to confess. This study in alienation prefigures literature of the twentieth century.

SAMUEL BUTLER EREWON

63 Erewon is "nowhere" spelled, approximately, backward. This Victorian allegory celebrates an imaginary dystopia where offenders are treated as if they are sick, and sick people are regarded as criminals.

JULES VERNE AROUND THE WORLD IN EIGHTY DAYS

64 Rich British eccentric Phileas Fogg and his French valet, Passepartout, attempt to circumnavigate the globe in 80 days for a £20,000 bet. This tale is crammed with adventures and a romance, too.

THOMAS HARDY FAR FROM THE MADDING CROWD

65 Bathsheba is abandoned by Troy, who returns as she is about to marry Farmer Boldwood. Love, death, and melodrama unfold in the Wessex landscape.

ANTHONY TROLLOPE THE WAY WE LIVE NOW

66 The financier Augustus Melmotte engages in elaborate fraud that highlights the corruption of society. He commits suicide when his devious scheme collapses.

GEORGE ELIOT 1876 DANIEL DERONDA

67 Two histories run in parallel: Gwendolen Harleth is plunged into unhappiness by a disastrous marriage, and Daniel Deronda wrestles with his Jewish inheritance.

GUSTAVE FLAUBERT 1869 SENTIMENTAL EDUCATION

58 It follows the career of Frédéric Moreau, who lives through the 1848 Revolution and the French Second Empire. Much disappointment and skepticism.

LEO TOLSTOY 1869 WAR AND PEACE

60 An epic study of Russia between 1805 and the 1820s, dominated by the Napoleonic Wars, which are presented in detail. Vivid life in an ambitious cast of characters, including Andrei Bolkonsky; the rakish Anatole Kuragin; and Tolstoy's spokesman, Count Pyotr Bezukhov (Pierre), who marries Natasha Rostova.

ÉMILE ZOLA LES ROUGON-MACQUART

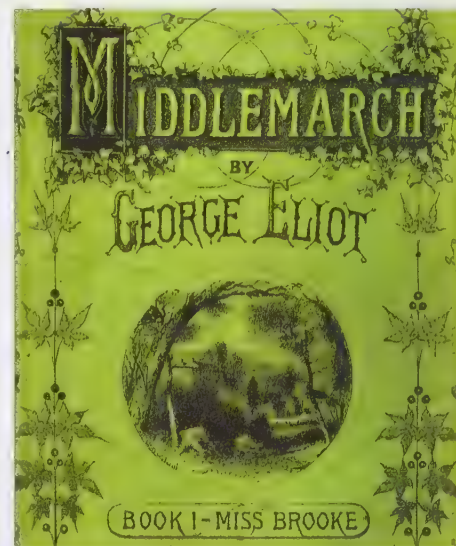
62 The collective title for a cycle of 20 novels following the lives of two titular branches of a fictional French family during the Second Empire (1852–70), studying the impact of deterministic heredity and the biological imperative. A classic example of literary "naturalism."

FYODOR DOSTOEVSKY 1869 THE IDIOT

59 Prince Myshkin is so naive as to seem like an idiot, and his epileptic fits are a serious impediment. Aglaya and Nastassya force him to choose between them, but he wins neither.

GEORGE ELIOT 1871 MIDDLEMARCH

61 Dorothea Brooke fails to find satisfaction in a sterile marriage to the dried-up scholar Edward Casaubon; likewise, Tertius Lydgate, an ambitious doctor, fails to realize his potential when married to the shallow Rosamond Vincy.



LEO TOLSTOY 1877

ANNA KARENINA

68 Anna Karenina rocks Russian high society when she leaves a loveless marriage for a tragic love affair. Tolstoy's psychological novel still has the power to compel.



AUGUST STRINDBERG 1877 THE RED ROOM

69 A satire of Stockholm society, in which the journalist Arvid Falk encounters hypocrisy and political corruption.

GEORGE GISSING 1891

NEW GRUB STREET

76 Edwin Reardon is a struggling author in the cruel and depressing 1890s world of London hack publishing. Jasper Milvain is a cynical journalist. No cheering ray of light breaks in on the banal scene.

FYODOR DOSTOEVSKY 1880

THE BROTHERS KARAMAZOV

70 Three brothers: Dmitri, Ivan, and Alexei. A saga of sex, betrayal, and madness. Dmitri is falsely accused of killing his father.

HENRY JAMES 1881 THE PORTRAIT OF A LADY

71 The orphaned American Isabel Archer is brought to England by her aunt Lydia Touchett, whose husband leaves her a fortune. This gives her the freedom to engage in Emersonian self-culture—which ends disastrously with marriage to the sterile dilettante Gilbert Osmond.

JORIS-KARL HUYSMANS 1890

AGAINST THE GRAIN

72 The Duc Jean des Esseintes is an extreme Parisian aesthete who tries to retreat into his ivory tower. The pièces de résistance are a liqueur organ that translates taste into quasimusic and a jewel-encrusted tortoise.

THOMAS HARDY 1891

TESS OF THE D'URBERVILLES

77 Poor country girl Tess is found to have aristocratic origins. She is seduced by her cousin Alec and then marries a prim young man, Angel Clare, who also lets her down. Hardy challenges the sexual mores and social inequalities of Victorian England.

ROBERT LOUIS STEVENSON

STRANGE CASE OF DR. JEKYLL AND MR. HYDE

73 A conventional and upright doctor takes a drug that temporarily releases him from the restrictions of virtue, enabling him to inhabit an entirely alien presence: Mr. Hyde. He embarks on a violent double life, but finally, the malevolent personality dominates. Stevenson's classic study of the mental condition of split personality has since seen the phrase "Jekyll and Hyde" enter the English language.

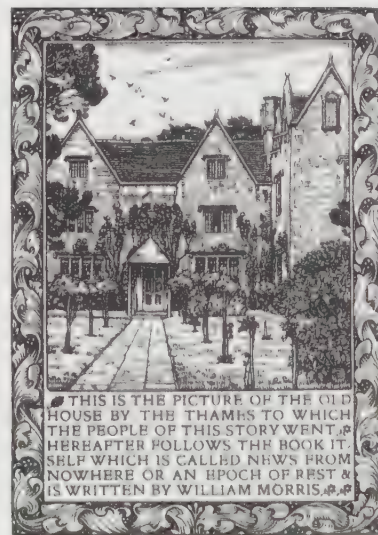
KNUT HAMSON 1890 HUNGER

74 A writer wanders the streets of a Norwegian city in a state of extreme hunger. Hamsun's Nazi views have negated his valuable contribution to the modern novel.

WILLIAM MORRIS

NEWS FROM NOWHERE

75 A utopian socialist novel set in a future English society, where the technological advances of the Victorian age have failed and been replaced by a significantly more agrarian, Arts-and-Crafts economy.



OSCAR WILDE 1891

THE PICTURE OF DORIAN GRAY

78 A beautiful young man, Dorian Gray, is corrupted by the aesthetic and decadent culture of the fin de siècle. A portrait in the attic magically ages, recording the way in which sin destroys the beauty of his face, leaving his actual face untouched.

THE PICTURE OF DORIAN GRAY BY OSCAR WILDE

WARD LONDON & CO. NEW YORK & CHICAGO

THEODOR FONTANE EFFI BRIEST

79 Living in a small Baltic town, Effi Briest, who is married to Innstetten, has an adulterous affair with Crampas. Fontane's realist novel stands alongside *Anna Karenina* and *Madame Bovary* as studies of nineteenth-century marriage from a female perspective.



STEPHEN CRANE THE RED BADGE OF COURAGE

80 In the American Civil War, a young Unionist private flees from the battlefield. He longs for a wound—"the red badge of courage" of the title—to deflect from his cowardice.

THOMAS HARDY 1895 JUDE THE OBSCURE

81 A Wessex country boy becomes obsessed with joining Oxford University, but an unsuitable relationship distracts him. Hardy's experimental novel, and his most fatalistic.

BRAM STOKER DRACULA

82 When he visits Count Dracula's castle in the Carpathian Mountains, the lawyer Jonathan Harker encounters three female vampires. The merits of Stoker's revolutionary Gothic horror story have been diminished over the years by psychoanalytic readings and numerous film adaptations.

JOSEPH CONRAD HEART OF DARKNESS

84 Narrator Marlow travels up the Congo in search of ivory trader Mr. Kurtz, who has "gone native" and set himself up as a murderous tribal chief. Conrad's novella raises questions about imperialism and race.

ARTHUR CONAN DOYLE THE HOUND OF THE BASKERVILLES

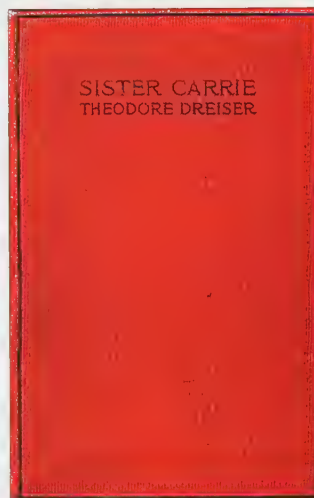
86 A family saga going back centuries, with the appearance of a luminous dog. An all-time classic mystery story.

HENRY JAMES THE GOLDEN BOWL

88 A superrich American widower (Adam Verver) and his daughter, Maggie, live in Europe collecting art. They acquire themselves trophy spouses, Charlotte and Amerigo, respectively, to complement their impressive collection, but the spouses have to be brought to heel when they conduct an ongoing affair.

HENRY JAMES WHAT MAISIE KNEW

83 A little girl, Maisie, is pushed from pillar to post by divorced parents and their various new partners. Brilliantly told, at once from her point of view—she sees more than she understands—and from another superior authorial intelligence. She develops a crush on her mother's new partner Sir Claude.



THEODORE DREISER SISTER CARRIE

85 Young Caroline Meeber moves from the rural Midwest to Chicago, where she is tempted by traveling salesman Charles Drouet's offers of sex and shopping. She becomes a successful actress and dancer in New York. Using sparse, journalistic prose, Dreiser offers an unsentimental depiction of urban American life at the turn of the twentieth century.

ANDRÉ GIDE THE IMMORALIST

87 A Parisian scholar Michel, recovering from tuberculosis, discovers his aesthetic self when he finds himself sexually drawn to Arab boys. He returns to the North African desert to experience "springtime" frenzy. His wish to possess Arab boys has been interpreted as "colonial insult," although Gide raises thought-provoking questions about personal morality.

EDITH WHARTON 1 THE HOUSE OF MIRTH

89 A downhill career for Lily Bart as she becomes a victim of New York's scandal-mongering machine. Wharton's deft novel is part love story, part social critique.

JOHN GALSWORTHY

THE FORSYTE SAGA

90 Chronicles the history of a prosperous upper-middle class family from the 1880s to the 1920s. Architect Philip Bossiney has an affair with Soames Forsyte's wife, Irene, sparking upset that spills across the generations. Galsworthy highlights the foibles of his characters but not without sympathy.

JOSEPH CONRAD

THE SECRET AGENT

91 In late Victorian London, the shopkeeper Verloc gets mixed up in anarchistic activities, and it leads to the death of his brother-in-law, Stevie, in a bomb attack on Greenwich Observatory. The professor resonates with contemporary conditions when he speaks of walking about as a human time bomb. Liberal England is hospitable to the dangerous terrorists in Conrad's ironic masterpiece.



ARNOLD BENNETT

THE OLD WIVES' TALE

92 Charts the lives of the Baines sisters: Constance, who leads a humdrum life in a shop in the industrial British north, and Sophia, who elopes and runs a *pensione* in Paris during the 1870 siege.

E. M. FORSTER HOWARDS END

93 The contrast between the idealistic Schlegel sisters and the pragmatic Wilcoxes is brought into focus over the question: who will inherit Howards End?

THOMAS MANN DEATH IN VENICE

94 Elderly writer Aschenbach falls in love with the elusive boy Tadzio. The city is infected by plague, but he cannot bring himself to leave.

ALAIN-FOURNIER LE GRAND MEAULNES

95 Seventeen-year-old Augustin Meaulnes falls in love with Yvonne de Galais at her engagement party in a romantic chateau and spends his life in an idealistic quest to find her.

D. H. LAWRENCE

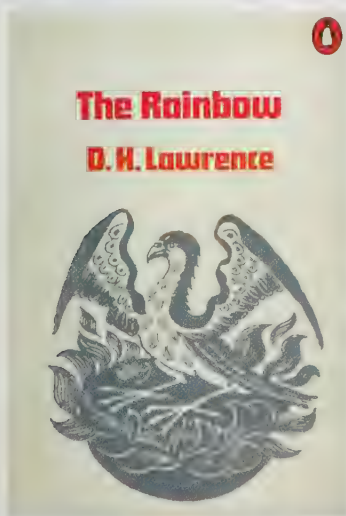
SONS AND LOVERS

96 Paul Morel, an artistic Nottinghamshire miner's son, grows up dominated by a powerful mother with whom he has an almost Oedipal relationship.

FORD MADOX FORD

THE GOOD SOLDIER

97 Rich American John Dowell, the unreliable narrator, gradually discovers that the marriages of his friends are not as happy as they seem.



D. H. LAWRENCE THE RAINBOW

98 A family saga novel of the Nottinghamshire Brangwens, tracing the psychic evolution of human history in the late Victorian period in vivid and often poetic prose. The young women, Ursula and Gudrun, are "advanced" modern individuals and their lives begin to unravel in the 1920 sequel *Women in Love*.

JOHN BUCHAN THE THIRTY-NINE STEPS

99 On the eve of World War I, the stiff-upper-lipped Scot Richard Hannay has exciting cloak-and-dagger adventures as he foils German spies in the Black Stone, who are trying to steal British secret plans. A forerunner of the modern spy thriller.

JAMES JOYCE

A PORTRAIT OF THE ARTIST AS A YOUNG MAN

100 Stephen Dedalus has to shake the antipathetic force of Ireland, and especially its devout Roman Catholicism, to invent himself as an artist. He has an epiphanic experience seeing a young girl wading, which gives him a sense of direction. With this innovative novel, Joyce forged his stream of consciousness technique.



DOROTHY RICHARDSON 1913-19
PILGRIMAGE

1 This innovative, semiautobiographical 13-novel sequence follows the heroine, Miriam Henderson, for 18 years, depicting the struggles and joys of an independent woman in turn-of-the-century London. The first title in the series, *Pointed Roofs*, was the first novel to be labeled “stream of consciousness,” and the series is regarded as one of the major works of the modernist period.

JAMES JOYCE
ULYSSES

2 This novel describes the thought processes of one waking mind during a single day—June 16, 1904—in a single location: Dublin, Ireland. Not everyone liked the work at first—in *Aspects of the Novel* (1927), E. M. Forster described it as “a simplification of the human character in the interests of Hell”—and even its greatest admirers would not claim that it was an easy read, with its intermittently obscure language and frequent distortions of conventional syntax. However, the characterization of Leopold Bloom and his wife, Molly, is now widely acknowledged as a comic masterpiece in the mock-heroic vein. Some critics have gone one step even further and acclaimed *Ulysses* as the greatest modernist novel.

ITALO SVEVO
ZENO'S CONSCIENCE

3 This masterly examination of the human psyche is constructed around the framework of one man's efforts to quit smoking.

E. M. FORSTER
A PASSAGE TO INDIA

4 In the British Raj, East and West are on a cultural collision course from which they can be diverted only by human affection.

THOMAS MANN
THE MAGIC MOUNTAIN

5 While visiting a cousin who has tuberculosis, Hans Castorp discovers that he himself has symptoms of the disease, so remains in the sanatorium, where he learns from other inmates about all aspects of Western life and thought in the years leading up to the outbreak of World War I.

100 MODERN CLASSICS

YEVGENY ZAMYATIN
WE

6 In a totalitarian state, people live in glass houses, have numbers rather than names, wear identical uniforms, eat chemical foods, and are strictly controlled. The author was banished by Soviet leader Joseph Stalin, and his work influenced all subsequent authors of dystopian fiction, notably George Orwell.

FRANZ KAFKA 1883-1924
THE TRIAL

7 In a totalitarian nightmare world, conscientious bank clerk Joseph K. is arrested but never told what for. He searches frenziedly for a way out of his predicament but is blocked at every turn by bureaucracy. He is gradually overwhelmed by a nonspecific sense of guilt and assumes that he somehow deserves what's happening to him, even his execution at the end.

F. SCOTT FITZGERALD 1896-1940
THE GREAT GATSBY

8 A rich young man throws extravagant parties that he does not himself participate in. His reticence is partly because he has been disappointed in love and partly because the source of his wealth is bootlegging, a criminal activity.

ERNEST HEMINGWAY
THE SUN ALSO RISES

9 After World War I, American expatriates remain aimlessly in France and Spain, where they slowly and painfully discover that the only things that matter in life are friendship and grace under pressure.

MARCEL PROUST
IN SEARCH OF LOST TIME

10 A random childhood memory, evoked by dunking a cake in a cup of tea, unleashes a torrent of recollections. The narrator, named Marcel, describes his childhood in painstaking detail and introduces more than 2,000 characters, among the most vivid of whom are the lovers Charles Swann and Odette; their daughter, Gilberte; and the aristocratic Guermantes family. Proust's great work encompasses both depression and elation. Its downbeat sections lament the fugitive nature of all experience, but its extended meditation on the nature of memory reaches a life-affirming conclusion: that the past exists in the present whenever we call it to mind. The work ran to seven volumes, the last three of which were published posthumously.

VIRGINIA WOOLF 1882-1928
TO THE LIGHTHOUSE

11 In this stream-of-consciousness work, the three main characters are a poetical female, an egotistical male, and an androgynous artist.

EVELYN WAUGH 1897-1972
DECLINE AND FALL

12 The novel that established Waugh's reputation is a social comedy in which the protagonist's expulsion from a university launches a downward career path that leads to imprisonment.

ERICH MARIA REMARQUE ALL QUIET ON THE WESTERN FRONT

13 This was one of the earliest and strongest denunciations of the conduct of World War I. It describes the daily routine of soldiers in the trenches. Their existences are futile and will remain pointless even if they survive the conflict.

WILLIAM FAULKNER THE SOUND AND THE FURY

14 The decline of an aristocratic family in the southern United States is shown from four different viewpoints—first, those of three siblings, and finally that of their servants. The work is stylistically complex, with timeshifts that demand attentive reading.

ALFRED DÖBLIN BERLIN ALEXANDERPLATZ

15 The story of the attempts of Franz Biberkopf, a Berlin petty criminal, to go straight after his release from jail, uses internal monologues and is sometimes regarded as the German equivalent of Joyce's *Ulysses*.

ROBERT MUSIL THE MAN WITHOUT QUALITIES

16 Although unfinished, this sprawling, epic account of the last days of the Austro-Hungarian Empire is a masterpiece that anatomizes the decline of a sophisticated and cultivated society into a state that would embrace totalitarian dictatorship.

NATHANIEL WEST MISS LONELYHEARTS

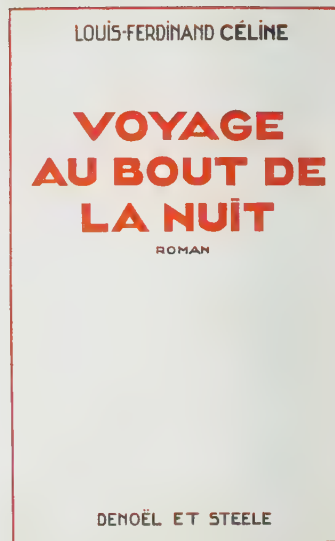
19 The newspaper journalist responsible for a pseudonymous problem page takes action on behalf of a correspondent with whom he feels particular sympathy. The results are tragic.

HENRY ROTH CALL IT SLEEP

20 A young boy, the child of Jewish immigrants, clashes with his parents and tries to make sense of life in the ghetto of New York's Lower East Side.

LOUIS-FERDINAND CÉLINE JOURNEY TO THE END OF THE NIGHT

17 The hero of Céline's first novel was a tormented soul in search of meaning in his life. The anticapitalist polemical and disjointed prose style of the work were major innovations that were later much imitated by other French authors. Meanwhile, however, Céline himself grew disenchanted with communism in the Soviet Union, swung to the political right, and produced some notorious anti-Semitic works. His posthumous reputation has suffered accordingly, but this novel predates his involvement with Nazism.



STELLA GIBBONS COLD COMFORT FARM

18 On a visit to relatives in the country, the heroine encounters bucolic folk whose morals are even lower than their standard of education. This parody of regional and rural English fiction has become more famous than some of the works it satirized.

F. SCOTT FITZGERALD TENDER IS THE NIGHT

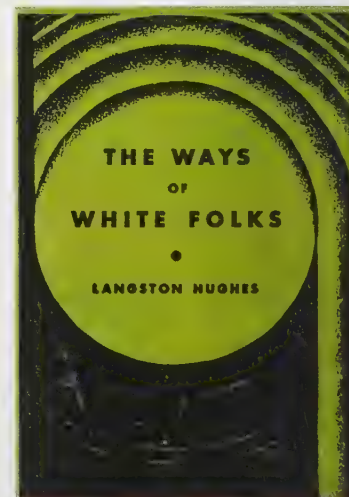
21 A psychiatrist marries one of his patients and then learns the hard way that love and reason cannot overcome extreme insanity.

HENRY MILLER TROPIC OF CANCER

22 The unusually candid descriptions of sex in this largely plotless novel caused it to be banned in the United States. Proscription only increased its popularity.

LANGSTON HUGHES THE WAYS OF WHITE FOLKS

23 In this collection of 14 short stories, the African-American author powerfully satirizes US race relations in a trenchant style that owed something to D. H. Lawrence. In 2000, the opening tale, "Cora Unashamed," was released as a movie starring Regina Taylor and Cherry Jones.

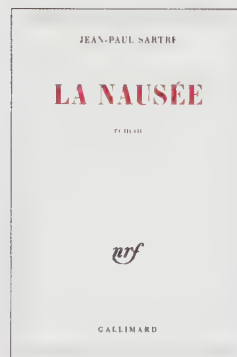


ZORA NEALE HURSTON 1937
THEIR EYES WERE WATCHING GOD

24 Janie Crawford, an African American, describes her three marriages in a manner that conveys much meaning in few words. Among this novel's many virtues is its evenhanded treatment of the characters: the good aren't idolized; the bad aren't anathematized.

JEAN-PAUL SARTRE 1938
NAUSEA

25 This is the fictional expression of the author's existentialist philosophy. The protagonist, a young historian, feels sick whenever he contemplates the pointlessness of existence. As his condition deteriorates, he gives up his research and alienates his friends. Left alone to contemplate the universe, he decides that it means only what he wants it to mean.



JOHN DOS PASSOS 1946
THE U.S.A. TRILOGY

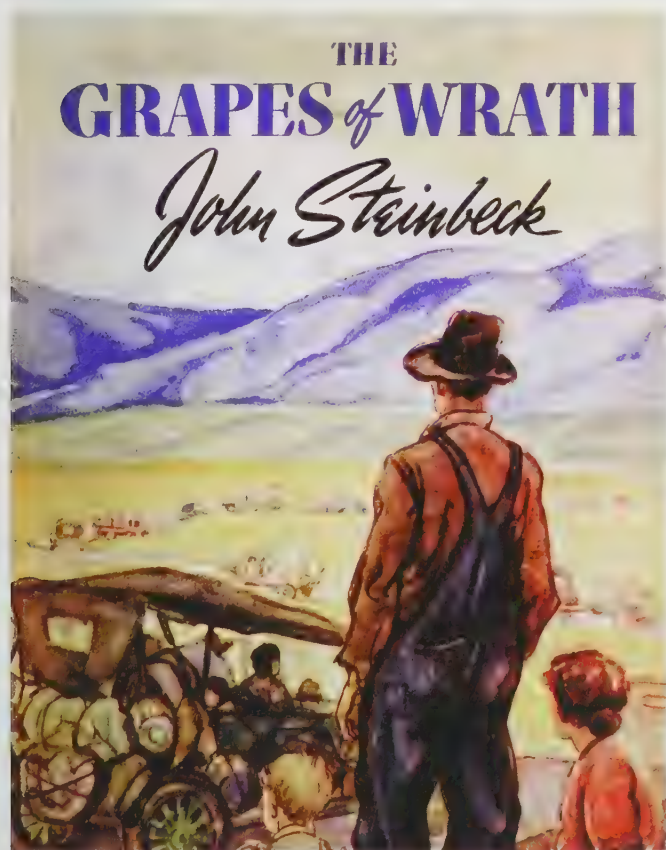
26 This three-volume epic of two Americas—one rich, the other powerless—interweaves fictional and real characters and events.

GRAHAM GREENE 1955
BRIGHTON ROCK

27 In this meditation on Roman Catholic faith, a psychopath marries a woman who has seen him commit a murder.

JOHN STEINBECK 1939
THE GRAPES OF WRATH

28 The Joad family flee poverty in Oklahoma and go in search of a better life in California. But there's no pot of gold at the end of their rainbow; only an economic system that exploits them even more. The Joads develop a siege mentality, but this gradually softens into an awareness of universal community.



FLANN O'BRIEN 1939
AT SWIM-TWO-BIRDS

29 Indebted to—and praised by—James Joyce, this novel cannot go near any fact or idea without playing with it, turning it on its head in a breathtakingly entertaining torrent of wordplay.

ALBERT CAMUS 1942
THE STRANGER

31 Meursault is sentenced to death for shooting a man he never met. Or at least, that's the stated reason for his conviction—Camus implies that the protagonist's real crime is his refusal or inability to play the game, to observe the conventional rules of society: Meursault never dissembles; he cannot pay lip service to emotions that he does not feel, and he seems not to feel any, even about his parents—the novel opens with the famous words: "Mother died today, or maybe it was yesterday." This lack of hope or any sense of purpose—*anomie*—is characteristic of the existentialist hero, as is the case with the main character in *Nausea*. But Camus's worldview is rather milder than Sartre's, more charitable and forgiving: after the shooting, Meursault gradually becomes more self-aware and starts to integrate into society.

CARSON MCCULLERS 1940
THE HEART IS A LONELY HUNTER

30 In the US state of Georgia, John Singer, a deaf man who never speaks, becomes the confidante to the misfits of a mill town: they talk, but does he listen?

HERMANN HESSE 1943
THE GLASS BEAD GAME

32 Josef Knecht, a child of outstanding intellectual ability, tries to master the titular pastime, which requires knowledge of art, logic, music, natural science, and philosophy.

HENRY GREEN 1955
LOVING

33 This mainly conversational novel is about the domestic staff in the country house of a rich widow in Ireland during World War II.

ROBERT PENN WARREN 1947
ALL THE KING'S MEN

34 Based on Huey Long, governor of Louisiana, the character Willie Stark wins elections by offering populist policies. But in order to keep his promises, he has to enter corrupt arrangements, and therein lie the seeds of his destruction.

NÍKOS KAZANTZÁKIS ZORBA THE GREEK

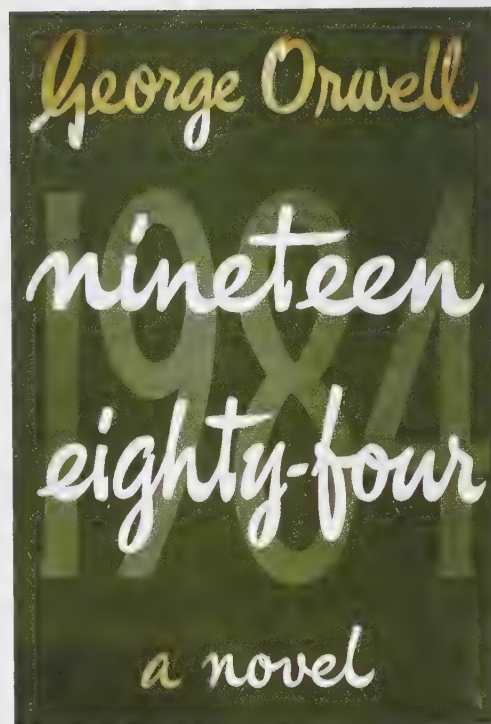
35 The unnamed narrator is an ascetic scholar who buys a business in Crete and there, is gradually drawn out of his shell, first by the title character, an exuberant islander, and then by the murder of his lover, the village widow.

ALAN PATON CRY, THE BELOVED COUNTRY

36 The story of Zulu pastor Stephen Kumalo and his son, Absalom, is set in apartheid South Africa. Among the topics examined is the way in which Christianity can be both beneficial and detrimental to the struggle for racial equality: the church is a rallying point for government opponents, but it pays blacks less than whites and preaches that people should accept their suffering on Earth in return for preferment in heaven.

GEORGE ORWELL NINETEEN EIGHTY-FOUR

37 In this nightmare vision of the future, Britain—now known as “Airstrip One”—is ruled by Big Brother, a dictator whose image is everywhere and whose agents monitor the people’s actions and, worse, their thoughts. Winston Smith is a minor state functionary whose job is to falsify archives for the Ministry of Truth but whose core decency turns him into a dissident. He has an affair with the like-minded Julia, but their relationship lacks official sanction and is therefore forbidden. They are arrested by the sinister Thought Police, and Smith is tortured and re-educated. The title of the novel has become a byword for state interference, and the work has put several terms into the English language, including “doublethink,” “newspeak,” and “unperson.”



J. D. SALINGER THE CATCHER IN THE RYE

38 One of the great American novels details two days in the life of Holden Caulfield, a 16-year-old who has been expelled from school. On publication, the story immediately struck a chord with the reading public, especially teenagers who, like the protagonist, were mixed-up and disillusioned, unable to come to terms with adult ways, and with what Holden refers to as “phoniness.” The title is taken from a poem by Robert Burns.

MARGUERITE YOURCENAR MEMOIRS OF HADRIAN

39 The French novelist convincingly evokes the life and times of the Roman emperor of the second century CE.

ANTHONY POWELL DANCE TO THE MUSIC OF TIME

40 This 12-volume sequence depicts upper-class Britons in the mid-twentieth century.

RALPH ELLISON INVISIBLE MAN

41 Ellison’s book played a significant role in the struggle for civil rights. It tells the story of a young black man whom no one sees for what he really is—people bring so many preconceptions and prejudices to their encounters with him that he is effectively invisible. He leaves the southern United States for New York City, but finds the racism there equally repugnant, though different in nature. He finally retreats to a hole in the ground.

L. P. HARTLEY THE GO-BETWEEN

42 A pair of lovers who want to keep their affair secret manipulate an innocent young boy into acting as a go-between.

WILLIAM GOLDING 1954 LORD OF THE FLIES

43 A group of boys, stranded on a desert island without adults, attempt to build a new society, but instead of using their intelligence, they descend rapidly into savagery and commit murder before they are finally rescued.

KINGSLEY AMIS LUCKY JIM

44 The antihero is a junior lecturer at a provincial university who despises what he regards as the pretentiousness of academic life.

VLADIMIR NABOKOV LOLITA

45 Humbert Humbert, a sophisticated intellectual of advanced years, becomes besotted with a 12-year-old nymph known as Lolita, who does nothing to discourage his attentions.

ALAIN ROBBE-GRILLET 1955

THE VOYEUR

46 This acclaimed "new novel" describes a murder while simultaneously making the reader question whether it ever occurred.

NAGUIB MAHFOUZ 1956-57

THE CAIRO TRILOGY

47 These three volumes depict three generations of different families in Egypt from World War I until after the 1952 military coup that overthrew King Farouk.

JACK KEROUAC 1957

ON THE ROAD

49 This flagship work of the Beat movement recounts a series of trips across the United States by dropouts who reject conventional values and want little other than sex, drugs, and jazz music.

LAWRENCE DURRELL 1957

THE ALEXANDRIA QUARTET

50 The hero of this tetralogy moves slowly from a breakup with Justine to a hookup with Clea, who turns out to be the love of his life.

HARPER LEE 1960

TO KILL A MOCKINGBIRD

55 Scout is the young daughter of Atticus Finch, a white lawyer in a small town in Alabama, who is hired to defend Tom Robinson, a black man falsely accused of raping a white woman. As the case unfolds, the girl's observations of racial prejudice in action catapult her from a six-year-old child to a nine-year-old adult.

BORIS PASTERNAK

DOCTOR ZHIVAGO

48 The title character is a poet, philosopher, and physician whose life is turned upside down by the 1917 Russian Revolution and by his love for Lara, the wife of a Communist insurgent. During the upheavals of the civil war that followed the Bolshevik takeover, Zhivago loses everything, wanders through Siberia, and dies alone and in poverty. All he leaves behind are his poems, which are printed at the end of the novel. The book was banned in the Soviet Union, partly because of its sympathetic portrayal of a bourgeois family; when Pasternak was awarded the Nobel Prize in Literature, he was forced to decline it. However, it was published in the West, first in Italy, and immediately became a best seller.



GIUSEPPE TOMASI DI LAMPEDUSA

THE LEOPARD

51 Don Fabrizio, prince of Salina, Sicily—nicknamed "the Leopard," after the motif on his coat of arms—lives through the dissolution of the old Bourbon regime and its replacement during the Risorgimento of the 1860s by the emergent Kingdom of Italy. Although the don is conservative, his disapproval of the new rulers' greed could be shared by people of any political persuasion. The novel is highly personal: the author was himself the last in a long line of princes; he began writing to combat depression after his palace was destroyed during World War II.

Rossi: I could've it Pasternak

IL DOTTOR ZIVAGO

PENGUIN



CHINUA ACHEBE

THINGS FALL APART

52 This analysis of Nigeria under colonial rule opens with Okonkwo, an Igbo chief, being exiled for murder.

SAUL BELLOW 1959

HENDERSON THE RAIN KING

53 An unfulfilled American millionaire visits Africa, finds new purpose in life, and retrains as a doctor.

GÜNTER GRASS

THE DANZIG TRILOGY

54 This charts life in the first half of the twentieth century in the former German city that is now Gdańsk, Poland.

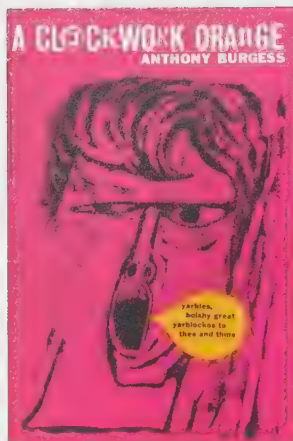
CATCH-22

56 John Yossarian is a US Army Air Force captain stationed at an airstrip on the Italian island of Pianosa during World War II. His main ambition is to survive the conflict, and his efforts to achieve it are the focus of the action. The title of the novel comes from the paradox that the only way a pilot can be excused from flying on combat missions is if he's insane, but anyone who doesn't want to undertake a combat mission cannot possibly be mad. The term, coined by Heller, who was himself a wartime pilot, has passed into common parlance.



V. S. NAIPAUL 1955
A HOUSE
FOR MR.
BISWAS

57 A poor West Indian Hindu wants nothing more than a house of his own, as external proof that he has achieved something in his life. Eventually, he achieves his ambition, but his purchase is ramshackle and leaves him penniless.



ANTHONY BURGESS 1947
A CLOCKWORK
ORANGE

58 This novel is a satirical commentary on two opposing views of humanity: one that it is improvable; the other that it is incorrigible. It concerns the leader of a youth gang who is cured of his violent urges by aversion therapy. He then goes straight until he is so badly abused by his former victims that he reverts to his former ways. The work is set in a dystopian future Britain that, the reader gathers from the characters' slang, is ruled by Russians.

SYLVIA PLATH 1963
THE BELL JAR

59 College student Esther Greenwood suffers a nervous breakdown. This thinly disguised autobiographical work was published only a month before Plath committed suicide. It was the only novel by a writer best known for her poetry.

JOHN WILLIAMS 1949
STONER

60 This novel traces the undistinguished life of William Stoner from agriculture student to teacher of English literature at the University of Missouri. He marries, unhappily, and later has an affair with a colleague. An examination of a quiet life told in elegant, affecting prose, the novel was forgotten until its 2003 reissue.

JEAN RHYS 1951
WIDE SARGASSO SEA

61 Rhys takes her theme and central character from Charlotte Brontë's *Jane Eyre*—Bertha, the “madwoman in the attic”—in this postcolonial novel.

GABRIEL GARCÍA MÁRQUEZ 1982
ONE HUNDRED
YEARS OF SOLITUDE

62 The Colombian author's masterpiece depicts seven generations of a single family between the 1820s to the 1920s. At the start of the period, José Arcadio Buendía builds a new town, Macondo, in the middle of a swamp. The place thrives for a while, but gradually, shysters move in. Thereafter, decline is swift, both for the town and the Buendía family, which by the fifth generation has become thoroughly depraved.

ALEKSANDR SOLZHENITSYN 1968
THE FIRST CIRCLE

63 Gleb Nerzhin is a prisoner in a Soviet gulag. He works in a laboratory that develops surveillance devices for use by the secret police. Although his conditions are better than those of many of his fellow inmates, his world is still a nightmare in which normal values are inverted: honorable behavior is punished; cruelty and betrayal are well rewarded. Hence, the title, which refers to Dante's *Inferno*. Soviet leader Joseph Stalin is depicted as paranoid and vain. The book ends after Gleb refuses to cooperate further with the regime.



PHILIP ROTH 1969
PORTNOY'S
COMPLAINT

64 In this comic novel, a young Jewish boy describes to a psychiatrist his feelings of guilt about almost everything, but most famously about his sexual proclivities.

JOHN FOWLES 1969
THE FRENCH
LIEUTENANT'S
WOMAN

65 A paleontologist breaks off his engagement to a conventional woman after falling for the forsaken lover of a French soldier. The narrative, set in Victorian times, is often interrupted by the twentieth-century author, who gives the work three different endings.

J. G. FARRELL 1973
THE SIEGE OF
KRISHNAPUR

66 At one level, this is an adventure yarn; at another, it is a scathing indictment of British colonialism at the time of the Indian Mutiny in 1857–58.

CARLOS FUENTES 1975
TERRA NOSTRA

67 Through creative use of Jungian symbolism, the Mexican author tries to make sense of the pre- and post-Colombian cultures that are combined in his homeland.

MANUEL PUIG 1976

THE KISS OF THE SPIDER WOMAN

68 Two male prisoners share a cell in a jail in Argentina. One is a gay window dresser, the other is a revolutionary. They fall in love, but one betrays the other. A novel told mostly in dialogue.

ANDREW HOLLERAN 1995

DANCER FROM THE DANCE

69 This watershed work depicted the gay scene in New York with unprecedented candor. A young man from the Midwest abandons his straight life as a lawyer to hang out on Fire Island.

GEORGES PEREC LIFE: A USER'S MANUAL

70 Regarded as postmodernist (although the author disagreed), this novel concerns the residents of a Paris apartment block.

William Styron Sophie's Choice A NOVEL

WILLIAM STYRON SOPHIE'S CHOICE

71 Sophie Zawistowska is a Polish Catholic who survived Auschwitz but was forced by her Nazi captors to decide which of her two children should live and which should be put to death.

ITALO CALVINO
SE UNA NOTTE D'INVERNO
UN VIAGGIATORE



ITALO CALVINO IF ON A WINTER'S NIGHT A TRAVELER

72 In this acclaimed work of postmodernism, the author intersperses ruminations about the nature of reading with the opening chapters of several different novels. However, the structure is not as haphazard as this may suggest: the book is ultimately about the subjectivity of all meaning.

SALMAN RUSHDIE 1981

MIDNIGHT'S CHILDREN

73 At the moment India gained independence from Britain, two boys are born in the same hospital in Mumbai and immediately switched by a nurse.

FERNANDO PESSOA 1988

THE BOOK OF DISQUIET

74 This is—or purports to be—the memoirs of Bernardo Soares, one of Pessoa's numerous pseudonyms. It is described as "factless autobiography."

ALICE WALKER 1982

THE COLOR PURPLE

75 This celebrated epistolary novel describes the struggle of an uneducated black woman to escape domestic abuse in the southern United States. Its main themes are sexual discrimination and racial prejudice.

ISABEL ALLENDE 1982

THE HOUSE OF THE SPIRITS

76 Allende's best-selling debut is an original chronicle of four generations of one family, including a lightly disguised depiction of the author's uncle, Salvador Allende, the president of Chile murdered in 1973.

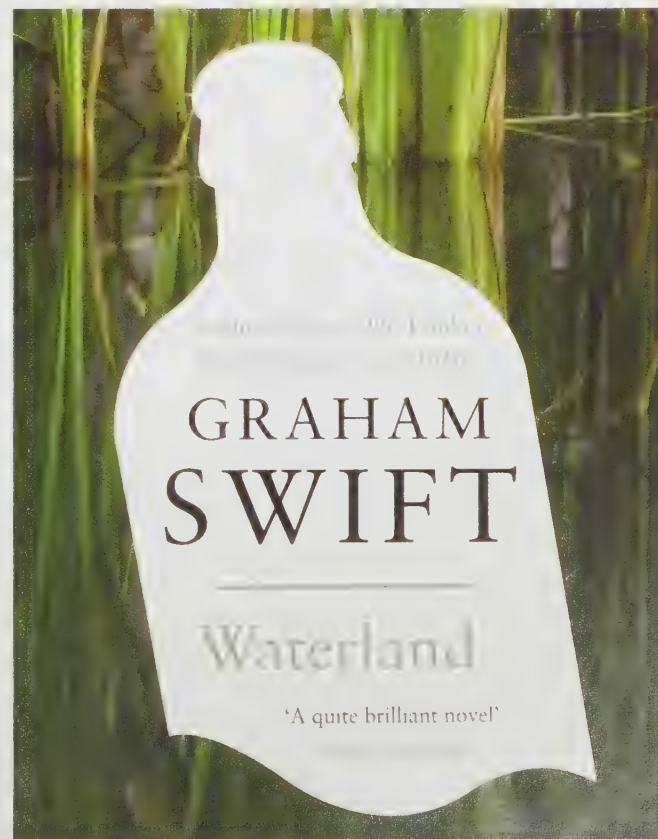
PRIMO LEVI 1987

IF NOT NOW, WHEN?

77 This is the tale of Jewish partisans fighting Nazism behind enemy lines in alliance with various Lithuanians, Poles, and Russians. The action starts in Byelorussia and moves through central Europe to Milan.

GRAHAM SWIFT 1988 WATERLAND

78 When a history teacher is forced into early retirement because his subject is no longer regarded as relevant, he uses material from his own past to show that we cannot see where we are going without knowing where we have come from.



MILAN KUNDERA

THE UNBEARABLE LIGHTNESS OF BEING

79 In Communist-ruled Czechoslovakia, Tomáš is a physician; Tereza, his wife, is a photographer; Sabina, his mistress, is an artist who is also having an affair with Franz, a Swiss university professor. The action takes place in 1968, in the months leading up to the Soviet invasion that ended the Prague Spring of liberalization. As Tomáš is drawn deeper into anti-government activities, he is forced to choose between his lovers.

MARGUERITE DURAS

THE LOVER

80 A 15-year-old Vietnamese girl has an affair with a rich Chinese man. At first she sees him as her ticket out of poverty, and it is only after they split up that she realizes the true depth of her feelings for him.

JOSÉ SARAMAGO

THE YEAR OF THE DEATH OF RICARDO REIS

81 The life and loves of a poet-physician in Portugal during the dictatorship of António Salazar are reflected against a detailed background of the nation's history and culture.

MARTIN AMIS MONEY

82 At the point of entry, this appears to be the story of a director of British television advertisements who is hired by a Hollywood producer to make a blockbuster movie with the working title *Good Money*. But further reading reveals that no one is quite who he or she appears or claims to be. Gradually it emerges that almost everything we were given to understand at the outset is at least possibly untrue. It is only at the very end of the novel that Amis reveals the significance of the previously enigmatic subtitle, *A Suicide Note*.

JULIAN BARNES

FLAUBERT'S PARROT

83 This is the intellectually playful account of a literary scholar who becomes obsessed with the stuffed parrot that inspired Gustave Flaubert to write one short story.

DON DELILLO

WHITE NOISE

84 A chemical spill from a railroad container car focuses the minds of local residents on their mortality, and they seek a drug that will allay their fear of death.

TONI MORRISON BELOVED

85 Past and present coexist in this sometimes harrowing story of black Americans after the Civil War. Fugitive Kentucky slave Sethe and her daughter, Denver, live together in the free state of Ohio in a haunted house. Paul D, another ex-slave, exorcises the ghost, but soon afterward a strange lady called "Beloved" moves in. The narrative then divides into alternating threads: one describes the growing rivalry between Sethe and Beloved that turns into a life-or-death struggle; the other fills in the backstory of Sethe's former life on the plantation and her traumatic journey to freedom. Then her former owner shows up with a posse to take her back to where he thinks she belongs.

BELOVED

A NOVEL

TONI
MORRISON

JOHN AUSTER 1987

THE NEW YORK TRILOGY

86 *City of Glass* concerns a crime novelist with many identities; *Ghosts* is about Blue, a private eye hired by White to spy on Black. In *The Locked Room*, a biographer takes over the identity of his subject.

TOM WOLFE 1977

THE BONFIRE OF THE VANITIES

87 Wolfe's most famous novel is a dissection of ambition, racism, social class, politics, and greed in New York's Wall Street financial district.

PETER CAREY 1988

OSCAR AND LUCINDA

88 The title characters meet on a ship to Australia and soon discover that they are both inveterate gamblers. Lucinda bets Oscar that he cannot transport a church from Sydney to Bellingham, 325 miles (520km) away.

KAZUO ISHIGURO 1982

THE REMAINS OF THE DAY

89 An old manservant renews contact with a former colleague. The two were once close friends, but their relationship never developed: could it have become a romance?

A. S. BYATT 1990
POSSESSION

90 Two modern-day academics research the relationship between two Victorian poets in a postmodern novel that jumps back and forth between the periods.



SEBASTIAN FAULKES
BIRDSONG

93 A young woman attempts to find out what really happened to her grandfather during World War I.

JAVIER MARÍAS 1991
A HEART SO WHITE

91 Juan and his bride, Luisa, set out to uncover his father's past. This includes two previous marriages, the less mysterious of which turns out to have been to Juan's maternal aunt.

DONNA TARTT
THE SECRET HISTORY

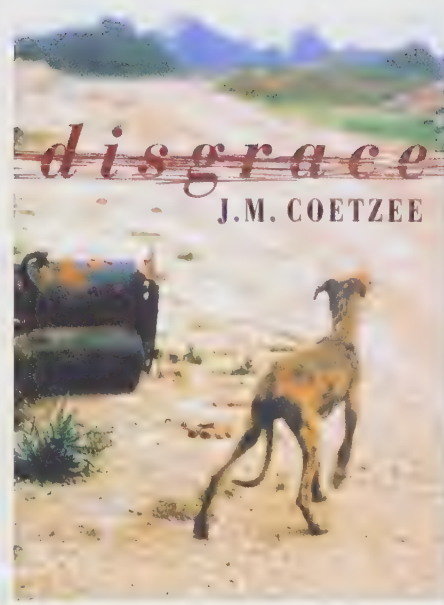
92 After one of their number is murdered, a group of classics students at a university find themselves in a situation that recalls Greek drama: they are doomed to tragedy, not by their own actions but by fate and circumstance.

MICHEL HOUELLEBECQ
ATOMISED

94 Two half-brothers are raised apart and hardly know each other. However, their lives are oddly parallel.

J. M. COETZEE 1991
DISGRACE

95 David Lurie is a white South African university lecturer who does pretty much whatever he likes until he sexually harasses one of his students and is forced to resign his teaching post. He goes to live with his lesbian daughter on a farm and is starting to get his life back together when their house is attacked by a gang who rape his daughter and set fire to him. He recovers; she becomes pregnant and has the child; the assailants are never caught. These events take place during the fall of apartheid and the introduction of majority rule.



MARIO VARGAS LLOSA 1987
THE FEAST OF THE GOAT

96 The focal point of this novel is a historical event: the assassination in 1961 of Dominican dictator Rafael Trujillo. The story has three strands: one describes the hated despot's last day on Earth; another examines the characters and motives of his killers; the third tells of an ordinary woman who is visiting her sick father.

IAN MCEWAN 1982
ATONEMENT

97 A 13-year-old girl with a vivid imagination misinterprets the true nature of an amatory encounter she happens to witness and denounces the male partner as a rapist. Years later, she realizes her error and attempts to right her earlier wrongs.

IRÈNE NÉMIROVSKY
SUITE FRANÇAISE

98 This book is comprised of two novellas. The first, "Storm in June," depicts a group of Parisians as they flee the German invasion in June 1940. An upper-class Catholic family and a self-absorbed writer are annoyed at the inconvenience of leaving their affluent lives behind. The most sympathetic characters are the Michauds, bank clerks whose compassion contrasts sharply with the selfishness of those around them. The second novella, "Dolce," tells the story of a rural community under occupation a year later, when the deportations begin.

Irène Némirovsky
Suite française



ALAN HOLLINGHURST 1993
THE LINE OF BEAUTY

99 After graduating from Oxford University, the gay hero finds that his social life splits into two compartments: in one are the men he goes to bed with; in the other are the straight friends who acknowledge his sexuality only by never referring to it.

JONATHAN FRANZEN 1996
FREEDOM

100 This chronicle of the white, middle-class Berglund family of St. Paul, Minnesota, examines the ways in which liberty is used and abused in personal relationships and how it does not always satisfy our expectations of it.



WILKIE COLLINS 1868
THE MOONSTONE

1 Regarded as the first work in the genre, this epistolary novel concerns the theft of a priceless diamond, and the efforts of Franklin Blake, an amateur sleuth, and Sergeant Cuff, a hardened professional from Scotland Yard, to recover the gem and unmask the villain.

ÉMILE GABORIAU 1881
MONSIEUR LECOQ

2 Gaboriau's officer with the French Sûreté was the first fictional detective to bring logic and scientific method to the solving of crimes. He and his sounding-board friend, Tabaret, partly inspired Conan Doyle to create Sherlock Holmes and his brother, Mycroft.

ARTHUR CONAN DOYLE 1887
A STUDY IN SCARLET

3 The hero of this novel, Sherlock Holmes, is described as "a consulting detective"—in other words, an amateur sleuth. He is assisted by Dr. John Watson, a physician and the narrator of this and all the other Holmes tales—three more full-length works, and 56 short stories. The author, himself a doctor of medicine, wrote the book in three weeks at the age of 27 years.

EDGAR ALLAN POE 1842
TALES OF MYSTERY AND IMAGINATION

4 This posthumous collection—Poe died in 1849—consisted of 11 short stories, including the works on which the author's reputation as a prose writer is founded: "The Fall of the House of Usher," "The Masque of the Red Death," "The Murders in the Rue Morgue," and "The Pit and the Pendulum." Every one was a gift to the genre and to Hollywood.

100 CRIME NOVELS

EDGAR WALLACE 1894
THE FOUR JUST MEN

5 Upper-class vigilantes ensure that evildoers get their comeuppance, even if the law has failed to deal with them. Their morals may be questionable, but their popularity with readers was not.

G. K. CHESTERTON 1911
THE INNOCENCE OF FATHER BROWN

7 Father Brown, a Roman Catholic priest, solves crimes intuitively, because he is able to empathize with the perpetrators.

E. C. BENTLEY 1916
TRENT'S LAST CASE

8 The first detective novel that satirizes the genre: the sleuth gets pretty much everything wrong.

GLADYS MITCHELL 1917
SPEEDY DEATH

11 This was the first of 66 novels that showcased the sleuthing skills of psychoanalyst Beatrice Bradley and her assistant, Laura Menzies. Mitchell was a subtle writer who avoided cliché by subverting the conventions of the genre.

RONALD KNOX 1930
THE VIADUCT MURDER

9 Knox was a theologian with amusing precepts about detective fiction, which he explores in this novel about four friends who find a corpse while playing golf.

ANTHONY BERKELEY 1931
THE POISONED CHOCOLATES CASE

10 Six armchair detectives in a "Crimes Circle" headed by protagonist Roger Sheringham propose, in turn, different solutions to a murder mystery that has baffled the police. Readers have no idea which solution is the correct one until the final pages.

MARY ROBERTS RINEHART 1932
THE CIRCULAR STAIRCASE

6 First in the "Had-I-but-known" subgenre in which the narrator laments the bad outcomes that came from events that are then recounted.

DASHIELL HAMMETT 1937
THE MALTESE FALCON

12 For his portrayal of private eye protagonist Sam Spade, Hammett drew on his own experience working in a detective agency, but nothing like as much as subsequent crime writers drew on him. Hammett is renowned as the founder of the tough, "hard-boiled" school of detective fiction, whose later graduates include Raymond Chandler.

ARTHUR UPFIELD
THE SANDS OF WINDEE

13 Australian Detective Inspector Napoleon Bonaparte—part European, part Aborigine—notices in a photograph of a road wreck a detail that shows there has been a murder.

FRANCIS ILES
MALICE AFORETHOUGHT

14 There is no mystery here: we know whodunit from the beginning. The interest lies in the study of the motivation and methods of a wife killer.

ERLE STANLEY GARDNER
THE CASE OF THE VELVET CLAWS

15 The first of 82 novels starring Perry Mason, the defense attorney who almost never lost a case. Unlike most of the subsequent works in this series, there is no courtroom action, merely an inquiry into the murder of a blackmailer.

DOROTHY L. SAYERS
GAUDY NIGHT

17 Harriet Vane investigates skulduggery at her old Oxford college. As the waters muddy, she calls on the help of her old partner in sleuthing, Lord Peter Wimsey.

JOHN DICKSON CARR
THE HOLLOW MAN

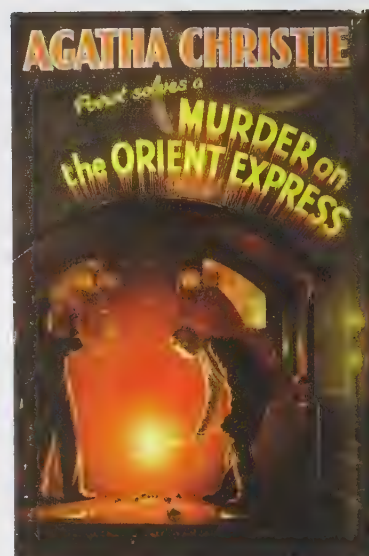
18 This is not the earliest "locked-room mystery"—that title conventionally goes to Poe's "The Murders in the Rue Morgue"—but it is widely acclaimed as the greatest. It is solved by Dr. Gideon Fell, the hero of more than 20 other novels by Carr.

MICHAEL INNES
HAMLET, REVENGE!

19 The lord chancellor of England is shot dead while playing Polonius in an amateur production of Shakespeare's tragedy. Inspector Appleby investigates.

AGATHA CHRISTIE
MURDER ON THE ORIENT EXPRESS

16 In this celebrated mystery—adapted and filmed several times—a nasty American gets murdered in his compartment on the Istanbul-Paris train. Belgian supersleuth Hercule Poirot, who happens to be on board, leads the investigation, and finds that all 13 of his fellow passengers in the coach were in some way connected with the victim and had compelling reasons for wishing him dead.



MARGERY ALLINGHAM
THE CASE OF THE LATE PIG

20 Aristocratic amateur detective Albert Campion attends the funeral of an old school contemporary. Six months later he is summoned to the scene of a murder, whose victim is the man he thought he saw interred.

CARYL BRAHMS & S. J. SIMON
A BULLET IN THE BALLET

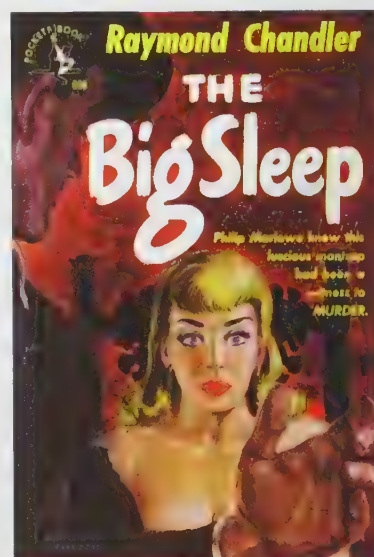
21 A dancer is shot during a production of *Petrushka*. Inspector Adam Quill leads the hunt for the killer in this wry, comic work.

NGAIO MARSH
VINTAGE MURDER

22 Marsh gives her English inspector Roderick Alleyn a mysterious death to solve in her native New Zealand.

RAYMOND CHANDLER
THE BIG SLEEP

23 The first novel to feature private eye Philip Marlowe, this is regarded as the definitive work of hard-boiled detective fiction. It has so many virtues—wit, pace, mystery, suspense—that its flaws—lots of loose ends—are largely overlooked. The movie versions starred Humphrey Bogart (1946) and Robert Mitchum (1978).



REX STOUT 1939
SOME BURIED CAESAR

24 This is thought by many to be the finest hour of armchair detective Nero Wolfe.

EDMUND CRISPIN 1966
THE MOVING TOYSHOP

25 The mystery in this comic crime novel is solved by Gervase Fen, an Oxford English professor who sleuths for fun.

MICKEY SPILLANE 1946
I, THE JURY

26 Spillane was a well-known comic book writer, but this was his first novel. Protagonist Mike Hammer is hard-boiled like Philip Marlowe, but lacks the charm of Chandler's creation: Hammer is as his name suggests, an agent of violence.

NANCY SPAIN
POISON FOR TEACHER

28 In this thriller with strong lesbian overtones, a murder at a girls' school is investigated by Miriam Birdseye, an actress, and Natasha DuViven, a Russian ballerina.

PATRICIA HIGHSMITH 1960
STRANGERS ON A TRAIN

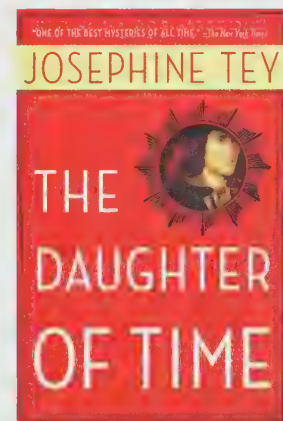
29 Two men agree to "trade" murders, in the hope that no one will suspect either of them. One of the men has no difficulty in carrying out the other's dirty work, but the second murder is more problematic.

JOSEPHINE TEY 1967
THE DAUGHTER OF TIME

30 A fictional modern detective investigates the alleged crimes of Richard III (king of England, 1483–85). Tey led the rehabilitation of the last Plantagenet monarch, who had been posthumously vilified by the Tudors who seized his throne.

GEORGES SIMENON
MY FRIEND MAIGRET

27 Every Maigret novel is good, but this is one of the best. Inspector Pyke of Scotland Yard crosses the Channel to observe the celebrated French detective's working methods. When Maigret is called on to investigate a murder on the Mediterranean island of Porquerolles, he has in tow a bemused English flatfoot.



ELLERY QUEEN 1952
THE KING IS DEAD

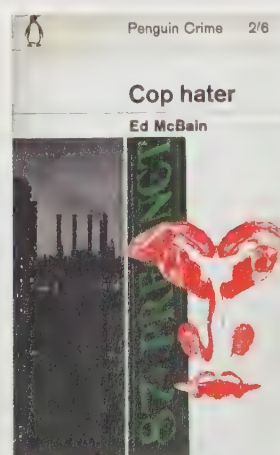
31 Ellery Queen is both the nom de plume of the two authors and the name of the main character, an NYPD detective, who here investigates threats to an arms dealer.

JIM THOMPSON
THE KILLER INSIDE ME

32 The deputy sheriff in a one-horse town seems like a pillar of the establishment. Yet, beneath the surface, he is a psychopath who finds that one killing leads to another and then another ...

MARGARET MILLAR 1955
THE BEAST IN VIEW

33 This psychological thriller charts the descent of a rich, single woman from her comfort zone into a world of intrigue and murder. But who is the perpetrator and who is the victim?



ED MCBAIN
COP HATER

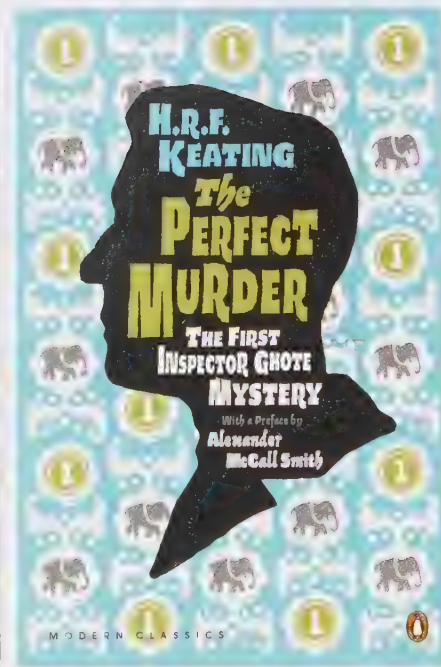
34 In the first of a series that eventually ran to more than 50 full-length novels, Detective Steve Carella hunts the killer of his colleagues in the 87th Precinct in Isola, a lightly fictionalized Manhattan, New York.

ROBERT TRAVER
**ANATOMY
OF A
MURDER**

35 In this great courtroom drama, a defense attorney uses morally ambiguous methods to get his client off a murder rap.

EMMA LATHEN
**BANKING
ON
DEATH**

36 The acclaimed first novel by "Emma Lathen" (Mary J. Latsis and Martha Henissart) is about a Wall Street financier who is also an amateur sleuth.



H. R. F. KEATING
**THE
PERFECT
MURDER**

37 This was the first of 26 fictional outings for Inspector Ganesh Ghote (pronounced "go-tay") of the Bombay (now Mumbai) police, who here investigates the death of a man named Perfect. One of the most impressive qualities of this multi-award-winning novel was that its English author had, at the time he wrote it, never even set foot on the Indian subcontinent.

HARRY KEMELMAN
**FRIDAY
THE RABBI
SLEPT LATE**

38 Rabbi Small is an orthodox Jew with unorthodox methods of investigating crimes.

LILIAN JACKSON BRAUN
**THE CAT WHO
COULD READ
BACKWARDS**

39 A reporter named Quill solves crimes with the help of his two Siamese cats.



MAJ SJÖWALL
& PER WAHLÖÖ
**THE
LAUGHING
POLICEMAN**

40 This is the fourth—and in the view of many, the finest—segment of the Martin Beck series, a ten-part Swedish police procedural starring the detective of that name, whose personal life starts off miserable and gets worse.

P. D. JAMES
**AN UNSUITABLE
JOB FOR A
WOMAN**

42 Cordelia Gray is the co-owner of a private investigation agency until one morning to find her ex-cop partner dead at his desk.

MANUEL VÁZQUEZ
MONTALBÁN
**I KILLED
KENNEDY**

43 Pepe Carvalho is best known as the gourmet sleuth, but there is much more to him than that. He and his sidekick, Biscuter, are like modern equivalents of Don Quixote and Sancho Panza.

ROSS MACDONALD
**THE
UNDERGROUND
MAN**

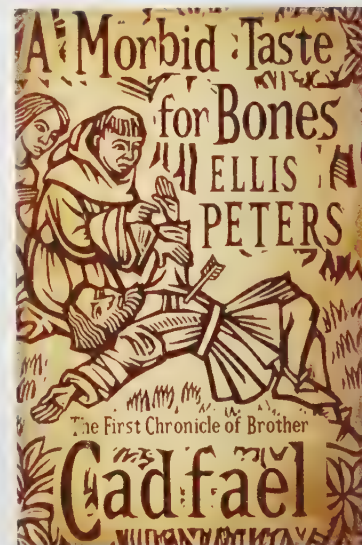
44 Lew Archer—the natural successor to Chandler's Philip Marlowe—investigates a suspicious fire and finds in its ashes the sordid side of the American dream.

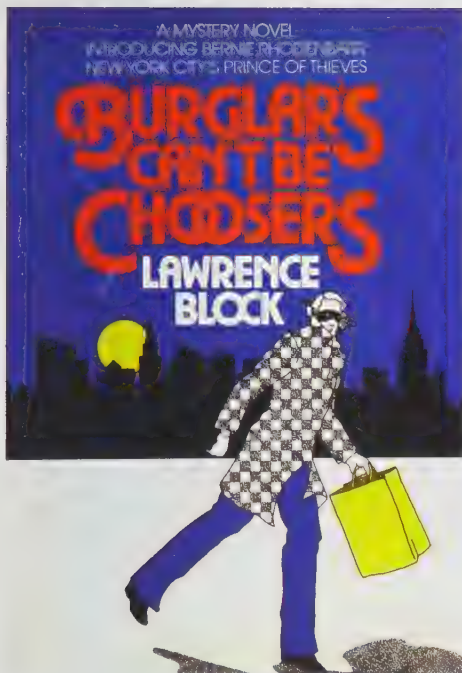
ROBERT B. PARKER
**THE
GODWOLF
MANUSCRIPT**

45 This novel starring Spenser—a private eye whose first name we never know—was the first of a series that outlasted the author: since Parker's death it has been continued by other hands.

ELLIS PETERS
**A MORBID TASTE
FOR BONES**

46 Meet Brother Cadfael: a twelfth-century monk who probes criminal activity in England during the reign of King Stephen.





LAWRENCE BLOCK by
**BURGLARS CAN'T
 BE CHOOSERS**

46 Bernie is a burglar who gets accused of a murder he didn't commit. To beat the rap, he has to learn a whole new meaning of "Heaven helps those who help themselves."

RUTH RENDELL 1941
**A JUDGEMENT
 IN STONE**

47 A housekeeper murders the family she works for. She's not proud of what she's done, but there is something else she's even more ashamed of: she is illiterate.

UMBERTO ECO 1932
**THE NAME
 OF THE
 ROSE**

48 The investigation into a string of murders in a medieval Italian monastery is led by Franciscan friar William of Baskerville. The novel is renowned for its puzzles and for its self-conscious references to other books, semiotics, and literary theory.



COLIN DEXTER 1931
THE DEAD OF JERICO

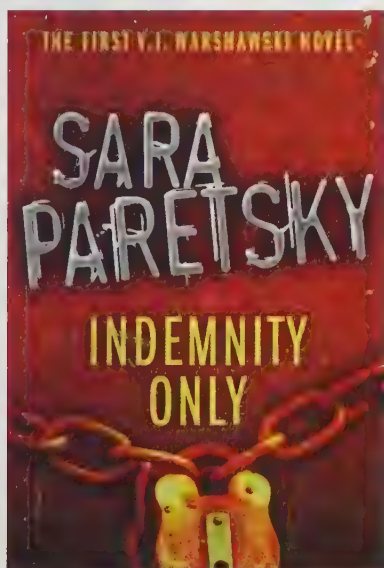
49 The fifth novel starring Inspector Morse, and the first to be filmed for TV, is set not in the city on the Jordan River but in the Oxford district of the same name.

SOJI SHIMADA 1926
**THE TOKYO
 ZODIAC
 MURDERS**

50 Shimada promises that none of his characters will have an advantage over the reader.

MARTIN CRUZ SMITH 1939
**GORKY
 PARK**

51 Soviet detective Arkady Renko tries to solve the mystery of three corpses that have been found in central Moscow with their faces and fingertips cut off to prevent identification.



SARA PARETSKY 1946
**INDEMNITY
 ONLY**

52 Feisty feminist private detective Victoria Iphigenia (VI or Vick) Warshawski is hired by a man to find his son's girlfriend. But it soon turns out that the son is dead, the girlfriend doesn't exist, and the man is operating under an assumed name. And that's only the beginning of this riveting mystery that established Paretsky as a star of the 1980s.

SUE GRAFTON 1926
**A IS FOR
 ALIBI**

53 This is the first of the Alphabet Mysteries, which continued at irregular intervals, and, as the present volume went to press, had reached X.

JONATHAN KELLERMAN 1942
**WHEN THE
 BOUGH
 BREAKS**

54 A seven-year-old girl is the only witness to a murder that has traumatized her. Psychiatrist Alex Delaware is brought in to coax out her evidence.

KINKY FRIEDMAN 1931
**GREENWICH
 KILLING TIME**

55 The private eye protagonist has the same name and many of the same characteristics as his creator, an offbeat country musician.

IAN RANKIN 1937
KNOTS AND CROSSES

56 In the first Inspector Rebus novel, the hard-drinking detective with the troubled past and the dodgy brother, is on the trail of a strangler.

CARL HIAASEN 1987
THE DOUBLE WHAMMY

57 Private eye R. J. Decker is hired by a game angler who suspects a rival of cheating. A body turns up, and things get fishier.

MICHAEL DIBDIN
RATKING

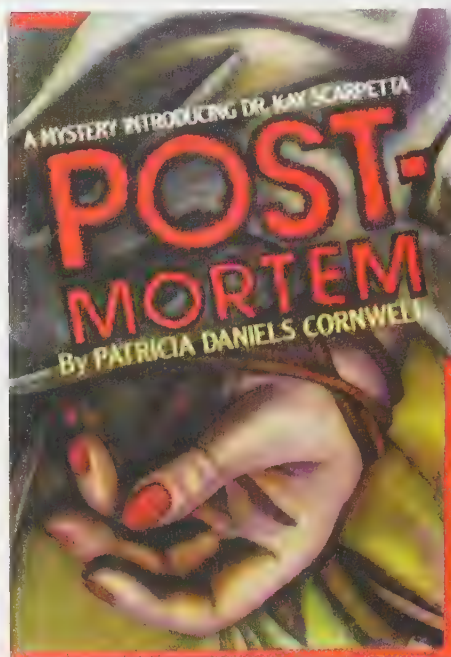
58 Aurelio Zen, a commissioner in the Italian police force, investigates the kidnapping of a rich and powerful business mogul.

LINDSEY DAVIS
THE SILVER PIGS

59 In the Year of the Four Emperors (70 CE), Marcus Didius Falco sets off from Rome to Britain in pursuit of a gang that smuggles silver ingots—the pigs of the title—and kills anyone who gets in the way.

JAMES LEE BURKE
BLACK CHERRY BLUES

60 Framed for murder, Louisiana cop Dave Robicheaux heads to Montana to clear his name.



PATRICIA CORNWELL
POSTMORTEM

61 Among the many interesting features of this award-winning novel—the first in a celebrated series—are the early references to DNA profiling, which was then not yet quite an everyday reality, and a crucial plot point about a hacked computer. Cornwell's heroine, Dr. Kay Scarpetta, chief medical examiner for the state of Virginia, suspects that the slayer of four women in Richmond may be a narcissist, and so she states publicly that the man the police are looking for seems to have an unpleasant personal odor, which he leaves behind at the crime scenes. This annoys the perp enough to make him break cover and come after her in her home. She's unready for him, but luckily a detective is on hand.

JAMES ELLROY
L.A. CONFIDENTIAL

62 Investigating a multiple murder in a coffee shop, three policemen are drawn into an imbroglio of gang warfare, drug trafficking, prostitution, organized crime, and institutionalized racism that has infected almost every aspect of life in the City of Angels, including politics and the Hollywood movie industry.

JAMES MCCLURE
THE SONG DOG

64 This is the most popular of McClure's police procedural novels about two detectives in South Africa during apartheid—one, Lieutenant Tromp Kramer, is a white Afrikaner; the other, Sergeant Mickey Zondi, is a black Bantu.

HENNING MANKELL
THE DOGS OF RIGA

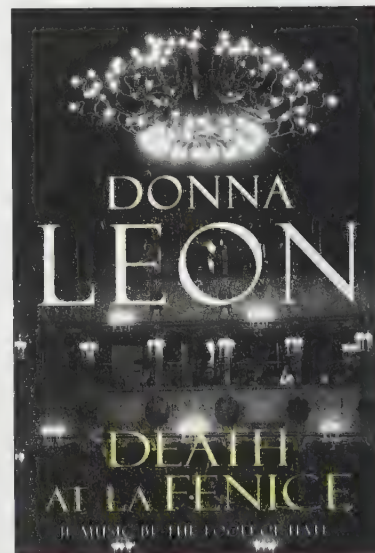
65 When two bodies turn up on a life raft on the shore at Ystad, Swedish detective Kurt Wallander goes to Latvia to investigate.

PETER HØEG 1992
MISS SMILLA'S FEELING FOR SNOW

66 On one level this Danish novel is one woman's quest for the truth about the death of a friend, who seems to have fallen off a snow-covered roof. On another level it is an examination of the conflicts that arise between colonists (in this case, Danes) and the colonized (in this case, the Inuits of Greenland).

DONNA LEON
DEATH AT LA FENICE

67 A world-famous conductor dies from cyanide poisoning during an intermission at the Venetian opera house. Leading the investigation, Commissario Guido Brunetti is dismayed to find that there are enough potential suspects to fill a phone book.



MICHAEL CONNELLY 1982
THE BLACK ECHO

68 With the help of the FBI, an LA cop investigates the murder of one of his fellow Vietnam War veterans.

HÅKAN NESSER 1994
BORKMANN'S POINT

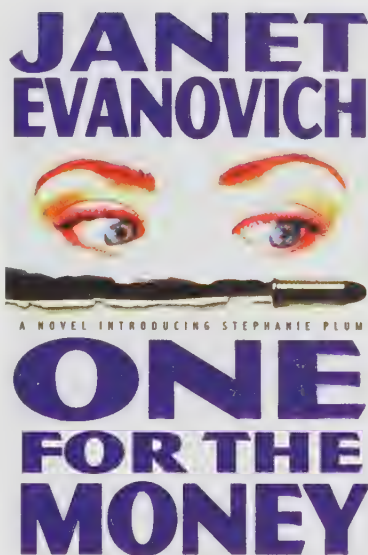
89 In a remote town in an unidentified country that may or may not be the author's native Sweden, Inspector Van Veeteren tries to catch a serial ax murderer in time for his chief to retire in a blaze of glory.

HARLAN COBEN 1991
DEAL BREAKER

72 Myron Bolitar is a sports agent whose top client, football star Christian Steele, receives a call from the ex-girlfriend he thought was dead. This was the first outing for Coben's hot-headed investigator.

JEFFREY DEAVER 1991
THE BONE COLLECTOR

75 Protagonist Lincoln Rhyme worked for NYPD until an oak beam fell on him at a crime scene and left him quadraplegic. Now, aided by Thom Reston, his full-time carer, he works as a freelance adviser to the police.



JANET EVANOVICH 1984
ONE FOR THE MONEY

70 This was the author's first solo departure from romantic fiction, with which she had made her name, into the mystery genre. It introduces the character of Stephanie Plum, who here digs herself out of a financial hole by becoming a bounty hunter in and around Trenton, New Jersey. She went on to star in more than 20 other Evanovich novels.

ANDREA CAMILLERI 1992
THE SHAPE OF WATER

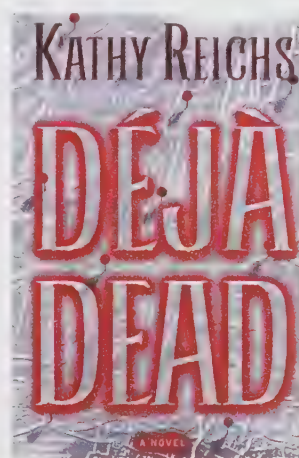
71 This novel was the first outing for Sicilian police inspector Salvo Montalbano, whose name is a tribute to Manuel Vázquez Montalbán: Camilleri is greatly indebted to the Spanish writer, but he's sufficiently original to merit his place among the finest authors of detective fiction.

KARIN FOSSUM 1991
IN THE DARKNESS

73 Fossum, one of Norway's main contributors to the Nordic noir genre, is dubbed the Norwegian "Queen of Crime." This is the first of her novels featuring charismatic police inspector Konrad Sejer.

KATHY REICH 1991
DÉJÀ DEAD

74 When the corpse of a woman that is too decomposed for conventional autopsy is discovered, forensic anthropologist Temperance Brennan is called in. She soon concludes that the victim died at the hands of a serial killer, but Detective Claudel remains skeptical until another body turns up.



LEE CHILD 1993
KILLING FLOOR

76 Jack Reacher, a former army major, roams the United States taking odd jobs and solving crimes. In this, his first adventure, he has to investigate a murder in Georgia, of which he himself has been falsely accused.



ORHUN PAMUK 1998
MY NAME IS RED

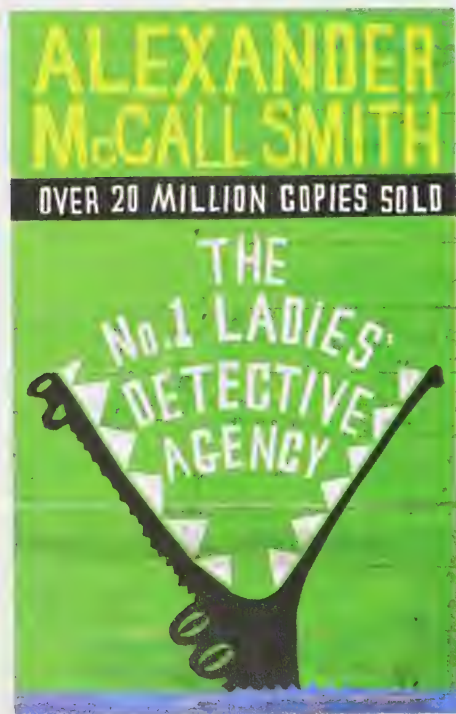
77 This complex Turkish novel is part whodunit and part metafiction—it plays with literary conventions and permits no willing suspension of disbelief, constantly reminding readers that all the characters are imaginary.

BORIS AKUNIN 1998
THE WINTER QUEEN

78 In late imperial Russia, Erast Fandorin—a dashing detective with a Zen-like inner calm—investigates the death of a young man in a park. It looks like suicide, but the sleuth has grounds for skepticism.

ALEXANDER MCCALL SMITH
THE NO. 1 LADIES' DETECTIVE AGENCY

70 The main character of this novel is Precious Ramotswe, the first woman in Botswana to become a private investigator. The work is part mystery but is mainly concerned with every aspect of life in and around the national capital, Gaborone.



QIU XIAOLONG
DEATH OF A RED HEROINE

50 A woman is found dead. Shanghai police soon identify a suspect, but they can't arrest him because he's the son of a Party boss.

FRED VARGAS
HAVE MERCY ON US ALL

81 In modern Paris, the nostalgic appearance of a town crier coincides with the reemergence of another medieval phenomenon: the Black Death.

GIANRICO CAROFIGLIO 2001
INVOLUNTARY WITNESS

102 Italian lawyer Guido Guerrieri takes on the defense of a Senegalese immigrant accused of kidnapping and murdering a boy. Should he go for a plea bargain and a light sentence or a full trial?

GUILLERMO MARTÍNEZ
THE OXFORD MURDERS

102 A professor writes a popular book about the links between the modus operandi of serial killers and mathematical theorems. He then receives a mysterious note with a symbol and an address, where he finds the body of an old lady who's been murdered. This is the first of a series of slayings, and every time there's a slaying, the prof gets another note with a symbol. Can he figure out the next in the sequence before there's another victim?



CAMILLA LÄCKBERG
THE ICE PRINCESS

84 After her childhood friend is found dead in an apparent suicide, Erika Falck tries to turn her grief into a book. But the more she researches, the more she suspects foul play. And so, as it happens, does local detective Patrik Hedstrom.

ARNALDUR INDRIDASON
THE DRAINING LAKE

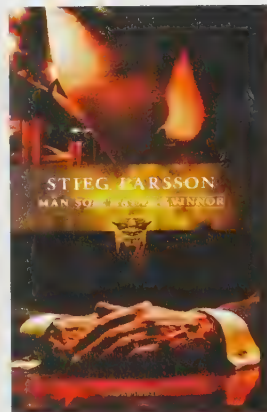
85 This novel takes a real event and adds a fictional mystery. In 2000, seismic activity caused one of Iceland's biggest lakes, Kleifarvatn, to start draining. The author imagines what would have happened if a long-concealed body had been found there.

MICHELE GIUTTARI
A FLORENTINE DEATH

55 Michele Ferrara is a senior policeman with wide experience of the seamy side of his native Florence. But when a serial killer terrorizes the city, he discovers depravity that he never dreamed of. And then the killer comes after him.

STIEG LARSSON
THE GIRL WITH THE DRAGON TATTOO

87 A man hires a journalist and a computer ace to research the death of his niece. They find that she was murdered and that those who killed her would be glad to do the same to them.

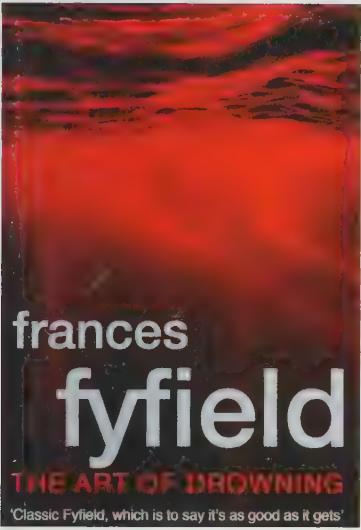


LEONIE SWANN
THREE BAGS FULL

88 An Irish shepherd dearly loves his sheep and reads to them. When he is murdered, his flock, led by a ewe named Miss Maple, go in search of his killer and, in the course of their inquiries, learn a lot about the strange ways of humans.

PETER TEMPLE
THE BROKEN SHORE

100 Joe Cashin quits the city homicide squad to operate the one-man police station in his hometown, where nothing happens until a rich local is attacked and suspicion falls on the local Aborigines.



FRANCES FYFIELD
THE ART OF DROWNING

90 Shy Rachel meets outgoing Ivy, and the two become firm friends. Ivy's ex-husband, Carl, won't let her near their son, and sounds like a monster. But when Rachel meets Carl she finds it hard to believe there's any harm in him.

DOMINGO VILLAR
WATER-BLUE EYES

95 In Vigo, Spain, Inspector Leo Caldas spends as much time wondering about the purpose of his own life as the reason for the violent ending to that of a young saxophonist.

NELE NEUHAUS
SNOW WHITE MUST DIE

98 A body on a German autobahn provides fresh evidence that leads to the reopening of the case of two young women, murdered more than a decade earlier. A man has been imprisoned for the crimes, but it now appears that he couldn't be guilty.

VIKRAM CHANDRA 2006
SACRED GAMES

91 A Sikh police officer in Mumbai discovers the corruption and crime that hide beneath the shiny surface of India's twenty-first-century economic boom.

DEON MEYER 2007
DEVIL'S PEAK

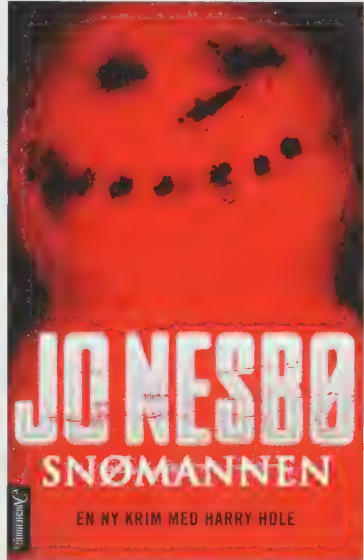
92 Detective Inspector Benny Griessel tries to entrap a vigilante killer who's vowed to clean up the streets of Cape Town.

MATTI JOENSUU
THE PRIEST OF EVIL

93 A man falls under a Helsinki metro train, pushed, it seems, by an unseen hand. Detective Sergeant Timo Harjunpää heads the investigation that turns up a writer who wants to destroy the world.

JO NESBØ
THE SNOWMAN

94 A spate of murders in Oslo seems at first to be a series of random killings. However, it emerges that a snowman is present near each murder scene and then that all the female victims are the mothers of children who are not their husbands'. DNA evidence is called upon, but it leads the police up several blind alleys. Meanwhile, head of the investigation Harry Hole starts a relationship with a new colleague, Katrine Bratt. When she tries to frame one of the suspects, she is herself accused of the murders. While she is awaiting trial, another woman turns up dead next to a snowman, so the chase resumes and ends only after a chance remark has given Hole a "Eureka!" moment.



MICHAEL STANLEY
A CARRION DEATH

96 The case of a man whose murder has been made to look like an attack by hyenas is the first of many mysteries to be solved by detective David "Kubu" Bengu of the Botswana CID. Kubu may seem docile, but underneath he's focused, motivated, and efficient.

KWEI QUARTEY 2011
WIFE OF THE GODS

97 Inspector Darko Dawson leaves his desk in downtown Accra to clear an up-country Ghanaian boy who's been wrongfully accused of killing a student.

ALAN CARTER 2011
PRIME CUT

99 A body is washed up on the shores of Western Australia. The investigation is led by Cato Kwong, who is possibly the least popular detective on the force.

ROBERT GALBRAITH 2011
THE CUCKOO'S CALLING

100 This novel sold only moderately until it was revealed that "Robert Galbraith" is a pseudonym for J. K. Rowling, the acclaimed creator of Harry Potter; it then went straight to number one on Amazon.



MARY SHELLEY 1818
FRANKENSTEIN

1 This gothic horror concerning the creation of artificial life is regarded as the first science-fiction novel. Shelley's themes of man playing god to disastrous effect remain perennially popular in the genre.

JULES VERNE 1873
JOURNEY TO THE CENTER OF THE EARTH
2 Verne's best-known book was scientifically rigorous for the time, although much of it has since been proven to be false. Adapted for the screen many times.

JULES VERNE 1870
20,000 LEAGUES UNDER THE SEA
3 This novel depicts with some accuracy a submarine, at the time a technology in its infancy. True speculative SF, it is notable for its descriptions of underwater environments, and the powerful character of Captain Nemo.

100 SCIENCE FICTION NOVELS

H. G. WELLS 1894
THE TIME MACHINE

4 Wells established one of the most well-loved subgenres of science fiction with this story, while simultaneously delivering a powerful moral tale on the widening gulf between rich and poor. Wells's unnamed Time Traveler heads for the future, only to discover a divided humanity and returns with his belief in progress sorely wounded. Still immensely affecting, it is one of the all-time great SF stories.

H. G. WELLS 1894
THE ISLAND OF DOCTOR MOREAU
5 Wells displays his disgust at certain aspects of the science of the era with this hard-hitting story. Moreau, an exiled scientist, conducts vile experiments in vivisection by surgically altering animals into men.

THEODOR HERZL 1902
ALTNEULAND
8 Utopian novel stands out for presaging real events—the creation of the modern state of Israel.

ARTHUR CONAN DOYLE 1912
THE LOST WORLD
9 Prehistoric relics live on an inaccessible Amazonian plateau in the Sherlock Holmes author's main contribution to SF.

EDGAR RICE BURROUGHS 1912
PRINCESS OF MARS
10 The foundation text of the SF subgenre sees a confederate soldier transported to Mars, where he faces strange adventures and wins the heart of the eponymous princess, Dejah Thoris.

OLAF STAPLEDON 1937
LAST AND FIRST MEN
11 Early "future history" novel by British author and philosopher and still the best, depicting many civilizations that will rise and fall over coming eons in humankind's struggle to persist.

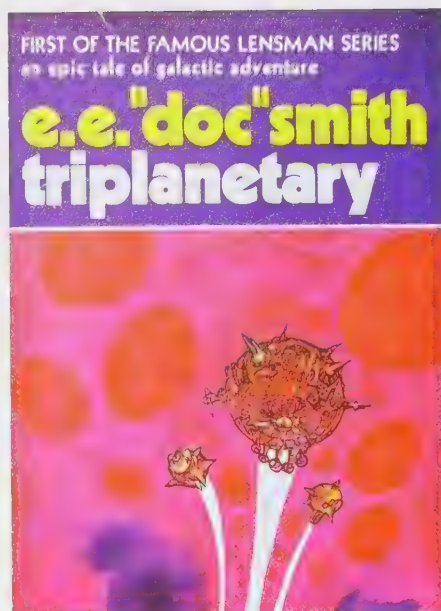
ALDOUS HUXLEY 1932
BRAVE NEW WORLD
12 Seminal social satire portraying a stratified society reliant on drugs. This totalitarian state has strayed so far from the condition of humanity that those from outside this dystopia are inevitably destroyed by it.

KURD LASSWITZ 1897
TWO PLANETS
6 Lasswitz is known as the father of German science fiction. Martians and humans clash as humanity ascends toward utopia. Much speculation on the nature of Mars (according to the theories of Percival Lowell), biology, and technology make this a key text of early SF.

H. G. WELLS 1898
THE WAR OF THE WORLDS
7 Wells's hugely influential fourth novel combined his theories on evolution and Darwinism with the ideas of astronomers like Percival Lowell, who speculated that the planet Mars could once have supported life. Set in London and told in the first person by an unnamed narrator, *The War of the Worlds* vividly describes the invasion of Earth by martians. One of many works of invasion fiction published at the end of the nineteenth century, the novel can be viewed as a commentary on British imperialism.

E. E. "DOC" SMITH TRIPLANETARY

13 The first installment of Lensman appeared in *Amazing Stories*. It was not initially connected with the series, but was reworked after the publication of the original novels to act as a prequel. Setting the scene for the world's first space opera, it establishes the universe's key concept, that of eugenically bred human supermen created by the alien Arisians to fight in the war with the Eddorians. These later become the Lensmen.



H. P. LOVECRAFT AT THE MOUNTAINS OF MADNESS

14 An ancient city is found deep in Antarctica, bringing home the insignificance of humanity to the horrified protagonist. Often described as a horror writer, Lovecraft's tales are science fictional, rooted in a fear of the unknown and a terror at the inhuman vastness of the universe.

C. S. LEWIS OUT OF THE SILENT PLANET

15 Narnia creator explores religious themes. A trip to Mars reveals that each world has a tutelary spirit, and that Earth's has gone bad.

OLAF STAPLEDON SIRIUS

16 Sirius is a dog specially bred for a human level of intelligence. His struggles with his dual canine/human natures create tragedy. Influenced by *Frankenstein* and *The Island of Doctor Moreau*.

ISAAC ASIMOV I, ROBOT

17 This found its first life as a series in the pages of pulp magazines. The philosophical issues raised are still discussed today. Asimov explores the consequences of the existence of artificially intelligent beings through logic puzzles. Famed for its "Three Laws of Robotics" (later revised to four), which dictate how a robot may interact with humanity.

ISAAC ASIMOV FOUNDATION

18 *Foundation* covers hundreds of years of future events. When genius Hari Seldon uses his new science of "psycho-history" to predict the fall of the Galactic Empire, he embarks on a bold plan to shorten the coming dark age to 1,000 years through establishing the Foundation and its secret twin organization. A definitive space opera featuring many viewpoint characters, the series was later combined by Asimov with his "robot" stories into one contiguous narrative universe, to lesser effect.



RAY BRADBURY THE MARTIAN CHRONICLES

19 Haunting series of tales about the colonization of Mars and the displacement of the native Martians. Bradbury's preoccupation with the passing of all things comes into sharp emotional focus here.

JOHN WYNDHAM THE DAY OF THE TRIFFIDS

20 A meteor shower blinds most of the world's population, leaving them easy prey for the Triffids—ambulatory, carnivorous plants of incertain origin.

FREDERIK POHL & C. M. KORNBLUTH THE SPACE MERCHANTS

21 Satire on the pitfalls of consumerism. Through a series of misadventures, an elite copywriter finds himself dispossessed and on the side of revolution.

RAY BRADBURY FAHRENHEIT 451

22 A dystopia in which books are routinely burned by "Firemen" allows Bradbury the opportunity to explore the transformative nature of literature on the human soul.

RICHARD MATHESON THE SHRINKING MAN

23 Matheson's masterpiece on the theme of masculinity. Scott Carey is exposed to radiation and finds himself shrinking. Losing his place in the world with his height, he is intimidated until, as he shrinks below the molecular scale, he experiences an epiphany.

ALFRED BESTER 1949
THE STARS MY DESTINATION

24 To call this (also *Tiger, Tiger!*) "the Count of Monte Carlo in space" is a disservice to the story, but this is the book in a nutshell: unambitious Gully Foyle is marooned in space. Ignored by a passing vessel, revenge transforms him into a person capable of anything.

ARTHUR C. CLARKE 1944
THE CITY AND THE STARS

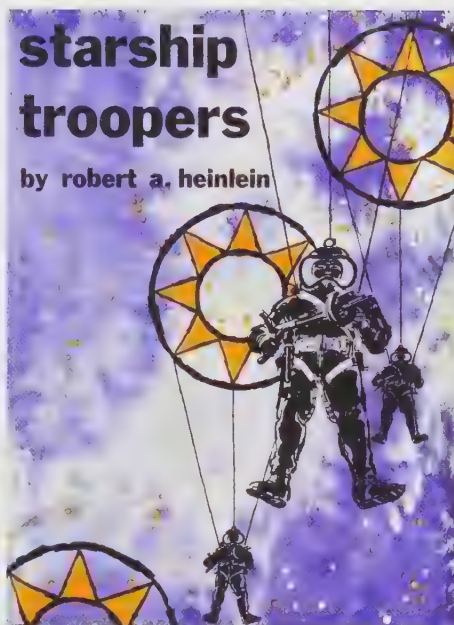
25 Humanity's aversion to change versus its need to explore is the theme in this rewrite of Clarke's first novel.

JAMES BISH 1958
A CASE OF CONSCIENCE

26 Posits a theological puzzle with a planet that may or may not be the creation of Satan. A Jesuit priest's attempts to uncover the truth behind the enigma leads to an ambiguous ending.

ROBERT A. HEINLEIN 1941
STARSHIP TROOPERS

27 The grandfather of all military science fiction, Heinlein's *Starship Troopers* is as derided as it is lauded for its right-wing politics. Humanity is at war in space, fighting a race known as "the bugs." Despite influencing later SF-combat stories with its powered armor and orbital-insertion warfare, there is only one actual battle in the book. The rest involves various discourses that set out Heinlein's political beliefs. Namely, that the right to vote should come only after the performance of social service.



starship troopers
 by robert a. heinlein

ROBERT A. HEINLEIN 1941
STRANGER IN A STRANGE LAND

30 A man raised on Mars returns to Earth, where his psychic powers enable him to act out his will—removing humans he deems unworthy—and establish his own religion.

HARRY HARRISON 1941
THE STAINLESS STEEL RAT

31 SF comedy has rarely been done so well. Jim "Slippery" DiGriz is a charming criminal with a narrow but strong sense of morality. Caught by the authorities, he joins an elite crime-fighting unit.

STANISLAW LEM 1947
SOLARIS

32 Fascinating Polish SF, wherein the actions of a sentient planet pose serious ontological questions to the protagonists.

WALTER M. MILLER 1950
A CANTICLE FOR LEIBOWITZ

28 In the wake of a nuclear war, human scientific knowledge is preserved by an order of diligent monks in this tripartite novel. Elegantly shows the cyclical nature of history.

POUL ANDERSON 1952
THE GUARDIANS OF TIME

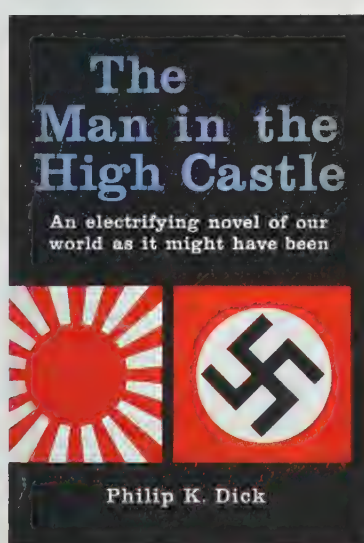
29 Prolific author treats the popular theme of time police preserving the integrity of our core reality with a deft touch in these stories.

PHILIP K. DICK 1952
THE MAN IN THE HIGH CASTLE

33 Perhaps Dick's most accessible work, this takes readers to a parallel universe in which the Axis powers won the war. Set in 1962 in a totalitarian United States under Imperial Japanese and Nazi German occupation, the book's loose plotlines are connected by the *I Ching* and "The Grasshopper Lies Heavy"; a novel (alternate history) within a novel (alternate history) that leads us to a conclusion, implying that the reality depicted, and also our own, are both false.

J. G. BALLARD 1948
THE DROWNED WORLD

34 One of three thematically linked, postapocalyptic novels (with *The Burning World* and *The Crystal World*), *The Drowned World* presents readers with a London rendered subtropical through climate change. Humans, long masters of their environment, are instead mastered by the changing conditions and begin to mentally regress to an earlier state. Unusually for most postapocalyptic fiction, Ballard's protagonist is captivated by the chaotic new world he finds himself faced with rather than distressed by it. Dreamy and unnerving.



MADEIRA L'ENGLE
A WRINKLE IN TIME

35 Cosmos-journing
adventure notable
for its early use of a female
protagonist as well as the
wormhole-like tesseract
as a means of travel.

KURT VONNEGUT
CAT'S CRADLE

30 Earth is destroyed
(via an alternative
solid state of water
named "ice-nine") by
hubris in this strange
satire lampooning religion,
the arms race, and politics.

PIERRE BOULLE
THE PLANET
OF THE APES

37 The seed of the
multimedia
franchise was this novel,
alternatively translated
as *Monkey Planet*.
An astronaut finds
himself on a planet
similar to our own, but
populated by intelligent
apes. Escape from the
planet takes our hero
Ulysses home, only to
find it is also inhabited
by apes.

FRANK HERBERT
DUNE

38 This marked the transition of science
fiction into a mature genre. Although
essentially a space opera, it is so possessed
of multiple strands, characters, themes, and
concerns—not least its highly developed
planetary ecology—*Dune* and its sequels stand
as a major work of twentieth-century literature.
Paul Atreides is heir to House Atreides, a
noble family of the far future whose fortunes
are changed by betrayal. Paul emerges as a
long-awaited, engineered messiah who
upsets the galactic order.



DANIEL KEYES
FLOWERS FOR ALGERNON

39 A mentally disabled man
named Charlie is given a
revolutionary new surgical treatment,
which exponentially increases his
intelligence, only to discover the
effects are temporary. A heartrending
essay (first published as a short
story) on the nature of intelligence
and identity.

JACK VANCE
THE BLUE WORLD

40 The descendants
of the survivors
of a crashed prison ship
dwell on a world that
is entirely made up
of ocean. Twelve
generations later, a
challenge arises to the
established social order.
Based on Vance's earlier
story "The Kragen."

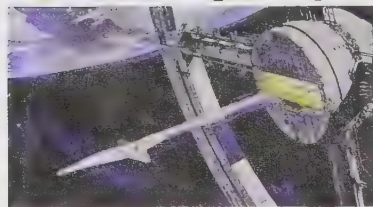
JOHN CHRISTOPHER
THE WHITE MOUNTAINS

41 John Christopher is one of the
many pseudonyms of Samuel
Youd, who specialized in dystopian
fiction. This is the first part of his
acclaimed Tripods trilogy. Earth is
dominated by aliens intent on
xeno-forming the world. Humankind
is kept docile by the use of "caps,"
metallic implants that suppress
people's curiosities and creativities.

WILLIAM F. NOLAN & GEORGE
CLAYTON JOHNSON
LOGAN'S
RUN

42 In a dystopian future, life is
restricted to 21 years. Logan,
a sandman who tracks down
fugitive "runners," becomes one
himself, initially as an infiltrator,
then as a hero. A warning against
the tyranny of youth culture.

2001
a space
odyssey



ARTHUR C. CLARKE

ARTHUR C. CLARKE
2001: A SPACE
ODYSSEY

43 An unlikely collaboration between
Stanley Kubrick and Arthur C. Clarke
gave us this story of first contact. It has a
mysterious monolith uncovered on the Moon.
HAL, the malfunctioning AI, provides a gripping
subplot to the mission to investigate another
monolith near Jupiter. At the end, protagonist
Dave Bowman finds himself transformed. The
book and film were written at the same time.
Both draw on Clarke's short story, "The Sentinel"
of 1951, although he himself grew annoyed with
the claim that *2001* was directly based on it.

TED HUGHES
THE IRON
MAN

44 The poet laureate's
novel has a
mysterious mechanoid
arrive from nowhere and
take up residence in the
countryside. A threat at
first, he is enlisted in the
fight against the
extraterrestrial "Space-
Bat-Angel-Dragon." Equal
parts science fiction and
metaphysics, it was
adapted for the screen
as *The Iron Giant* in 1999.

ROBERT SILVERBERG
NIGHTWINGS

45 A memorable novel
from a writer who
writes only memorable
novels, *Nightwings* takes
place on a far future,
worn-out Earth that is
hidebound due to caste
and tradition. Each caste
has a set role. The hero is
a Watcher, a man trusted
with watching the stars
for an invasion so long
prophesized he no longer
thinks it will occur. The
title refers to the wings of
Avlueta, his companion.

JOHN BRUNNER 1966

STAND ON ZANZIBAR

46 Ruminations on overpopulation, a popular trope at the time. A fragmentary narrative delivers an informational overload that manages to depict a rich future without falling into info-dump territory. Set in 2100, it has aged well all the same.

JOHN WYNDHAM 1948

CHOCKY

47 To learn about Earth, an alien intelligence possesses a boy. The bond between the two beings becomes touching.

ANNE MCCAFFREY 1948

DRAGONFLIGHT

48 The first title in the Dragonriders of Pern series. What appears to be a fantasy is actually science fiction, with Pern being a lost human colony and the dragons genetically engineered by the colonists to combat the threat of the Thread.

HARLAN ELLISON 1969

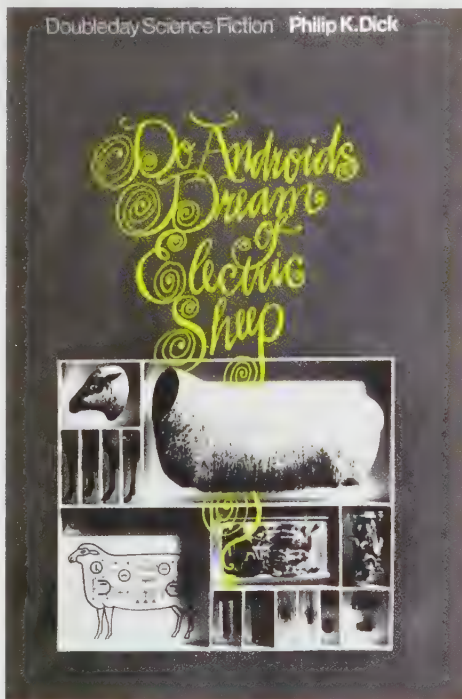
A BOY AND HIS DOG

52 A postnuclear holocaust provides Ellison with an opportunity to examine the relationship between a boy and a telepathic dog named Blood. Quirky and surprisingly touching, it gave rise to a film that, although commercially unsuccessful, has since garnered a cult following.

PHILIP K. DICK 1968

DO ANDROIDS DREAM OF ELECTRIC SHEEP?

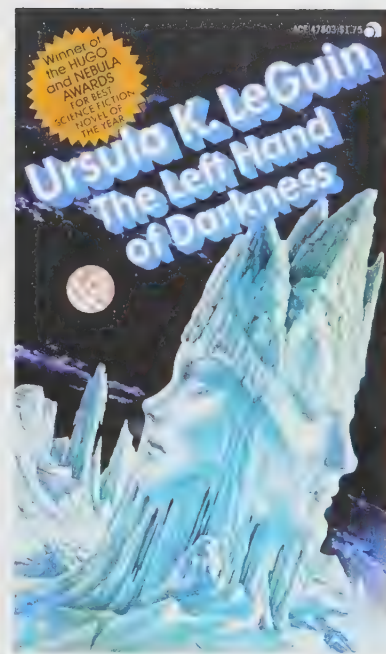
49 In a ruined world, most types of animals are endangered or extinct, and to have them as pets is a marker of social rank. Dick's favorite theme on the true reality of the real is front and center here, albeit in subtle form. It inspired Ridley Scott's cult film *Blade Runner*.



URSULA K. LE GUIN 1968

THE LEFT HAND OF DARKNESS

50 The best-known and most important work in feminist SF writer Le Guin's Hainish Cycle, *The Left Hand of Darkness* is set on a human world, the inhabitants of which are nongendered individuals who develop sex characteristics only infrequently, the exact form being dependent on circumstance.



MICHAEL CRICHTON 1969

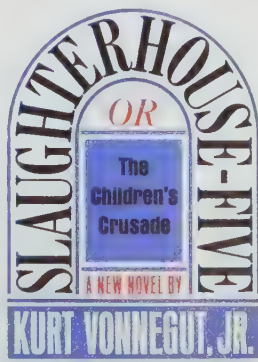
THE ANDROMEDA STRAIN

51 The multitalented Crichton's first successful novel, and the parent of the derided "techno-thriller" subgenre. However, there is nothing derisive about Crichton's work. In this medical what-if, an extraterrestrial virus is brought back to Earth by a military satellite, causing rapid death or insanity in those who come into contact with it. The story concerns the efforts made by a team of scientists to contain the disease. Much imitated, *The Andromeda Strain* has been adapted for both cinema and television.

KURT VONNEGUT 1948

SLAUGHTERHOUSE-FIVE

53 Vonnegut's most influential novel. The setting for the story is the firebombing of Dresden, for which Vonnegut was present as a POW. Hero Billy Pilgrim finds himself unstuck from time, experiencing events from his life in seemingly random order.



MICHAEL MOORCOCK 1964

BEHOLD THE MAN

54 Moorcock's fantastically iconoclastic novel has the troubled time traveler Karl Glogauer visiting Jesus in 28 CE, only to take the place of the messiah himself. The book's title comes from Pilate's description of Jesus in John's Gospel (19:5).

LARRY NIVEN 1968

RINGWORLD

55 SF loves the "big dumb object," and they don't come much bigger than Ringworld. A classic of the type.

JACK FINNEY 1970

TIME AND AGAIN

56 Adventures in time rarely end well. The expedition to 1882 via a novel form of self-hypnosis here is no exception.

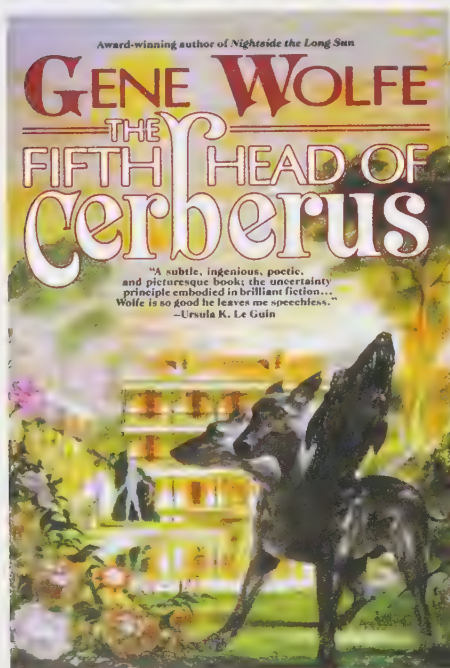
PHILIP JOSÉ FARMER 1970
TO YOUR SCATTERED BODIES GO
57 The opening part of the famous Riverworld saga, where every living sentient being ever to die on Earth is reincarnated on a world dominated by a seemingly endless river. Aliens did it, naturally. But the question is why?

URSULA K. LE GUIN 1972
THE LATHE OF HEAVEN
58 George Orr can change the world by acts of will. His psychiatrist tries to harness this ability to improve the lot of humanity. His failure illustrates the maxim that power corrupts.

A. & B. STRUGATSKY 1973
ROADSIDE PICNIC
59 Soviet-era SF that has various locations visited by aliens. The sites become weird liminal zones strewn with alien artifacts. Andrei Tarkovsky's film *Stalker* is loosely based on the book.

ANDRE NORTON 1972
BREED TO COME
61 This is among the prolific Norton's most imaginative books. A human expedition to the abandoned Earth finds it inhabited by tribes of creatures evolved from domestic animals such as dogs, pigs, and cats.

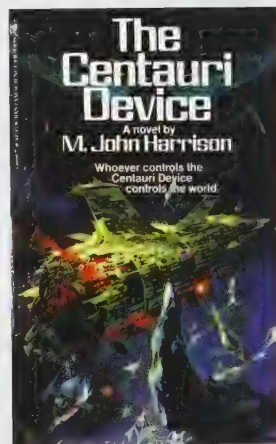
ARTHUR C. CLARKE 1973
RENDEZVOUS WITH RAMA
62 An enigmatic object passes through the solar system. It is determined to be a spacecraft abandoned by its crew of alien giants.



GENE WOLFE 1972
THE FIFTH HEAD OF CERBERUS
60 A collection of three novellas, set upon the worlds of Sainte Anne and Sainte Croix. Settled by French-speaking colonists, they were once home to an aboriginal population who could shapeshift. The question as to whether they were wiped out or not is one of many left deliberately open in the three stories, which touch upon theories of mind, identity, memory, and postcolonialism. These thought-provoking novellas reward the careful reader.

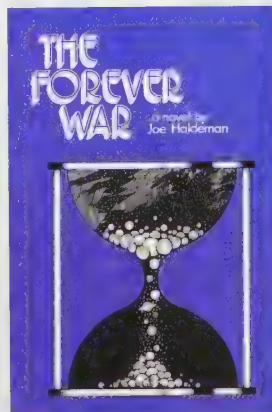
THOMAS PYNCHON 1973
GRAVITY'S RAINBOW
63 Highly complex, sprawling novel set at the close of World War II, this book touches on science fiction as it touches on many other genres and styles. It is regarded by some as the greatest of American novels, literary or otherwise.

M. JOHN HARRISON 1974
THE CENTAURI DEVICE
64 An "anti-space opera" written by anarchistic New Wave British author Harrison neatly inverts the tropes of the period (namely that the protagonist moves the plot action forward) to despairingly good effect. Influenced later writers, including Iain M. Banks.



LARRY NIVEN & JERRY POURNELLE 1976
THE MOTE IN GOD'S EYE
65 Humanity encounters a seemingly friendly species that proves very dangerous due to its bizarre biological imperatives. A tendency to massive overbreeding causes its civilization to periodically collapse in war. Colonization of the stars is mooted as a way of deterring this, but brings conflict with humans.

URSULA K. LE GUIN 1974
THE DISPOSSESSED
66 Brilliant Hainish Cycle novel. The twin worlds in the Tau Ceti system provide an analogy to the Cold War, and the context for the development of the "ansible." This device proves vital for creating an interstellar civilization out of the disunited worlds of humankind, colonized eons ago by the Hain.



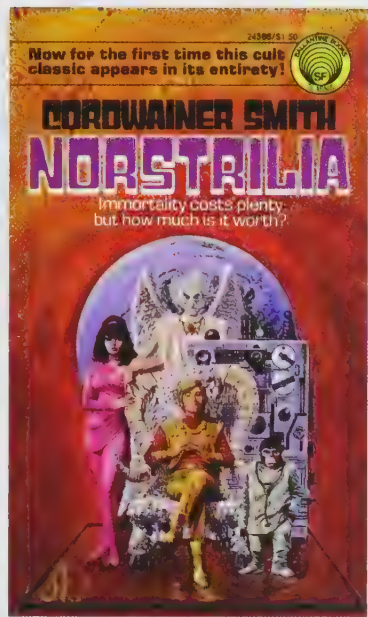
JOE HALDEMAN 1974
THE FOREVER WAR
67 The antimilitary science fiction par excellence has soldiers treated abominably by an uncaring power structure. Engaged in an interstellar war against the distant Taurans, our heroes experience massive, traumatic time dilation effects through traveling across the cosmos, leading them to become alienated from their own race. The book spawned several sequels, as well as a comic book and a board game.

SAMUEL R. DELANY 1975
DHALGREN

68 Bizarre story set in the inconstant city of Bellona, an American Midwestern town where strange events are commonplace. Described by the writer as "a riddle that was never meant to be solved," it is a teasing and engaging work.

JOANNA RUSS 1974
THE FEMALE MAN

69 Keystone work of feminist SF. Four women live in very different parallel worlds (including one where men and women are literally at war). Their encounters with each other cause them to reevaluate their own lives and what it means to be a woman.



CORDWAINER SMITH 1971
NORSTRILIA

70 Sole novel by Paul Linebarger (writing under a pseudonym), whose other works in his Instrumentality of Mankind universe were all short stories. The world of Old North Australia is the only source of the immortality drug, Stroon, granting it untold wealth. But money brings its own problems, as hyperwealthy Rod McBan discovers.

DOUGLAS ADAMS 1979
THE HITCHHIKER'S GUIDE TO THE GALAXY

75 The comic SF novel par excellence, it originally began life as a radio play before becoming a long-running, multifaceted franchise. Typically British in its bleak, wintry humor and resigned fortitude in the face of a bewildering universe, it has found an enormous international audience.

OCTAVIA E. BUTLER 1975
PATTERNMASTER

71 Writing at a time when the genre was dominated by white males, and talented female authors often had to adopt male pseudonyms, Butler was exceptional in being both female and black. In the far future humans are ruled by networks of powerful telepaths, themselves ruled by the most powerful, the eponymous patternmaster. Touching on themes of race, gender, and the corruption power engenders.

FREDERIK POHL 1977
GATEWAY

72 Gateway is a space station abandoned by long vanished aliens—the Heechee—and stuffed full of starships with unknown preset courses. Journeys on these dangerous craft can make a person from an impoverished, starving Earth fabulously wealthy, or just dead. The first novel in Pohl's Heechee saga. It emerged as a computer game in 1992.



ALAN DEAN FOSTER 1970
SPLINTER OF THE MIND'S EYE

73 Intended as a sequel to the movie *Star Wars*, should it fail, this book was the first of many spin-offs and was the first original, full-length *Star Wars* novel.

JAMES TIPTREE JR. 1974
UP THE WALLS OF THE WORLD

74 First novel of James Tiptree Jr., in reality the prolific female short-story writer Alice Sheldon. In a world where psychic phenomena are real, aliens with advanced abilities invade Earth.

GREGORY BENFORD 1980
TIMESCAPE

76 Messages across time are combined with themes of ecological collapse in this time-travel/alternate-reality thriller. Replete with excellent characters.

ROBERT SILVERBERG 1980
LORD VALENTINE'S CASTLE

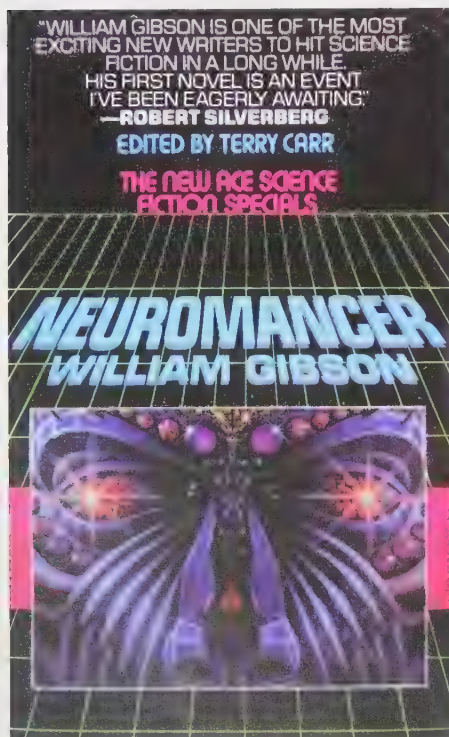
77 The large, backwater planet of Majipoor colonized by various races provides the setting for this marvelous SF with fantasy themes.

GENE WOLFE 1980
THE SHADOW OF THE TORTURER

78 First outing in the Book of the New Sun series. Set in the far future of Urth, it concerns a torturer—narrator and central protagonist Severian—who may or may not be the messiah. Often marketed as fantasy, it is, in fact, SF. Several other books in the same setting also exist.

WILLIAM GIBSON NEUROMANCER

79 Tells the story of a washed-up, ex-hacker who, being given work by a shady employer, discovers that two powerful AIs—Neuromancer and Wintermute—are attempting to merge to become one immense power. One of the most important SF books ever written, it helped create the nascent genre of cyberpunk. This strand of SF has become more noted as the real world has embraced communications and computing technology.



ORSON SCOTT CARD 1985 ENDER'S GAME

60 A young boy is manipulated into becoming a military genius in a war against insectoids. Unknowingly destroying the enemy, Ender is tormented by guilt. Humanity is saved, but do the ends justify the means?

GREG BEAR BLOOD MUSIC

91 Fear of nano-engineered "gray goo" apocalypses meets the strong anthropic principle in this story.

CARL SAGAN 1985 CONTACT

82 Sagan straddled SF and science, and popularized both. The theme of the novel is communication between Earth and extraterrestrials.

LOIS MCMASTER BUIOLD THE WARRIOR'S APPRENTICE

84 Miles Vorkosigan is one of SF's most winning characters. A disabled noble from a world prejudiced against the disabled. This is his first appearance.

DAN SIMMONS 1989 HYPERION

85 Portmanteau of tales inspired by Chaucer. Disparate individuals on the way to the world of Hyperion exchange stories that prove to be interconnected. Equally imaginative sequels followed.

IAIN M. BANKS 1990 USE OF WEAPONS

87 The third Culture novel is notable for its complex structure. The Culture is a civilization run by benevolent AIs for the good of mankind, but it is not beyond reproach.

MARGARET ATWOOD THE HANDMAID'S TALE

93 Chilling vision of a far-right America. After a terrorist attack kills the president and most of Congress, the United States suffers an effective coup and a Christian theocracy is established. Women lose all rights and are divided up into various classes. Offred is a Handmaid—a fertile woman used as a breeder for high-ranking officials.

Margaret Atwood



The Handmaid's Tale

SHERI S. TEPPER GRASS

95 A plague ravages the human race. At its epicenter is the world of Grass, a prairie planet inhabited by mysterious creatures. Ecological imbalance is the cause.

JURASSIC PARK



MICHAEL CRICHTON

MICHAEL CRICHTON 1990 JURASSIC PARK

88 Dinosaurs are resurrected and then run amok in their theme park home. Among the finest of all techno-thrillers, this cautionary tale is highly scientifically literate and spawned a multimedia franchise, including Steven Spielberg's blockbuster movie. Crichton wrote a sequel, *The Lost World*, published in 1995.

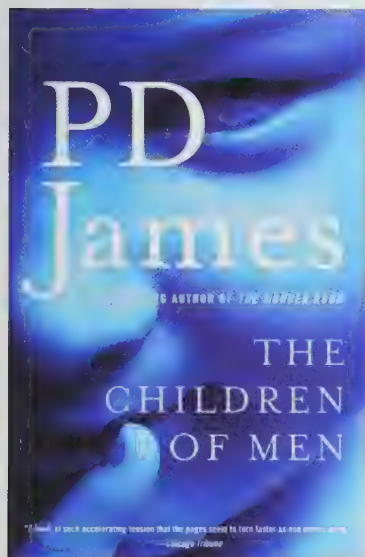
NEAL STEPHENSON 1996 SNOW CRASH

89 Gripping exploration of the theory of the bicameral mind through cyberpunk. Audacious as the theories it uses to fuel its narrative, *Snow Crash* has Sumerian as an ancient BIOS for the human brain.

P. D. JAMES 1992

THE CHILDREN OF MEN

90 Unusual SF from the pen of a writer known for her crime novels. In 2021, population is collapsing as all males were rendered mysteriously infertile in 1994. But the birth of a baby brings new hope.



KIM STANLEY ROBINSON 1997

RED MARS

91 Book one of the Mars trilogy. Robinson tackles the technical and social challenges of transforming Mars and the subsequent political upheaval from the first colonization mission to two centuries hence, where an egalitarian "blue" Mars saves humankind from itself. Musings on memory's role in identity also feature, as the characters live extended life spans.

CHRISTOPHER PRIEST 1996

THE PRESTIGE

93 Artful tale of two rival early twentieth-century magicians, told in epistolary style. As usual with Priest, there is a great deal of ambiguity inherent to the tale. It deals with the conundrum of teleportation's "copying" effect. Adapted successfully for the film by Christopher Nolan.

RICHARD MORGAN 1990

ALTERED CARBON

97 A gritty cyberpunk tale in which consciousness can be saved, thus forestalling death. A man reloaded from a backup missing the last 48 hours of his life believes he was murdered.

DAVID MITCHELL 2004

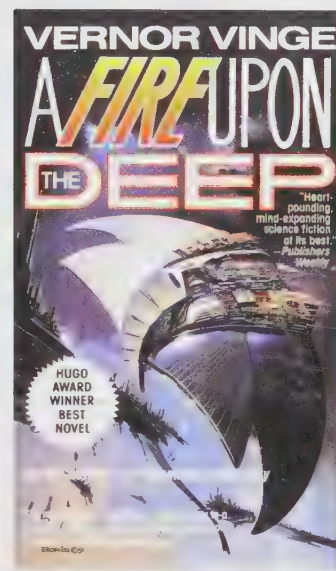
CLOUD ATLAS

98 Multiple award winner. Six nested stories intertwine to take the reader from the nineteenth century, through the present, to a postapocalyptic future and back again.

VERNOR VINGE 1993

A FIRE UPON THE DEEP

92 Technologist Vernor Vinge is a proponent of the "Singularity," a hypothetical moment when technological change becomes so profound we cannot hope to imagine what the future will be like. This renders SF toothless and subsequently redundant. In his space opera, Vinge illustrates, and to an extent gets around, the Singularity by dividing the galaxy into concentric rings of consciousness. In this layered reality, technology from the higher zones will not function in the lower.



ALASTAIR REYNOLDS 1994 REVELATION SPACE

94 Example of the new space opera written by British writers of the 1990s and early twenty-first century. Reynolds uses multiple, braided plotlines, which address the Fermi paradox: where are all the aliens?

M. JOHN HARRISON 2007

LIGHT

95 Complex novel set 2,400 years in the future and in 1999. Key to the story is the Kefahuchi Tract, whose mysteries have driven whole civilizations to destruction. It transpires humans are the result of a breeding project to create beings able to penetrate this strange place.

STEPHEN BAXTER 2007

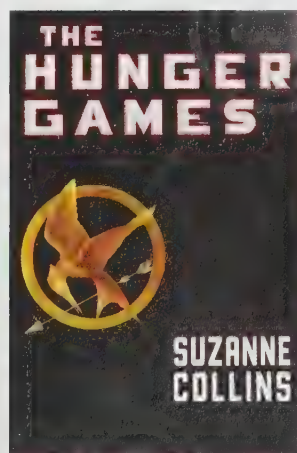
EVOLUTION

96 Sorrowful, ultimately uplifting book about the tenacity of life. Collated from a series of short stories, it covers the evolutionary history of man from the beginning to the end.

CORMAC MCCARTHY 2006

THE ROAD

99 Another nongenre writer uses SF's toolkit to great effect. An unnamed man and his son roam America after a cataclysm has destroyed much of civilization, trying to survive and preserve their humanity.



SUZANNE COLLINS 2008 THE HUNGER GAMES

100 An admirable example of young adult fiction's rise to prominence within the fantastical genres, it also shows the endless appeal of dystopian societies as an arena to examine contemporary concerns in SF. Youths of a future society are chosen to take part in gladiatorial contests, staged as a tool of governmental control.



THOMAS MALORY 1485

LE MORTE D'ARTHUR

1 When Malory elaborated upon the stories of King Arthur, the possibly historical Arthur's transformation from Celtic folk hero to symbolic, ideal lord of all Britain was complete. Regarded as the urtext for the legends of the Knights of the Round table, its stories have been retold by generations of writers.

JONATHAN SWIFT 1726

GULLIVER'S TRAVELS

2 Begun as a satire of tall traveler's tales, it mutated during writing into a sly mockery of the day's mores and has been universally read ever since. Never out of print, Gulliver's travels to the minute kingdom of Lilliput, the giant's land of Brobdingnag, and others has inspired numerous parodies, sequels, and TV and film adaptations.

JACOB & WILHELM GRIMM 1812

CHILDREN'S AND HOUSEHOLD TALES

3 Over the centuries, writers like Thomas Malory and Snorri Sturluson have been responsible for preserving folklore. Relatively recently, the Brothers Grimm's exhaustive cataloging of fairy tales saved the likes of Snow White and Little Red Riding Hood. Although the book was compiled to support the Grimms's ideas on the formation of German national identity through folk culture, many of the stories were actually pan-European.

JOHN POLIDORI 1816

THE VAMPIRE

4 Polidori was Lord Byron's physician on his European trip in the "year without a summer" of 1816. Staying with the poet Percy Bysshe Shelley and his wife-to-be Mary by Lake Geneva, Switzerland, one June night's ghost story challenge famously gave us *Frankenstein*, but it also provided the first modern vampire story. *The Vampyre* has a confusing history—Polidori wrote it, but it was based on Byron's fragmentary contribution to the storytelling of the company that night. Published in 1819 without Polidori's permission, it was long attributed to Byron.

100 FANTASY NOVELS

CHARLES DICKENS 1843

A CHRISTMAS CAROL

5 *A Christmas Carol* tells the story of Ebenezer Scrooge, whose visitation by the ghost of his dead business partner Jacob Marley and the spirits of Christmas Past, Present, and Yet to Come transforms him from miserly to saintly. Partly inspired by US writer Washington Irving's festive tales, Dickens's story was no simple fable but a morality play calculated to better society and, like many of his other stories, it drew upon his own impoverished early life. His career was undergoing a quiet period at the time, but *A Christmas Carol* revived it and became one of Dickens's best-known and best-loved tales.

EDWIN A. ABBOTT 1884

FLATLAND

6 Satire on Victorian society, thought experiment, science fiction, and fantasy, *Flatland* looks at the implications of living in two dimensions. A Square is a gentleman in a two-dimensional universe, whose trips to one-dimensional and three-dimensional worlds open his mind to other realities.

H. RIDER HAGGARD 1895

SHE

7 Forward looking in its depiction of feminine power, this story of an immortal African queen is one of the best-selling books of all time. The foundation text of the Lost World subgenre is, at first look, typical of Victorian fiction in its racism, but closer reading reveals a more nuanced view.

MARK TWAIN 1881

A CONNECTICUT YANKEE IN KING ARTHUR'S COURT

8 Twain's Arthurian time-travel story falls into the subgenre of thought journeys popular in the late nineteenth and early twentieth centuries. An engineer is sent to the time of King Arthur by a blow to the head. His attempts to improve the past are doomed.

WILLIAM MORRIS 1894

THE WOOD BEYOND THE WORLD

9 A forerunner of modern secondary-world fantasy, the story of Golden Walter was one of the first novels to feature a fictional, magical reality.

RUDYARD KIPLING 1894

THE JUNGLE BOOK

10 This is a love letter to India and an important entry into the canon of animal fantasy. There are many stories in the book and its sequel, the most well-known feature being the "man-cub" raised by wolves, Mowgli.

L. FRANK BAUM 1900

THE WONDERFUL WIZARD OF OZ

11 The first of 14 books concerning a magical land of Oz. Sweet on the surface, there's a streak of the bizarre as wide as a yellow brick road running through the series.

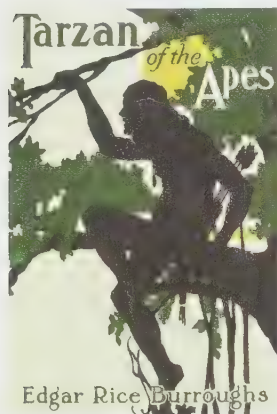
E. NESBIT 1902

FIVE CHILDREN AND IT

12 From the author of *The Railway Children*, "It" is a Psammead, or sand fairy, whose wish-giving powers nearly end in disaster for the titular five children.

LORD DUNSANY THE GODS OF PEGANA

Lord Dunsany's stories describe Pegana, a world dogged by a querulous pantheon of deities who are a burden to their hapless worshippers.



EDGAR RICE BURROUGHS TARZAN OF THE APES

John Clayton, son of aristocrat Lord Greystoke and heir to his title, is marooned in West Africa. Raised by apes as Tarzan, he eventually becomes their king and embarks on numerous adventures over 24 books. Tarzan is more fantastical than commonly known—he journeys into the Earth's hollow interior and meets many strange beings.

G. K. CHESTERTON THE MAN WHO WAS THURSDAY

A metaphysical thriller framed with a surreal ending. Gabriel Syme is a policeman who infiltrates an anarchist group, only to find most of them are also policemen.

ROBERT E. HOWARD THE PHOENIX ON THE SWORD

Conan the Barbarian was the mold for the sword-and-sorcery subgenre, the grittier end of fantasy. This story was originally about Kull, but was rewritten with a new hero and more action and is regarded as the first Conan tale.

WILLIAM HOPE HODGSON THE NIGHT LAND

Mind-blowing weird fiction. A seventeenth-century man is sent hurtling into the far future, where Earth is desolate and overrun by cosmic demons.

J. R. R. TOLKIEN 1937 THE HOBBIT

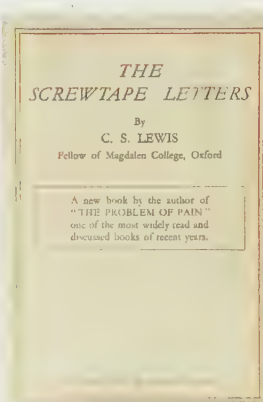
Bilbo the hobbit is conscripted to help slay a dragon. A children's story set in the sprawling world Professor Tolkien had devised for his own entertainment, the book's light tone does not undermine the depth of the setting and themes it presents. From the acorn of *The Hobbit* sprang the mighty oak of *The Lord of the Rings*.

FLETCHER PRATT & L. SPRAGUE DE CAMP THE ROARING TRUMPET

Psychologist Harold Shea unlocks the key to traveling between parallel realities through a mental technique employing symbolic logic. He and his companions discover multiple worlds where magic and gods exist.

C. S. LEWIS THE SCREWTAPE LETTERS

Less known than Lewis's *The Chronicles of Narnia*, *The Screwtape Letters* show a more adult, humorous side to a man primarily regarded as a children's author. Screwtape is a senior demon, his nephew Wormwood the recipient of his epistolary advice, which highlights for the reader Lewis's concerns with Christianity and morality.



GEORGE ORWELL ANIMAL FARM

Farmyard livestock provide surprisingly effective ground for a biting satire on the evils of communism.

MERVYN PEAKE 1941 TITUS GROAN

An heir to the sprawling castle of Gormenghast is born while dark forces plot his usurpation.

THE LION, THE WITCH and THE WARDROBE



A Story for Children
by
C. S. LEWIS

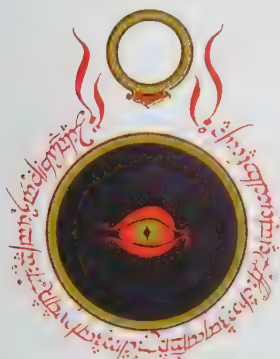
C. S. LEWIS THE LION, THE WITCH AND THE WARDROBE

Lewis's best-known work, and the first written of *The Chronicles of Narnia* (the first in the series, narratively speaking, being *The Magician's Nephew*, published sixth of the seven novels). The four Pevensie children are evacuated from London during World War II to a rambling country house. There they find a way to the land of Narnia through an enchanted wardrobe, and set about freeing it from eternal winter. A Christian allegory, the book remains popular.

MARY NORTON THE BORROWERS

24 Tiny people living among us have been a staple of folklore. *The Borrowers* takes some inspiration from fairy myths but gives them a sympathetic twist. Four more books followed on from this first that deals with the friendship between Borrower Arrietty and a human boy.

THE FELLOWSHIP OF THE RING



J. R. R. TOLKIEN

J. R. R. TOLKIEN THE LORD OF THE RINGS

25 Tolkien's epic trilogy (three books in six parts) brought together multiple prior influences to create the heart of the fantasy genre: sweeping tales set in imaginary worlds where the future hangs in the balance. Frodo the hobbit defies and defeats the evil demigod, Sauron, at awful personal cost.

T. H. WHITE THE ONCE AND FUTURE KING

26 White took inspiration from Thomas Malory for his four-part story (or five-part—it has a complicated publishing history). The definitive version of the Arthurian myth, *The Once and Future King* veers from the comedic upbringing of Arthur in *The Sword in the Stone* to a somber tone in the dark days around the fall of Camelot.

ALAN GARNER THE WEIRDSTONE OF BRISINGAMEN

27 Garner's fascination with the English landscape acts as a curtain that reveals a hidden world rooted in folklore. Intended as a trilogy, Garner wrote a sequel in 1963. He fell out of love with his characters, and the final part was only published in 2012.

POUL ANDERSON THREE HEARTS AND THREE LIONS

28 A Dane in World War II is transported to a magical, medieval France where there is a struggle between law and chaos.

NORTON JUSTER THE PHANTOM TOLLBOOTH

29 A delightful children's fantasy full of puns and amusing literal takes on common English expressions, and where a bored young boy searches for Princess Rhyme and Princess Reason.

LLOYD ALEXANDER THE BOOK OF THREE

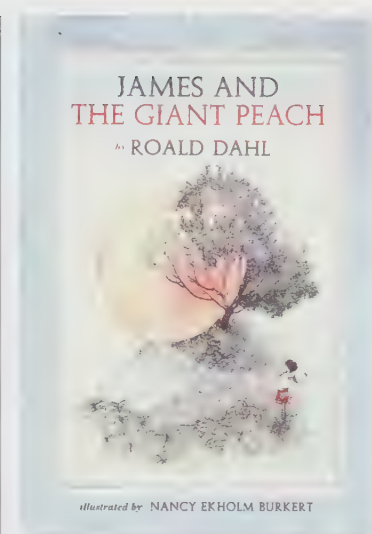
32 When Alexander was a US soldier stationed in Wales during World War II, he was inspired by the mythology he found there. Over the course of five books, Taran Assistant Pig-Keeper grows from youth to maturity and becomes the hero he always dreamed of being.

MIKHAIL BULGAKOV THE MASTER AND MARGARITA

33 The devil visits Earth in this biting satire on the Soviet Union. Bulgakov wrote the book over 12 years, finishing it just before his death in 1940.

URSULA K. LE GUIN A WIZARD OF EARTHSEA

34 An important fantasy set in an archipelago. Le Guin brings her wisdom to bear on the problems of youth and power through the story of a wizard, Ged.



ROALD DAHL JAMES AND THE GIANT PEACH

30 Orphaned James escapes his wicked aunts in a magic peach accompanied by oversize insects. Strange, hilarious, and moving, its unusual content means it has sometimes been censored.

RAY BRADBURY SOMETHING WICKED THIS WAY COMES

31 A carnival comes to a small US town, offering wishes to the desperate in this twisted coming-of-age tale. Bradbury on top bittersweet form.

PETER S. BEAGLE 1988

THE LAST UNICORN

35 A melancholy, slightly surreal adventure where a unicorn, discovering she is the last of her kind, sets out to find what happened to the others. Influenced by the forms of ancient myth, it is nevertheless a highly original tale.

C. L. MOORE 1944

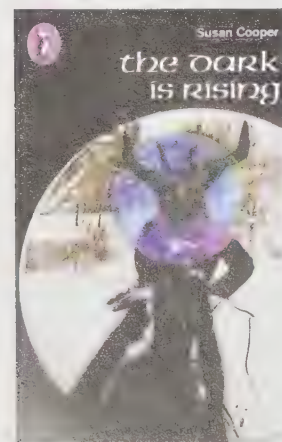
JIREL OF JOIRY

37 A collection of stories featuring Jirel, who rules her own land and deals with dangerous supernatural occurrences.

KINGSLEY AMIS 1971

THE GREEN MAN

38 Amis forayed into genre territory a few times, this ghost story being one of them. It combines genuine scares with the sensibilities of the comic novel.



FRITZ LEIBER 1977

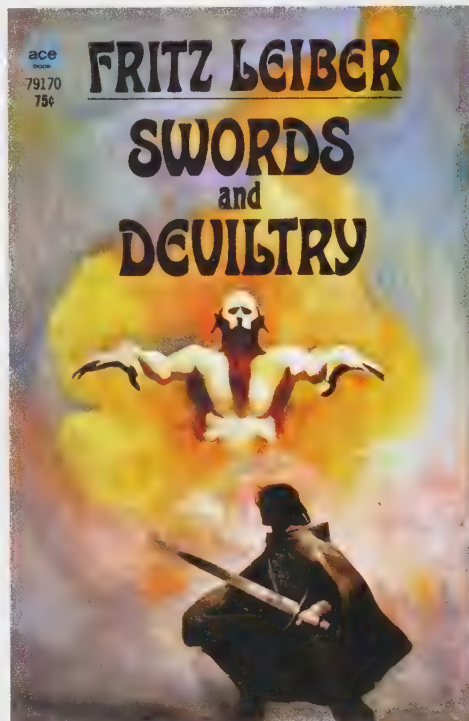
SWORDS & DEVILTRY

39 Leiber was one of several influential fantasists whose work owed more to Robert E. Howard than J. R. R. Tolkien. Leiber's heroes are the Viking-like Fafhrd and the Gray Mouser, a wizard's apprentice turned thief. Their adventures were initially published in pulp magazines and only vaguely connected, though Leiber linked the tales firmly as time went on, further developing his world of Nehwon ("No When" backward) in the process. The roguish protagonists were based loosely on Leiber and his friend Harry Otto Fischer. The city the duo were based in, Lankhmar, provided inspiration for Terry Pratchett's Ankh-Morpork.

PETER DICKINSON 1968

THE WEATHERMONGER

36 Britain is cast back into the Dark Ages when people suddenly take against machines. The cause? A reawakened Merlin. Two more books followed, each featuring new characters. A British TV series adapted all three.



EVANGELINE WALTON 1971

THE CHILDREN OF LLYR

40 The second of four novels by Walton retelling part of the Welsh Mabinogion, this concerns Princess Branwen.

M. JOHN HARRISON 1971

THE PASTEL CITY

41 The first book in the Viriconium trilogy. A mystical city faces an invasion by barbarians aided by automata.

MICHAEL MOORCOCK 1972

ELRIC OF MELNIBONÉ

42 Moorcock's canon of work is linked together by the concept of the Eternal Champion and the albino Elric.

RICHARD ADAMS 1972

WATERSHIP DOWN

43 Urged to leave their warren by his prophet brother Fiver, Hazel gathers a band of misfits and strikes out on a rerun of Virgil's *Aeneid*, but with rabbits.

WILLIAM GOLDMAN 1973

THE PRINCESS BRIDE

45 In this big-hearted comic fairy tale famously featuring "poison, revenge, giants, snakes, spiders, fencing, lies, miracles . . . oh and a long and perilous chase," Westley the farm boy falls for Princess Buttercup. They are forced apart, but nothing can stand in the way of true love. The 1987 film, directed by Rob Reiner, is one of the most successful film adaptations of any fantasy.

ANNE RICE 1976
INTERVIEW WITH THE VAMPIRE

46 The first of The Vampire Chronicles, and a key text in the remaking of the vampire from monster to tragic, romantic figure.

MICHAEL DE LARRABEITI 1976
THE BORRIBLES

47 A young adult satire on class war told through pixieified youths. Condemned for its violence at the time, praised much since.

OCTAVIA E. BUTLER 1979
KINDRED

50 A young African-American woman tells the story of slavery firsthand as she travels repeatedly between 1976 California and a nineteenth-century Maryland plantation.

STEPHEN KING 1982
THE DARK TOWER: THE GUNSLINGER

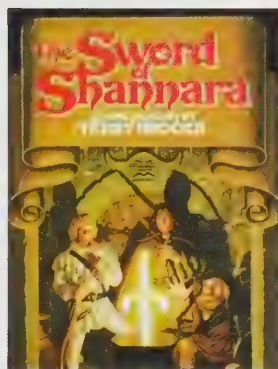
53 King's self-proclaimed magnum opus, this lengthy, somewhat odd fantasy series crosses genres with abandon to link all his stories into one whole.

GEORGE R. R. MARTIN 1982
FEVRE DREAM

54 Long before *A Song of Ice and Fire*, Martin did his bit to popularize reformed vampires with this nineteenth-century fantasy set along a meticulously researched Mississippi River.

DAVID EDDINGS 1984
PAWN OF PROPHECY

55 The 13-part epic Belgariad commenced here. Garion the farm boy finds he is a fated hero and sets off to recover a magical object to save the world.



TERRY BROOKS 1977
THE SWORD OF SHANNARA

48 Brooks opened the floodgates for epic fantasy trilogies with this story. Many other books followed. Artless to begin with, Brooks's ongoing series developed into something remarkable, with the world of Shannara revealed to be Earth after a magical apocalypse.

MICHAEL ENDE 1979
THE NEVERENDING STORY

51 An alliteratively named boy, Bastion Balthazar Bux, finds himself trapped in a recursive story after he steals a book from an antique bookstore. Initially reluctant to believe, he saves the magical world of Fantastica only to imperil it again through his selfish actions.

STEPHEN R. DONALDSON 1977
LORD FOUL'S BANE

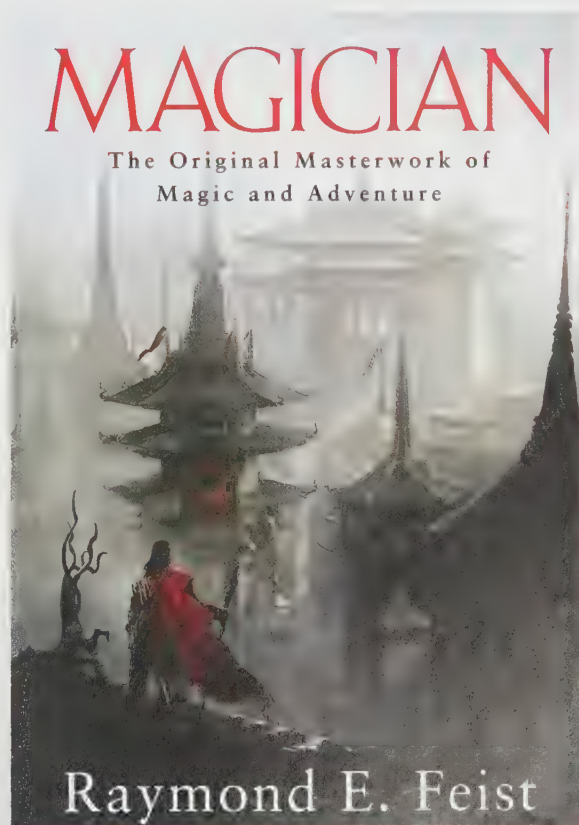
49 This is book one of the ten-book Chronicles of Thomas Covenant. The stories delve into the darker sides of human psychology. The titular Covenant is a writer diagnosed with leprosy. Cast into a world whose existence he initially disbelieves, he commits an atrocity before becoming a hero.

JOHN CROWLEY 1987
LITTLE, BIG

52 Architect John Drinkwater suspects there is another world encapsulated within our own, and he's right. A family saga extending over a century reveals the truth to the reader.

RAYMOND E. FEIST 1984
MAGICIAN

56 An example of the hand-in-hand development of fantasy gaming and the fantasy literary genre, *Magician* sprang from the role-playing computer games Feist played with his friends while they were students at the University of California, San Diego. Despite—or perhaps because of—being a mishmash of other worlds and influences, *Magician* was hugely successful and was to become the first in The Riftwar Saga that began the 30-book-long Riftwar Cycle. The story concerns two friends who get caught up in the invasion of their world, Midkemia, by mysterious aliens from the world of Kelewan via magical rifts in the fabric of space and time. The focal pair are the orphan kitchen boy, Pug, who grows up to become the most powerful wizard in the world, and his friend Tomas, who becomes a lord of dragons. Many other characters are present in the first story, and dozens more come and go as the cycle progresses.





TERRY PRATCHETT 1988 THE COLOUR OF MAGIC

57 Having already written a handful of modestly successful books, author Pratchett nevertheless could not have foreseen the success of his Discworld novels, which launched him to international fame and led to his recognition as one of the most popular British authors of all time. The considered satire and authorial concern with the power of story came later; it all began with this straight parody of fantasy. *The Colour of Magic* pokes fun at Fritz Leiber's Nehwon, Robert E. Howard's Conan, and Anne McCaffrey's Pern books.

DAVID GEMMELL 1984 LEGEND

63 An epic story of war inspired by a cancer scare, *Legend* helped establish the gritty, violent grimdark genre of fantasy.

GLEN COOK THE BLACK COMPANY

74 This epic is concerned with a 40-year slice of an elite mercenary band's 400-year history.

TIM POWERS 1982 THE ANUBIS GATES

58 This is a keystone of steampunk. However, although many of steampunk's precepts were set out here, this time-travel tale is fantasy to the core. The plot has a cabal of Egyptian wizards attempting to bring the old gods to the present of 1801 to drive out the British. Their failure opens gates through time, allowing the heroes to travel back from the present to the nineteenth century.

MARION ZIMMER BRADLEY 1981 THE MISTS OF AVALON

59 Bradley retells the Arthurian myth from the point of view of the female characters. The book was regarded as a fine work of feminism that took the legends back to their Celtic origins and was immensely popular, though Bradley's reputation has been tarnished in recent years by allegations of sexual abuse.

TRACY HICKMAN & MARGARET WEIS 1984 DRAGONS OF AUTUMN TWILIGHT

60 The first title in the Dragonlance Chronicles, a series which became a massive shared world of novels and gaming supplements. The series's world of Krynn was conceived by Hickman and his wife, Laura. Hickman worked for TSR, the Dungeons & Dragons publisher, where the creation flourished.

MYTHAGO
WOOD
— A fantasy —



ROBERT HOLDSTOCK

ROBERT HOLDSTOCK MYTHAGO WOOD

62 A British fantasy concerned with the interaction between the real and the mythic. Ryhope Wood is a doorway to a magical forest where living archetypes from ancient stories can be called into being.

PATRICK SÜSKIND PERFUME

65 A sociopathic French perfumier with no odor of his own uses his skills to distill the essence of people in his search for the perfect scent.

DIANNE WYNNE JONES HOWL'S MOVING CASTLE

66 A fantasy filled with fairy-tale tropes, where a young woman strives to escape her fate and whose happily ever after is reached by a circuitous route.

THE WITCHES OF EASTWICK



a novel by
JOHN UPDIKE

JOHN UPDIKE 1984 THE WITCHES OF EASTWICK

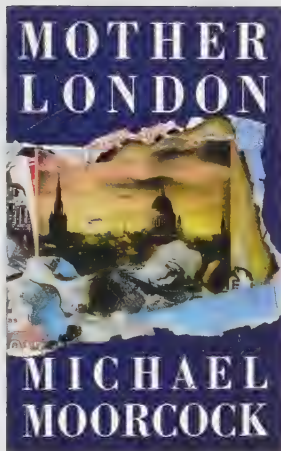
61 Three women acquire magical powers in the wake of leaving their husbands and are approached by the devilish Darryl Van Horne. Adapted several times for stage and screen and belatedly followed by a sequel. Criticized as misogynist and praised as feminist.

CLIVE BARKER 1987 WEAWEORLD

67 Barker is best known for his horror, and this story exemplifies the subgenre of dark fantasy. The seerkind are magicians living among normal people, whom they dub "cuckoos." To protect themselves, they weave parts of their existence into a magical carpet known as the Fugue, but the ancient evil of the Scourge and the exiled seerkind, Immacolata threaten its destruction.

ORSON SCOTT CARD 1987
SEVENTH SON

68 Card is best known for his sci-fi work *Ender's Game*. His Alvin Maker books feature a young protagonist given great power. Set in an alternative nineteenth-century America where people have a supernatural ability, or "knack," Alvin possesses the most powerful knack of all and must protect himself and his gift.



MICHAEL MOORCOCK 1984
MOTHER LONDON

69 Pulp author Moorcock completed his transformation to literary giant with *Mother London*, a story in which the capital city is the primary character. Three marginalized, mentally ill people experience London through decades of history.

PAULO COELHO 1988
THE ALCHEMIST

70 In this Brazilian fantasy, a Spanish shepherd travels to Egypt in search of treasure, and on the way learns of the existence of the Personal Legend that dictates fate.

ELIZABETH MOON 1985
SHEEPFARMER'S DAUGHTER

71 The first in *The Deed of Paksenarrion* saga, from ex-US Marine Moon. Notable for its depiction of a world with gender equality.

STEPHEN KING 1990
THE STAND

72 A weaponized superflu escapes a military base and lays 99.4 percent of humanity low. The survivors must contend with the apocalypse and with the coming of a supernaturally empowered tyrant, Randall Flagg.

SALMAN RUSHDIE 1990
HAROUN AND THE SEA OF STORIES

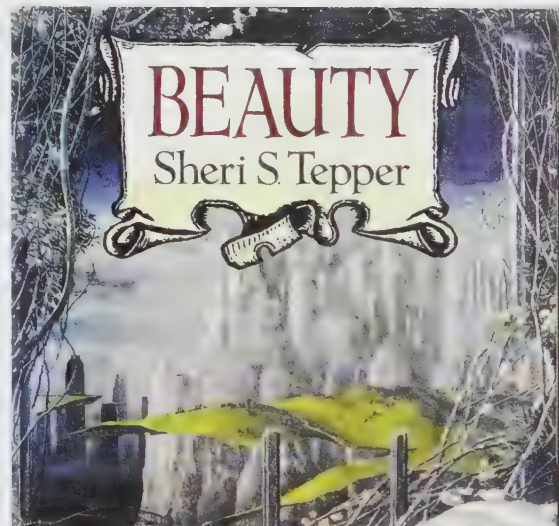
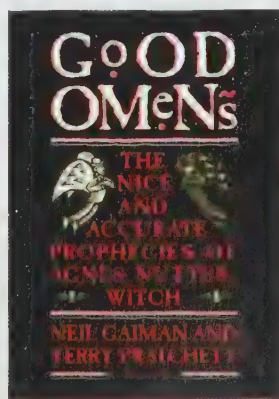
73 A magical realist children's story. The boy Haroun, an inhabitant of a habitually miserable city, is carried after an encounter with a water genie to the eponymous sea, where he becomes involved in a war.

ROBERT JORDAN 1990
THE EYE OF THE WORLD

74 The first book in the extensive *The Wheel of Time* epic fantasy cycle that depicts a multigenerational struggle against the Dark Lord Shai'tan, unintentionally unleashed on the world by the Aes Sedai order of wizards.

NEIL GAIMAN & TERRY PRATCHETT 1990
GOOD OMENS

75 Pratchett and Gaiman's collaboration brought the strengths of both to this comic novel about the onrushing end of the world, and the alliance between an angel and demon to prevent it. In the end the Antichrist saves the day.



SHERI S. TEPPER 1974
BEAUTY

76 Cross-genre creativity sees *Sleeping Beauty* sidestepping the curse of her wicked aunt. After witnessing travelers from another time and place, she is transported from fourteenth-century England into a dystopian twenty-second century where she is confronted with the dire consequences of climate change. As is often the case in Tepper's work, men's incapacity for change is to blame. Tepper is perhaps best known for her science fiction, but her works include horror, mystery, poetry, and, as here, fantasy.

LAURELL K. HAMILTON 1987
GUILTY PLEASURES

77 Although preceded by similar tales, the romantic dark fantasy subgenre arguably reached its current state with the publication of this, the first Anita Blake: Vampire Hunter story. All elements are in place—magic, a secret world filled with monsters hiding below the surface of society, and plenty of romance.

MICHAEL SWANWICK 1987
THE IRON DRAGON'S DAUGHTER

78 A fascinating take on an industrialized land of faerie that celebrates J. R. R. Tolkien while denigrating his cookie-cutter successors. The mortal girl Jane labors in a factory manufacturing dragons for a war. Able to touch cold iron—unlike her captors—she escapes with a dragon.

HARUKI MARUKAMI
THE WIND-UP
BIRD CHRONICLE

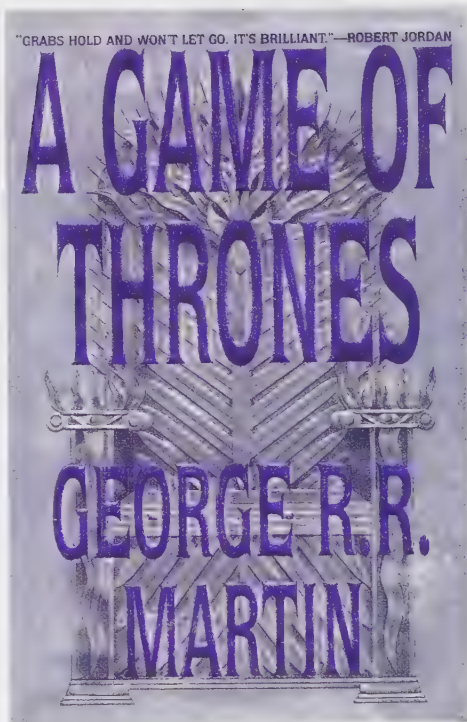
79 The compelling tale of Toru Okada, who is tasked by his wife, Kumiko, with finding her missing cat. The story expands (and contracts via Toru's habit of thinking at the bottom of a well), taking in psychics and thought travel.

ROBIN HOBB
ASSASSIN'S
APPRENTICE

80 This is Margaret Astrid Lindholm Ogden's first book under her pseudonym, Robin Hobb. FitzChivalry is a royal bastard who trains as an assassin.

GEORGE R. R. MARTIN
A GAME OF
THRONES

81 Martin's *A Song of Ice and Fire* series looms large in the public consciousness thanks to its TV adaptation. In a world where winter can last for years, the throne of Westeros is contested. While the lords intrigue with one another, a deadly threat builds to the north in the form of the resurgent Others, deadly nonhumans with powers of necromancy. Martin is a cruel narrative god, and he excels at wrong-footing reader expectation. His characters are flawed individuals, with few being easily reconciled into good and evil camps, and major players are dispatched without warning.



NEIL GAIMAN 1996
NEVERWHERE

82 A novelization of a TV series conceived of by Gaiman and Lenny Henry about the secret world of London Below.

GRAHAM JOYCE 1996
THE TOOTH FAIRY

83 In this wonderful coming-of-age tale, a boy grows up alternately harassed and aided by the attentions—often sexual—of a tooth fairy.

JULIET MARILLIER 1994
DAUGHTER OF THE FOREST

84 Sorcha must sew six shirts from a poisonous plant to save her brothers from a witch's spell that has turned them into swans.

PHILIP PULLMAN
THE AMBER SPYGLASS

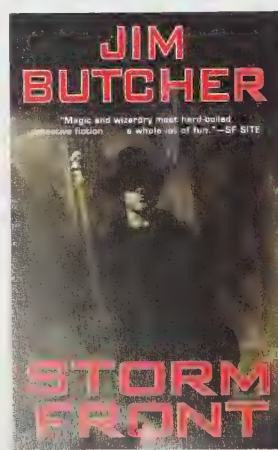
85 Pullman's tale cast god as the villain. This is the final story in the *His Dark Materials* series and the first children's book to receive the Whitbread Award. It is the coming-of-age story of two children, Lyra and Will, who experience a number of parallel universes.

CHINA MIÉVILLE
PERDIDO STREET STATION

86 An industrial-era fantasy set in a world where magic and science exist side by side. Isaac, a dangerously curious scientist, precipitates a crisis when asked to restore to flight Yagherak, a creature whose wings have been cut off.

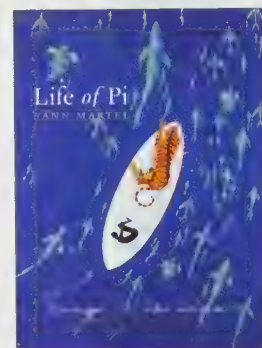
MICHAEL CHABON
THE AMAZING
ADVENTURES OF
KAVALIER & CLAY

87 A rollicking adventure that combines the plight of Jews in Nazi-occupied Europe with an upbeat worldview and the sparkle of the Golden Age of comics. Josef Kavalier escapes the Czech ghetto in a crate containing the inert Golem of Prague. He joins his cousin Sammy Klayman in New York, where the pair become comic book heroes.



JIM BUTCHER
STORM FRONT

88 Butcher's Harry Dresden is a wizard and detective in Chicago, who provides consultancy to the police department on magical crimes. The style of the books apes that of hard-boiled detective fiction, but the content is urban fantasy. Dresden exists in a world whose mundane surface conceals a magical reality rife with supernatural creatures. Wizards in this world usually stand aloof from other uncanny creatures. Dresden is different, communicating with all manner of subworlds.



YANN MARTEL
LIFE OF PI

89 The story of the son of zoo owners, cast adrift in a lifeboat with a tiger. After various adventures, he is saved, but is all as it seems?

CHARLAINE HARRIS

DEAD UNTIL DARK

90 Yet another opening part of a successful vampire-themed romantic urban fantasy, this one featuring a telepathic waitress as its lead, who shares her world with supernatural creatures.

SUSANNA CLARKE

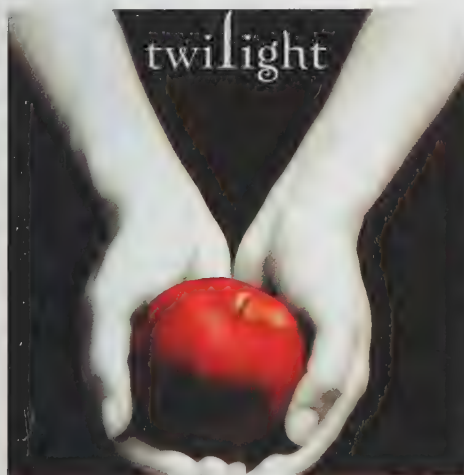
JONATHAN STRANGE & MR. NORRELL

93 A Napoleonic-era fantasy where the titular magicians restore magic to England. Written in the style of the era, it combines the conventions of the early novel, folklore, and modern fantasy sensibilities.

STEPHENIE MEYER

TWILIGHT

94 By the 2000s the vampire had completed his transformation from deadly, stinking undead beast to suitable boyfriend. Bella falls for strange boy Edward, not realizing he is a 104-year-old vampire. Lacking the explicit sex and harder themes of more adult-oriented urban fantasy has no doubt aided the appeal of the series.



NEIL GAIMAN

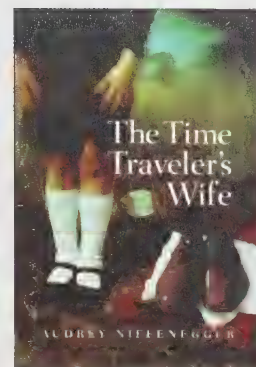
AMERICAN GODS

91 There are echoes of Harlan Ellison's *Deathbird Stories* in this book, where modern gods are replacing old ones in America owing to shifting patterns of belief.

AUDREY NIFFENEGGER

THE TIME TRAVELER'S WIFE

92 A truly original romantic tale, in which a woman falls for a man who wanders uncontrollably up and down his own timeline. Their relationship is understandably fraught. Adapted as a film and widely praised, the book offers an unusual take on time travel.



JOE ABERCROMBIE

THE BLADE ITSELF

95 Abercrombie has established himself as the preeminent voice in the grimdark subgenre. His books are gritty, violent, and explosively exciting. His first novel *The Blade Itself* is the opening installment of The First Law trilogy.

J. K. ROWLING 2007

HARRY POTTER AND THE DEATHLY HALLOWS

96 The boy wizard defeats the ultimate evil, creating a multibillion-dollar franchise for the author.

ADAM ROBERTS

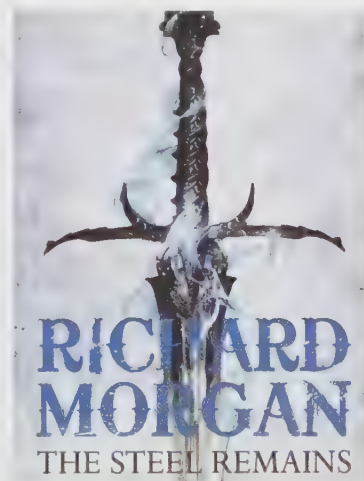
SWIFTLY

97 Gulliver's travels were real, and Britain's war against Napoléon is transformed by the creatures he encountered. Roberts plays with themes of a multiscalar universe.

RICHARD K. MORGAN

THE STEEL REMAINS

98 Morgan made a jump from science fiction to fantasy with his Land Fit for Heroes trilogy, *The Steel Remains* being part one. The series is interesting for a number of reasons. Firstly, two of the protagonists are gay. Secondly, it is set in the aftermath of a great war rather than during the build up to a war. Thirdly, Morgan's characters are already heroes and entering the latter stages of their lives. Conflict plays its part, but the focus of this first installment is on the difficulties of adjusting to peace.



BRANDON SANDERSON

THE WAY OF KINGS

99 Cleverly realized systems of magic are the hallmark of modern, US high fantasy, and Sanderson's is particularly well-thought-out. Magic gems are charged by uncanny storms. But can the world survive the return of the Voidbringers and the recurring disaster of the Desolation they bring with them?

LAUREN BEUKES

THE SHINING GIRLS

100 Time-traveling Harper Curtis must kill "shining" girls to power the house that enables his temporal peregrinations. All is well in his murderous activities until one of his victims survives and pursues him.

A Journall

of what passed between the Commissioners
 & Accompts and my selfe before his Ma^{ty}
 in Council touching theyr Reports & Observa-
 tions upon S^r George Carterett & y^e Navy-
 Office, as alloe y^e pretended diversion of
 Moneys to other Uses then the Warrs.

R. p. y.

LIBANIUS 374
ORATION I

1 The memoirs of a teacher of rhetoric from Antioch in Asia Minor (modern Turkey) tell us much about the culture and politics of the fourth century.

ST. AUGUSTINE 430
CONFESSIONS

2 These 13 volumes chart the author's progress from lustful, criminal youth to pious old man. Augustine of Hippo is still regarded as one of the greatest early Christians: his story is a classic illustration of the adage "the greater the sinner, the greater the saint."

ABDALLAH IBN BULUGGIN 1100
MEMOIRS

3 This Arab emir wrote in exile in Morocco about his former life as a Berber ruler of what is now known as Granada, Spain. His work is particularly interesting on the role of women in eleventh-century Muslim society.

PETER ABELARD 1140
HISTORIA CALAMITATUM

4 This epistolary memoir by the French theologian and philosopher is unflinching in its confrontation of the author's shortcomings and suffering.

100 AUTOBIOGRAPHIES & DIARIES

LEONOR LÓPEZ DE CÓRDOBA 1492
MEMORIAS

5 The first-ever autobiography in Spanish was written after the author's banishment from the court of Henry III, king of Castile.

PIUS II 1459
COMMENTARIES

7 The only reigning pope ever to have had his most intimate thoughts published, Pius II was pope from 1458 to 1464.

BENVENUTO CELLINI 1566
AUTOBIOGRAPHY

9 This compellingly direct work describes the Italian goldsmith and sculptor's art, love affairs, and the murders he committed. A must-read.

EDWARD LORD HERBERT OF CHERBURY 1633
THE LIFE OF EDWARD, LORD HERBERT OF CHERBURY

11 This work by an English aristocrat—a brother of the metaphysical poet George Herbert—gives unparalleled insights into upper-class life in the seventeenth century. He also wrote historical and philosophical works.

MARGERY KEMPE 1437
THE BOOK OF MARGERY KEMPE

6 The oldest extant autobiography in English chronicles pilgrimages to holy sites in Europe and Palestine by this remarkable medieval mystic.

BABUR 1556
MEMOIRS

8 The Persian founder of the Mughal Empire gives an account of his own life and times.

GIROLAMO CARDANO 1550
THE BOOK OF MY LIFE

10 These memoirs chart the fall of the Italian Renaissance mathematician from the heights of academe to ruin. A sad story, full of modesty and charm.

FRANÇOIS DE LA ROCHEFOUCAULD 1666
MÉMOIRES

12 The French nobleman's autobiographical writings are less well known than his *Maxims*, but unjustly so, for they are every bit as good.

JOHN BUNYAN 1651
GRACE ABOUNDING TO THE CHIEF OF SINNERS

13 The author of *The Pilgrim's Progress* spent years in jail for his religious dissidence: he was a Puritan who preached in spite of the laws forbidding him to do so.

SAMUEL PEPYS 1660
DIARY

14 Pepys was an English naval administrator and Member of Parliament. He began his diary at the age of 27 in 1660, and often wrote in shorthand and code (which delayed publication until 1825). Deeply personal, this invaluable work records a fascinating period in English history. Pepys kept up the diary until his eyesight failed. The final entry is dated May 31, 1669.

SIR JOHN RERESBY 1697
THE MEMOIRS OF SIR JOHN RERESBY

15 This English politician's work is interesting for its insight into life during the reigns of Charles II and William III.

EDMUND LUDLOW 1648
THE MEMOIRS OF EDMUND LUDLOW

16 Ludlow was one of the judges who signed the death warrant of English king Charles I. He wrote this book in exile.

COLLEY CIBBER
AN APOLOGY
FOR THE LIFE OF
COLLEY CIBBER

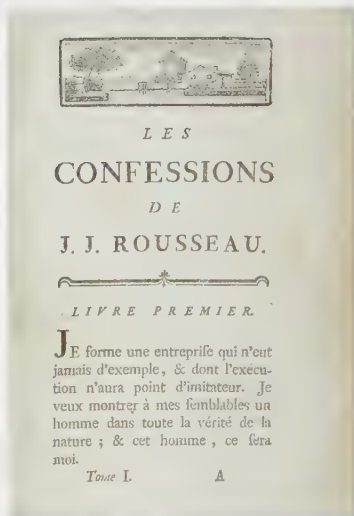
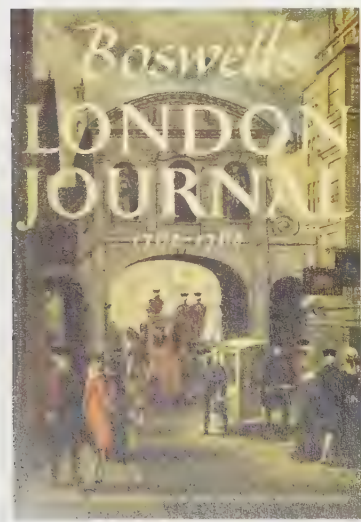
17 This masterpiece of self-serving vanity gives a racy, if factually unreliable, account of the author's career, first as an actor and then as Poet Laureate, but makes no mention of his wife and 12 children.

DUC DE SAINT-SIMON
MEMOIRS

18 This amusing work is full of gossip and petty score-settling. It also contains the first recorded usage of the word "intellectual."

JAMES BOSWELL
DIARIES

19 These frank diaries describe Boswell's Grand Tour of Europe and a subsequent journey around Scotland. On the latter, he was joined by Samuel Johnson; the best parts of the work record the two men's table talk. Boswell also recounts conversations with actor David Garrick and artist Joshua Reynolds.



JEAN-JACQUES ROUSSEAU
CONFESSIONS

20 Having reached the conclusion that most books are in some sense derivative, the Geneva-born philosopher decided that the only undeniably original work that a man is capable of producing is a detailed, unsparing, warts-and-all account of his own life. And that is what these confessions are: they both set the tone and the standard for all subsequent autobiographies.

BENJAMIN FRANKLIN
THE AUTOBIOGRAPHY
OF BENJAMIN
FRANKLIN

21 Franklin's account of his own life has been deprecated by some—notably D. H. Lawrence—but praised by most for its honest admission of failures (which he calls "Errata") and the insight it provides into the period immediately preceding the foundation of the United States. Franklin is widely known as "The First American"; he may equally justly be termed "the first American autobiographer."

EDWARD GIBBON
MEMOIRS OF MY
LIFE AND WRITINGS

22 The English historian's memoirs tell of his distaste for Oxford University and his love of Italy, where he formed the idea for his great work, *The Decline and Fall of the Roman Empire*.

THOMAS DE QUINCEY
CONFESSIONS OF AN
ENGLISH OPIUM-EATER

24 The prose style of this work is both a strength and a weakness: lovers of literature admire its elegance, but hostile critics deplore the way it seems to make drug addiction attractive. (Judge for yourself whether that was De Quincey's intention.)

HARRIETTE WILSON
HARRIETTE
WILSON'S MEMOIRS

26 Wilson was a courtesan whose clients included a future king and the Duke of Wellington. On learning that she had written a tell-all account of her life, the latter famously said: "Publish and be damned."

SOLOMON NORTHUP
TWELVE
YEARS
A SLAVE

29 This is the harrowing story of a free man in New York state who was tricked into servitude on a plantation in Louisiana. In 2013, the book was turned into an award-winning film by Steve McQueen.

GIACOMO CASANOVA
STORY OF MY LIFE

23 There is much more to these memoirs than sex, but it is the author's account of 120 liaisons with women that have made his work an international sensation for almost 200 years, having been published (in 1826) and republished repeatedly in 20 languages.

WILLIAM HAZLITT 1823
LIBER AMORIS

25 English literary critic William Hazlitt wrote this book after an unhappy romantic encounter. He published it anonymously, but was soon identified and the subsequent scandal damaged his reputation.

THOMAS CARLYLE 1833
SARTOR RESARTUS

27 A memoir that was lightly fictionalized to distance the author from its daring content, its title means "The tailor re-tailored."

CHARLES DICKENS
AUTOBIOGRAPHICAL FRAGMENT

28 The author kept this account of his early life secret from all but his friend John Forster, who in 1870 published it in his *Life of Dickens*.

H. D. THOREAU 1854
WALDEN

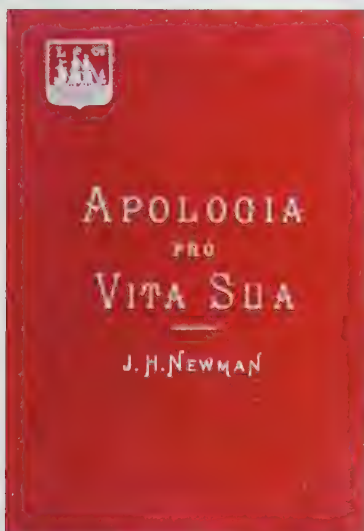
30 Subtitled *Life in the Woods*, this account of the two years, two months, and two days the US author spent in a cabin near Concord, Massachusetts, is principally an appeal for universal self-reliance.

P. T. BARNUM
THE LIFE OF
P. T. BARNUM

31 The author gave away the rights to this book to raise the profile of Barnum & Bailey Circus. By the end of the nineteenth century, the work had outsold the Bible.

JOHN HENRY NEWMAN
APOLOGIA
PRO VITA SUA

32 This defense of the Roman Catholic faith—undertaken in response to criticism by Charles Kingsley, author of *The Water-Babies*—was a hit on publication and has remained in print ever since.

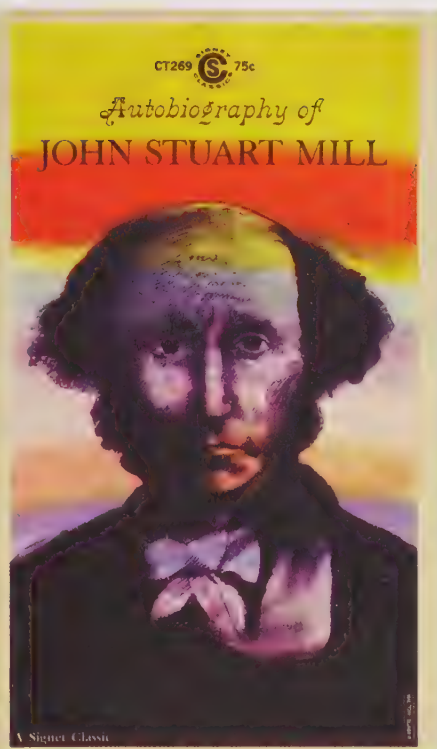


FREDERICK DOUGLASS
LIFE AND TIMES OF FREDERICK DOUGLASS

34 Douglass's third memoir, and his fullest account of the life of a slave and his escape from servitude during and after the American Civil War.

ANTHONY TROLLOPE
AN AUTOBIOGRAPHY

35 The prolific English novelist of Victorian middle-class life lost an army of fans by confessing that he wrote only for money.



JOHN STUART MILL
AUTOBIOGRAPHY

33 The early life of the great British philosopher and economist is memorable for its account of the young Mill's prodigious early feats of scholarship—he learned ancient Greek at the age of three and algebra at the age of eight—and for the perhaps predictable consequence of such a hothouse education: at the age of 20, he suffered a nervous breakdown.

CHARLES DARWIN
THE AUTOBIOGRAPHY
OF CHARLES DARWIN

36 The first edition of the naturalist's own life story was edited by Darwin's son, who cut all criticisms of religion; these were later put back in by his granddaughter.

BOOKER T. WASHINGTON 1901
UP FROM
SLAVERY

37 This is more than an account of one man's rise from servitude to a job as a schoolmaster; it is a rallying call to all African-Americans to overcome racist hostility by bettering themselves educationally and by learning a trade.

GEORGE MOORE 1906
MEMOIRS OF MY DEAD LIFE

40 The content is daringly explicit, but there were always doubts about how many of Moore's sexual boasts are true.

HENRY ADAMS 1907
THE EDUCATION
OF HENRY ADAMS

42 This tells of one man's struggle to come to terms with the industrialization of the United States during the twentieth century.

MARK TWAIN
AUTOBIOGRAPHY
OF MARK TWAIN

44 Near the end of his life, Twain began writing reminiscences that wandered off wherever the fancy took him. Perhaps anticipating the time they would take to put in order, he left instructions that they should not be published for 100 years after his death.

HELEN KELLER 1903
THE STORY OF MY LIFE

38 The first deaf and blind American to graduate from university, Keller wrote her memoir with the help of her teacher, Anne Sullivan.

SAMUEL BUTLER
THE WAY OF ALL FLESH

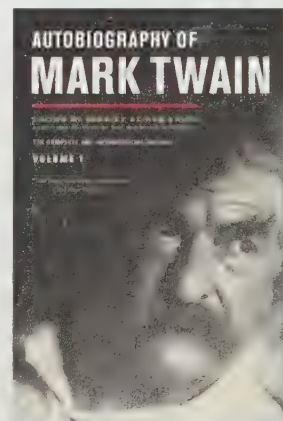
39 Butler refused to publish this so-called "novel" in his lifetime because it is an indictment of his own family's Victorian values.

EDMUND GOSSE
FATHER AND SON

41 The tale of the rejection by a young man (the author) of his male parent's strict religious fundamentalism.

W. H. DAVIES
THE AUTOBIOGRAPHY
OF A SUPER-TRAMP

43 A Welsh hobo-poet's account of his life as a drifter in the United States, Canada, and Britain at the end of the nineteenth century.



MAXIM GORKY
MY CHILDHOOD

45 Orphaned at 11, Gorky ran away from home and walked around Russia in search of work, experiences that influenced his writing.

ERNST JÜNGER
STORM OF STEEL

46 An account of life in the World War I trenches from a German private who was wounded 14 times.

ANDREW CARNEGIE
THE AUTOBIOGRAPHY OF ANDREW CARNEGIE

47 This memoir will not tell you how to become wealthy, but it will give you insight into how the second-richest man of his age (after Rockefeller) used his money for good.

ANDRÉ GIDE
IF IT DIE ...

48 A memoir of Gide's life from birth to his marriage in 1895, including a frank account of his awakening homosexual desire.

VERA BRITTAIN
TESTAMENT OF YOUTH

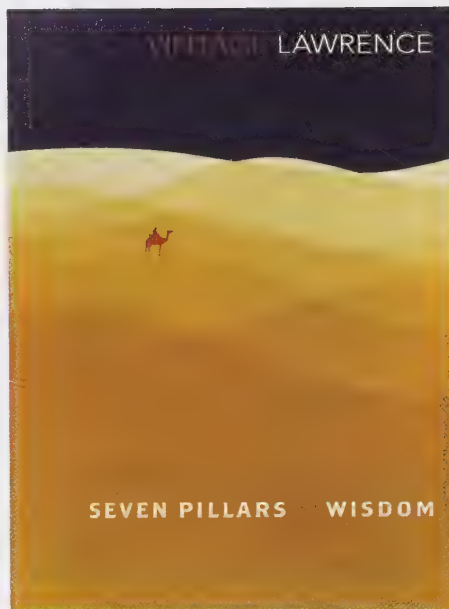
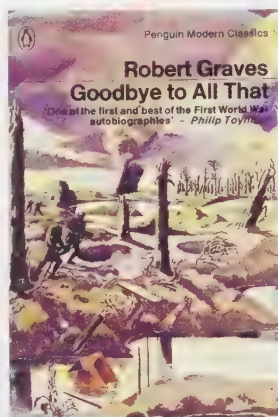
55 This classic work documents the struggles of the interwar years, particularly those of middle-class women for educational, professional, and social equality with men.

GEORGE SANTAYANA
THE LAST PURITAN

56 Subtitled *A Memoir in the Form of a Novel*, this was said by its author to give "the emotions of my experiences, and not my thoughts or experiences themselves."

T. E. LAWRENCE
SEVEN PILLARS OF WISDOM

49 Lawrence's account of his time as a British Army liaison officer with Arab forces during their revolt against the Ottoman Turks from 1916 to 1918 combines fact and fantasy, but his actions helped to shape Western policy in the Middle East. Lawrence's title comes from the Bible's Book of Proverbs: "Wisdom hath builded her house, she hath hewn out her seven pillars."



ROBERT GRAVES
GOODBYE TO ALL THAT

52 After World War I, in which he served as an army officer and was seriously wounded, Graves left England to live in Mallorca. But it was not only his native country to which he was saying goodbye; it was the whole pre-conflict way of life, which had been swept away in the carnage of the war. The old certainties had been replaced by doubt and fear, although there were seeds of hope for the future in socialism and feminism. Graves's work heralds the dawn of modernism.

KAREN BLIXEN
OUT OF AFRICA

57 A memoir of the Danish author Baroness Karen von Blixen-Finecke, this vivid portrait of colonial life on a coffee plantation in Kenya (then British East Africa) during the last decades of the British Empire was first written in English and only subsequently translated into the author's native Danish. The 1985 movie starred Meryl Streep as Karen Blixen.



HERVEY ALLEN 1926
TOWARD THE FLAME

50 Generally considered to be the best US memoir of World War I. Allen was the author of the novel *Anthony Adverse* (1933).

MOHANDAS K. GANDHI 1927-29
THE STORY OF MY EXPERIMENTS WITH TRUTH

51 An account of the author's experiences of injustice in India, South Africa, and Britain that inspired him to lead passive resistance against colonialism in his homeland.

FREDERIC MANNING 1930
HER PRIVATES WE

53 Memoir disguised as fiction, this book about World War I appeared for many years only in expurgated form because of its earthy language.

WINSTON CHURCHILL 1930
MY EARLY LIFE

54 The future British prime minister's account of his formative experiences at school and during the Boer War (1899-1902) in South Africa.

JOHN BUCHAN 1940
PILGRIM'S WAY

58 Published in Britain as *Memory Hold-the-Door*, this posthumous memoir by the author of *The Thirty-Nine Steps* (who was also governor-general of Canada) is said to have been the favorite work of US president John F. Kennedy.

VICTOR KRAVCHENKO 1941
I CHOSE FREEDOM

59 A Soviet defector's account of life in his native land that gave Westerners a new awareness of the horrors of collectivization under Stalin.

ANNE FRANK 1947
THE DIARY OF
A YOUNG GIRL

60 During World War II, Anne Frank hid from the Nazis with her parents and sister in the closed-off upper floors of an office building in occupied Amsterdam. She kept her insightful diary from July 1942 to August 1944, when the family was discovered and deported. Anne died in a concentration camp in March 1945.



PRIMO LEVI 1947
IF THIS
IS A MAN

61 Published in the United States as *Survival in Auschwitz*, this is the Italian-Jewish scientist's unself-pitying account of his arrest as a member of the Italian antifascist resistance, deportation, and 11-month imprisonment in the most notorious of all the Nazi death camps. A work with great immediacy and power.

VLADIMIR NABOKOV 1951
SPEAK, MEMORY

62 This autobiography covers the early part of the author's life, from his childhood in pre-revolutionary Russia to his immigration to the United States in 1940.

CHRISTY BROWN
MY LEFT FOOT

63 The moving story of how the author overcame cerebral palsy and achieved fame as a poet and a painter.

GERALD DURRELL
MY FAMILY AND
OTHER ANIMALS

64 A lighthearted account of an English boy's upbringing on the Greek island of Corfu in the 1930s.

LAURIE LEE
CIDER WITH ROSIE

67 The first of the poet's three volumes of memoirs re-creates the rural idyll of his youth in the west of England after World War I. Published in the United States as *The Edge of Day*.

ELEANOR ROOSEVELT
THE AUTOBIOGRAPHY
OF ELEANOR ROOSEVELT

68 Eleanor Roosevelt was not merely the wife of the thirty-second president of the United States; she was also a participant and outstanding humanitarian in her own right, leading women's organizations and youth movements, and fighting for consumer welfare, civil rights, and improved housing. The story of a rich and eventful life.

SYLVIA PLATH
JOURNALS

69 These diaries, which the poet kept from 1943 to her suicide in 1963, were withheld for 20 years by her widower, Ted Hughes.

MALCOLM X 1965
THE AUTOBIOGRAPHY OF MALCOLM X

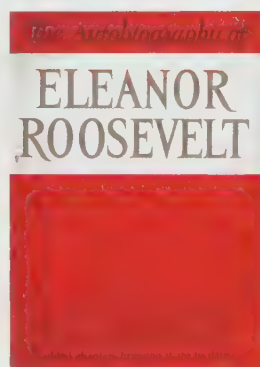
70 An account of one man's black pride and conversion to Islam was a work in progress when the subject was killed. It was completed by coauthor Alex (Roots) Haley.

ELIE WIESEL
NIGHT

65 Wiesel writes powerfully about imprisonment with his father in Auschwitz and Buchenwald concentration camps, where "everyone lives and dies for himself alone."

ERROL FLYNN
MY WICKED, WICKED WAYS

66 Full of candid admissions and juicy movie gossip, this ghost-written autobiography was rushed out soon after the sudden death of the Hollywood star.



P. J. KAVANAGH
THE PERFECT STRANGER

71 The poet's touching account of his first marriage to Sally Phillips, daughter of novelist Rosamund Lehmann, who died of polio while they were living in Java.

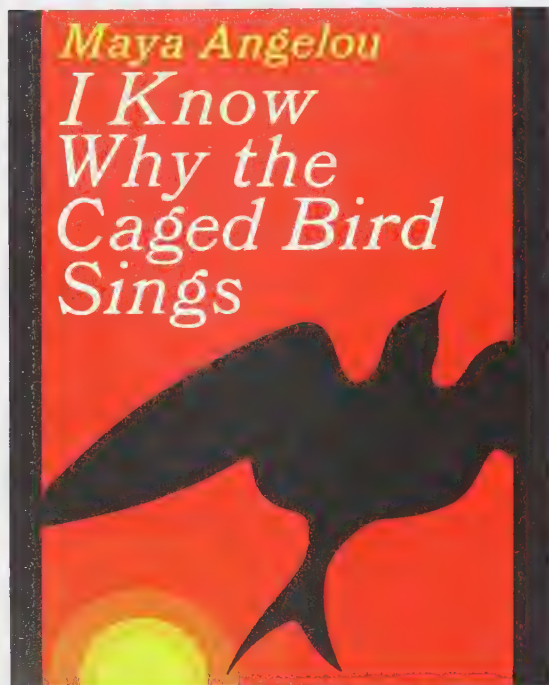
BERTRAND RUSSELL
THE AUTOBIOGRAPHY OF BERTRAND RUSSELL

72 Three volumes in which the great British philosopher, social critic, and political activist describes how his thought influenced his life, and vice versa.

MAYA ANGELOU

I KNOW WHY THE CAGED BIRD SINGS

73 The first book in a memorable seven-volume series charts the author's rapid development from a self-conscious and inhibited young black girl, a victim of prejudice in Arkansas, into an assured and mature woman who raised her voice against racial inequality and made it heard across the United States and all around the world.



NADEZHDA MANDELSTAM HOPE AGAINST HOPE

74 Powerful memoir that memorializes the author's married life with fellow poet Osip Mandelstam, who died in the gulag in 1938 during Stalin's reign of terror in the Soviet Union.

ALBERT PIERREPOINT EXECUTIONER: PIERREPOINT

75 The life story of Britain's longest-serving official hangman, who executed more than 400 people between 1932 and 1936, including Nazi war criminals and British traitor Lord Haw-Haw

DAVID NIVEN THE MOON'S A BALLOON

75 Amusing, self-deprecating account of failure at school, valor in war, and stardom in Hollywood.

JIMMY BOYLE

A SENSE OF FREEDOM

77 Boyle wrote his autobiography in prison while serving a life sentence for the gangland murder of William "Babs" Rooney. On his release, he published the book to great critical acclaim and began a successful career as a sculptor: his works include *Gulliver* in Edinburgh, the largest concrete sculpture in Europe. In 1979, *A Sense of Freedom* was turned into a movie directed by John Mackenzie. Boyle continues to protest his innocence of the crime for which he was convicted.

AGATHA CHRISTIE AN AUTOBIOGRAPHY

78 This posthumous work is famous for its omission of any mention of the most famous incident in the crime novelist's life: her mysterious disappearance for ten days in 1926.

ALAN BENNETT DIARIES

79 An object lesson in how the banal everyday events in the life of an author can be made spellbinding by a good prose style.

CLIVE JAMES UNRELIABLE MEMOIRS

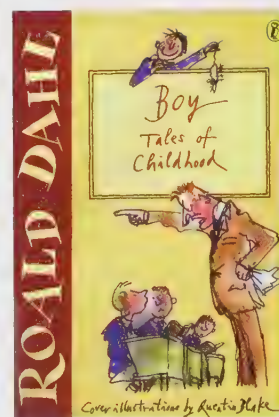
80 The Australian-born journalist and critic admits to all his character flaws—conceit and exhibitionism among them—but in so doing reveals his greatest virtues: wit and charm.

GEORGES SIMENON INTIMATE MEMOIRS

81 The prolific Belgian creator of the Inspector Maigret novels claimed to have had 10,000 sexual partners.

LAURENCE OLIVIER CONFESSIONS OF AN ACTOR

82 The illustrious actor tells his story of a life in theater and film, including marriage to Vivien Leigh.



ROALD DAHL BOY

83 This account of the son of Norwegian parents growing up in England gives strong clues to the early experiences and influences that turned the author into the greatest children's writer of the late twentieth century.

PETER WRIGHT SPYCATCHER

84 The British government's attempts to ban the memoirs of this former secret service agent made them a global best seller. Wright claimed that former MI5 Director General Roger Hollis was a Soviet mole. Paul Greengrass co-authored the book.

KATHARINE HEPBURN ME: STORIES OF MY LIFE

85 This book became a best seller not only because the author was one of the best-loved movie stars of all time but also because she had always been fiercely protective of her privacy, making this a real lid-lifter.

JUNG CHANG WILD SWANS

86 Three life stories in one: the author's own is here preceded by those of her mother and grandmother through 100 traumatic years of Chinese history.

SPIKE MILLIGAN 1914

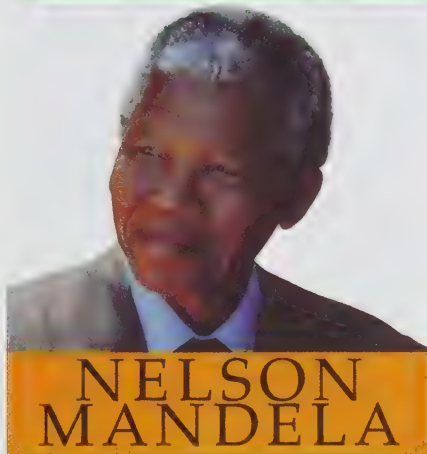
THE WAR & PEACE DIARIES

87 A collection of seven volumes of memoirs about the British comedian's military service in World War II, written between 1971 and 1991. The titles include *Adolf Hitler: My Part in His Downfall* (1971) and "Rommel?" "Gunner Who?" (1974).

NELSON MANDELA 1918

LONG WALK TO FREEDOM

88 The inspiring story of the man who in 1963 was imprisoned for life without possibility of parole but was released in 1990 as the apartheid regime he opposed began to crumble. Four years later, he became the first democratically elected president of South Africa, in which role he brought blacks and whites together through the Truth and Reconciliation Commission, which helped to avert the civil war that many thought would follow majority rule.



DORIS LESSING 1919

UNDER MY SKIN

89 How novelist Lessing's childhood in Southern Rhodesia (modern Zimbabwe) left her with what she described as "skins too few."

GORE VIDAL 1925

PALIMPSEST: A MEMOIR

91 The early life of the patrician author who knew everyone who was anyone, including the Kennedys and Eleanor Roosevelt.

MARTIN LUTHER KING, JR. 1929

THE AUTOBIOGRAPHY OF MARTIN LUTHER KING, JR.

93 The title is a misnomer: this book was compiled by a team of scholars and researchers long after King's death in 1968, though it presents a full account of his life and the texts of his great speeches.

ERIC LOMAX 1917

THE RAILWAY MAN

90 Award-winning account of a British prisoner of war's experiences as a forced construction worker on the notorious Burma-Thailand railway.

DAVE PELZER 1937

A CHILD CALLED "IT"

92 A disturbing description of a child's mental and physical abuse by his alcoholic mother in the presence of a weak father.

MARTIN AMIS 1947

EXPERIENCE

94 The British author's complex relationship with his father, the novelist Kingsley Amis.

AUGUSTEN BURROUGHS 1904

RUNNING WITH SCISSORS

96 Stranger than fiction, the story of a 12-year-old boy whose mentally unstable mother sent him to live with her psychiatrist and his dysfunctional family.

STEVE MARTIN 1925

BORN STANDING UP

88 The comedian charts his rise from Disneyland sales assistant to Hollywood celebrity, and explains why he quit stand-up comedy at the peak of his fame.

EDMUND DE WAAL 1923

THE HARE WITH AMBER EYES

95 Ceramicist De Waal tells the fascinating story of his wealthy Jewish European family, who lost everything to the Nazis apart from a collection of 264 netsuke Japanese sculptures.

NEIL YOUNG 1941

WAGING HEAVY PEACE

100 The real life of the rock star involves caring for two children with cerebral palsy, an abiding interest in model railways, and a fear of illness that grows with advancing age. Not much music business dirt, but a fascinating intimate portrait.

EDWARD SAID 1929

OUT OF PLACE: A MEMOIR

95 An account of the Palestinian intellectual's life up to his graduation from Harvard. He wrote it after his diagnosis with leukemia.

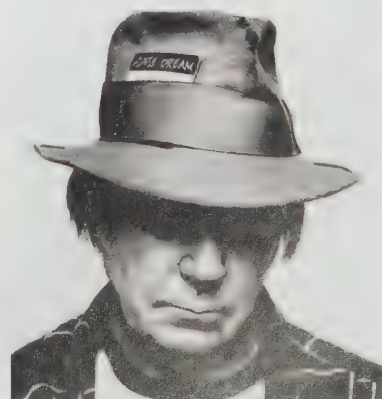
JOAN DIDION 1936

THE YEAR OF MAGICAL THINKING

97 Didion's account of the year following her husband's sudden death from a heart attack is an object lesson in dealing with bereavement and grief. This is not emotion recollected in tranquillity: she wrote it day by day as she lived it.

NEIL YOUNG

WAGING HEAVY PEACE





AESCHYLUS
ORESTEIA

1 This trilogy of Greek tragedies—*Agamemnon*, *The Libation Bearers*, and *The Eumenides*—are about Orestes avenging his father's murder. They chart the emergence of justice from a primitive society that takes the law into its own hands.

EURIPIDES
MEDEA

2 Regarded today as a proto-feminist text, this play concerns the title character's revenge on her unfaithful husband, Jason, by killing their children; his lover, Glauce; and her father, Creon, the king of Corinth. She then flees to Athens to start a new life.

SOPHOCLES
OEDIPUS THE KING

3 The earliest surviving version of the well-known story of a man who unwittingly fulfills a prophecy that he will murder his father, Laius, and marry his mother, Jocasta. The play is also known as *Oedipus Rex*.

ARISTOPHANES
LYSISTRATA

4 A comedy in which the title character and a group of other women attempt to end the Peloponnesian War between Athens and Sparta by denying their husbands their conjugal rights until they agree to make peace. A battle of the sexes ensues.

ANON
EVERYMAN

5 A morality play about a man—who represents all humanity—whose journey through life is influenced by his belief that everything he does on Earth will be judged by God. He learns that all that matters is his good deeds.

100 PLAYS

GIL VICENTE 1529
TRILOGIA DAS BARCAS

6 A trilogy of plays by the greatest dramatist of the Portuguese Renaissance that depict the interactions of passengers waiting to board ships to Heaven, Purgatory, and Hell. Vicente both acted in and directed his own plays.

WILLIAM SHAKESPEARE
HAMLET

7 After the king of Denmark dies in mysterious circumstances, his ghost appears before his son, Hamlet, and tells him that he has been murdered by his own brother. The young man's duty is clear—he should avenge the crime by killing his uncle—but he is full of doubt. Should he take the law into his own hands or allow events to take their own course? His uncertainty brings destruction to almost all around him.

CHRISTOPHER MARLOWE
DOCTOR FAUSTUS

8 In his thirst for power and knowledge, the title character sells his soul to the devil and enjoys himself until his damnation.

BEN JONSON
VOLPONE

9 A satire of greed in which the title character pretends to be dying in order to dupe his ambitious friends.

JOHN WEBSTER
THE DUCHESS OF MALFI

10 A brilliant variation on the revenge theme, in which the motive of two brothers for killing their sister—incestuous desire—is hinted at but never made explicit.

LOPE DE VEGA
THE GARDENER'S DOG

11 A noblewoman forbids the wedding of two of her servants because she loves the fiancé, even though she cannot marry him herself.

THOMAS MIDDLETON & WILLIAM ROWLEY
THE CHANGELING

12 A woman is betrothed to one man but loves another so hires a man to kill her fiancé, but the killer also loves her. Carnage ensues.

PIERRE CORNEILLE
LE CID

13 The first classical tragedy in French deals with the conflict between love and duty. The plot is about Spain's great national hero.

PEDRO CALDERÓN DE LA BARCA
THE DAUGHTER OF THE AIR

14 The prince of Poland imprisons his son in order to forestall a prophecy but later relents, releases him, and thereby makes the prediction come true.

MOLIÈRE
THE MISANTHROPE

15 After his two previous plays (*Tartuffe* and *Dom Juan*) had been banned, Molière wrote this comedy about Alceste, a man who regards conventional behavior as contemptible and decides to withdraw from society. His isolationism is compromised, though, by his love for the flirtatious Célimène, and that of numerous women for him.

JEAN RACINE
ANDROMAQUE

16 This five-act tragedy written in alexandrine verse about gallantry and unrequited love in the aftermath of the Trojan War is based partly on Euripides's work.

WILLIAM WYCHERLEY
THE COUNTRY-WIFE
 17 Written soon after the Restoration of the monarchy had ended—a period of Puritan repression in England—the play is a comedy about a rake who pretends to be impotent in order to seduce his friends' wives.

APHRA BEHN
THE ROVER
 18 The most famous work of the first Englishwoman to make a living as a playwright is a comedy about the amatory exploits and tribulations of a group of English visitors to Naples, Italy, at carnival time.

JOHN VANBRUGH 1696
THE RELAPSE
 19 Most romantic comedies of the time majored in men, but here Vanbrugh shows that women also endure fleshly temptation. The burlesque Lord Foppington is one of the great roles in English drama.

WILLIAM CONGREVE 1690
THE WAY OF THE WORLD
 20 A man and a woman want to marry. Her aunt disapproves and tries to thwart the wedding plans and pair off the girl with her own nephew.

GEORGE FARQUHAR 1707
THE BEAUX' STRATAGEM
 21 Two penniless young men plan to get rich by conning wealthy heiresses out of their fortunes. But one of them falls in love with an intended victim.

PIETER LANGENDIJK
THE MUTUAL MARRIAGE DECEPTION
 22 Lodewijk and Charlotte pretend to be in love and want to marry, because each of them thinks that the other has a substantial fortune. But they are both lying: neither of them has a sou. Predictably, the truth comes out, but when it does, the marriage goes ahead anyway because they have now fallen in love.



CHIKAMATSU MONZAEMON
THE LOVE SUICIDES AT AMIJIMA
 23 Jihei and Koharu are lovers, but the social conventions of the time prevent them from marrying. Unable to be together in this world, they resolve to be united in the next: Jihei kills Koharu with his sword and then hangs himself. The tragedy is leavened to some extent by the subsidiary characters who emphasize that love is a form of insanity.

LUDVIG HOLBERG
JEPPE OF THE HILL
 24 When a poor hick is duped into believing he is a baron, he abuses others in the same way as he was abused himself.

CARLO GOLDONI
THE LIAR
 25 In this commedia dell'arte, Lelio woos two sisters, Beatrice and Rosaura, but never tells them which one he really loves. He strings them along until they discover that he is married.

OLIVER GOLDSMITH 1773
SHE STOOPS TO CONQUER
 26 The aristocratic heroine realizes that the man she hopes to marry is rendered speechless by high-born women, so she pretends to be a common maid—"stoops to conquer"—to put him at ease and win him over.



PIERRE-AUGUSTIN CARON DE BEAUMARCHAIS 1735
THE BARBER OF SEVILLE
 27 A count falls in love with Rosine and wants to test the strength of her feelings for him. His access is blocked by Rosine's guardian, who keeps her locked up. The problem is solved by Figaro, who visits the guardian's home to have his hair cut.

R. B. SHERIDAN
THE SCHOOL FOR SCANDAL
 28 A comedy of manners in which a rich old man observes the behavior of his two nephews to decide which of them should inherit his fortune. Sheridan gave up playwriting at the age of 30 for a political career.

FRIEDRICH SCHILLER 1805
MARY STUART
 29 Queen Elizabeth I's cousin is sentenced to death for murder, but in reality, it's because of her rival claim to the throne. Elizabeth wavers over signing the death warrant.

GEORG BÜCHNER 1836
DANTON'S DEATH
 30 German play about the French Revolution. Originally a prime mover of the reign of terror, Danton later questions the morality of his actions and is sent to the guillotine.

NIKOLAI GOGOL 1818-1852

THE GOVERNMENT INSPECTOR

31 When the people of a provincial Russian town mistake a visitor for a state official, they shower him with gifts. The recipient of their favors cannot believe his good fortune and takes them for almost every kopeck they have got.

ALEXANDER OSTROVSKY 1819-1886

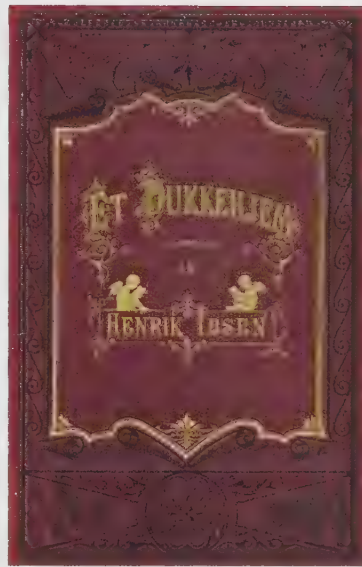
POVERTY IS NO VICE

32 This play reflects the writer's belief that sin is a product of circumstance and that a wastrel such as the hero, a "virtuous drunkard," may yet be a good person.

IVAN TURGENEV 1818-1882

A MONTH IN THE COUNTRY

33 A study of Russian provincial life in which the heroine, Natalya Petrovna, tries to banish the boredom of her marriage by flirting with visitors.



HENRIK IBSEN A DOLL'S HOUSE

34 In the final scene of this celebrated three-act play, the heroine, Nora Helmer, leaves her husband and three children to embark on a journey of self-discovery. With this denouement, the Norwegian dramatist set out his view that marriage as then constituted was unfairly restrictive of women. Controversial when first performed, the work is still highly regarded, not only for its structure and dialogue, but also as an early feminist document.

AUGUST STRINDBERG 1849-1906

THE FATHER

35 When a husband and wife disagree about the education of their daughter, the two women conspire to have the man committed to a mental home.

FRANK WEDEKIND 1864-1918

SPRING AWAKENING

36 Controversial German play that attacks repressive, contemporary attitudes to sex.

OSCAR WILDE 1856-1900

THE IMPORTANCE OF BEING EARNEST

37 Wilde's dialogue raises a familiar mistaken identity scenario to the level of high art. Wilde at his best.

ARTHUR SCHNITZLER 1862-1939

MERRY-GO-ROUND

38 A cycle of ten dramatic dialogues that depict the cruelty of the sexes when in the grip of lust. The play became the Max Ophüls film *La Ronde* (1950).

EDMOND ROSTAND 1818-1894

CYRANO DE BERGERAC

39 Poetic play about a great swordsman who never dares proclaim his love for Roxanne because of his huge nose.

MAXIM GORKY 1868-1935

THE LOWER DEPTHS

40 Subtitled "Scenes from Russian Life," Gorky's play is a study of how deprived and needy people in prerevolutionary Russia created fantasies to lessen the pain of their real lives as piece workers, prostitutes, vagabonds, and thieves.

J. M. SYNGE

THE PLAYBOY OF THE WESTERN WORLD

42 A young braggart is feted as a hero by drinkers in a local bar after hearing his story of how he killed his father. Their attitude changes when the father shows up.

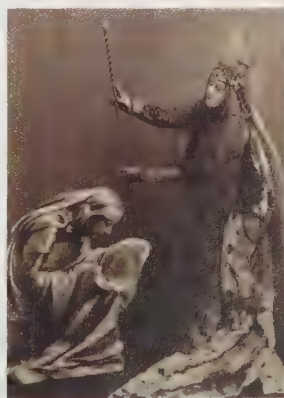
GEORGES FEYDEAU 1862-1921

A FLEA IN HER EAR

43 A woman suspects her husband of infidelity so tests him by arranging for him to receive a letter from an anonymous admirer. Misunderstandings proliferate before a happy ending to this definitive French farce.

ANTON CHEKHOV THE CHERRY ORCHARD

41 An aristocratic Russian family cannot pay the mortgage on their estate. They are offered various proposals for saving their property, but they adopt none of them. The house and land are sold to the son of a former serf, and the play ends with the sound of the cherry orchard being cut down. Most plays are clearly tragedy or comedy, but Chekhov's masterpiece (and his last work) deliberately hovers between the two forms.



MAURICE MAETERLINCK 1860-1949

THE BLUE BIRD

44 A fairy tale in which the son and daughter of a poor woodcutter set off in search of the Blue Bird of Happiness. After many adventures around the world, they finally find it in their own backyard.

GEORGE BERNARD SHAW 1913
PYGMALION

45 For a bet a phonetician tries to change the speech of a Cockney flower seller in order to pass her off as a duchess. He succeeds, but leaves her socially isolated, neither lower nor upper class. The inspiration for *My Fair Lady* (1956).

KAREL ČAPEK
RUR

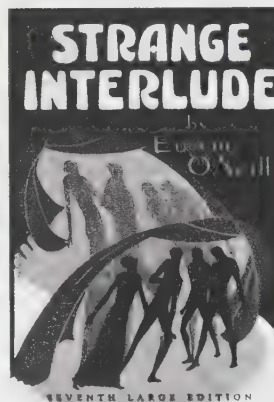
46 The title is a set of initials standing for "Rossum's Universal Robots," machines that start off as workers and then take over the world.

LUIGI PIRANDELLO 1921
SIX CHARACTERS IN SEARCH OF AN AUTHOR

47 When six people interrupt a play rehearsal, the director at first thinks they are mad. It gradually emerges that some are not yet fully formed products of the author's imagination.

EUGENE O'NEILL
STRANGE INTERLUDE

50 A long and harrowing play about a woman who, having lost her true love in World War I, seeks another man to replace him in her affections. None of her subsequent lovers measures up, and her actions ultimately lead to disaster. The play is broken up by asides in which the characters speak directly to the audience.



SEAN O'CASEY 1924
JUNO AND THE PAYCOCK

48 While the Irish struggle for independence, Juno struggles to hold her family together and her husband, the Paycock (peacock), goes drinking.

JEAN COCTEAU 1944
ORPHEUS
49 This play, a retelling of the Greek legend in a modern French setting, became better known in its 1950 movie version, directed by the author.

VLADIMIR MAYAKOVSKY 1929
THE BEDBUG
51 This work of Soviet realism predates the introduction of the form but contains all its elements: the sympathetic characters are good communists; the bad ones are leftovers from the bourgeois past.

NOËL COWARD 1931
PRIVATE LIVES
52 A divorced couple meet by chance on their second honeymoons. They realize that living apart is even harder than living together, and they are reunited; the other man and woman fall in love with each other.



FEDERICO GARCÍA LORCA
BLOOD WEDDING
53 Having been forced into marriage for financial reasons by her poor parents, a young woman runs away during the wedding reception to join her true love, who is married and has a child. This brings dishonor to the groom's family, who hunt down the runaways. A fight ensues during which two mysterious figures, Moon and Death, kill both the bridegroom and the lover. The bride is thus widowed on her wedding day. Lorca based his play on a contemporary news story.

UGO BETTI 1941
LANDSLIDE
54 An Italian court inquiry into a natural disaster in which several laborers and a girl have been killed. The survivors express their remorse, but which of them is guilty? In Betti's view, they all are.

LILLIAN HELLMAN 1941
THE CHILDREN'S HOUR
55 Two teachers are falsely accused by a schoolgirl of lesbianism. By the time their innocence is proved, one of them has been jilted by her fiancé and the other has committed suicide.

CLIFFORD ODETS 1935
WAITING FOR LEFTY
56 A taxi drivers' union meeting at which the members are contemplating strike action. Some of the actors are seated in the audience.

THORNTON WILDER 1938
OUR TOWN
57 Nothing much happens in this play, but it somehow captures the essence of ordinary American life.

T. S. ELIOT 1939
THE FAMILY REUNION
58 Written partly in verse, this work is part revenge tragedy, part murder mystery. Among its peculiarities is the periodic transformation of some of the characters into a Greek chorus.

JEAN GIRAUDOUX 1948
SODOM AND GOMORRAH

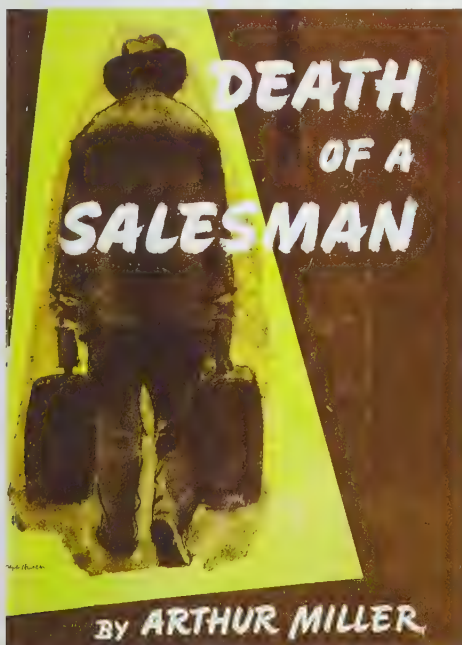
59 An angel challenges the people of the two cities to show an example of true love. They offer Jean and Lia, who seem an ideal couple, but they eventually betray each other, so Sodom and Gomorrah are destroyed.

BERTOLT BRECHT 1940
THE LIFE OF GALILEO

60 By observing the night sky through a telescope, Galileo discovers that Earth revolves around the Sun. For this heretical view he is condemned by the Catholic Church and forced to recant.

ARTHUR MILLER 1949
DEATH OF A SALESMAN

67 Willy Loman is a failure. He knows it; his family knows it, but they struggle on, consoling themselves with fantastical versions of their own histories. The quintessential modern literary work on the American Dream.



JEAN-PAUL SARTRE 1944
NO EXIT

61 Three people are condemned to be with one another for eternity. Hell is not a place; it is other people.

TENNESSEE WILLIAMS 1948
A STREETCAR NAMED DESIRE

64 Williams's gritty masterpiece about desire and delusion in America's Deep South gained him the Pulitzer Prize for Drama in 1948.

J. B. PRIESTLEY 1944
AN INSPECTOR CALLS
62 A sharp social critique lies behind the facade of Priestley's whodunit. "We don't live alone . . . We are responsible for each other."

VIRILIO PIÑERA 1948
ELECTRA GARRIGÓ

65 The Greek tale of the woman who kills her mother to avenge the murder of her father is transferred to Cuba.

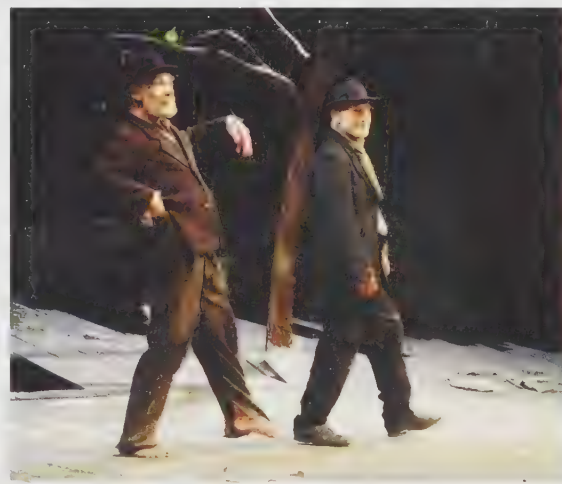
TERENCE RATTIGAN
THE WINSLOW BOY
63 A boy accused of stealing protests his innocence, but no one believes him except a crusading lawyer who fights to clear his name.

CHRISTOPHER FRY
THE LADY'S NOT FOR BURNING

66 A verse play set in medieval England about a woman who is arraigned for reportedly turning a rag-and-bone man into a dog.

SAMUEL BECKETT 1952
WAITING FOR GODOT

68 By a tree on a country road, two tramps wait for Godot. They are not sure what he is going to do for them, but they are there all the same. He never shows. Who is he? What does he represent? These are among the questions that have made the play a cultural landmark. This elemental work has drawn various interpretations—social, political, and religious.



JEAN ANOUILH 1931
THE LARK

69 A charming variation of the story of Joan of Arc in which the fires are put out before she can be burned at the stake.

BRENDAN BEHAN 1964
THE QUARE FELLOW

70 In an Irish prison inmates discuss the titular figure, a man condemned to hang, whose crime is never revealed.

MAX FRISCH 1955
THE FIRE RAISERS

71 In this dark comedy, strange men disguised as door-to-door salesmen sweet-talk their way into people's homes and then set fire to the premises. This meditation on Nazism and Fascism highlights the vulnerability of good people to evil.

EUGÈNE IONESCO
RHINOCÉROS

72 After most of the inhabitants of a French town have turned into the ungulates of the title, they pretend that they always wanted to be rhinos; it takes one man who has not changed to remind them of how much they used to loathe them.

HAROLD PINTER

THE CARETAKER

73 Pinter's second full-length play (the first was *The Birthday Party*) concerns the rivalry between two brothers, Mick and Aston, for the friendship of a tramp named Davies. As they vie to impress him, they each separately offer Davies a job as a caretaker. They start to recriminate with each other, but before they end up fighting, they realize that the presence of Davies is disrupting their own relationship. They unite against the tramp and kick him out of their flat: blood is thicker than water. One of Pinter's most celebrated plays.



ROBERT BOLT 1954

A MAN FOR ALL SEASONS

74 The story of Thomas More, adviser to Henry VIII, who refused to endorse the king's divorce from Catherine of Aragon. Bolt portrays More as a principled man who stays true to himself—"a man for all seasons."



ATHOL FUGARD 1961

THE BLOOD KNOT

75 In South Africa under apartheid, two brothers have the same black mother but different white fathers. Morris is light-skinned and can pass himself off as white; Zachariah has a dark complexion. When Zachariah's pen pal, a white female, suggests that they meet, he arranges for Morris to go in his place. The date never happens, but the brothers' relationship changes forever.

FRIEDRICH DÜRRENMATT 1942

THE PHYSICISTS

76 A scientist declares himself insane to avoid exposing humanity to the consequences of his discoveries. Satirical drama.

EDWARD ALBEE 1964

WHO'S AFRAID OF VIRGINIA WOOLF?

77 A husband and wife come home drunk and rip each other apart verbally. The acclaimed movie version starred Richard Burton and Elizabeth Taylor.

NEIL SIMON 1941

BAREFOOT IN THE PARK

78 Simon's sparkling romantic comedy focuses on a newlywed couple adjusting to living together in a New York brownstone.

JOAN LITTLEWOOD 1961

OH! WHAT A LOVELY WAR

79 This musical uses the popular songs of World War I as an ironic counterpoint to the horror of the trenches.

JOE ORTON 1947

ENTERTAINING MR. SLOANE

80 A murderer takes lodgings with a woman who is attracted to him. So, too, is her brother. He exploits them both.

PETER WEISS 1941

MARAT/SADE

81 The inmates of a mental asylum present a play about the death of Marat, directed by the Marquis de Sade.

TOM STOPPARD 1961

ROSENCRANTZ AND GUILDENSTERN ARE DEAD

82 Two of the minor characters in Shakespeare's "Hamlet" contemplate the absurdity of life as they are drawn inexorably toward their preordained dramatic fate: to become the victims of a plot intended to kill the prince of Denmark.

EDWARD BOND 1965

SAVED

83 Once censored in the UK, this play about social privation has a scene in which a baby is thrown to death in a stroller.

VÁCLAV HAVEL 1965

THE MEMORANDUM

84 When Havel wrote this play about the debasement of language by oppressive regimes, he was a dissident; in 1993 he became the post-communist president of Czechoslovakia.

PETER HANDKE 1962

OFFENDING THE AUDIENCE

85 This work of antitheater has no plot. The actors address the audience directly and challenge their clothes, habits, and even their reasons for attending the play.

FERNANDO ARRABAL 1964

AUTOMOBILE GRAVEYARD

86 A controversial take on the story of Christ, in which the main character is abused before being ritually murdered.

PETER BARNES 1946
THE RULING CLASS

87 A mad aristocrat decides that he is God. How does he know? "Because when I pray I find I'm talking to myself."

PETER SHAFFER 1926
EQUUS

89 A psychiatrist struggles to discover the real reason behind the mutilation of some horses by a 17-year-old boy.

DARIO FO 1926
ACCIDENTAL DEATH OF AN ANARCHIST

88 Based on true events, this political farce has two endings: the audience chooses which one it prefers.

DAVID MAMET 1941
SEXUAL PERVERSITY IN CHICAGO

90 Two couples gradually discover that talking about sex and having sex can be mutually exclusive.

WOLE SOYINKA 1934
DEATH AND THE KING'S HORSEMAN

91 In this subtle examination of colonialism, a Nigerian bids to commit ritual suicide, but the British authorities prevent him from doing so. The play is based on a real incident that took place during Nigeria's colonial past.

NGŨGĨ WA THIONG'O 1922
THE TRIAL OF DEDAN KIMATHI

92 A man appears in court on a charge of having a gun without a license. He declines to plead guilty or not guilty. The action then gives an account of colonial exploitation as the author tries to justify the Mau Mau resistance to British rule.

DAVID HARE 1947
PLENTY

93 The depression of a former secret agent is used as a metaphor for the postwar decline of the British ruling class.

HOWARD BRENTON 1929
THE ROMANS IN BRITAIN

94 This condemnation of imperialism and the abuse of power was unsuccessfully prosecuted in the UK for obscenity.



CARYL CHURCHILL 1938
TOP GIRLS

95 This examination of the role of women in modern society—particularly the question of whether it is possible to balance a successful career and motherhood—brings fictional characters such as Pope Joan and Griselda (the famously patient wife in Chaucer's *The Canterbury Tales*) into a contemporary setting.

SAM SHEPARD 1933
FOOL FOR LOVE

96 A man tries to get back with his former girlfriend, but their relationship is doomed for several reasons, the most significant of which is that they have the same father.

ARIEL DORFMAN 1941
DEATH AND THE MAIDEN

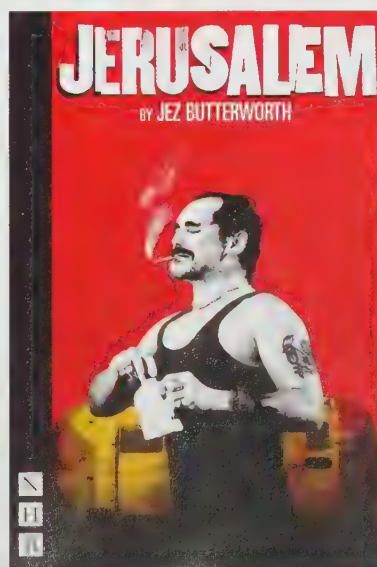
97 A woman tries to kill a doctor who raped her years previously during a military dictatorship. But has she got the right man?

SARAH KANE 1945
CLEANSED

98 A sadistic doctor murders a drug addict on the street. The victim's sister swears revenge and checks into the killer's sanatorium.

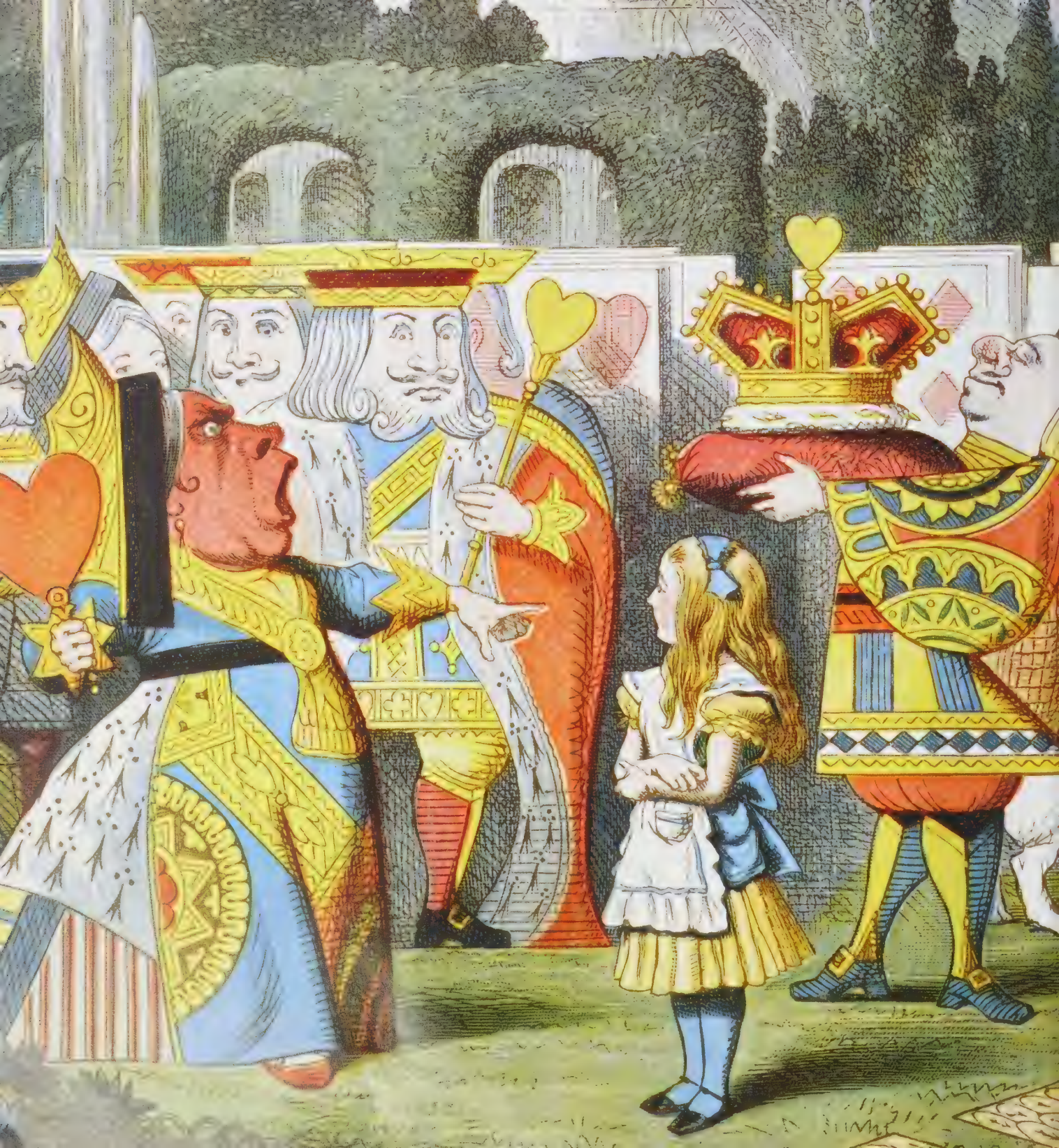
JEZ BUTTERWORTH 1947
JERUSALEM

99 A local authority tries to evict Johnny "Rooster" Byron from his dilapidated home. At first the man appears to be a drunken drug addict who deserves what is coming to him; his associates also appear to be wasters. But there is a twist: we gradually discover that Rooster and his crew represent the beauty of traditional English life. He is the hero of the piece; the villains are the bureaucrats who ruin everything that is natural and life enhancing. The playwright achieves with Rooster what Shakespeare did with Falstaff: makes a superficially unsympathetic subject irresistibly appealing.



ANNIE BAKER 1944
THE FLICK

100 Three underpaid ushers in a run-down Massachusetts movie theater reveal the failures and sadnesses of their mundane lives through seemingly inconsequential dialogue. Baker's acclaimed comedy of the mundane received the 2014 Pulitzer Prize for Drama.



UNKNOWN ARABIAN NIGHTS

1 Scheherazade tells one story a night to prevent her husband from killing her. Ali Baba and the Forty Thieves, Aladdin, and Sinbad the Sailor are the most famous of the collection, which includes stories from Indian and Persian folktales.

HANS CHRISTIAN ANDERSEN THE UGLY DUCKLING

2 The ugliest duckling in a brood is rejected by his family. Alone, the duckling sets off into the world and is befriended by three swans who greet him as one of their own. Suddenly, he is no longer an outcast. A simple and affecting tale about being—and looking—different.

HEINRICH HOFFMANN DER STRUWWELPETER

3 These humorous cautionary tales use gruesome bogeymen to frighten badly behaved children, such as Harriet, who fatally plays with matches, and the boy who sucks his thumb. Shockingly cruel and wickedly entertaining.

LEWIS CARROLL ALICE'S ADVENTURES IN WONDERLAND

4 Alice's surreal adventures—including growing very tall, shrinking very small, and joining the Mad Hatter's Tea Party—begin when she falls down a rabbit hole. Iconic characters she meets in Wonderland include the Red Queen, the White Rabbit, and the Mad Hatter himself. This is cited as the first book for children for its originality and imagination.

LOUISA MAY ALCOTT LITTLE WOMEN

5 The lives and loves of four sisters, each with distinct characteristics, are depicted in this outstanding and enduring picture of family life.

JOHANNA SPRY HEIDI

6 The tale of the orphaned Heidi, who loves nature and cares for Peter's sick grandmother while she lives with her grandfather in the Alps.

100 CHILDREN'S BOOKS

CARLO COLLODI PINOCCHIO

7 Famous for his long nose, which grows every time its owner tells a lie, Pinocchio, a walking, talking, wooden puppet, behaves exactly like a disobedient little boy getting into scrapes as he explores the world. Moral lessons are learned; Pinocchio returns from his adventures to care for his maker, the impoverished woodcarver Geppetto, and is turned into a real boy as a reward.

ROBERT LOUIS STEVENSON TREASURE ISLAND

8 This swashbuckling adventure follows young Jim Hawkins, who is given a map that will lead him to long-hidden treasure. But Long John Silver, the most deadly pirate of them all, wants the treasure too. Trickery, courage, and splendid derring-do prevail.

MARK TWAIN ADVENTURES OF HUCKLEBERRY FINN

9 Likable Huck Finn flees his drunken father and meets runaway slave Jim. The pair sail down the Mississippi on a raft, meeting equally unlikely fellow travelers.

ETHEL TURNER SEVEN LITTLE AUSTRALIANS

10 Seven ebullient children of a grumpy father delight in their entertaining acts of family rebellion.

RUDYARD KIPLING THE JUST SO STORIES

11 These original and entertaining stories explain how animals gained their defining characteristics, such as how the elephant got its trunk on the "grey-green, greasy Limpopo River."

BEATRIX POTTER THE TALE OF PETER RABBIT

12 Defying instructions not to, Peter squeezes under the gate into Mr. McGregor's garden. Trouble follows. Spotted, he flees and gets caught in a net. Escaping home, retribution is minimal: Peter has chamomile tea for supper; his obedient sisters feast.

E. NESSBIT THE RAILWAY CHILDREN

13 Three children, waving at a train daily, begin a friendship with an old gentleman that ultimately sets their imprisoned father free.

J. M. BARRIE PETER PAN IN KENSINGTON GARDENS

14 Peter Pan flies the Darling children to the Neverland, where The Lost Boys, Captain Hook, and Tinkerbell entertain them.

KENNETH GRAHAME THE WIND IN THE WILLOWS

15 Ratty, Mole, Badger, and Toad star in watery adventures on the idyllic riverbank. Toad's penchant for fast cars and disregard for the law lead to a dramatic encounter with the police. Arthur Rackham later provided classic illustrations.

L. M. MONTGOMERY ANNE OF GREEN GABLES

16 Orphaned Anne Shirley, with her vibrant red hair, feisty personality, and unstoppable chatter, becomes the darling of Avonlea having arrived unexpectedly.

FRANCES HODGSON BURNETT
THE SECRET GARDEN

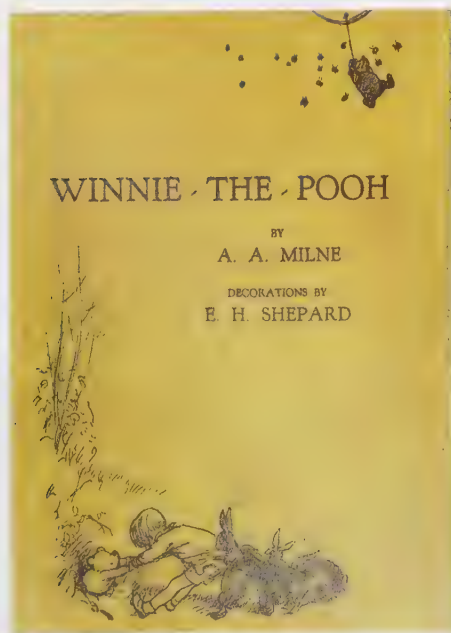
17 Spoilt Mary is miserable after arriving in Yorkshire from India. Discovering a locked garden, she meets Dickon, a young naturalist, and finds happiness making things grow. Mary and the garden also help sickly Colin walk again.

ELEANOR H. PORTER
POLLYANNA

18 "Glad" Pollyanna is a contrast to her grumpy aunt. When Pollyanna is paralyzed she remains cheerful; when she recovers she makes her aunt sunny, too.

A. A. MILNE
WINNIE-THE-POOH

22 Winnie-the-Pooh, "a bear of no brain at all" but with a love of poetry and gentle philosophizing, and his friends including Piglet, Eeyore, Rabbit, Kanga, and Owl, enjoy amusing adventures in the Hundred Acre Wood watched over by Christopher Robin.



ALAIN-FOURNIER
LE GRAND MEAULNES

10 Romantic 17-year-old Meaulnes falls in love and is subsequently haunted by the ideal of love the girl he has lost embodies. During his search to find her, Meaulnes muses on love and the transition to adulthood.

NORMAN LINDSAY
THE MAGIC PUDDING

20 A walking, talking, self-renewing steak-and-kidney pudding enjoys a traveling adventure across Australia with a koala bear, a sailor, and a penguin.

RICHMAL CROMPTON
JUST WILLIAM

21 William Brown, an ordinary boy from an ordinary middle-class home, is always on the search for an interesting adventure. Accompanied by his dog Jumble and with his gang, the Outlaws, including the inescapable Violet Elizabeth Bott, William gets into one entertaining scrape after another as a result of following his own disarming and usually flawed logic.

P. L. TRAVERS
MARY POPPINS

27 A nanny extraordinaire blows into the lives of the Banks family and takes total control with the help of magic.

LUDWIG BEBELMANS 1939
MADELINE

28 Bravest of the 12 little girls in a Paris convent school, Madeline charmingly terrorizes teacher Miss Clavel with her antics.

H. A. & MARGRET REY 1941
CURIOUS GEORGE

29 Monkey George gets up to tricks traveling from Africa to a big city with "the Man with the Yellow Hat."

ERICH KÄSTNER
EMIL AND THE DETECTIVES

23 Traveling alone to Berlin, Emil is robbed of his money. Ignoring the police, he gathers together a gang of local children. They track down the thief, get Emil's money back, and are rewarded as the thief is a big-time crook.

ARTHUR RANSOME
SWALLOWS AND AMAZONS

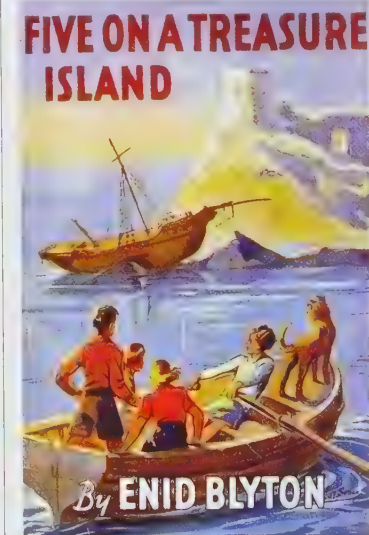
24 Six children, the Walkers and the Blacketts; two boats, *Swallow* and *Amazon*; camping on an island in a lake; and no adults make the ingredients of this classic holiday adventure. Initially, the two families stake rival claims to the island but peace is struck. Together they fight a common cause.

JEAN DE BRUNHOFF 1941
THE STORY OF BABAR: THE LITTLE ELEPHANT

25 When a hunter kills his mother, Babar heads to the city where he is clothed and educated by a wise old lady. Wiser, Babar returns to the forest, marries Celeste, and becomes the new king.

LAURA INGALLS WILDER
LITTLE HOUSE IN THE BIG WOODS

26 An autobiographical story of two girls growing up in a frontier log cabin. In finely observed detail, the independent, spirited Laura tells the story of her family's move by wagon from Wisconsin to Kansas.



ENID BLYTON
FIVE ON A TREASURE ISLAND

30 Cousins Julian, Dick, Georgina (known as George), Anne, and dog Timothy have a ripping adventure on an island as they search for missing treasure, see off baddies, and end up very rich.

ANTOINE DE SAINT-EXUPÉRY

Le Petit Prince



ANTOINE DE SAINT-EXUPÉRY 1944

THE LITTLE PRINCE

31 Crash-landed in the Sahara Desert, an aviator meets the Little Prince who arrived on Earth from an asteroid where he is the ruler and only inhabitant. The Little Prince wants to understand the human condition more clearly and he interrogates the aviator about it in the hope of learning more. This timeless classic was memorably illustrated by the author.

ASTRID LINDGREN 1947

PIPPi LONGSTOCKING

32 Brave, strong, and original, nine-year-old Pippi lives with a horse and a monkey. She sees off the police when they call to put her in an orphanage.

W.V. AWDRY 1938

THOMAS THE TANK ENGINE

33 Although only a lowly shunting engine in the railway hierarchy, Thomas's bravery and big heart soon earn him a branch line all of his own.

TOVE JANSSON 1946

COMET IN MOOMINLAND

34 Moomins are white, round, furry beings that resemble hippos. Warned of the coming of comets, Moomintroll and Sniff set off for the Lonely Mountains to find out if the Earth is going to be destroyed. On their way they meet Snufkin, are rescued by the Hemulen, and Moomintroll saves the Snork Maiden's life. It is filled with Nordic charm and fantastically illustrated by the author.

MARGARET WISE BROWN 1947

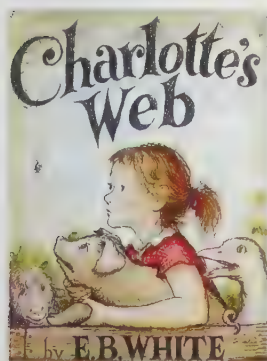
GOODNIGHT MOON

35 These soothing rhyming bedtime phrases and pictures help to settle babies at night.

E. B. WHITE 1952

CHARLOTTE'S WEB

36 Helped by a goose and a rat, spider Charlotte saves Wilbur the pig from death by weaving messages about him into her web.



DICK BRUNA 1969

MIFFY

37 The domestic adventures of this enchanting baby female rabbit, coolly defined in simple outlines and bold colors.

KAY THOMPSON 1968

ELOISE

38 An indefatigable six-year-old enjoys high living and pranks in New York's Plaza Hotel, under the watch of her English nanny.

PAUL BERN 1951

A HUNDRED MILLION FRANCS

39 A kid's gang in a working-class suburb of Paris happily race the streets on a tricycle. Some crooks then steal it, but why?

PHILIPPA PEARCE 1984

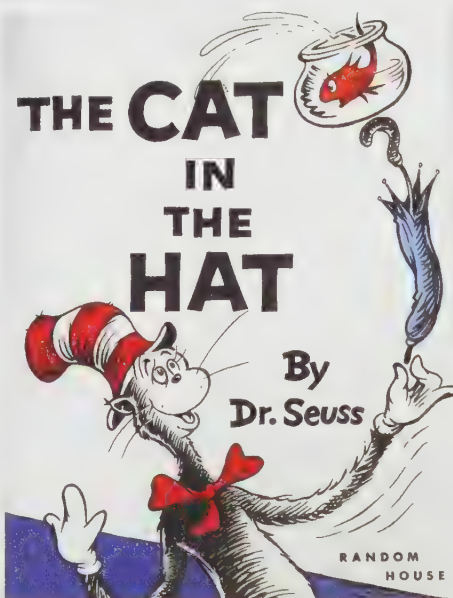
TOM'S MIDNIGHT GARDEN

41 When the clock strikes 13 Tom finds the garden, meets Hatty, and discovers that time does not stand still.

DR. SEUSS 1957

THE CAT IN THE HAT

40 The audacious and anarchic Cat in the Hat turns a respectable house upside down with his trickery when a rash mother leaves her children unattended. Initially horrified, the two children become entranced while the bossy goldfish moralizes. Told in rhyming verse, the cat remains entirely cool as he sets the mayhem in motion. Can it be put straight before mother comes home?



MICHAEL BOND 1984

A BEAR CALLED PADDINGTON

42 The bear "with a hard stare" arrives in London's Paddington Station from Peru with a jar of marmalade.

MADELINE L'ENGLE 1958

A WRINKLE IN TIME

43 This sci-fi adventure concerns three children who cross "a wrinkle in time" on a rescue mission. Helped by three unusual companions, they fight against evil.

TONKE DRAGT 1955

THE LETTER FOR THE KING

44 A classic Dutch fantasy adventure. During his vigil a knight is disturbed by a cry for help. Answering the call takes him on an exciting and perilous mission.

STAN & JAN BERENSTAIN
THE BERENSTAIN BEARS

45 A homely family of dressed-up bears help children overcome fears (such as visiting the doctor) and learn good morals in a series of fun rhyming titles that began with *The Big Honey Hunt*. Fearful or foolish, the Bear children are instructed to do better by Papa Bear, supported by Mama Bear.

WHERE THE WILD THINGS ARE



STORY AND PICTURES BY MAURICE SENDAK

MAURICE SENDAK 1940
WHERE THE WILD THINGS ARE

46 When angry Max behaves like a "wild thing" and declares that he will eat up his mother he is sent to his bedroom without any supper. Cross and alone in his bedroom, a forest grows and Max sails away on an amazing adventure that takes him to the land of the Wild Things, a bunch of terrifying monsters with claws and terrible teeth who invite him to join in their rumpus. Soon Max is declared their king. When the rumpus ends, Max sails back home and finds his supper has been put out for him and it is still hot. Sendak takes readers on Max's journey of self-discovery and avoids moralizing.

ANNE HOLM
I AM DAVID

47 Escaping from a concentration camp, David travels alone across Europe. His open-mindedness to people and nature inspires.

ROALD DAHL
CHARLIE AND THE CHOCOLATE FACTORY

48 A golden ticket takes Charlie to the wonders of Willie Wonka's Chocolate Factory. While each of the other children on the trip is dispatched to a ghastly fate, the well-behaved Charlie flourishes.



BY Roald Dahl
 Illustrated by Joseph Schindelman

IVAN SOUTHALL 1940
ASH ROAD

49 Three children accidentally light a bush fire while camping and struggle to survive it.

RUSSELL HOBAN 1959
THE MOUSE AND HIS CHILD

50 Joined at the hands and depending on clockwork for their existence, the mouse and his child are on a moving quest to become self-winding while also avoiding the malicious Manny the Rat.

S. E. HINTON
THE OUTSIDERS

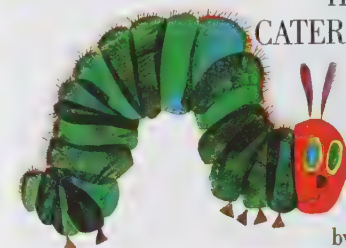
51 A gritty depiction of teenage gang culture, in which greasers and Socs fight to the death.

JULIUS LESTER
TO BE A SLAVE

52 The horrifying experiences of former slaves are told in their own words.

ERIC CARLE 1969
THE VERY HUNGRY CATERPILLAR

53 Hatched from an egg, a caterpillar eats a hole through delicious foods in the course of a hungry week before it transforms into a beautiful, bright butterfly.



THE VERY HUNGRY CATERPILLAR

by Eric Carle

JOHN BURNINGHAM
MR. GUMPY'S OUTING

54 A boat journey goes wrong when a group of animals misbehave predictably when they are all allowed on board. Capsizing, there's a satisfyingly giant splash as they all fall in.

FLORENCE PARRY HEIDE 1971
THE SHRINKING OF TREEHORN

55 A young boy begins shrinking but his parents don't notice and his teacher thinks he's making it up. But then he can't reach the water bubbler and the school bus driver assumes he is his own kid brother. How can Treehorn get attention? Or stop shrinking?

ROBERT C. O'BRIEN 1971
MRS. FRISBY AND THE RATS OF NIMH

56 Field mouse Mrs. Frisby discovers the laboratory rats and introduces them to the superior quality of a more natural life.

CHRISTINE NÖSTLINGER 1973
FLY AWAY HOME

57 In bombed out Vienna, Christel begins a new life as the war ends. But the coming of Russian soldiers brings new upheavals.

ROBERT CORMIER 1974
THE CHOCOLATE WAR

58 A bullying teacher harnesses the school's elite to impose his plan. One boy defies them in a violent and chilling school story.

VIRGINIA HAMILTON 1974

M.C. HIGGINS, THE GREAT

59 M.C. must protect the family home in the Appalachian Mountains but he must also respect his African-American heritage—and his father's beliefs in the old ways.

RAYMOND BRIGGS 1976

THE SNOWMAN

63 A classic, dreamy, magical wordless picture book that is loved the world over. Waking to a thick snowfall, a little boy makes a snowman in the garden. At midnight, the snowman comes to life. He comes into the house to play before he sweeps the boy off on a thrilling fantastical adventure, flying through the night sky and meeting up with Father Christmas. Eventually as the sun begins to rise, the boy and snowman fly gently home. The story does not necessarily take place at Christmas, however; the seasonal trimmings were added when the animated film was made.



MILDRED TAYLOR 1976

ROLL OF THUNDER, HEAR MY CRY

60 Cassie celebrates her heritage as she observes the wrongs of prejudice. These are brought home as her family's ownership of land brings hostility from white families.

SHIRLEY HUGHES 1978

DOGGER

61 A beloved toy dog goes missing but turns up for sale at a school fair and goes to a new owner. All ends happily in time for sleep.

KATHERINE PATERSON 1974

BRIDGE TO TERABITHIA

62 In this heartbreaking story, two inseparable children create an imaginary world, then one of them is killed.

ALLAN & JANET AHLBERG 1979

EACH PEACH PEAR PLUM

64 Nursery rhyme characters including Tom Thumb and Mother Hubbard appear in this lively cumulative rhyming picture book with beautiful pictures.

QUENTIN BLAKE 1980

MISTER MAGNOLIA

65 Delightful Mister Magnolia has one boot, an old trumpet that goes rooty-toot, and more in this celebration of zany eccentricity by the first Children's Laureate.

ERIC HILL 1980

WHERE'S SPOT?

66 Where can the eager puppy who loves hiding be? Simple pictures include flaps, which reveal the inquisitive Spot and his friends to his patient mum.

JUDY BLUME 1981

SUPERFUDGE

67 Four-year-old Fudge, Peter's younger brother, star of previous titles, remains trouble. Now he kicks the teacher on his first day at school and plans to sell his new baby sister Tootsie. Peter narrates his brother's mischief ruefully but benignly.

MICHELLE MAGORIAN 1981

GOODNIGHT MISTER TOM

68 An abused evacuee finds unexpected happiness in the care of a lonely widower. In turn, Mr. Tom discovers kindness in himself as he nurtures the physically bruised and mentally scarred boy. An emotionally satisfying classic.

ANITA DESAI 1982

THE VILLAGE BY THE SEA

69 Thanks to Lila, her family survive their terrible poverty caused by her father's drunkenness and her mother's illness. A touching and culturally specific story about a fishing community on the west coast of India.

MARGARET MAHY 1981

THE HAUNTING

70 A family secret lies behind the haunting of Barney. But what is it? And why won't anyone talk about it? Mahy's gift is in making the supernatural as interesting and as real and convincing as the everyday; traveling from one to the other is delightfully effortless.

SUE TOWNSEND 1981

THE SECRET DIARY OF ADRIAN MOLE

71 This much-loved diary hilariously charts the big and small details of teenager Adrian Mole's life. Guileless Adrian's warts-and-all observations of his family, his feelings for his friends, and, above all, his feelings about himself and his angst, speak to all.

MICHAEL MORPURGO 1981

WAR HORSE

72 Cart horse Joey is sent from a Devon farm into the chaotic and bloody battlegrounds of World War I. Deployed by both sides, Joey gives an impartial commentary on the horror and futility of war. Joey's only wish is to be reunited with Albert, the farm boy he knows and loves.

ANTHONY BROWNE
GORILLA

73 Hannah longs to see a live gorilla. Given a toy one for her birthday, she is bitterly disappointed. She dreams a nighttime adventure with a gorilla who could be her father.

GRACE HALLWORTH
MOUTH OPEN, STORY JUMP OUT

74 These folktales from Trinidad and Tobago capture the natural beauty of the islands and the magic and mystery of their vibrant story heritage.

DANIEL PENNAC
THE EYE OF THE WOLF

75 A boy from Africa and a wolf from the North, both having seen terrible things and lost almost everything, come face to face and share their stories.

BEVERLEY NAIDOO
JOURNEY TO JO'BURG

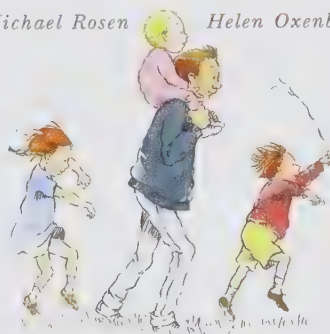
76 The experiences of black and white families are starkly exposed when Naledi visits her mother who works as a maid, and realizes that starvation threatens her family.

JAMES BERRY
A THIEF IN THE VILLAGE

77 This collection of atmospheric and poetic short stories captures growing up in Jamaica. The title story vibrantly depicts village life and warns against unthinking prejudice.

We're Going on a Bear Hunt

Michael Rosen Helen Oxenbury



MICHAEL ROSEN
WE'RE GOING ON A BEAR HUNT

78 Bold rhyming text and evocative illustrations capture a family's eager anticipation before a bear hunt, the excitement and growing anxiety while on it, and the relief when it is all over.

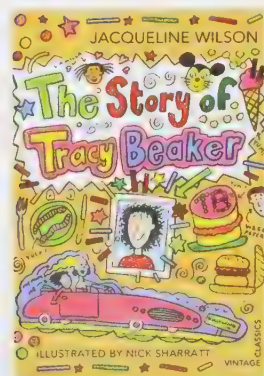
MORRIS GLEITZMAN 1989

TWO WEEKS WITH THE QUEEN

79 When Colin is sent to England after his brother diagnosed with cancer, he plots to get the Queen's doctor to help. Instead, he finds comfort from other caring adults in this comically told tragedy.

MAX VELTHUIJS 1989
FROG IN LOVE

80 Cute, vibrant green Frog is hot and cold and his heart is going thump, thump. Surely he is unwell? His friend Hare has a different explanation: Frog is in love.



JACQUELINE WILSON
THE STORY OF TRACY BEAKER

81 Abandoned Tracy dreams of a loving home but in reality she lives in a children's home after failed fostering attempts. When Cam offers her a home Tracy's life changes for the better.

JOSTEIN GAARDER
SOPHIE'S WORLD

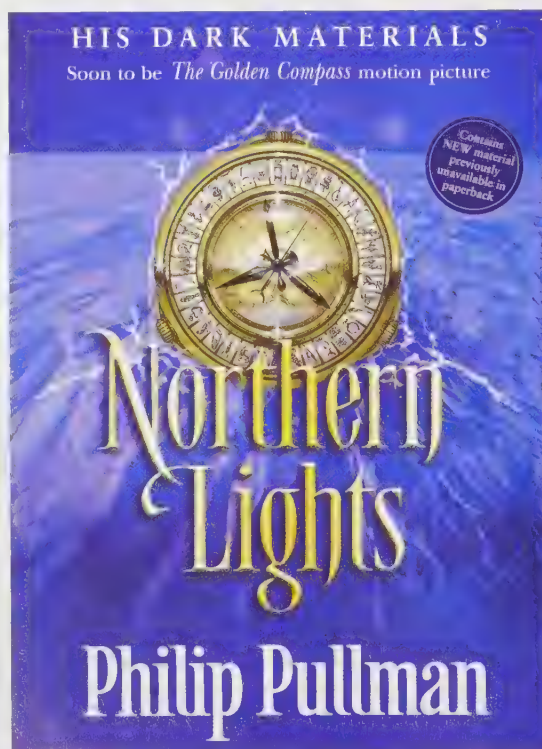
82 Teenager Sophie engages in probing philosophical discussions with an unexpected mentor and receives some mysterious postcards.

JON SCIESZKA
THE STINKY CHEESE MAN AND OTHER FAIRLY STUPID TALES

83 These fractured fairy tales with a twist wittily subvert the norms of the Ugly Duckling and others.

GUDRUN PAUSEWANG
THE FINAL JOURNEY

84 With her family missing, Alice travels alone to an uncertain destination on a journey of great hardship.

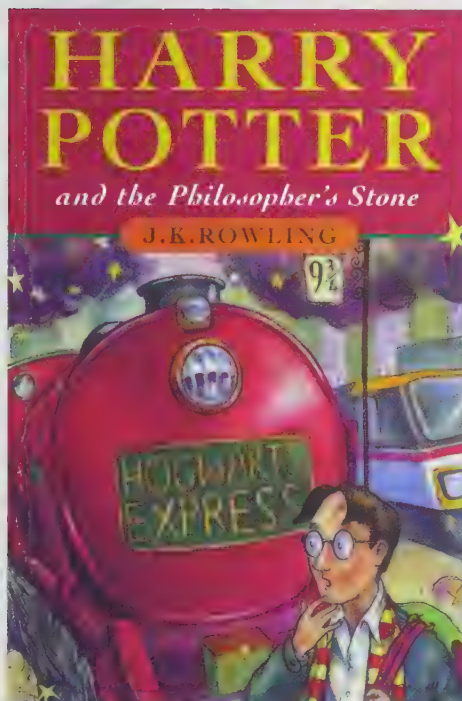


PHILIP PULLMAN 1996
NORTHERN LIGHTS

85 Free-spirited Lyra, with her daemon Pantalaimon, has a vital role in the battle against the all-powerful Magisterium. Inspired by Lord Asriel and in flight from the evil Mrs. Coulter, the success of Lyra's journey depends on her possession of an alethiometer and her encounters with an armored bear, an aeronaut, and a witch.

MELVIN BURGESS 1996
JUNK

86 A moving, honest, and poignant story of teenagers and heroin drug use.



J. K. ROWLING 1997
HARRY POTTER AND THE PHILOSOPHER'S STONE

87 Destined to save the magical world, orphan Harry Potter attends Hogwarts School for wizards and witches. Helped by his friends Ron and Hermione, he embraces a magic curriculum including Quidditch in his brave quest to keep evil out of Hogwarts.

DAVID ALMOND
SKELLIG

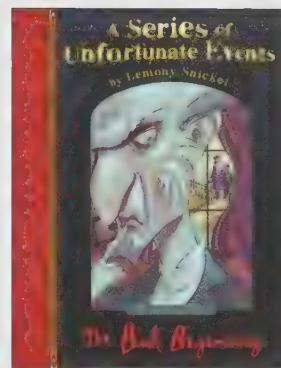
88 Worried about his sick sister, Michael finds a mysterious being in the garage. Skellig needs Michael to keep him alive; Michael needs Skellig to save his sister.

LOUIS SACHAR
HOLES

89 Unfairly sent to a detention center, Stanley and his fellow bad-boys must dig holes in the desert. Stanley's determination to find out why brings surprising results.

JULIA DONALDSON
THE GRUFFALO

90 This is a modern classic of brains versus brawn. Brilliant illustrations and a rhyming text describe how a clever mouse outwits fox, owl, and snake with his invented threat of a terrifyingly ugly monster.



LEMONY SNICKET
A SERIES OF UNFORTUNATE EVENTS: THE BAD BEGINNING

91 This tale of the three unlucky Baudelaire orphans is told with humorous irony and a deadpan delivery, as their villainous guardian subjects them to bad food, imprisonment, and cunning plans to steal their inheritance.

J. K. ROWLING
ARTEMIS FOWL

92 Magic and mayhem rules when teenager Artemis Fowl captures a kick-ass fairy, thus igniting an adventure involving a techno-whizz centaur and a criminal dwarf with a special skill in mining.

NEIL GAIMAN
THE WOLVES IN THE WALLS

94 Wolves come out of the walls as Lucy has been predicting—terrifying moments perfectly captured in David McKean's illustrations. Can they be defeated or will everything be lost? This is scary stuff.

CORNELIA FUNKE
INKHEART

96 Meggie's father's has the ability to bring book characters to life. The results can be spectacular, but many want to destroy his gift.

MARKUS ZUSAK
THE BOOK THIEF

97 Liesel, orphaned following her parents removal to a concentration camp, becomes a reader and a book thief to survive in a story told by death.

MARK HADDON
THE CURIOUS INCIDENT OF THE DOG IN THE NIGHT-TIME

97 A dead dog sparks an investigation that leads in unexpected directions for teenager Christopher, whose view of the world creates logical conclusions and confusion.

KATE DICAMILLO
THE TALE OF DESPEREAUX

95 Despereaux is a mouse hero with a big heart. Imprisoned for speaking to a human princess, he proves his nobility by returning the princess to safety after she is kidnapped by a rat and a servant.

JOHN BOYNE
THE BOY IN THE STRIPED PAJAMAS

98 Bruno's innocence is shattered by his friendship across a barbed wire fence.

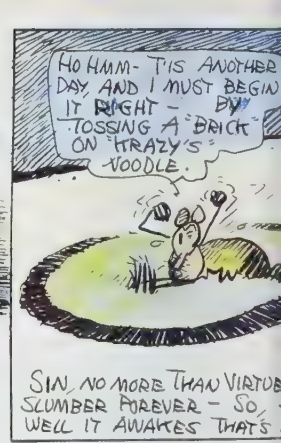
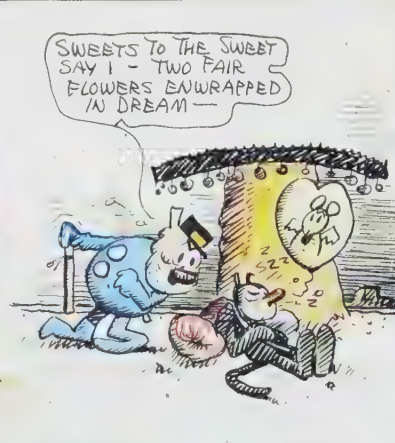
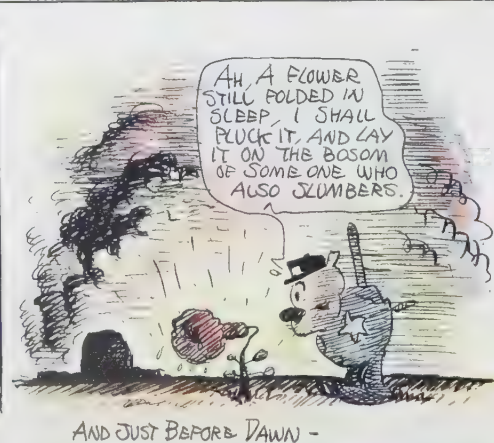
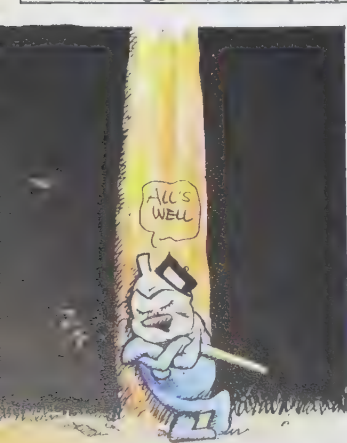
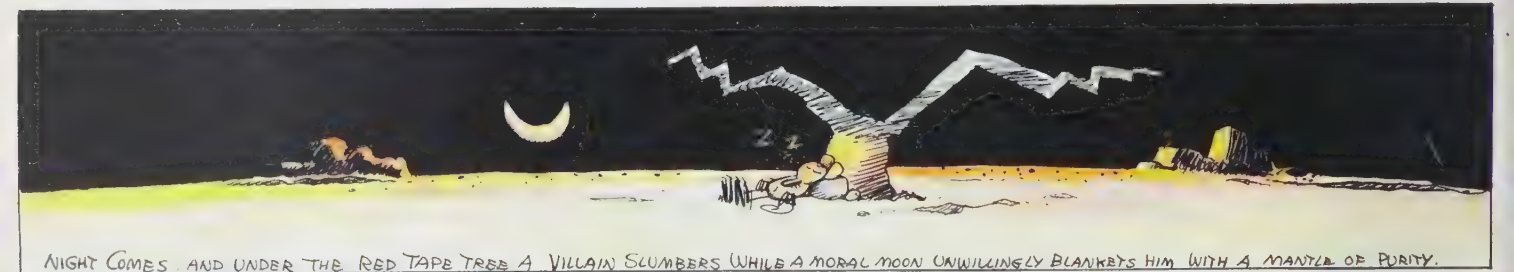
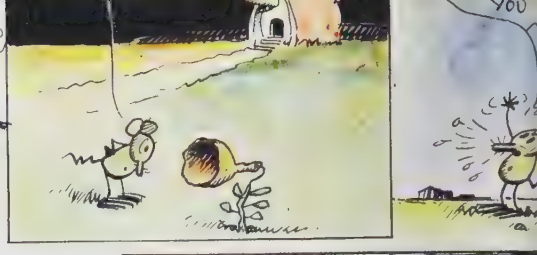
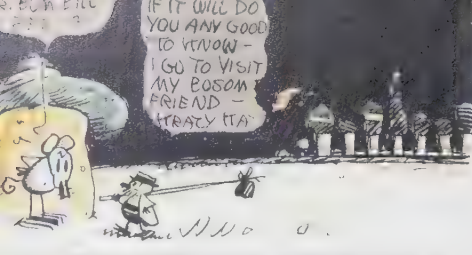
SHAUN TAN
THE ARRIVAL

99 Every immigrant's poignant experience is depicted wordlessly in this graphic novel. Fleeing a dark country a young man travels to somewhere new to make a home for his wife and child. Searching for work and accommodation he meets difficulties but also kindness, which brings hope for the future.



JON KLASSEN
I WANT MY HAT BACK

100 Bear has lost his hat and wants it back, but no one knows who's got it. Smart readers who have spotted it love knowing the joke before Bear realizes that he does know where his hat is.



THE MEANWHILE 'OFFICER PUPP' KEEPS HIS VIGIL OF THE NIGHT.



RODOLPHE TÖPFFER 1837

LES AMOURS DE MR. VIEUX BOIS

1 Although an eye disease prevented Rodolphe Töpffer from becoming an artist, this Swiss schoolteacher finished a 30-page story (of the kind now called a comic) in 158 panels filled with text and drawings. The work tells of the mishaps of Mr. Vieux Bois in a chase full of action and disasters. Whether or not Töpffer invented the form, he arguably established the cutting, montage, and timing techniques of subsequent comics.

WILHELM BUSCH 1865

MAX AND MORITZ

2 In its day, this classic about two scallywags was renowned (or notorious, depending on the radicalism of the beholder) for its social satire. Although *Max and Moritz* made its publishers rich, they paid Busch only a pittance for his work, and he resigned as a result. The work later became an inspiration for the American comic strip *The Katzenjammer Kids* by Rudolph Dirks, which also became highly successful, and, in its turn, a blueprint for subsequent classic comic strips.

RICHARD OUTCAULT 1896

THE YELLOW KID

3 The Yellow Kid first appeared as a minor character in *Hogan's Alley*, Outcault's panel cartoons depicting life in a New York slum. The artist subsequently supplemented his income by incorporating advertising slogans on the Kid's nightshirt. In a landmark edition of October 25, 1896, *The Yellow Kid and his New Phonograph* comprised five sequential drawings in which the text essential to each was contained within speech balloons rather than printed beneath the illustrations.

100 COMICS

WINSOR MCCAY 1905

LITTLE NEMO IN SLUMBERLAND

4 Every Sunday Little Nemo fell asleep and drifted off into a colorful, surreal dreamworld, then woke with a shock as he fell out of bed, into the large pages of the *New York Herald*. Winsor McCay drew this strip for 21 years with an Art Nouveau elegance that would not be matched until Disney.

GEORGE MCMANUS 1913

BRINGING UP FATHER

5 Jiggs, a construction worker, becomes rich. His wife aspires to high society, but he would rather play poker with his working-class pals. The couple became household names. McManus's style anticipated that of Hergé.

GEORGE HERRIMAN 1913

KRAZY KAT

6 At first glance, this elaborate tale is about an abusive relationship between a mouse, a cat, and a dog. Krazy the Kat (a feline of ambiguous gender) loves the mouse, Ignatz. Ignatz appears to despise the swooning Cat, and throws bricks at Krazy's head. Krazy Kat takes this violence as a sign of Ignatz's affection. He looks forward to being stunned by bricks, and is quite unable to understand why Officer Pup locks Ignatz in the county prison whenever the mouse strikes. Coconino County is a desert that evokes the great American landscapes of the Grand Canyon, Monument Valley, and New Mexico, yet it exists in a constantly shifting form, where all sorts of odd things happen. Herriman was a great confounder of expectations, and a subverter of archetypes; much of his finest work anticipates postmodernism.

FRANK KING 1915

GASOLINE ALLEY

7 Walt Wallet is a bachelor who finds on his doorstep an abandoned baby, whom he adopts, and names Skee-zix.

FRANS MASEREEL 1915

PASSIONATE JOURNEY

8 This wordless woodcut graphic novel is about a rebel and revolutionary, "the epitome of humanness" in a city of evil.

OTTO MESSMER 1915

FELIX THE CAT

9 Felix was the world's most popular cartoon character prior to Disney's Mickey Mouse. The Cat was successful not only in comics, but also in early animation, merchandising, and on television. At first he was a Sunday-only feature credited to Pat Sullivan, but after Sullivan's death, Messmer took full credit for all the gag-filled romps of surreal, creative storytelling.

PERCY CROSBY 1916

SKIPPY

10 What was new about Skippy was that he was a loner, and a boy philosopher much wiser and more cynical than his years.

ROY CRANE 1916

WASH TUBBS

11 This strip began as lighthearted tales of a jolly, rotund fellow intent on fun. Yet within a year, Crane sent his hero to sea, and thus pioneered the adventure serial.

HAROLD GRAY 1924

LITTLE ORPHAN ANNIE

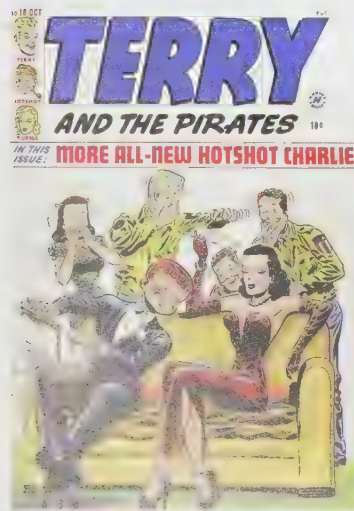
12 A parentless ten-year-old girl tackles a wide range of antisocial demons. She overcomes every challenge, and metes out her own special brand of justice.

HERGÉ TINTIN

13 Hergé was inspired to create *The Seven Crystal Balls*—the thirteenth, and, in the view of many, the best Tintin story—by the curse that was said to have plagued the archaeologists unsealing Tutankhamun's tomb in the 1920s. Returning from the Andes with an Inca mummy, Tintin's expedition party members fall into comas. The journey ends with them all held prisoner within the Temple of the Sun. Tintin's clever stunt to free his companions is one of Hergé's finest bravura moments. Faultless storytelling and outstanding graphics vigorously glorify the spirit of adventure.

MILTON CANIFF TERRY AND THE PIRATES

18 Terry Lee, a bright American lad, and his pal, Pat Ryan, search for a gold mine in the romantic Orient, and there encounter a mysterious villainess.



ALEX RAYMOND & DON MOORE FLASH GORDON

19 Athletic Flash Gordon, gallant Dale Arden, and genius Dr. Zarkoff rocket to planet Mongo, from where evil Emperor Ming threatens to destroy Earth. Raymond drew this sci-fi classic for newspapers for ten years.

HAL FOSTER PRINCE VALIANT

22 Prince Valiant was conceived in 1934, when Flash Gordon was at the peak of his popularity. When Foster went ahead with the project, he gave his strip a historical setting. Valiant was first published as a color Sunday page, across which the Prince adventured through Arthurian panoramic landscapes, spreading nobility and common sense, with meticulous depictions of pageantry, battle, and daily life.

E. C. SEGAR POPEYE

14 Popeye the Sailor Man first appeared as a minor character in Segar's *Thimble Theatre*, which is regarded as a paragon of comic strip art. *Thimble Theatre* originally starred Olive Oyl and her brother, Castor, who went looking for a sailor on Dice Island, and there met Popeye. From then on, the satirical stories centered on the one-eyed seaman's adventures with Olive Oyl, who becomes his eternal girlfriend.

FLOYD GOTTFREDSON 1930
MICKEY MOUSE
15 In these daily serials, Mickey Mouse is the plucky daredevil from Disney's earlier cartoons.

CHESTER GOULD 1931 DICK TRACY

16 The tough detective without an alias is easily recognizable by his square chin and his aquiline nose.

HAROLD FOSTER / BURNE HOGARTH 1931 TARZAN

17 A wild white man in animal-skin costume swings through exotic jungle adventures.

AL CAPP LI'L ABNER

20 Living with his Mammy and Pappy in Dogpatch, the strapping hillbilly somehow evades all female attempts to lure him into marriage.

LEE FALK & RAY MOORE 1936 THE PHANTOM

21 Kit Walker is "The Ghost Who Walks," a costumed adventurer with two rings of fate, one that scars, the other that protects.

JERRY SIEGEL & JOE SHUSTER SUPERMAN

23 Superman was thrilling stuff in 1938. Yet for all the hero's superpowers, the stories that stand out are those that reveal the Man of Steel's social conscience. Superman deals with wife-beaters, rescues trapped miners, and prevents wrongful execution, while other characters question the ethics of munitions manufacture. Krypton, Lois Lane, and Jimmy Olsen appeared from year one; Lex Luthor arrived the following year.



Detective COMICS

10¢



BILL FINGER & BOB KANE 1939 BATMAN

24 Batman exists because of Superman. Publishers were looking for a prospect that fitted that new superhero formula. Bill Finger and Bob Kane created Batman by inverting nearly all the characteristics of Superman, apart from his heroism. While Superman is noble and moral, Batman is vengeful and haunted by his tragic past. Superman is an alien migrant with preternatural abilities; Batman is fully human, and relies on his strength, skill, and wits. Superman defends in daylight; Batman fights crime at night using fear. With a Gothic sense for lighting, Finger and Kane challenged their masked vigilante with a gallery of villains, many of them dark distortions of Batman's own psychology. The arrival of prototype sidekick Robin in 1940 took the Dynamic Duo out of the shadows, adding more primary colors, and witty dialogue.

WILL EISNER 1940 THE SPIRIT

25 The Spirit is dead detective Denny Colt, who is resurrected after being killed by arch-enemy, Doctor Cobra, and now wanders the criminal underworld. Eisner's splash pages with swooping perspective were hugely influential. His cinematic story-telling mixed humor, drama, and pathos with ease, and brought a new sophistication to the medium. Lead story in a weekly comic-book section in newspapers, *The Spirit* hit its peak after Eisner returned from service in World War II, and ran for 12 years.

BILL PARKER & C. C. BECK 1940 CAPTAIN MARVEL

26 By shouting "Shazam!," newsboy Billy Batson became the world's mightiest mortal. His main foe was the Monster Society of Evil, led by diminutive villain, Mr. Mind.

WILLIAM Moulton MARSTON & HARRY PETER 1941 WONDER WOMAN

27 Amazon princess Diana falls for a US Army officer, and moves to the United States to fight for the Allies. As beautiful as Aphrodite, as wise as Athena, and as strong as Hercules, she has a magic lasso and bullet-deflecting bracelets.

JACK COLE 1941 PLASTIC MAN

28 A crook falls into a chemical vat during a factory break-in. He awakens to find that his body is now malleable and indestructible.

JOHN STANLEY 1941 LITTLE LULU

30 Our charming heroine might be young, and occasionally naive, but she has a brain, and takes no nonsense from anyone.

ANDRÉ FRANQUIN 1941 SPIROU & FANTASIO

31 Eager reporters Spirou and Fantasio become embroiled in the strangest cases, as in their 1961 thriller, *Z is for Zorglub*, about a mad scientist's mind-controlling ray.

EDGAR P. JACOBS 1941 BLAKE & MORTIMER

32 From Egyptian tombs to London's East End, a British MI5 agent and a physics professor foil fiendish Cold War conspiracies.

WALT KELLY 1941 POGO

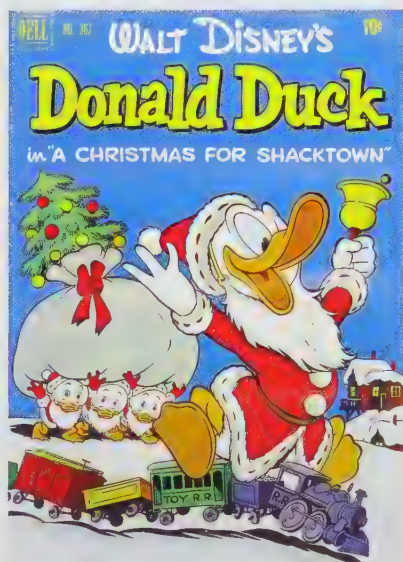
34 In a swamp in the Deep South live Pogo, a philosophical possum, and his dumb but loyal alligator friend, Albert. Ex-Disney artist Kelly expanded the funny animal genre by bringing verbal wit and political awareness to a daily newspaper strip.

LUCKY LUKE 49

TORTILLAS
POUR LES DALTON

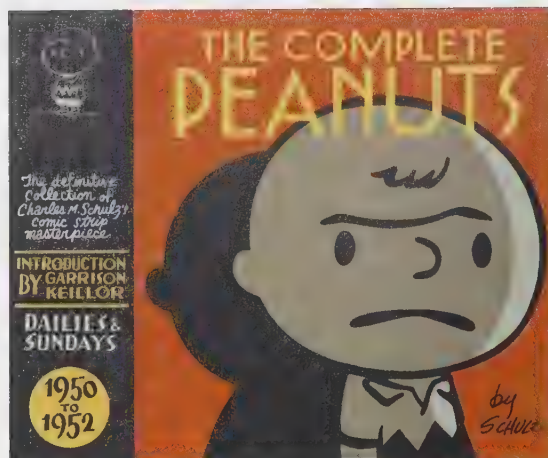
RENÉ GOSCINNY & MORRIS 1941 LUCKY LUKE

33 These Wild West comedies feature a quickfire cowboy, his smart horse, a stupid dog, and the dastardly Dalton brothers.



CARL BARKS 1941 DONALD DUCK

29 Carl Barks is at his best here, in one of his many entertaining full-length comic books. Donald tries to raise money for a Christmas party for Shacktown's poor children. When asked for \$50, mean Uncle Scrooge challenges Donald to raise half. Absurd catastrophe looms when a single extra dime threatens to sink the miser's vast fortune into quicksand. Barks's dénouement is both ingenious and poignant.



CHARLES SCHULZ PEANUTS

35 In a suburban neighborhood lives Charlie Brown, an anxious boy for whom the baseball field is a challenge, with Snoopy, his odd, black-eared dog. The bittersweet humor of *Peanuts* lies in the ways in which the two friends fail to make sense of the unpredictable situations in which they find themselves, and of the awkward people who surround them. Somehow, they try to rise above them in their musings, which can ease life's disappointments for us all. Charles Schulz gives simple, eloquent expression to some of the ways in which children wrestle with their doubts, and try to understand the world around them. No wonder *Peanuts* became one of the most popular strips of all time.

HARVEY KURTZMAN & VARIOUS ARTISTS MAD

39 This was the comic book that dared to go further than any of its predecessors, and duly went too far. Although it lasted only three years and 23 issues, *MAD* was widely influential, and sparked the underground comix scene in the late 1960s. Harvey Kurtzman conceived and edited the satirical anthology, and hired signature artists Jack Davis, Wally Wood, and Will Elder, among others. In 1955, to avoid the censorship that was rife in the industry at the time, Kurtzman revamped *MAD* into the magazine format familiar to this day. It is his masterpiece, and his enduring legacy.

AL FELDSTEIN & VARIOUS ARTISTS
TALES FROM THE CRYPT
36 Lurid terror and retribution ooze from these twisted eight-page morality tales, the finest in 1950s' US horror, which triggered 20 years of industry self-censorship.

FRANK HAMPSON
DAN DARE
37 The Pilot of the Future combats danger in the solar system by setting a good example to the isolationist Mercurians, the decadent Therons, and the unfeeling Treens, led by the ruthless The Mekon.

OSAMU TEZUKA
ASTRO BOY
38 The atomic-powered kid robot has become an icon of Japanese manga. After losing his only son in an accident, scientist Dr. Tenma attempts to save Tobio as a robot, but soon realizes that his son was irreplaceable. He sells the unwanted robot to a circus, but in Tezuka's sci-fi take on Pinocchio, Astro Boy has feelings too. His sense of rejection turns to joy when he is adopted and loved by Professor Ochanomizu, head of the Ministry of Science.

OSAMU TEZUKA PRINCESS KNIGHT

40 Princess Sapphire cannot inherit the throne because she is female, so she dresses and acts as a boy. But can she keep her disguise secret?

TOVE JANSSON MOOMIN

41 Jansson, a novice at daily strips, brought a sense of discovery to her serials about a cast of eccentric creatures, and reveled in the form's playful possibilities.

MITSUTERU YOKOYAMA TETSUJIN 28-GO

42 The epitome of Japan's giant-robot genre, this work influenced Mazing Z and Neon Genesis Evangelion. The robot is remote-controlled, and can be a hero or a villain, depending on who operates it.



JULES FEIFFER FEIFFER

43 Full of rich Manhattanite navel-gazing and questioning of political authority, these urbane satires are agitated by societal ills and romantic maneuvering.

ROBERT KANIGHER, JOHN BROOME, GARDNER FOX & CARMINE INFANTINO THE FLASH

44 "The fastest man alive" heralded the Silver Age's sleek, science-based reinventions of lapsed Golden Age superheroes, reunited in the landmark "Flash of Two Worlds."

HÉCTOR OESTERHELD & FRANCISCO SOLANO LÓPEZ THE ETERNAUT

45 The people of Buenos Aires are trapped indoors by a deadly "snow" storm, the first phase in an alien invasion. Can a resistance group fight back?

REG SMYTHE 1987
ANDY CAPP

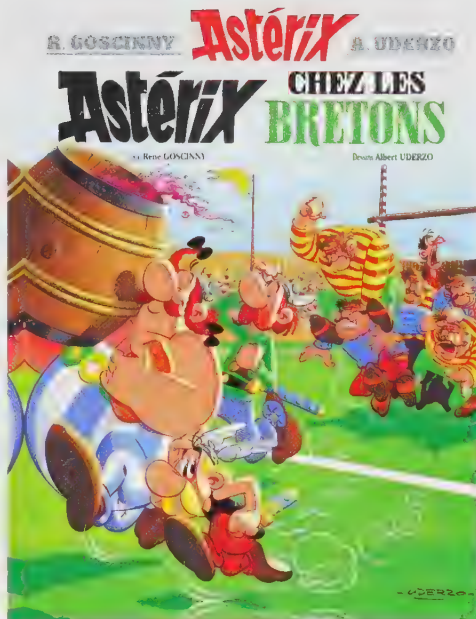
46 Andy Capp is work-shy, likes a smoke, a bet, a few pints of beer, and is not bothered if he's out late in the pub. Back home, his wife Flo awaits his return, at which time she will express her disappointment by hitting him over the head with a rolling pin.

PEYO 1958
THE SMURFS

47 Debuting in a *Johan and Peewit* tale, these little blue gnomes rescue the knight and his squire by making them a magic flute. The Smurfs, and their peculiar language, proved so popular that Peyo developed their individual personalities in clever albums dedicated to each of them.

SHIGERU MIZUKI 1988
GEGEGE NO KITARŌ

48 These are creepy yet charming tales about Yōkai, Japan's pantheon of underworld creatures, dealing with modern life. One-eyed Kitarō is born in a grave from a ghost mother and a living corpse. All that remains of his father is a talking eyeball, which lodges in Kitarō's empty socket.



RENÉ GOSCINNY & ALBERT UDERZO
ASTERIX

49 Asterix, the feisty little Gaul, and his menhir-lugging chum, Obelix, thwart the Roman Empire's plans at home and abroad, from Cleopatra's Egypt to Londinium in England. So in *Asterix in Britain*—the eighth tale in the series—when Getafix makes a potion to defeat the invaders, Asterix and Obelix bring it to London, but, soon after arriving, they lose it. Since British soldiers regularly down their weapons to enjoy a glass of hot water with milk, Asterix convinces them that he still has the potion, even though it is really only tea. The brew so fortifies the Brits that they overcome the Romans, and tea becomes the locals' national beverage.

STAN LEE & JACK KIRBY 1962
THE FANTASTIC FOUR

50 After being bombarded by cosmic rays on a space mission, scientist Reed Richards (Mister Fantastic), his girlfriend Susan Storm (Invisible Woman), her brother Johnny (The Human Torch), and pilot Ben Grimm (The Thing) acquire alarming powers. All-too-human heroes with hang-ups, they take on villains like Doctor Doom, a perfectionist hiding his scarred face behind a mask.



JEAN-CLAUDE FOREST 1968
BARBARELLA

51 Independent and free, Barbarella roams exotic planets in a distant future in search of amorous encounters with other beings. Her suggestive outfits may seem restrained today, but at the time she represented an emancipated woman in control of her own destiny. She became an icon of an era that altered the boundaries of morality and sex.

ANGELA & LUCIANA GUISSANI & VARIOUS ARTISTS 1968
DIABOLIK

52 In a skintight black bodysuit, an ambiguous mastermind, a modern Robin Hood, scares and ensnares wealthy criminals.

PETER O'DONNELL & JIM HOLDAWAY 1968
MODESTY BLAISE

53 This thrill-seeking agent joins sidekick Willie Garvin on dangerous missions.

STAN LEE & STEVE DITKO 1962
THE AMAZING SPIDER-MAN

54 Bitten by a radioactive spider, Peter Parker's initial impulse is to make a fast buck as Spider-Man. But then the murder of his uncle awakens his sense of moral duty, and convinces him to devote his life to fighting crime.

JEAN-MICHEL CHARLIER & JEAN GIRAUD 1968
LIEUTENANT BLUEBERRY

55 Redefining the Western, this series, set during and after the American Civil War, portrays an unruly cavalry officer with a broken nose but a good heart, and other vivid characters, including numerous Native Americans.



SANPEI SHIRATO 1968
THE LEGEND OF KAMUI

56 Kamui, meaning "divinity," is the name given by an ogre to a pariah baby, who grows into a boy determined to become a ninja. Re-creating seventeenth-century feudal Japan by demonstrating the injustices meted out to peasants, domestics, and pariahs by their corrupt rulers, Shirato saw his serial, annotated with footnotes, as an antidote to textbooks that excluded some of the uncomfortable truths about Japanese history.

QUINO MAFALDA

57 Mafalda is an imaginative six-year-old girl in Buenos Aires, Argentina. She sees a soda siphon as a vehicle to propel herself into space. She loves The Beatles, and wants a television, but worries about poverty, nuclear war, and the brain drain. Mafalda was used for a time by UNICEF.

GUIDO CREPAX VALENTINA

50 Inspired by early Hollywood diva Louise Brooks, Valentina is a beautiful orphan photographer in the glamorous world of the 1960s, captured memorably in Crepax's striking graphics.

ASAO TAKAMORI & TETSUYA CHIBA TOMORROW'S JOE

59 Joe grows from rebellious teenager to maturity, fighting through blood, sweat, and tears, in and out of the boxing ring.

HUGO PRATT CORTO MALTESE

60 Corto Maltese, an enigmatic sailor with an unpredictable nature and a murky past, bums around the world during the 1910s and 1920s. He supports the underdog, but sometimes cynically promotes himself. Against historical backgrounds in stories that mix occult lore with true events, Corto Maltese meets many real-life figures. Among the greatest of all adventure comics, this is a masterclass in telling a story with panache.

CORTO MALTESE

Una ballata
del mare salato

HUGO PRATT



GRAPHIC: CORTO MALTESE & LUPARELLI

ROBERT CRUMB & OTHER ARTISTS ZAP COMIX

61 The first issue of *Zap Comix* laid the foundation for a whole underground movement. The main selling points were Robert Crumb's drawing style, his humor, and a cast of characters that included Mr. Natural. Most of the early print run was sold on the streets of San Francisco by Crumb or his wife. Confusingly, *Zap* #0 was published after the first issue, because the original publisher abducted the finished art. Luckily, Crumb located photocopies, and drew a new cover, so that it could be printed. *Zap Comix* went on to showcase the best underground pioneers—S. Clay Wilson, Robert Williams, "Spain" Rodriguez, and Gilbert Shelton—and psychedelic poster designers Victor Moscoso and Rick Griffin.

GILBERT SHELTON THE FABULOUS FURRY FREAK BROTHERS

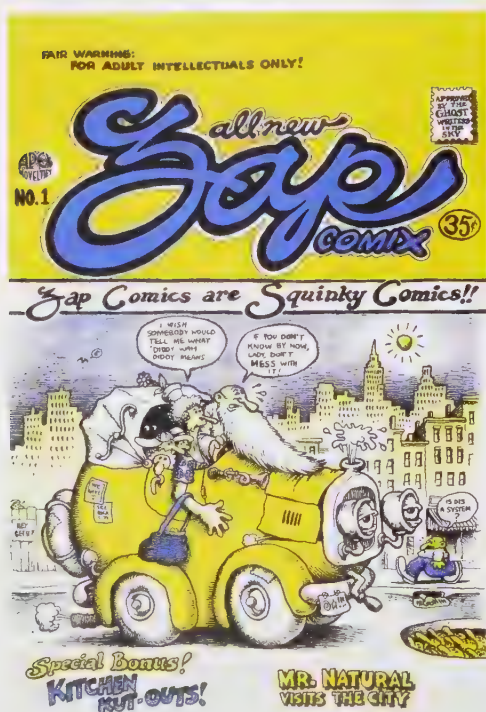
62 Fat Freddy the slob, Phineas the brains, and Freewheelin' Franklin the cowboy are not brothers at all, but a trio of lowdown, hustling hippies who share an insatiable appetite for drugs, food, and beer. Their globe-trotting epic, *Idiots Abroad*, is considered to be among Shelton's finest, funniest works.

YOSHIHARU TSUGE SCREW STYLE

63 Stung by a jellyfish and fearing death, a man searches for a doctor. Hallucinating, he finds people evasive. Boarding a train for the next village, he arrives where he started. Tsuge's nightmare proved that comics can be art beyond entertainment.

RORY HAYES BOGEYMAN

64 Hayes's creepy lines and childlike crudeness seem to belong more to Outsider Art than underground comix, but his inspiration was pre-Code horror comics of the 1950s. His scrawled, psychedelic panels look like the work of a maniac.



SEIICHI HAYASHI RED-COLORED ELEGY

65 A social psychodrama about two young animation artists—kindred souls living together in a hedonistic, yet listless, manner, impervious to the outside world—who lack any clear idea of how to earn their living or how to plan their future.

KAZUO KOIKE & GOSEKI KOJIMA LONE WOLF & CUB

66 A defeated shogun executioner changes his name to Kozure Okami (Lone Wolf) to roam seventeenth-century Japan with his vulnerable three-year-old son, Daigoro, as his only companion, on a journey dominated by his thirst for vengeance.

GARRY TRUDEAU DOONESBURY

67 Characterized by its compassion for the powerless, its complex depiction of moral issues, and its faith in the transformative power of human understanding, *Doonesbury* maintains its point of view, and never succumbs to bitterness in its political discourse.



JUSTIN GREEN 1994 BINKY BROWN MEETS THE HOLY VIRGIN MARY

68 In one of the earliest autobiographical comics, a Roman Catholic boy's agonizing fear and guilt at his inability to suppress his sexual feelings trigger obsessive compulsions not to incur the wrath of the Virgin Mary. When Binky breaks a statue of the Virgin while playing, his reaction to the accident drives events from bad to worse. In his heartfelt comedy of inner conflicts, Justin Green creates an alter ego that vacillates squirmingly between confusion, absurdity, and (above all) phallogentric fixation.

CARLOS SAMPAYO & JOSÉ MUÑOZ 1997
ALACK SINNER

71 In this New York noir with an Argentine twist, a disillusioned cop pursues underworld outcasts in tales of authenticity and depth.

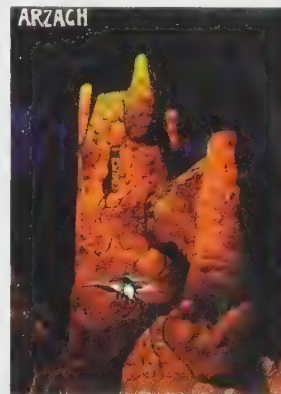
MOEBIUS 1983 ARZACH

73 In a strange, vast universe, a silent man rides on the back of a white pterodactyl, intervening in surreal adventures that involve danger and cruelty. Jean Giraud as Moebius crafts allusive short stories without words that have universal appeal.

LEN WEIN, CHRIS CLAREMONT, DAVE COCKRUM & JOHN BYRNE 1981

UNCANNY X-MEN

72 The X-Men concept evolves to include a rivalry between Cyclops and Wolverine, and Jean Grey's rebirth as Phoenix.



RYOKO IKEDA 1992 ROSE OF VERSAILLES

69 In pre-Revolutionary France, Oscar, head of the Palace Guard, a noblewoman who dresses as a man, realizes the threat to Marie Antoinette. Don't be fooled by the starry-eyed visuals of girls' manga.

KEIJI NAKAZAWA 1982 BAREFOOT GEN

70 In Hiroshima in 1945, young Gen and his peace-loving family make the best of things. The war seems far away, until the atomic bomb drops. Nakazawa confronts the trauma of his childhood memories.

HARVEY PEKAR, ROBERT CRUMB & VARIOUS ARTISTS 1983 AMERICAN SPLENDOR

74 Behind the ironic title, unless Pekar wins the lottery or lives through an unexpected adventure, there's nothing much happening in the life of the Everyman clerk from Cleveland. Or is there? It depends on how Pekar looks at things in his autobiographical vignettes.

ART SPIEGELMAN 1986 MAUS

75 Jewish-American Art Spiegelman tells the story of his parents' survival of the Nazi death camp at Auschwitz, portraying Jews as mice, Germans as cats, and Poles as pigs. His father, Vladek, is unlikable, racist, and difficult. Their relationship is tense. However, when Spiegelman asks his father to tell the story of his life during World War II, an extraordinary tale of survival emerges. In the context of the Final Solution, Vladek's character is transformed from misanthropic into resourceful. Combining biography and autobiography, *Maus* reveals a father's incredible feats of survival, as well as a son's own terrible guilt at surviving.



JOHN WAGNER & VARIOUS ARTISTS 1977 JUDGE DREDD

76 Keeping Mega-City safe, Dredd dispenses instant justice. Wagner's stories walk a thin line between dark satire and heroic adventure. Is his future cop a fascist nightmare, or a model for a crime-free police state?

BRYAN TALBOT 1985 THE ADVENTURES OF LUTHER ARKWRIGHT

77 In a dimension where the puritanical rule of Cromwell and his descendants persists, Arkwright, the only man able to cross dimensions, takes on agents of chaos in this landmark British sci-fi graphic novel.

ENKI BILAL 1981 THE NIKOPOL TRILOGY

78 In 2023, Paris is a nightmare dystopia. When a pyramid-shaped UFO arrives bearing Egyptian gods, France's dictator attempts to take advantage of the situation.

JEAN VAN HAMME & GRZEGORZ ROSINSKI

THORCAL

79 This is the saga of Thorgal Aegirsson, rescued as a babe by Vikings, who grows into a skilled, alien archer. The creators use every opportunity that myth and history provide to develop a rollicking, heroic fantasy.

KATSUHIRO OTOMO 19

AKIRA

80 The year is 2019; the location is Neo Tokyo. Kaneda, aged 15 years, leads a biker gang. His best friend is Tetsuo. After Tetsuo is injured while swerving to avoid a withered-looking child on an abandoned road, he is taken away by the army. He later returns, but now he's more violent than ever before, and has burgeoning psychic abilities. The clash between the two boys, and the search for the secret of Akira, the child who destroyed the city several years previously, culminate in apocalyptic destruction. In his high-speed, cinematic, 2,182-page narrative, Otomo created the masterpiece that opened the door to manga in the West.

RAYMOND BRIGGS

WHEN THE WIND BLOWS

82 In their cozy provincial home, a retired English couple rely on their wartime spirit and ineffectual government advice to survive a nuclear attack.

JACQUES TARRI 1982

IT WAS THE WAR OF THE TRENCHES

83 This account of the routine and horror of the World War I trenches majors in the mud, the dead, the rats, the cold, the agonies, and the fear of mustard gas.

JAIME HERNANDEZ 1981

LOCAS

84 The intersecting lives and loves of a diverse cast in Huerta, Los Angeles, are portrayed with humor, magical realism, and astute observation.

BENOÎT PEETERS & FRANÇOIS SCHUITEN 1985

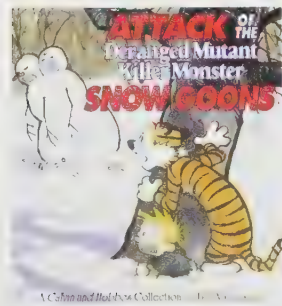
FEVER IN URBICAND

85 Architect Eugen Robick is intrigued by an indestructible cube structure that expands to gigantic proportions, and connects the divided city of Urbicand.

LORENZO MATTOTTI 1984

FIRES

86 An animist fable about a sensitive seaman who is disturbed by a magical encounter on a deserted island, and inspired to mutiny against the officers on his battleship.



BILL WATTERSON 1985

CALVIN AND HOBBS

87 The meaningful relationship between an imaginative only child and his best friend, a stuffed toy tiger, underpins 11 years of this funny and tender newspaper strip.

FRANK MILLER

BATMAN: THE DARK KNIGHT RETURNS

88 Ten years after the Joker's murder of Robin, Batman has disappeared. However, Bruce Wayne cannot tolerate the rising crime wave, so he returns as an aging Batman to reimpose order on Gotham City. Without his powers, can he survive this ultimate battle?



ALAN MOORE & DAVID LLOYD 1983

V FOR VENDETTA

81 In a totalitarian Britain of the near future, a young woman named Evey is rescued from rape at the hands of the police by a figure in a Guy Fawkes mask. This is the mysterious V, who exists for the sole purpose of inspiring a vendetta that will lead to the replacement of state fascism by a new anarchy. V has no identity in the normal sense of the term. His public act of blowing up Parliament is the start of a campaign of chaos. At first, V resembles a romantic hero, but it soon becomes clear that, beneath an attractive veneer, he conceals a very dark character. Evey's rescue is no accident. Like everyone in this vicious cabaret, she has a part to play.

ALAN MOORE & DAVE GIBBONS 1986

WATCHMEN

89 What starts as an investigation into the murder of a costumed crime-fighter soon uncovers a conspiracy. The team of reunited superheroes must ask themselves where to draw the line between good and evil. They themselves are spectacularly messy: morally ambivalent, ideologically suspect, psychologically disturbed, and socially and sexually inept. Interweaving flashback character histories, symbolic repetitions, and literary allusions with formal sophistication, and counterpoints with a parallel pirate comic book, Moore and Gibbons tried to change the perception of American superhero comics.

NEIL GAIMAN & VARIOUS ARTISTS
THE SANDMAN

90 Morpheus draws us into his dreams in a story about stories, and the burdens of his immortal, dysfunctional family.

GRANT MORRISON & DAVE MCKEAN
BATMAN: ARKHAM ASYLUM

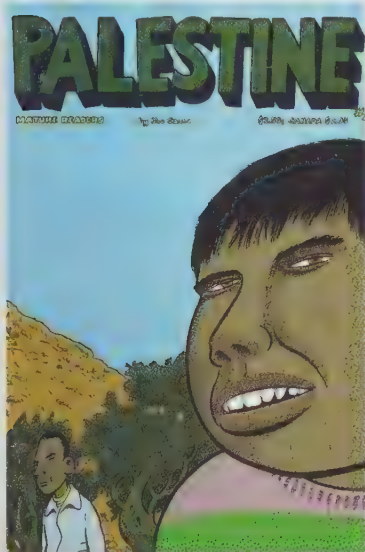
91 Is Batman as deranged as the villains he has locked in the asylum? This is the culmination of sophisticated superhero revisionism.

ALINE KOMINSKY-CRUMB
LOVE THAT BUNCH

92 These wild, frank, sometimes shocking, autobiographical memoirs address women's real experiences through expressive art and a sharp ear for dialogue.

JOE SACCO
PALESTINE

93 Believing that Palestine is misrepresented in Western media, Sacco went there to investigate. Dramatizing the accounts of the people he interviewed, he gives them a voice they might never have had.



DANIEL CLOWES
GHOST WORLD

94 Surviving high-school hell brings two opposites together: bespectacled, extrovert Enid Coleslaw, and quiet, pretty blonde Rebecca Doppelmeyer. In episodes that dig into their fierce, contradictory friendship, and their confused relationship with a mutual boyfriend, their closeness breaks after graduation.

SCOTT MCCLOUD 1993
UNDERSTANDING COMICS

95 McCloud lifts the stone on the medium to reveal myriad possibilities, from the strength of juxtaposition in telling a story, to the elasticity of time within and between panels. This is complex, graphic nonfiction that demonstrates what it discusses.

GARTH ENNIS & STEVE DILLON 1997
PREACHER

96 Accompanied by Tulip, his sharpshooter girlfriend, and Cassidy, an alcoholic Irish vampire, preacher Jesse Custer sets out to find the God that has left Heaven, and give Him a good talking-to. A mix of profanity, violence, and sentimental soap opera.

CHRIS WARE
JIMMY CORRIGAN,
THE SMARTEST KID
ON EARTH

98 In this complex, Proustian tale of melancholy, Ware details the efforts of an anxious 30-something loner to reconnect with his absentee father. The focus shifts seamlessly between three generations of Corrigan's, their guilty secrets, and cyclical dysfunction between fathers and sons, each of whom resembles Jimmy and shares his name. Devoid of ambition, Jimmy still fantasizes about being a man of action like his hero, Superman.



ALISON BECHDEL
FUN HOME

99 After the death of her repressed father, the author realizes how unspoken attitudes toward homosexuality have shaped both their lives.

SHAUN TAN
THE ARRIVAL

100 A migrant father arrives in a baffling country where nothing is quite as it seems. Through the book's silent images, protagonist and reader learn together how to navigate their alien environment.

MARJANE SATRAPI
PERSEPOLIS

07 This is the autobiographical coming-of-age story of a fiery girl growing up in Tehran, Iran. She witnesses the downfall of the Shah in 1979, the ensuing Islamic revolution, and the establishment of a theocracy headed by the Grand Ayatollah Ruhollah Khomeini. At the age of ten, Satrapi is compelled to wear the veil, and is shocked by the horrors of the new regime, when a "decadent" cinema is burned down with the people locked inside. When the Iran-Iraq War escalates, her family sends her away alone to Austria. Satrapi admits her embarrassing adolescent mistakes. She also criticizes her country's politics, yet equally expresses a deep love for her homeland and its people.





HISTORY

According to Thomas Carlyle, "The history of the world is but the biography of great men." This chapter tells the stories of hundreds of them—the good, the bad, the mad, the lone wolves, the dynamic dynasties, and the power couples—together with the battles, revolutions, triumphs, and disasters for which they were responsible. Learn of the people and the events that changed the world from anti-apartheid campaigner Nelson Mandela and technological visionary Steve Jobs, to the storming of the Bastille and the Velvet Revolution.

◀ *The Death of Julius Caesar*
(1805–06) by Italian painter
Vincenzo Camuccini



MOSES

1 This biblical Egyptian prince-turned-leader of the Hebrews is credited with compiling the Torah, the body of Jewish wisdom and law. He demanded freedom for enslaved Hebrews and brought plague on their oppressors and then led the Jews out of Egypt into the desert, for 40 years. On Mount Sinai, he received the Ten Commandments.

DAVID

2 Initially an aide to Israel's first king, David became the second to take the throne, and made Jerusalem his capital. He wrote many of the Bible's psalms.

BUDDHA

3 Siddhartha Gautāma renounced royal life and found enlightenment. His teachings formed the basis of Buddhism.

PERICLES

4 This statesman and orator made Athens the political and cultural center of Greece. He promoted the arts and literature and advocated what became known as Athenian democracy. His physical legacy includes the Parthenon temple on the Acropolis, which brought glory and employment to the city.

ALEXANDER THE GREAT

5 History's greatest warrior was educated by the Greek philosopher Aristotle and, at the age of 20, he became king of Macedonia. Over the next 13 years he conquered Greece, Egypt, Asia Minor, Iraq, and Persia. Never defeated in battle, he founded 70 cities—many, such as Alexandria in Egypt, named for him—and introduced Greek culture across his empire. Alexander grew convinced of his own divinity, but died suddenly after falling ill in Babylon.

100 GREAT LEADERS

259–210 BCE

SHIHUANGDI

6 China's fierce first emperor conquered rival kingdoms in 221 BCE to create a unified state; instituted standardized weights, coinage, and laws; and connected defensive walls to begin the Great Wall of China. An army of more than 6,000 life-size terra-cotta soldiers and horse figures protected his tomb in Xian.

SPARTACUS

7 With fellow slaves and gladiators, Spartacus led a revolt in 73 BCE against the Roman Republic (the precursor to the empire). Killed in battle after overrunning much of southern Italy, he inspired several later revolutionaries.

JULIUS CAESAR

8 This celebrated Roman general conquered Gaul (now France and Belgium). After civil war in Italy, he became dictator of the Roman Republic.

AUGUSTUS

9 In the wake of Julius Caesar's murder, Gaius Octavian defeated the assassins to rule Rome alone. In power for more than 40 years he reformed the state into an autocracy. In 27 BCE, he, now known as Augustus, dubbed himself "first citizen" of the new Roman Empire. This first Roman emperor's vision brought wealth and cultural splendor.

6–30 CE

JESUS

10 A carpenter from Nazareth—a village in what is now northern Israel—Jesus embarked on a roving ministry of healing and preaching. His contravention of Jewish norms aroused the enmity of the religious establishment, but his message of love attracted many, from the educated and wealthy to soldiers and beggars. His entry into Jerusalem to celebrate Passover led to a showdown with religious authorities and ultimately to his arrest and crucifixion. Followers believe him to have risen from the dead—a resurrection that would prove key to the religion established in his name: Christianity (from "the Christ," a title meaning "the messiah").

ST. PAUL

11 Jewish tentmaker Paul persecuted the new Christian sect before a vision en route to Syria's capital Damascus led him to convert and become the first great theorist of the young faith. His writing forms much of Christianity's foundations.

CONSTANTINE THE GREAT

12 A vision of a Christian symbol led this Roman officer to victory in a battle on his way to becoming emperor. He made Christianity the official faith of the empire, replacing pagan gods and legends.

ST. BENEDICT

13 Christian monasticism (which practices prayer and self-denial) was led by Benedict. After time spent as a hermit, he became an abbot and, latterly, Europe's patron saint.

c. 540–604

GREGORY THE GREAT

14 As pope from 590 to 604, Gregory reformed the church for the Middle Ages and expanded it by sending missionaries from his native Rome to England and the Low Countries.

MUHAMMAD

15 This merchant's son from Mecca received messages from God (Allah) with which he won over and united Arabia's mostly pagan tribes. Shared orally and committed to memory, these revelations were later enshrined as the Koran. Driven by persecution from Mecca to Medina in 622, Muhammad—now acclaimed a prophet—and his followers established a way of life known as Islam. Soon after his death, Islam dominated the Middle East and North Africa, and it is now the world's second-largest religion.

573–634

ABU BAKR

16 After Muhammad's death, the prophet's closest adviser became his successor. As the first caliph, he initiated Islam's expansion into Iraq and Syria.

747–814

CHARLEMAGNE

17 The king of the Franks built an empire across France, Spain, Italy, and much of Germany. In uniting most of the Christian lands of western Europe, he sowed the seeds of the Holy Roman Empire.

849–99

ALFRED

18 The ruler of Wessex—a kingdom in southwest England—resisted Viking invaders with such success that in 886 he was made king of all England not under Danish rule. He is celebrated for his promotion of Christianity.



1162–1227

GENGHIS KHAN

19 The creator of the world's largest-ever land empire was named Temüjin on his birth to a royal clan of a tribe in Mongolia. Persuasive and resourceful, he survived exile from the clan to acquire allies and troops. He slaughtered anyone who posed a threat to his authority, thus uniting nomadic tribes in fear. Fighting his way from China's Pacific coast to Europe's Adriatic Sea, he was proclaimed Genghis Khan ("universal ruler") in 1206. Although his name became a byword for cruelty (largely due to a savage attack on central Asia's Khwarezm-Shah dynasty), he was an astonishing soldier whose willingness to accept advice meant his empire benefited from writing, religious freedom, and trade.

1181–1226

ST. FRANCIS

20 A wealthy Italian youth took Jesus's teachings literally and established an order of friars based on poverty, simplicity, and love for people and nature. He is the patron saint of Italy, with Catherine of Siena, and in 1979 Pope John Paul II made St. Francis the patron saint of ecology.

1270–1305

WILLIAM WALLACE

21 *Braveheart* (1995) played with historical fact but brought to global attention this Scottish knight who fought to free his country from English rule. His victory was short-lived but his legend endures.

1432–1481

MEHMED II

22 The foremost sultan of the Ottoman Empire—which included parts of Africa, Europe, and Asia—was hailed "the Conqueror." Severe but broad-minded, he created a society of religious freedom, with a blend of Islamic, Greek, and Italian cultures.

1451–1506

CHRISTOPHER COLUMBUS

23 He did not "discover" America, but Columbus' voyages across the Atlantic opened up the continent for Spain. He converted, enslaved, and executed Native Americans but is admired for his skills as an explorer.

1469–1539

NANAK

24 Sikhism's founder was born a Hindu. He studied Islam and spent years traveling his native India. Believing in one God, his teachings are collected in the scripture Guru Granth Sahib.



FRANCISCO PIZARRO

25 A minor Spanish official and explorer turned brutal Spanish conquistador, Pizarro conquered a thousands-strong Inca force in what is now modern Peru with only 168 men (plus horses and firearms).

MARTIN LUTHER

26 A German monk who challenged the teachings and corruption of the medieval Roman Catholic Church, Luther was excommunicated in 1521 for rejecting the authority of priests in favor of individual conscience and biblical authority. He initiated the Reformation, which led to the founding of Protestant churches.

1491–1556

IGNATIUS OF LOYOLA

27 This soldier turned mystic established the Society of Jesus (Jesuits), driven by absolute obedience to the Pope and promoting Catholic doctrine and political authority across Europe and Asia.

1495–1566

SULEIMAN THE MAGNIFICENT

28 The Ottoman Empire's most celebrated sultan ruled for 46 years, conquered the Balkans and Hungary, besieged Vienna, and dominated the Mediterranean, taking Rhodes and Malta. Off the battlefield, he made key legal reforms and inspired a cultural golden age.

1500–56

CHARLES V

29 Holy Roman emperor (1519–56), King of Spain (1516–56), and Lord of the Netherlands (1506–56), Charles oversaw the expansion of Spain's empire in the Americas. His territories formed the largest personal empire in Western history.

WILLIAM THE SILENT

30 He led a Dutch revolt against the Spanish Empire and ruled liberated territories until his assassination.

ELIZABETH I

31 Henry VIII's second daughter became England's queen. She built a secure kingdom on moderate Protestantism.

AKBAR

32 During his half-century reign, this Mughal emperor ruled most of India, boosted prosperity, reformed rule, fostered religious tolerance, and encouraged scholars. He was particularly successful at winning Hindu support.



HENRY IV

33 Wars of religion that plagued France for four decades were brought to an end by the ascension to the throne of Henry of Navarre, who converted to Catholicism but instituted toleration of Protestants. Assassinated by a Catholic fanatic, he was posthumously celebrated for restoring the kingdom's prosperity and for his apparent empathy with all social classes.

1599–1658

OLIVER CROMWELL

34 An English country gentleman and outspoken Puritan, Cromwell sought to limit King Charles I's unchecked rule. In the English Civil War, he led an army against the monarchy, executed the king, and took charge for five years. As lord protector, he introduced legal reform, set up a Puritan church, advocated religious tolerance, and keenly supported the promotion of education.

PETER THE GREAT

35 This forward-thinking Russian czar introduced political and social reforms based on European models.

JOHN WESLEY

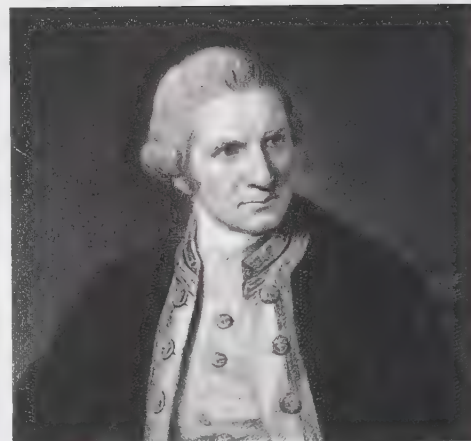
36 Brothers John and Charles Wesley preached a faith based on methodical study.

FREDERICK THE GREAT

37 An enlightened despot who promoted legal reform, the arts, and French culture, Frederick also expanded his kingdom from northern Germany into Poland. He enabled Prussia to take on a leading role in Europe.

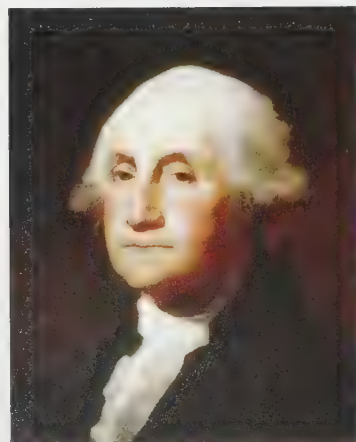
JAMES COOK

38 In three voyages from 1768, this English explorer of Australasia and the Pacific proved to be a remarkable captain and cartographer. Having redrawn the map of the Pacific, he was killed while trying to recover a vessel in Hawaii.



CATHERINE THE GREAT

39 This German-born princess drove out her husband to rule—and expand—Russia in her own right. An enlightened despot, she presided over a cultural golden age and established a court to rival Versailles. She was committed to making Russia a wealthy and powerful state.



GEORGE WASHINGTON

40 The first president of the United States (1789–97) was a farmer from Virginia. As a commander in the War of Independence, he created an effective army from disparate state militias. He was eulogized by Colonel Henry Lee, "First in war, first in peace, and first in the hearts of his countrymen."

TOUSSAINT LOUVERTURE

41 Born into slavery, Toussaint led a revolt in Saint-Domingue (later Haiti) that saw him wrest control from Britain and France to create an independent state.

THOMAS JEFFERSON

42 This tobacco planter was the primary author of the Declaration of Independence.

WILLIAM WILBERFORCE

43 An evangelical Christian and English politician, Wilberforce led a parliamentary campaign against the slave trade from the late 1780s. Legislation to abolish it was passed in 1807, after which Wilberforce worked to free existing slaves.

NAPOLÉON BONAPARTE

44 From an anti-French background on the island of Corsica, the Italian-christened Buonaparte was schooled and trained as an artillery officer in France. He rose through the ranks, earned a reputation as a leader, seized power in 1799, reformed the state, and proclaimed himself emperor. His military skill won him control of most of continental Europe by 1812 and the loyalty of many in France, despite great economic and human costs.

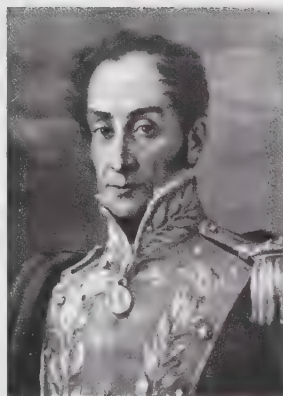


DANIEL O'CONNELL

45 This Irish lawyer and nationalist led mass movements against the British to overturn a long-standing law that barred Catholics from election to Parliament.

JOSÉ DE SAN MARTÍN

46 An Argentinian-born soldier, San Martín led his home nation's campaign for independence from Spanish rule. He liberated Chile and began to do the same for Peru, where he was awarded command before turning it over to Venezuelan statesman Bolívar.



SIMÓN BOLÍVAR

47 "The liberator" Bolívar led Venezuela to independence from the Spanish Empire, then freed the rest of New Granada (Colombia, Ecuador, and Panama). He ruled the liberated territory—then known as Gran Colombia—and Peru, and the newly formed Bolivia was named for him. He also freed his slaves long before slavery was abolished in the region.

LAJOS KOSSUTH

48 This freedom fighter led Hungary's revolt against Austrian domination in 1848. Defeated and driven out, he nonetheless was internationally feted as a liberal hero.

GIUSEPPE GARIBALDI

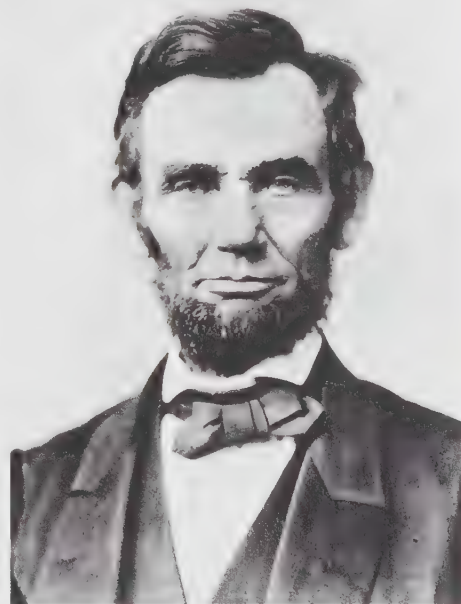
49 This soldier liberated Sicily and Naples from the French-led Bourbon Empire, contributing to the creation of a unified Italian kingdom in 1861.

WILLIAM EWART GLADSTONE

51 The "grand old man" of British politics is the only prime minister to date to serve four terms in office.

ABRAHAM LINCOLN

50 The sixteenth US president (1861–65) was a modernizing lawyer who fought to maintain the union between the northern and southern states. In 1863, amid civil war, he freed slaves in the South and advocated amending the constitution to abolish slavery. The war, he said, was for a "new birth of freedom." But with victory came tragedy: he was shot and killed by a sympathizer of the vanquished South.



OTTO VON BISMARCK

52 Having defeated France and unified Germany, Bismarck became the influential chancellor of a new German empire.

ANDREW CARNEGIE

53 The teenage Scot built a multimillion-dollar steel company but is celebrated for the philanthropy of his later life.

CHIEF JOSEPH

54 Native American tribe leader who resisted the takeover of ancestral lands in Oregon and led his followers toward Canada. The mission failed, but his leadership in adversity made him a hero.

GEORGES CLEMENCEAU

55 A French statesman who became prime minister at the age of 76, Clemenceau led his country in World War I. He persuaded allies of the need for a single command structure and, on securing victory, ensured the Treaty of Versailles was harsh on Germany.

JEAN JAURÈS

56 French socialist leader Jaurès took two unpopular positions: he argued in favor of an army captain framed for treason and advocated unity with Germany to prevent war. The former cost him an election; the latter, his life.

EMMELINE PANKHURST

57 British social campaigner who used civil disobedience to lead the fight for the right of women to vote. Arrested multiple times, she went on hunger strikes in prison but secured victory just weeks before her death.

THEODOR HERZL

55 Hungarian-born founder of the Zionist movement that sought a national home for Jews in Palestine. His work paved the way for the creation of the state of Israel in 1948.

JANE ADDAMS

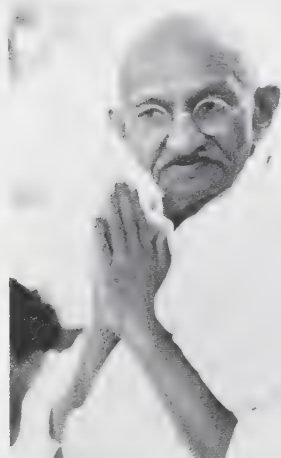
53 US social reformer who instigated professional social work; campaigned for workers, women, and black Americans; and won a Nobel Peace Prize.

DAVID LLOYD GEORGE

60 As chancellor of the exchequer, this Liberal politician laid the basis of Britain's welfare state. As prime minister (1916–22) he put the country on a war footing.

HENRY FORD

61 As a pioneer of the automated assembly line, this US industrialist revolutionized not only the car industry but also society as a whole.



MAHATMA GANDHI

62 Born near Bombay, Gandhi became known as Mahatma, meaning "great soul." He was educated in Britain, became a lawyer in South Africa, and campaigned for the rights of Indians. In his home country he led peaceful direct action against British rule and tried to reconcile Hindus and Muslims. India won independence in 1947, but five months later, Gandhi was assassinated by a Hindu extremist.



WINSTON CHURCHILL

65 A military-trained journalist from an aristocratic British background, Churchill served as first lord of the admiralty in World War I with mixed results. But as prime minister during World War II, he maintained national morale, and his relationship with US leader Franklin D. Roosevelt contributed to the Allied victory.

VLADIMIR LENIN

67 Russian revolutionary Lenin founded the Bolshevik party. He waged civil war against royalists and reactionaries in the name of Communism.

ERNEST SHACKLETON

64 Knighted for his efforts to reach the South Pole, this Irish explorer is celebrated for rescuing shipmates stranded on an Antarctic expedition.

KEMAL ATATÜRK

66 Atatürk led Turkey's independence from the Ottoman Empire. After the latter's fall, he became president and introduced secularism.



FRANKLIN D. ROOSEVELT

67 US president from 1933 to 1945, this Democrat's recovery agenda (the New Deal) ended the Great Depression. He kept his country out of World War II until Japan's attack on Pearl Harbor in 1941 and worked closely with the Allies. Roosevelt also helped lay the foundations for the United Nations.

1802-1973

EAMON DE VALERA

68 An Irish nationalist hero, de Valera led the Easter Rising in 1916 against the British. Subsequently, as head of government, he helped secure Ireland's independence and was later president.

1894-1967

CLEMENT ATTLEE

69 Attlee replaced Winston Churchill as Britain's prime minister in 1945. He nationalized industries and utilities, paving the way for the National Health Service.

ELEANOR ROOSEVELT

70 A humanitarian, reformer, and long-serving First Lady (1933-45), Roosevelt became a delegate to the United Nations and helped draft the Universal Declaration of Human Rights (1948).

HARRY S. TRUMAN

71 This US Democrat took the presidency in 1945. He ended World War II by bombing Japan, initiated the Marshall Plan to rebuild postwar Europe, and fought Communism in Korea.

DAVID BEN-GURION

72 Born in Poland and later a farmer in Palestine, Ben-Gurion campaigned for a Jewish state from a young age. On the founding of the state of Israel, he became its first prime minister.



ADOLF HITLER

73 This Austrian-born politician's manifesto *Mein Kampf* outlined his racist ideology. Having founded the National Socialist (Nazi) party in 1921, he played on postwar dissent to become Germany's chancellor in 1933 and establish a totalitarian state. Invasions of Austria, Czechoslovakia, and Poland initiated World War II, amid which he enacted his policy of Jewish genocide. Initially successful, his warmongering faltered in 1943 and he committed suicide in 1945.

JAWAHARLAL NEHRU

74 A barrister and leader, with Gandhi, of the Indian independence movement, Nehru became the first prime minister of India—the world's largest democracy—when it freed itself of British rule in 1947. He espoused democracy, socialism, unity, and secularism.

HO CHI MINH

75 A Vietnamese Communist who fought French colonialism in his country, Nguyen Tat Thanh dubbed himself Ho Chi Minh, or "he who enlightens." He served as prime minister and then president of North Vietnam and, from 1959, spearheaded the campaign to reunify North and South, which led to the Vietnam War.

1890-1969

DWIGHT D. EISENHOWER

76 A well-liked commander in World War II, Eisenhower led an Allied invasion of France in 1944. With the ensuing liberation of France and western Germany, war in Europe was concluded. Eisenhower subsequently served as the first commander of NATO and, from 1953 to 1961, president of the United States. In office, he brought the Korean War to an end, raised the minimum wage, extended social security, and sought racial integration.



1890-1970

CHARLES DE GAULLE

77 Armed mainly with conviction, de Gaulle rallied French resistance to Nazis during World War II and led the liberation of Paris. As president (1959-69), he ended the Algerian war of independence and sought greater autonomy for France within Europe.

1892-1981

TITO

78 Born Josip Broz, this soldier led the Yugoslav Partisans, freedom fighters against the Nazis, in the 1940s. In the aftermath, he served as the Communist leader of the socialist federation of Yugoslavia (1953-80), keeping it from complete Soviet control. Yugoslavia devolved into bloody civil wars after his death.

JOMO KENYATTA

79 Having long argued for Kenyan self-rule, Kenyatta was jailed when his prediction of uprising came true. On his release, he won independence from Britain in 1963 and ruled for over a decade.

DENG XIAOPING

80 A vice-premier in China's Communist government, Deng was removed from power in 1976. Later reinstated and made chairman, he edged China toward a "socialist market economy."

OSKAR SCHINDLER

81 A German industrialist and Nazi party member, Schindler saved more than 1,000 Jews from the death camps by employing them, moving his factories, and bribing officials. His motives are unknown, but his actions are enshrined in the movie *Schindler's List* (1993).

KWAME NKRUMAH

82 With nonviolent noncooperation, Nkrumah was the first African leader to win postwar independence: in 1957, after a decade-long effort, Britain relinquished control of Ghana.

RONALD REAGAN

83 Elected in 1981, at the age of 69, this actor-turned-Republican was a popular president. Projecting an image of a strong America, he began a new arms race that bankrupted the Soviet Union.

WILLY BRANDT

84 Once a member of Germany's anti-Nazi resistance, Brandt became a West German chancellor in 1969 and tried bargaining for peace with enemies in the East.



JOHN F. KENNEDY

85 This young president faced down Soviet challenges over the Berlin Wall (1961) and Cuba (1962), and initiated the space race to the Moon. His assassination robbed the United States of one of its most inspirational political figures.

ROSA PARKS

85 Arrested for refusing to give up her seat on a bus to a white man in Alabama, seamstress and anti-segregation campaigner Parks became an emblem of the US civil rights movement in 1955.



NELSON MANDELA

87 Imprisoned for conspiracy to overthrow the state in 1962 and held for 27 years, this South African campaigner became the figurehead of the anti-apartheid movement while in prison. Freed in 1990 after worldwide protests, he led negotiations on majority rule and dismantling apartheid. Awarded the Nobel Peace Prize in 1993, he was elected president of South Africa the following year. His death prompted numerous international tributes.

GAMAL NASSER

88 An Egyptian soldier who overthrew the monarchy in 1952, Nasser was elected president in 1956. While seeking Arab unity against Israel, he promoted industrialization, epitomized by the building of the Aswan Dam.

JOHN PAUL II

89 The first Polish pope (1978–2005) had resisted Nazism in the 1940s. More traveled than his predecessors, he was also the first to enter a synagogue and a mosque.

1925-45

MALCOLM X

90 Black nationalist whose “by any means necessary” ideology diverged sharply from Martin Luther King’s dream of integration. Killed by members of the Nation of Islam, he remains an inspirational icon.

1917-2013

MARGARET THATCHER

91 Known as “the Iron Lady,” this Conservative politician was Britain’s first female party leader and prime minister, and the first prime minister in more than a century to win three consecutive elections. She united with US president Ronald Reagan to oppose Soviet nuclear expansion. Divisive but bold, her economic and social reforms were dubbed “Thatcherism.”

1926-2011

FIDEL CASTRO

92 The leader of a revolution in 1950s Cuba, Castro took power in 1959. An ally of the Soviet Union, and thorn in the side of the United States, he stepped down in 2008.

1929-1968

MARTIN LUTHER KING JR.

93 A Baptist minister from Atlanta, King became involved in the civil rights movement in 1955. Influenced by Gandhi, he advocated nonviolent protest, even when he was jailed for demonstrating against segregation. In 1963 he organized the March on Washington and gave his “I Have a Dream” speech to a 200,000-strong, interracial audience. Awarded the Nobel Prize in 1964, he nonetheless endured surveillance and smears from the FBI. He also campaigned against poverty and the Vietnam War, but faced opposition from radical black power leader Malcolm X. Assassinated in April 1968 for reasons that remain controversial, he was posthumously awarded the Presidential Medal of Freedom in 1977 and had a federal holiday named in his honor in 1986.



YÄSSER ARAFÄT

94 The leader of the Palestinian Liberation Organization (freedom fighters to its people, terrorists to Israel) sought a secure home for Palestinians who had been displaced by Israel. After accepting Israel’s right to exist, Arafät was awarded the Nobel Peace Prize in 1994.

MIKHAIL GORBACHEV

95 Advocating glasnost (openness) and perestroika (restructuring), the Soviet Union’s final president helped end the Cold War and presided— inadvertently—over the collapse of Communism in Eastern Europe.

b. 1943

LECH WAŁĘSA

96 This Polish worker led a trade union movement, named Solidarity, against the Communist regime. He was elected president of Poland in 1990.

b. 1938

AUNG SAN SUU KYI

97 A political and human rights campaigner in Myanmar (Burma), Suu Kyi—under house arrest from 1989 to 2010—leads the National League for Democracy.

b. 1947

HILLARY CLINTON

98 A former US First Lady (of President Bill Clinton), Clinton was an acclaimed secretary of state from 2009 to 2013 in the administration of Barack Obama.

b. 1952

HUGO CHÁVEZ

99 Opposing US interference in Latin America, socialist Chávez won four presidencies in Venezuela, where he implemented socioeconomic reforms.

b. 1955

STEVE JOBS

100 As founder and head of Apple—creator of best sellers that include the Mac, iPod, iPhone, and iPad—Jobs won fans worldwide.



2300-2200 BCE

AKKADIAN EMPIRE

1 The world's first empire, founded by Sargon in the city of Akkad on the Euphrates. His vast empire encompassed the cities of southern Mesopotamia.

1792-1750 BCE

BABYLONIAN EMPIRE

2 The first empire of the city of Babylon was created by an Amorite dynasty but peaked under Hammurabi (r. 1792-1750 BCE), who conquered Assyria and extended his power across Mesopotamia and Syria.

1550-1070 BCE

EGYPTIAN EMPIRE

3 Following the Second Intermediate Period in Egypt, which saw invasion and the opening of northern Egypt to foreign influences, the New Kingdom saw the creation of an empire that took over much of the Levant.

1600-1175 BCE

HITTITE EMPIRE

4 A Bronze Age empire based at Hattusa that covered Anatolia and parts of Syria and fought for control of the Levant with Egypt at Kadesh (1274 BCE).

100 EMPIRES & DYNASTIES

1392-1063 BCE

ASSYRIAN EMPIRE

5 The most successful empire of ancient Mesopotamia, created by King Ashur-uballit I and based in the city of Ashur. By 1220 BCE, Assyria had conquered Babylon, the previously dominant city.

539-330 BCE

NEO-ASSYRIAN EMPIRE

6 Following a period of decline, the Assyrian Empire revived in the tenth century and conquered most of modern Iran, Iraq, Syria, the eastern Mediterranean coast, and Egypt under Kings Tiglath-Pileser III and Sargon II. Conquered peoples were resettled and ruled by royal officials. It was eventually conquered by a revived Babylon.

760-656 BCE

KUSHITE EMPIRE

7 Kush, a Nubian kingdom based at Meroë (modern Sudan), conquered Egypt in 760 BCE to set up the twenty-fifth dynasty.

649-146 BCE

CARTHAGINIAN EMPIRE

8 Carthage in modern Tunisia created a naval empire in the western Mediterranean, and its general Hannibal invaded Italy in 218 BCE. It was eventually conquered and the city utterly destroyed by the Romans.

478-336 BCE

ATHENIAN EMPIRE

11 This informal empire, known as the Delian League, began as a coalition of Greek states to fight the Persians. It became an extension of Athenian power, especially through its treasury and its navy, both of which were controlled from Athens. Rebellions by league members Naxos, Thasos, Lesbos, and Chios were ruthlessly crushed. Unrest over Athenian high-handedness led to the outbreak of the Peloponnesian War in 431 BCE, which brought the defeat of Athens.

625-550 BCE

MEDIAN EMPIRE

9 The Medes—from central Asia—conquered the Assyrians to create an empire based in Ecbatana (Hamadan), Iran, which extended across Mesopotamia, the Caucasus, and Anatolia. They were conquered by their close relatives the Persians, whose kingdom was to the south.

550-330 BCE

ACHAEMENID EMPIRE

10 An empire created by Cyrus the Great in Persepolis after he overthrew the Medians. Under Darius (r. 521-486 BCE), the empire stretched from the Indus to Egypt. Darius invaded Greece but was defeated at Marathon (490 BCE); his son Xerxes was defeated at Salamis (480 BCE).

336-323 BCE

MACEDONIAN EMPIRE

12 One of the world's great empires, founded by Alexander III of Macedon, when he conquered Greece in 335 BCE, and then Achaemenid Persia in 330 BCE. At its peak Alexander's empire covered the Middle East, Egypt, Mesopotamia, Persia, modern Afghanistan, and Pakistan as far as the Indus by the time of his unexpected death 12 years later. The empire was divided between warring generals, but it left a lasting political, cultural, and economic impact on most of the regions it covered.

MAURYAN EMPIRE

13 An empire in northern India, founded by Chandragupta Maurya from the Ganges plain. It quickly spread to include all but the southern tip of the subcontinent. In the 220s BCE the emperor Ashoka made it the world's first Buddhist empire.

QIN DYNASTY

16 The first empire to unify China and to create a unified political system, culture, political ideology, and currency across the whole of the empire, whose legacy endures to the present. It was created by Shihuangdi, king of Qin (in the provinces of Gansu and Shaanxi), who defeated rival kingdoms in a series of quick campaigns and replaced their ruling families and bureaucracies. He destroyed many books in an attempt to ensure that Chinese history would begin with himself. He also consolidated the Great Wall to keep out northern barbarians. The "first Emperor" was buried in the Qin capital of Xian with the "terra-cotta army." However, civil war broke out and in 207 BCE his family was massacred.

SELEUCID EMPIRE

14 Successor to the Macedonian Empire, the Seleucids brought Greek culture to Mesopotamia, Iran, and Asia. Overthrown by the Parthians in Iran and the Romans in Syria.

PARTHIAN EMPIRE

15 Persian empire with capital at Ecbatana. Relying on powerful archers, it controlled Mesopotamia 141 BCE to 117 CE. Overthrown by the Sassanids.



HAN DYNASTY

17 The first extended empire of Chinese history, founded by the former peasant Liu Bang, who became Emperor Gaozu. The dynasty endured 400 years, with a short break 9–23 CE. The empire expanded into central Asia and to the south, created a unified administration based on Confucianism, and increased China's prosperity. Social unrest led to the deposition of the last Han emperor and the breakup of the empire.



ROMAN EMPIRE

18 The world's greatest empire in terms of longevity (500 years) and extent (incorporating 30 percent of the world's population) was sustained by a large army but a tiny bureaucracy. Roman expansion beyond Italy began c. 200 BCE in the Republican era and included all the Mediterranean coast, plus Greece, Gaul (France), Iberia, Egypt, and Asia Minor by 27 BCE, when the empire was formally created by Augustus. From 150 CE, barbarians threatened the European border, and increasingly, the emperors were chosen by the army. From the early fourth century the empire was divided, with two emperors, one based in the eastern empire at Constantinople (Byzantium).

KUSHAN EMPIRE

19 A Buddhist empire in central Asia, Afghanistan, and the Indus Valley, created by Kanishka.

c. 150–c. 750

AKSUMITE EMPIRE

20 A Christian kingdom in Ethiopia and on the Red Sea, replaced by early Islamic expansion.

SASANIAN DYNASTY

21 A major Zoroastrian Iranian Empire, with the capital at Ctesiphon. In extended conflict with the Romans, it defeated and captured the Roman emperor Valerian (260) but failed to take Syria. It controlled Mesopotamia, Iran, and Afghanistan, and under Khosrow II (seventh century), it conquered Levant, Egypt, and Asia Minor before falling to the Arab expansion.

JIN DYNASTY

22 The dynasty that reunited China, based at Luoyang (until 317) and Jiankang. Renowned for the quality of its ceramic wares.

320–550

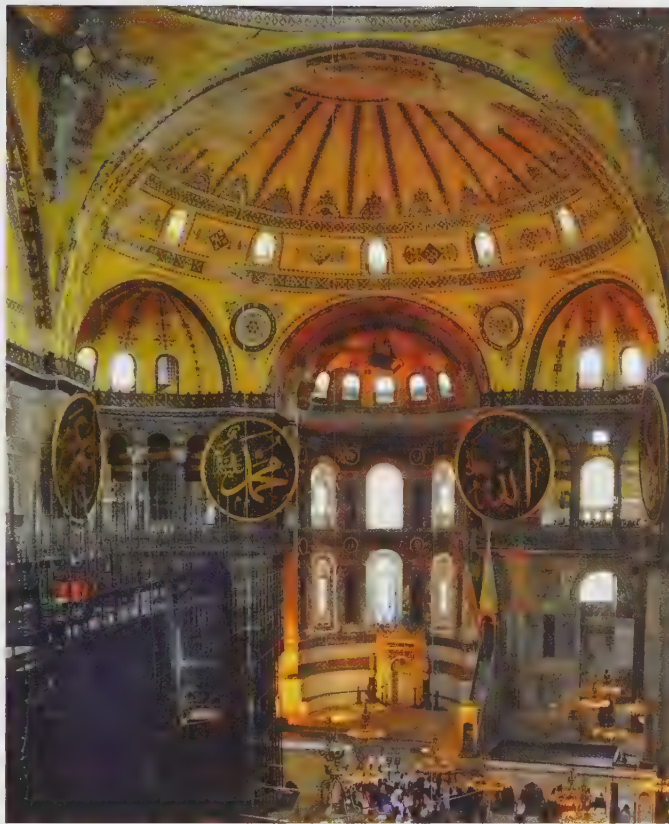
GUPTA EMPIRE

23 Empire that covered most of India, under Chandra Gupta (r. 320–335) and Chandra Gupta II (r. 375–415). Notable for its art, culture, and learning.

330–1453

BYZANTINE EMPIRE

24 Originally founded as Byzantium and also known as the Eastern Roman Empire created by Constantine. From its capital in Constantinople (modern Istanbul), Byzantine rule extended across the eastern Mediterranean. An Orthodox Christian and mostly Greek-speaking empire, it preserved much of the legacy of Greco-Roman culture that was lost in the West. It briefly reconquered much of the Mediterranean coast under Justinian I (r. 527–65) and slowly declined as it lost territory: Egypt and the Levant to the Arabs in the seventh century, much of the Balkans to the Slavs from the sixth century, and Asia Minor to the Turks from the eleventh century. It was conquered by the Western European Crusaders in 1204. The Byzantine Empire was finally defeated by the Ottoman Turks in 1453.



370–469

HUNNIC EMPIRE

25 The Huns, a steppe people from central Asia, swept west into the Hungarian plains in the 370s, farther into Europe under Attila (r. 434–53), and conquered much of the Ukraine, Russia, Germany, and Poland, and briefly threatened Constantinople. It was defeated in central France in 451.

WESTERN ROMAN EMPIRE

26 Following the formal division of the Roman Empire after the death of Theodosius I (395), the Western Empire continued with its capital at Ravenna. It gradually ceded territory to invading peoples, using them as protectors against later arrivals; by the late fifth century the emperor had little power. The final emperor, Romulus Augustulus, was deposed in 476.

600–1886

BRUNEIAN EMPIRE

27 A Hindu Malay Empire in Borneo, southeast Asia, later converted to Islam. From the fifteenth century it covered coastal regions of Borneo and the Philippines.

TIBETAN EMPIRE

28 Expansion of power beyond the Tibetan plateau by the emperor Songtsän Gampo (early seventh century). Under Ralpacan (one of the kings who brought Buddhism to Tibet) after 800, Tibetan rule extended south of the Himalayas into the Ganges plain and to the Bay of Bengal, western China, and parts of central Asia. The empire collapsed in civil war.

TANG DYNASTY

29 From its capital at Chang'an (Xian), this imperial Chinese dynasty extended its power into central Asia. The great age of Chinese classical poetry and Buddhism.

661–750

UMAYYAD CALIPHATE

30 Under the Umayyad dynasty, Islam spread rapidly in the Maghreb, Spain, and the Indus Valley, making it the largest empire the world had seen up to that time.

SRIVIJAYA EMPIRE

32 The Sumatran city-state created a Buddhist maritime empire with ties to China. Comprising Malaya, Java, and surrounding islands, it endured for 500 years.

ABBASID CALIPHATE

34 The second great Islamic caliphate, founded when Abu al-Abbas al-Saffah overthrew the Umayyads. His newly founded capital at Baghdad became the center of a glorious and multicultural civilization while the Abbasids focused on expansion east into central Asia and toward China. In 1055 the Abbasids lost much power to the Seljuks and fell when the Mongols besieged and destroyed Baghdad though a rump survived in Cairo.

680–1018

BULGARIAN EMPIRE

31 The first Bulgarian Empire was converted to Christianity by Boris I (r. 852–89). It fell to Byzantium in 1018 and the Second Empire began in 1185. It fell to the Ottomans in 1396.

KANEM EMPIRE

33 West African Empire based at Njimi (Chad), which controlled much of the trans-Saharan traffic. Kanem was converted to Islam in the twelfth century.

GHANAIAI EMPIRE

35 The earliest-known state of West Africa and an inland empire based on the trans-Saharan caravan route terminus of Koumbi Saleh, now in Mauritania. In the 1070s it was conquered by the Almoravid (Berber) emirate of Morocco and later incorporated into the Mali Empire. The modern country of Ghana was named after the empire.

CAROLINGIAN EMPIRE

36 A Frankish empire in western Europe based at Aachen, embracing France, the Low Countries, Germany, Austria, and northern Italy, established by Charlemagne (king of the Franks from 768), who was crowned by the pope in Rome in 800, reviving the Roman Empire.

KHMER EMPIRE

37 The empire created by King Jayavarman II and based at Angkor. It covered modern Cambodia, Laos, and Thailand, and was based on Hindu and Buddhist cultures. The Buddhist temple of Angkor Wat was built c.1100, at the empire's peak, after which the Thai state reduced Khmer to regional status.



FATIMID CALIPHATE

38 A Shiite caliphate based in Tunisia and Algeria that conquered Egypt and much of the Levant. In 973 the capital was moved to the newly founded city Cairo. It was later incorporated into the Sunni Abbasid caliphate.

GORYEO DYNASTY

39 A kingdom in east Asia; Wang Kon (r. 918–45) united the Korean peninsula in 938. After Mongol conquest (1258) it was overthrown in 1392. It produced fine porcelain and books printed in metal movable type.



HOLY ROMAN EMPIRE

41 The Holy Roman Empire of the German people was founded with the coronation of Otto I by the pope and endured for over 850 years. From 1362 the emperors were chosen by an electoral college, although by the sixteenth century the empire became the hereditary possession of the Austrian Hapsburgs. The empire never achieved unitary control over its landmass, but it exerted political and cultural influences as the political leader of western Christendom, although even this was frequently affected by political disputes with the papacy and with its own princes.

GREAT SELJUQ EMPIRE

44 Islamic Turkish Empire initially based in Khorasan in Iran, which took Baghdad in 1055, defeated Byzantium in 1055 to take Asia Minor, and by 1092 extended from central Asia to the Levant. Thereafter, the sultanate broke up, with the separate sultanate of Rum (west Asia Minor) and emirate of Danishmend (around Trebizond). The Byzantine emperor requested assistance from western Christendom to deal with the Seljuqs, resulting in the First Crusade of 1096–99. Seljuq power was finally destroyed by the Mongols in the early thirteenth century.

SONG DYNASTY

40 This dynasty's capital was first in Kaifeng and then Lin'an. The Song developed the use of gunpowder, and spread prosperity and population growth.

JAPANESE EMPIRE

42 The first non-mythical emperors of Japan were in the seventh century, but from the twelfth century to the nineteenth, the office was mainly spiritual; political and military powers rested with shoguns (hereditary military commanders).

SCANDINAVIAN EMPIRE

43 The empire created by the Dane Cnut, who became first king of England (1016) and then king of Denmark (1018). His empire also comprised Norway and southern Sweden. It did not long survive his death.

ETHIOPIAN EMPIRE

45 A Christian east African empire set up by the Zagwe dynasty and continued under the Habesha (from 1270), who united virtually all peoples in modern Ethiopia. The last emperor was Haile Selassie (r. 1930–74).

1154–1217

ANGEVIN EMPIRE

46 Created by Henry Plantagenet, Count of Anjou, when he became Henry II of England and unified that country with most of western France.

c. 1200–1953

DANISH COLONIAL EMPIRE

47 Denmark unified with Norway and Sweden (1397); it acquired Greenland and Iceland, with later colonies.

1204–1461

EMPIRE OF TREBIZOND

48 A Black Sea Christian empire comprising Trebizond and part of Crimea. It was conquered by the Ottomans.

1206–1526

DELHI SULTANATE

50 An Islamic kingdom across northern India ruled by Turkic dynasties and founded by Qutb ud-Din. It covered most of the subcontinent in the fourteenth century under the Tughluqs, but it was unable to maintain control of vast areas.

1250–1517

MAMLUK SULTANATE

54 A Sunni sultanate in Egypt and Syria. It was founded by slave regiments in Egypt that achieved power by defeating the Crusaders and ousting the Ayyubid dynasty. It defeated the Mongols at Ain Jalut (1260).

1206–1697

MONGOL EMPIRE

49 The world's largest-ever, land-based empire, established by Genghis Khan, who unified the Mongol peoples and conquered most of the steppes, China, and central Asia. His successors extended the empire into Korea, northern India, Iran, Russia, and eastern Europe. The Mongol dominance was based on fast-moving, aggressive cavalry and a ruthlessness that destroyed any towns that opposed them. They are said to have massacred more than ten percent of the world's population. Expansion relied on armies of horsemen and access to forage. Following subjugation, the Mongol Empire was relatively settled and religiously tolerant, encouraging trade between its distant lands. The empire eventually broke into separate successor states (khanates).

1206–1697

CHAGATAI KHANATE

51 A successor state of the Mongol Empire, the independent Chagatai khanate ruled the steppes of Transoxiana (central Asia) for 450 years. It tried unsuccessfully to conquer India. The khanate was annexed by Qing China in 1687.

1206–1293

MALIAN EMPIRE

52 The most important West African Empire in the fertile upper Niger region; it had access to rich gold supplies. Timbuktu was a major center for art, literature, and scholarship. Converted to Islam by Mansa Uli (r. 1260–77).

1256–1303

ILKHANATE

55 A successor state of the Mongol Empire, covering Iran, Mesopotamia, and Asia Minor. It was founded by Hulagu, grandson of Genghis Khan, and was a settled state that encouraged trade and good government.



GOLDEN HORDE KHANATE

53 A Mongol successor state in southern Russia, Ukraine, and eastern Europe, the Golden Horde khanate is thought to be named after the color of the first khan's tent. It converted to Islam in the fourteenth century. In 1480, Muscovy (Russia) achieved independence from the Golden Horde (incorrectly called the Tatars in Russia).

1271–1368

YUAN DYNASTY

56 A Mongol dynasty in China established by Kublai Khan, whose court was described by Marco Polo. The first non-Chinese dynasty to rule all China, it adopted Chinese language, culture, and forms of government.

MAJAPAHIT EMPIRE

57 A Hindu maritime empire in Indonesia, based at Majapahit in Java. It controlled only part of Java, but its tributaries covered most of modern Indonesia and Malaysia, and it was most powerful in the fourteenth century.

VIJAYANAGARA

59 Powerful city in central southern India that dominated and unified the south of the subcontinent, established by Harihara I. It left a legacy of fine Hindu temples and literature. After it was defeated by the Deccan sultanate in 1565, several successor states emerged.

SONGHAÏ EMPIRE

60 A Muslim empire in the western Sahara and Sahel, named for its leading ethnic group. It was defeated by the Moroccans (1591).

TIMURID EMPIRE

62 Central Asian empire created by the ruthless conquests of Timur (Tamerlane) in Iran, Afghanistan, north India, and much of the steppes. The empire, based at Samarkand, was built on the cultural legacy of the Seljuqs, but soon broke up; the last Timurid ruler was defeated by the Mughals.

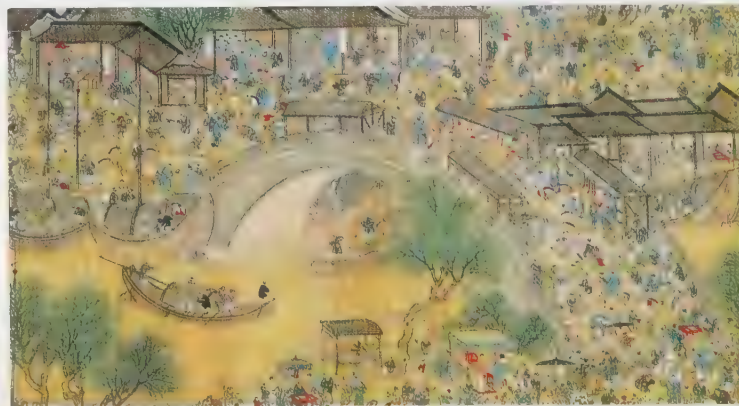
OTTOMAN EMPIRE

56 The Turkish Empire that originated in Anatolia and extended into the Balkans, defeated Byzantium in 1453, and took Egypt and the North African coast. In 1529, and again in 1683, the Ottomans besieged Vienna, threatening the heart of Europe. Originally seen as an Islamic threat to Christian Europe, the "Sublime Porte" (Ottoman government) behaved increasingly as a political player in European power politics. The empire lingered on into the twentieth century, when it was known as the "sick man of Europe." It collapsed to Turkish nationalists after World War I.



MING DYNASTY

61 A native Chinese dynasty that drove out the Mongol Yuan and brought China to the peak of its expansion into central Asia (around 200 million people). Ming emperors exerted great influence across southeast Asia, and before 1421, initiated voyages across the Indian Ocean. Its capitals were Nanjing and Beijing. The Ming ruled through a huge bureaucracy and complex espionage system. From the 1450s the Ming were in decline; they were defeated by a new Mongol (Manchu) invasion across the Great Wall.



BORNU EMPIRE

63 A trading empire around Lake Chad in the southern Sahara, building on the old Kanem Empire. A purely Islamic state, it peaked under Idris III Alawma around 1570 but was challenged by Fulani expansion in northern Nigeria.

SPANISH EMPIRE

64 The expansion of Spanish rule in Africa, then (after 1492) in the Americas, the Caribbean, and the Philippines—the first empire on which "the sun never set." Most Spanish rule ended in the nineteenth century with independence.

1415–1999

PORTUGUESE EMPIRE

65 The expansion of Portuguese rule in Africa, India, East Asia, and Brazil from the fifteenth century. The Portuguese also established the trading post of Macau in southern China. The empire's wealth was based on spices, slaves, and sugar.

AZTEC EMPIRE

66 A wealthy central American empire based at Tenochtitlán that dominated most of modern Mexico through ruthless military expansion and a mass human sacrifice cult. The Aztecs were swiftly defeated by a tiny band of Spanish conquistadors led by Hernán Cortés.

1438–1532

INCA EMPIRE

67 An Andean empire based at Cusco in Peru. It dominated most of the Andes, establishing a unified culture through an elaborate road system and administration. The wealthy empire was defeated by Spanish conquistadors.

1440-1897

BENINSE EMPIRE

68 A pre-colonial empire in southern Nigeria, built up by the Edo people. It was annexed by the British in 1897.

1502-1736

SAFAVID DYNASTY

69 The first Shiite dynasty in Iran attained real power in the late sixteenth century under Abbas I.

1514-1776

EMPIRE OF GREAT FULO

70 A West African pre-Islamic empire, also known as Denanke, based in Senegal.

1526-1858

MUGHAL EMPIRE

71 A Muslim dynasty from Afghanistan, established by Babur I, who conquered northern India in 1526 and founded a large and powerful empire across the subcontinent. Mughal culture merged Indian and Iranian traditions and includes the Taj Mahal at Agra. As European power expanded in India, the Mughal emperors remained as overlords until the 1857 Mutiny (War of Independence) saw them deposed and the British Queen Victoria named Empress of India.



FRENCH COLONIAL EMPIRES

72 The French Empire began with colonization in North America. After a series of clashes with the British North American colonies, Canada (Quebec) was lost to the British in 1759, while Louisiana and large tracts around the Mississippi were sold to the United States by Napoléon in 1803. In the nineteenth century, France won control of a large part of Saharan and West Africa, Madagascar, and Indo-China. These won their independence after 1945.

1568-1975

DUTCH EMPIRE

73 Dutch exploration and trade began in the later sixteenth century, with trading posts and colonies set up in South Africa, the Caribbean, southeast Asia, India, China, and most notably the Dutch East Indies (Indonesia), a profitable source of spices.

1603-1783

FIRST BRITISH EMPIRE

74 Expansion began in North America and the Caribbean, bringing great riches from trade in slaves and sugar. In the 1700s, expansion continued through the Australian and Pacific exploration of James Cook, the East India Company in Bengal, and defeating the French in India and Canada.

1611-1718

SWEDISH EMPIRE

75 The expansion by the Vasa dynasty across the Baltic into Poland and Germany in the early seventeenth century. It was defeated by Russia in the Great Northern War.



1644-1911

QING DYNASTY

76 This was the final imperial dynasty of China, set up by the Manchu (Mongol) conquerors. The Qing ruled 450 million people, expanded into central Asia, and traded with the West. Their culture was highly conservative, and they could not modernize the economy. Nineteenth-century China proved unable to resist Western expansion, particularly after the Opium Wars with Britain (1839-42), and had to make increasing territorial concessions along the coast. The Qing fell to nationalist republicans.

1667-1828

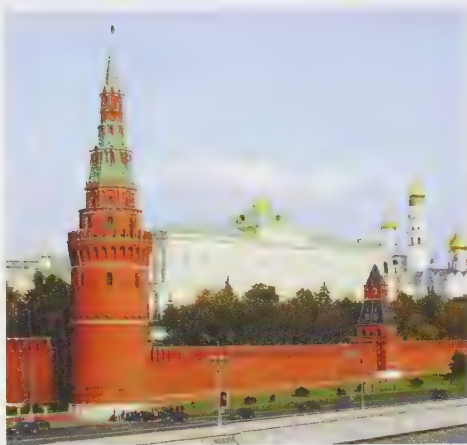
ASANTE EMPIRE

77 A West African empire that provided slaves for the Americas. Unsuccessfully challenged the British in the nineteenth century.

1674-1818

MARATHA EMPIRE

78 Also known as the Maratha confederacy, it was an Indian polity opposed to Mughal rule. Initially supported the British it was defeated by them in 1818.



RUSSIAN EMPIRE

79 The expansion of Russia, initially (in the reign of Catherine the Great, r. 1762–96) west into Poland and southward to the Black Sea. In the mid-nineteenth century, Russia expanded eastward to the Pacific (and into Alaska, sold to the United States in 1867) and conquered central Asia. Yet the socioeconomic system remained backward, and communications basic, resulting in Russia's defeat at the hands of the Japanese in 1904–05, the Germans in 1914–17, and in the revolution of 1917 that overthrew the czar (emperor) Nicholas II. The empire's territorial gains, however, were mostly maintained under the revolutionary Soviet Union.

DURRANI EMPIRE

80 Afghan Empire created by Ahmed Shah Durrani; defeated the Marathas at Panipat (1761).

GORKHA EMPIRE

81 Precursor of modern Nepal; invaded Tibet in the late eighteenth century.

SIAMESE EMPIRE

82 Thai dynasty led by King Rama I that survived until revolution in 1932.

SECOND BRITISH EMPIRE

83 History's largest empire; 25 percent of the Earth's land by the 1920s. The loss of the US colonies concluded the "First" British Empire, but expansion continued in India, Canada, Australia, and New Zealand. After 1850, Britain acquired colonies throughout Africa. World War I extended British control in the Middle East. Much of the empire was granted independence after 1947, but wars of independence occurred in Malaya, Cyprus, Aden, and elsewhere.



AUSTRIAN EMPIRE

85 Successor to the Holy Roman Empire, the Hapsburg rulers of the Austrian Empire, based in Vienna, controlled much of the Balkans and north Italy. It merged with the kingdom of Hungary to become the Austro-Hungarian Empire (or Dual Monarchy) in 1867. It was dissolved after World War I.

FRENCH NAPOLEONIC EMPIRE

86 Following victories in Italy and Germany, Napoléon Bonaparte crowned himself emperor of the French in December 1804. He then extended his control across the European mainland from Spain to Russia, setting up new polities. His empire was defeated by an alliance of Russia, Prussia, Sweden, Austria, and Britain in 1814, and finally ended at Waterloo in 1815.

ZULU EMPIRE

87 Southern African kingdom set up by Shaka. Expansion brought it into conflict with the Boers and British who annexed Zululand in 1887.

MEXICAN EMPIRE

88 The First Empire followed a post-independence republic under Agustín de Iturbide.

EMPIRE OF BRAZIL

89 The empire set up by Pedro I, following independence from Portugal, dissolved after the abolition of slavery.

SIKH EMPIRE

94 Although the Sikh religion developed in the fifteenth century, the empire emerged in the Punjab region of northwest India by opposing the Mughals. It was extended in the 1790s by the Sikh ruler Ranjit Singh to include Kashmir, Ladakh, and Peshawar. It was defeated and ended by the British.

1852–70

SECOND FRENCH EMPIRE

90 The empire of Napoléon III, following the 1848 revolution. This period saw attempts to restore French power across Europe, but was ended by German invasion in 1870.

1868–1912

EMPIRE OF JAPAN

91 After the forced opening of the “closed kingdom” by US warships in 1853, the Japanese emperor staged a coup against the Tokugawa shogunate in the Meiji Restoration. A Western-style constitution and reforms followed.

1871–1918

GERMAN EMPIRE

92 The “Second German Reich” was proclaimed by King Wilhelm I of Prussia following the Franco-German War of 1870–71. The Reich continued until the abdication of Kaiser Wilhelm II, following defeat in World War I.

1891–1941

ITALIAN EMPIRE

93 Italian expansion in Africa—notably in Libya and East Africa (Eritrea and Somaliland). Italy was defeated in Ethiopia in the 1890s but successfully conquered it in the 1930s. The empire was dismantled after World War II.

1897–1910

KOREAN EMPIRE

94 An empire proclaimed by the Joseon dynasty (1392–1897) to reassert Korean independence from China. Emperor Gojong urged the adoption of Western government and culture. It was invaded (1905) and annexed (1910) by Japan.



1776–1992

AMERICAN EMPIRE

95 Although no formal empire exists, US expansion overseas began with the Philippines, Cuba, and Puerto Rico in 1898. The extension of US power around the world after 1945 through a combination of “soft” power—and political interference in countries such as Chile and El Salvador—is at times called the American Empire.

1917–89

SOVIET EMPIRE

97 The term used to describe the informal extension of power beyond the borders of the Soviet Union after the end of World War II and during the Cold War. The principal mechanisms were the military Warsaw Pact, set up in 1955 and engaged against Hungary (1956) and Czechoslovakia (1968), and economic pacts such as Comecon (1949). In addition to the Soviet satellite states of eastern Europe, North Korea, North Vietnam, and Cuba all fell within the Soviet sphere of influence, as well as—at varying times—some of the newly independent African states.



1908–44

BELGIAN COLONIAL EMPIRE

96 A Central African empire created in 1901 and comprising Rwanda and Belgian Congo—previously the personal property of the Belgian king Leopold II, and the scenes of appalling exploitation and human rights abuses.

1925–79

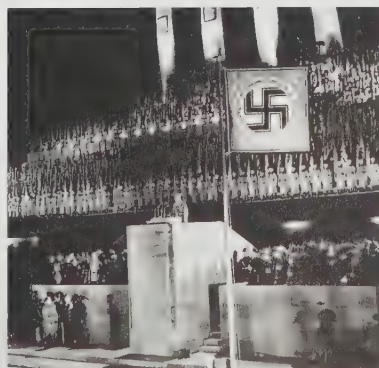
IMPERIAL STATE OF IRAN

98 Empire proclaimed by the Pahlavi dynasty in Iran, supported by Western interests. The last shah, Reza II, was forced into exile by the revolution of 1979.

1931–45

MANCHUKUO

99 State in Manchuria established by Japan in their expansion before World War II. Emperor Pu Yi had been the young “Last Emperor” of China (abdicated 1912).



1933–45

GREATER GERMAN REICH

100 The Third German Reich was the Nazi title for Hitler’s rule in Germany, following the First Empire (Reich) of the Holy Roman Empire, and the Second Empire (1871–1918). Nazi expansion began with Czechoslovakia (1938), Poland (1939), much of Western Europe (1940), and much of Russia (1941). The term asserted Germany’s freedom from outside interference and came also to assert a right to dominate other states and peoples. The Reich was destroyed by the Allies in 1945.

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3200 BCE

INVENTION OF WRITING

1 Writing seems to have been invented in Sumeria, Mesopotamia, to record taxes paid to the temples. The Sumerian system used pictograms or images to denote objects and evolved into cuneiform writing in which arrangements of wedge shapes cut into clay symbolized syllables, consonants, or whole words. The idea of writing probably spread to Egypt, where there developed hieroglyphics, with images standing for either sounds or concepts. Chinese writing evolved, perhaps independently, some 2,000 years later.

FIRST EMPIRE

2 Akkad, a city in Mesopotamia, built the world's first empire under King Sargon, and controlled most of the land between the Tigris and Euphrates Rivers, as well as Syria and the Mediterranean coast. The empire later disintegrated into the states of Assyria and Babylonia.

BATTLE OF MARATHON

3 Decisive battle in which the Greeks (mainly Athenians, led by Miltiades) defeated the much larger Persian army, led by Darius I. The Persian failure to destroy the independent-minded Greek city-states is seen as a decisive moment in the emergence of Greek, and even "Western," civilization.

DEATH OF SOCRATES

4 The philosopher committed suicide after being convicted of corrupting the youth of Athens. His trial and death were described by his student Plato, who also recorded his mode of intellectual inquiry—what has become known as the Socratic method.

100 MOMENTOUS EVENTS

UNIFICATION OF CHINA

5 The Qin king Shihuangdi conquered seven other states to unify China for the first time. He introduced standardized government, money, and legislation. He opposed Confucianism and insisted on obedience to the laws. He built major roads, and began work on the Great Wall.

ROMAN CONQUEST OF GREECE

6 The Roman victory over the Corinthians created a unified Greco-Roman culture, which dominated Europe and the Mediterranean for 500 years.

AUGUSTUS PROCLAIMED EMPEROR

7 Octavian, nephew of Julius Caesar, proclaimed himself First Citizen, Augustus (illustrious) and Imperator (commander) of Rome.

CRUCIFIXION OF JESUS

8 The healer and preacher Jesus was convicted of blasphemy by the Jewish authorities and handed to the Romans to be put to death. The Romans crucified him; he died and was buried. Three days later, his friends were convinced that his body had disappeared from its tomb and that he was still alive. This episode inspired them and has continued to inspire countless others to follow the Christian faith.

INVENTION OF PAPER

9 Paper—one of the four great inventions of China (the others are gunpowder, the compass, and printing)—was first created by a court official, Cai Lun, from mashed mulberry and bamboo stems. It made an inexpensive, flexible, and light surface on which to paint or write. Paper-making technology did not reach Europe for another 1,000 years, where animal skins were used instead.

MILVIAN BRIDGE

10 During his battle for power in Rome, Constantine had a vision that inspired him to make Christianity the imperial religion.

SACK OF ROME

11 Having invaded Thrace, Alaric the Ostrogoth king then sacked Rome, demonstrating the weakness of the empire.

END OF THE ROMAN EMPIRE IN THE WEST

12 After being divided by barbarian onslaught in 395 CE, the last emperor of the Western Roman Empire, Romulus Augustulus, was deposed by Odoacer in this year.

HIJRA OF MUHAMMAD

13 Muhammad, from a merchant family in the city of Mecca, Saudi Arabia, began to receive revelations from God around 609 CE. His message of submission to one god, and of social justice, was unwelcome to many of his polytheistic neighbors. In 622 CE, Muhammad fled with Abu Bakr and other followers to Medina, where they established a Muslim *umma* (community) based on their new beliefs. The Islamic calendar is dated from this *hijra* (flight). Eight years later, Muhammad reentered Mecca, which now accepted his authority.



MURDER OF CALIPH ALI

14 Ali, son-in-law of Muhammad, was the fourth caliph. His murder prompted the Shiite-Sunni schism.

SARACENS INVADE SPAIN

15 The Muslim conquest of almost all of Spain began with defeat of Visigoths by Tariq at Guadalete.

BATTLE OF TOURS

16 Charles Martel's victory over the Umayyads finally halted Muslim expansion from Spain into France.

TREATY OF VERDUN

17 The division of Charlemagne's empire between his sons created the lasting division of Western Europe between France, Germany, and intervening smaller states.

FOUNDATION OF THE HOLY ROMAN EMPIRE

18 Otto I of Germany was the first to be crowned Holy Roman emperor by the pope. The empire continued in a variety of forms until 1806.

SCHISM BETWEEN ROMAN & ORTHODOX CHURCHES

19 Hostility between the Eastern Orthodox and Roman Catholic Churches began in 1054 in theological differences and a dispute over Rome's claim to authority over churches in Constantinople.

BEGINNING OF THE CRUSADES

20 In Clermont (France), Pope Urban II urged Western Christians to recapture the Holy Land, following a request from the Byzantine emperor for assistance against the Arabs. The first crusade departed France and Italy in the following year.

PHILIP AUGUSTUS II UNITES FRANCE

21 Philip II (Augustus) drove the forces of the English king John out of Normandy and began the transformation of France into one of the great powers of Europe.

DESTRUCTION OF BAGHDAD

23 Baghdad, the center of the Abbasid culture since 762 CE, was conquered by the Mongols under Hulagu, grandson of Temujin. They laid waste to the city and slew 200,000 of its inhabitants.

GENGHIS KHAN UNITES THE MONGOL TRIBES

22 The disparate tribes of Mongolia gathered to proclaim their leader Temujin "Genghis Khan" ("universal ruler"). Temujin conscripted soldiers from all the Mongol tribes into his army, which is widely regarded as the most effective cavalry force in history. Over the next 20 years he created an empire covering central Asia as far as the Caspian Sea, and much of northern China.



1201 MONGOLS DRIVEN FROM JAPAN

24 Two vast Mongol invasions of Japan were defeated by storms (*kamikaze* meaning “divine wind”) in 1274 and 1281.

THE SIEGE OF KAFFA

26 Mongol forces besieged the Genoese-owned port of Kaffa on the Black Sea and catapulted plague-ridden corpses over the town walls. Most defenders died, but some escaped to Italy, taking the disease with them. It was carried on the fleas of the black rat, which then bit humans. It took three weeks to incubate and could be spread by apparently healthy travelers. The plague, known as the Black Death, killed more than half the population of Europe by 1351.



1368 FOUNDATION OF THE MING DYNASTY

27 In the chaos resulting from multiple rebellions against Mongol rule in China, the peasant Zhu Yuanzhang consolidated power and set up the Ming dynasty in Nanjing in 1368. Ming China was a cultural high point and ended in 1644 with an invasion from Manchuria.

1307 PERSPECTIVE IN ART

25 Italian painter Giotto revolutionized art by bringing perspective and naturalism to a cycle of paintings on the lives of Christ and the Virgin in the Arena Chapel, Padua.

1325 FOUNDATION OF THE AZTEC EMPIRE

28 The Aztec Itzcoatl, based at Tenochtitlán, conquered the city of Azcapotzalco, and thence dominated central Mexico.

1456 FIRST PRINTED BOOK

30 Johannes Gutenberg, based in Strasbourg and then in Mainz, developed the technology and business processes for printing with movable type. His first book was an edition of the Bible: 180 copies printed on 1,282 pages of paper or vellum. Shortly before publication, his business partner had him declared bankrupt and seized the books and presses for himself. By 1500, printing had spread all over Europe.

1469 MEDICI TAKES CONTROL OF FLORENCE

31 Lorenzo di Medici, a banker, became leader of Florence, ruling for 23 years and overseeing the city-state’s “golden age.” He supported artists such as Botticelli, Leonardo da Vinci, and Michelangelo.

1492 DISCOVERY OF AMERICA

32 Genoese sailor Christopher Columbus sought a route to China and was sponsored by the Spanish monarchs Ferdinand and Isabella. Sailing westward from the Canary Islands, on October 12, 1492, he sighted the Bahamas and then sailed to Cuba and Hispaniola before returning home, convinced he had visited India. On subsequent voyages, he reached Central and South America, claiming them for Spain. Although not the first European in the Americas, Columbus began their modern history, with devastating consequences for the native populations.



1453 FALL OF CONSTANTINOPLE

29 The capital of the Byzantine Empire, now shrunk to almost nothing, was captured following a siege by Ottoman Turkish sultan Mehmed II.

1492 RECONQUEST OF SPAIN COMPLETE

33 The fall of the Muslim city of Granada to Ferdinand and Isabella saw the end of the last Moorish (Muslim) state in Iberia, completing the long Christian reconquest.

1498 VASCO DA GAMA REACHES INDIA

34 Portuguese sailor Vasco da Gama built on countryman Bartolomeu Dias’s achievement in rounding Cape of Good Hope (1488), to sail to Calicut, southwest India. He led the way for merchants and missionaries into the whole of southern and eastern Asia.

SAFAVID DYNASTY TAKES CONTROL OF PERSIA

35 After centuries of conquest and rule by foreign invaders, Shah Ismail I overthrew the Ottomans in Persia and set up the native Shiite Safavid dynasty. It became a great power thanks to its military success and efficient administrative system, and instituted a renaissance of Persian art and architecture.



EUROPEAN TRADE IN AFRICAN SLAVES BEGINS

36 The slave trade, forcibly taking Africans to work on plantations in the Americas, transported ten million people over 300 years, causing huge disruption in West Africa and misery in the Americas, and bringing enormous wealth to the slave owners and traders who transported them. The trade began when the Holy Roman Emperor Charles V granted the *asiento*, or monopoly, in the trade to Spanish merchants. Portuguese, English, Dutch, and French traders also later became involved.

CORTÉS DESTROYS AZTEC EMPIRE

37 When Spanish conquistador Hernán Cortés landed in Mexico, the Aztecs thought he was a reincarnated god. Before they realized their error, he had killed their emperor.

MUGHAL EMPIRE FOUNDED IN INDIA

39 The Afghan king Babur, of Mongol descent, defeated the sultanate of Delhi at Panipat and created the Mughal dynasty that ruled India for 200 years.

HELIOCENTRIC UNIVERSE

41 While it would be simplistic to suggest that no one had ever previously thought that Earth might orbit the Sun, Polish astronomer Nicolaus Copernicus was the first to challenge publicly the long-established religious and scientific orthodoxy that the universe was geocentric—in other words, that everything revolved around Earth.

GALILEO'S TELESCOPE

42 Galileo used new lens technology to create a telescope with which he mapped the Moon and showed that it was not the perfect sphere that the Roman Catholic Church held it to be. He was accused of heresy and forced to retract his findings; but he was right.

FIRST CIRCUMNAVIGATION OF EARTH

38 Ferdinand Magellan rounded Cape Horn and crossed the Pacific. He was killed in the Philippines, but his depleted crew completed the voyage.

CONQUEST OF THE INCA EMPIRE

40 Spanish conquistador Francisco Pizarro, with just 168 men and a few horses and guns, destroyed the powerful Incan Empire in Peru.

MAYFLOWER VOYAGE

43 A group of English and Dutch Puritans decided that they would never get their wish that Church and State should be separated in their native lands, and so decided to sail to North America and start a new society there. Their ship, *Mayflower*, aimed for Virginia but was forced by bad weather to put ashore after a 66-day voyage on Cape Cod at what is now Provincetown, Massachusetts. One hundred and two survivors of the Atlantic crossing went on to found a historic settlement at Plymouth, Massachusetts, which has since become known as "America's Hometown."

JAPAN ISOLATES ITSELF

44 Following the rapid spread of Christianity, the Tokugawa shogunate began to persecute the new religion. In 1635, Japan was closed to foreigners, except for one island off Nagasaki. The nation remained isolated until 1853.

NEW AMSTERDAM BECOMES NEW YORK

45 Peter Stuyvesant, governor of New Amsterdam, surrendered to the English. The former Dutch colony was now renamed New York, for James, Duke of York, brother of King Charles II.

1683

VIENNA IS SAVED FROM THE TURKS

46 The last great Ottoman challenge to Europe came when a 200,000-strong army led by Kara Mustafa Pasha besieged Vienna, Hapsburg capital of the Holy Roman Empire, for two months. The siege was lifted by Polish king John III Sobieski, enabling the Hapsburgs to reclaim lost territory in the Balkans.

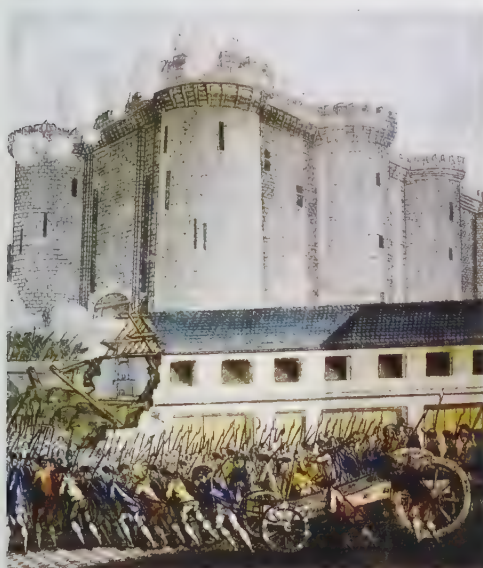


NEWTON'S LAWS ARE PUBLISHED

47 Isaac Newton's *Mathematical Principles* set out the laws of motion and universal gravitation. The book caused a sensation and even led some readers to question the existence of God.

PUBLICATION OF ENCYCLOPEDIE

48 Denis Diderot's multivolume *Encyclopedie*, published in Paris, attempted to summarize and structure all human knowledge and crafts. The first book of its kind, it was seen as the high point of the rationalistic Enlightenment.



STORMING OF THE BASTILLE

53 Years of social and political discontent in France at the country's political and economic bankruptcy came to a head when a mob stormed and destroyed this castle-prison in central Paris. This violence sparked the French Revolution, which overthrew the monarchy, brought widespread violence against the aristocracy and the Church, asserted the principles of "liberty, equality, and fraternity," and caused political and social mayhem for more than a decade.

1770

DISCOVERY OF AUSTRALIA

49 While Dutch sailors had visited northwest Australia in the previous century, the visit to Botany Bay (now Sydney) on the southeast coast by British explorer James Cook marks the start of modern Australian history. Cook then sailed north to the Torres Strait and claimed the whole eastern seaboard for Britain. The first colony, for convicts, was established there in 1788.

AMERICAN DECLARATION OF INDEPENDENCE

50 Following decades of discontent in Britain's American colonies at the high-handed way in which they were governed from London, conflict broke out in 1775. In July 1776 the colonists issued a declaration of independence, beginning, "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness." From there, it was a short but bloody step to the creation of the United States.

FIRST BALLOON FLIGHT

51 The Montgolfier brothers became the first humans to leave Earth, building a hot-air balloon that they launched in Paris; it rose 600 feet (180m) and traveled 1.25 miles (2km).

WASHINGTON ELECTED FIRST US PRESIDENT

52 As per the new US constitution of 1787, an electoral college was established to choose a president. The unanimous choice was George Washington, who had commanded the army.

PROCLAMATION OF FRENCH REPUBLIC

54 Abandoning their efforts to forge a constitutional monarchy, the French deposed King Louis XVI. He was guillotined the next year.

THE LOUISIANA PURCHASE

55 The United States doubled in size by buying a huge tract of land from the French for \$15 million.

ABOLITION OF SLAVE TRADE

56 Having benefited from shipping slaves from Africa to the Americas, the British became the first nation to ban the trade, following a campaign led by William Wilberforce. Slavery itself was not made illegal in the British Empire until 1833, however.

NAPOLÉON DEFEATED AT WATERLOO

57 Three years after conquering most of Europe, the French emperor was finally defeated.

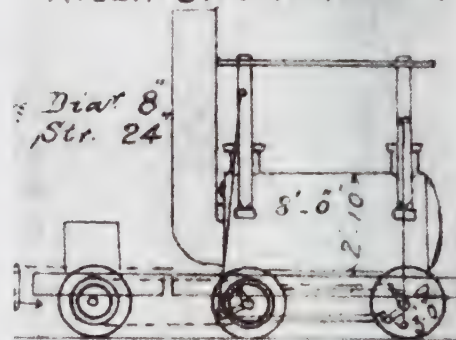
BOLÍVAR BEGINS LIBERATION OF SOUTH AMERICA

58 With his victory at the Battle of Boyacá in Colombia, Simón Bolívar began to free South America from the Spanish colonists.

FIRST RAILWAY

59 The world's first passenger railway ran between Stockton and Darlington in northeast England. Designed and built by George Stephenson and his son, Robert, the line extended for 25 miles (40km), and the first steam locomotive pulled open carriages along it at no more than 15 miles per hour (24kph). Within a few years, railways were being built all over the world, and they revolutionized land transportation.

STEPHENSON. 1815.
KILLINGWORTH COLLY.



FIRST PHOTOGRAPH

60 Nicéphore Niépce found a way of fixing images on paper after several hours' exposure. His method was later improved by another Frenchman, Louis Daguerre.

OPIUM WAR IN CHINA

61 After Britain beat China in this battle to control the lucrative trade in opium, the losers ceded Hong Kong to the victors.

CALIFORNIA GOLD RUSH

62 The discovery of gold in the streams near Sacramento brought men from across North America and from Europe to the West Coast to stake their claims. Few fortunes were made, but within ten years the state population increased thirtyfold.

BLACK SHIPS IN TOKYO

63 Japan's isolation was ended when US Commodore Matthew Perry, sent by President Millard Fillmore, sailed into Tokyo harbor with four "black ships" (paddle steamers). The Japanese were impressed and curious, and then signed a trading treaty the following year with the United States.

GERM THEORY OF DISEASE

64 Frenchman Louis Pasteur identified that the microorganisms (germs) that caused fermentation in milk could be killed by heating (pasteurization).

ITALY UNIFIED

65 After Giuseppe Garibaldi freed Sicily and Naples from Bourbon rule, Victor Emmanuel became king of all Italy.

US SLAVES EMANCIPATED

66 While the United States was embroiled in civil war between the Union and the slave-owning southern Confederacy since 1861, President Abraham Lincoln issued an Emancipation Proclamation, promising to free the slaves in the states supporting the Confederates. This allowed enrollment of black troops in Union forces and was followed swiftly by a commitment to abolish slavery across the whole country



MEIJI RESTORATION IN JAPAN

67 Following the arrival of the black ships, the emperor retook power from the conservative Tokugawa shogunate, announced a new constitution, embraced Western technology and commerce, and began turning Japan into a great power.

1871

GERMAN EMPIRE PROCLAIMED

68 Germany was united for the first time in history by Chancellor Otto von Bismarck after the defeat of France. It became an empire, with Wilhelm I as the Kaiser (emperor).

1879

FIRST ELECTRIC LIGHT BULB

70 American inventor Thomas Alva Edison devised the first light bulb, with a filament of carbonized cotton that glowed when an electric current passed through it in a vacuum. It gave a life of 1,000 hours, making it commercially viable. Edison had already made many key inventions, including the phonograph, and made improvements to the telephone.

1886

FIRST MOTORCAR

71 From the 1860s, many experimenters attempted to develop an internal combustion engine, notably Nikolaus Otto, who developed the principle of the four-stroke motor in 1876, but did not have suitable fuel for it. In 1885 two Germans, Gottlieb Daimler and Karl Benz, separately developed the first internal combustion power-vehicles—Daimler's a motorcycle, Benz's a petrol-driven three-wheeler with electric ignition and rack-and-pinion steering. Benz patented his design in January 1886.



1876

FIRST TELEPHONE CALL

69 Scottish-American inventor Alexander Graham Bell devised the telephone, in which sound caused an electric current to flow in a wire and then converted back to sound.

1895

FIRST MOVING PICTURES

72 Moving pictures were demonstrated in Paris by Auguste and Louis Lumière. They toured the world with their invention, but saw no real future for it.

1903

FIRST POWERED FLIGHT

73 At Kitty Hawk, North Carolina, the brothers Orville and Wilbur Wright, secretive bicycle repairers, achieved the first powered flight in *Flyer*, an aircraft that could take off under its own power, and was fully steerable. After several flights of a few hundred yards, and reaching a height of 20 feet (6m), the aircraft crashed. Their work did not receive widespread notice for several years.

1914

ASSASSINATION OF FRANZ FERDINAND

74 The shooting on June 28 of the Austrian archduke in Sarajevo, by a Bosnian-Serb nationalist, led Austria (supported by Germany) to issue an ultimatum to Serbia. Serbia's ally, Russia, then mobilized against Austria, sparking events that, on August 4, brought a German invasion of Belgium and the outbreak of World War I.

1915

PANAMA CANAL OPENED

75 Ten-year US project to link Atlantic and Pacific Oceans completed despite 5,000 lives lost.

1917

RUSSIAN REVOLUTION

76 Russian collapse in World War I brought a Bolshevik-led revolution. Power was reorganized in workers' committees (Soviets), and civil war resulted.

1919

TREATY OF VERSAILLES

77 The postwar settlement by the victors in World War I redrew the map of Europe and forced Germany humiliatingly to admit guilt for the conflict, pay huge reparations, and lose much of its heavy industry.

GERMAN HYPERINFLATION

78 Loss of confidence in Germany led to inflation that destroyed savings overnight and facilitated the rise of Nazism.

FIRST TELEVISION IMAGES

79 British inventor John Logie Baird gave the first public demonstration of moving small-screen images.

WALL STREET CRASH

80 The sudden end of global prosperity initiated four years of economic depression.

HITLER APPOINTED GERMAN CHANCELLOR

81 After winning a big majority in a national election, the Nazi leader set about creating the 1,000-year Reich.

PEARL HARBOR

82 On December 7, the Japanese air force attacked the US fleet in Hawaii. The following day, the United States entered World War II.

D-DAY

83 The Allied counterattack along the Western Front in World War II began at dawn on June 6, with the world's largest amphibious landing of 125,000 American, British, and Canadian men and equipment on the beaches of Normandy, under the command of General Dwight D. Eisenhower. By the end of what became known as "the Longest Day," a beachhead had been established that paved the way for the Battle of Normandy, the eventual liberation of France, and the invasion of Germany.



FIRST ATOMIC EXPLOSION

85 The three-year, secret US Manhattan Project to build a nuclear bomb culminated in a test explosion in the New Mexico desert, on July 16. The potential to build a devastating bomb based on releasing energy through nuclear fission—and the need to do so before Germany built its own bomb—had been urged by Albert Einstein, and the Manhattan Project employed thousands of physicists, led by Robert Oppenheimer. The bomb was used on August 6, just three weeks later, on the Japanese city of Hiroshima. An estimated 70,000 people were killed immediately.

DEATH CAMPS DISCOVERED

84 Several death camps for the systematic murder of Jews, gypsies and others, were discovered as Allied forces moved against Nazi Germany. The largest camp, at Auschwitz, southern Poland, which was liberated in January 1945 by the Red Army, had seen more than one million deaths of men, women, and children in gas chambers.



FOUNDATION OF THE UNITED NATIONS

86 The horror of World War II inspired the creation of a body for resolving international disputes. The great powers met in San Francisco to devise the UN charter.

INDIA DIVIDED & INDEPENDENT

87 Britain promised independence but divided the country between Hindu India and Muslim Pakistan. This led to mass migration and millions of deaths.

CREATION OF ISRAELI STATE

88 The Jews had been promised a national home in their Holy Land; this was established in 1948, leading immediately to attacks from surrounding Arab states.

COMMUNIST REVOLUTION IN CHINA

89 Civil war in China ended with the expulsion of the nationalists, led by Chiang Kaishek, and the creation of a communist state under Mao Zedong.

1957

SPUTNIK

90 The Soviet Union put the first artificial satellite into orbit around the Earth, thus initiating the space race against the United States to be the first to the Moon.

1961

CONSTRUCTION OF THE BERLIN WALL

91 The Soviet Union's wall, dividing East and West Berlin, built overnight on August 13–14, became an emblem of the Cold War.

1963

ASSASSINATION OF JOHN F. KENNEDY

92 US President Kennedy was shot while driving through Dallas, Texas, on November 23. A lone gunman was arrested, but he died soon after; many conspiracy theories were then suggested.

1700–07

CHINA'S CULTURAL REVOLUTION

93 Mao Zedong enlisted young Red Guards to spread "permanent revolution," challenging authority figures and attacking his political rivals.

1953

HUMAN GENOME MAPPED

98 US President Bill Clinton announced the final success of a government-funded project, begun in 1990, to map all the 20,000 genes carried by humans. The breakthrough has greatly aided genetic studies of disease, heredity, and behavioral patterns.

1969

MOON LANDINGS

94 "One small step for a man, one giant leap for mankind." NASA astronaut Neil Armstrong became the first man on the Moon at the climax of the *Apollo 11* mission on July 21. Armstrong and Buzz Aldrin stayed for 21 hours on the surface before blasting off and returning to the orbiting command module, controlled in their absence by Michael Collins, the third member of the team. They returned to Earth three days later. President Kennedy had pledged to put a man on the Moon before the 1960s were out, and the space race became a propaganda aspect of the Cold War between the United States and the Soviet Union. The last *Apollo* mission was in 1972.



1981

FIRST PCS

95 After 30 years of mainframe computing, IBM launched the personal computer (PC), intended as a desktop. The common operating system, MS-DOS, formed the basis of the Microsoft empire.

FALL OF THE BERLIN WALL

96 The collapse of communist regimes in Eastern Europe brought mass demonstrations that forced down the Wall.

TIANANMEN SQUARE MASSACRE

97 Around 2,000 pro-democracy demonstrators in Beijing's main square were killed by the army.



TWIN TOWERS ATTACKED

99 The Islamist al-Qaeda organization, led by Osama bin Laden, attacked the United States on September 11, hijacking four aircraft; two were flown into the Twin Towers of the World Trade Center, New York, causing them to collapse. One was flown into the Pentagon in Washington, DC; the fourth crash-landed in Pennsylvania. Almost 3,000 people died.

ECONOMIC CRISIS OF 2008

100 A decade of prosperity ended after many banks were shown to have overextended themselves, borrowing huge sums on worthless collateral, junk bonds, and "subprime mortgages." High-profile bank collapses took the world economy into a long and deep recession.



c. 2325 BCE

PALERMO STONE

1 Found in Sicily, this fragmentary carving lists early kings of Egypt and key events.

c. 2500 BCE

EPIC OF GILGAMESH

2 The world's oldest epic poem, written in Akkadian, is about hero Gilgamesh and wild man Enkidu.

c. 1800 BCE

HAMMURABI'S LAW CODE

3 The world's oldest set of laws, from Babylon, written in Akkadian and preserved on a carved stone and clay tablets. The code presumes innocence until proven guilty and insists on the use of evidence in court. It sets out punishments for offenses and regulates trade and family relations.

c. 1500 BCE

EGYPTIAN BOOK OF THE DEAD

4 This is an account of funerary practices, including "weighing of the soul," mummification, and spells to enter the afterlife safely.

c. 1000 BCE

TEN COMMANDMENTS

5 These moral and ethical prescriptions set out in the Old Testament of the Bible are believed to have been given carved on stone tablets by God to Moses. Commandments one to four cover the relationship with God; five to ten relationships between people.

100 WORLD-CHANGING DOCUMENTS

c. 1250 BCE

TORAH

6 This sacred text comprises the first five books of the Hebrew Bible (Genesis, Exodus, Leviticus, Deuteronomy, and Numbers) and is said to have been given by God to Moses. Thought to have been collated in the seventh century BCE, the texts are kept on parchment scrolls in synagogues.

c. 1100 BCE

ORACLE BONES

7 Scratched with questions and then heated for the purposes of divination, these turtle shells feature the oldest Chinese writing.

c. 450 BCE

TWELVE TABLES

8 The customary laws of Rome, collected and inscribed on bronze tablets, known today from later references by jurists.

CONFUCIUS ANALECTS

10 These sayings, attributed to Confucius, the philosopher of the fifth century BCE, dominated Chinese government and culture for more than 2,000 years.

c. 400 BCE

TAO TE CHING

8 Chinese poetic and philosophical text traditionally attributed to Laozi but now thought to have been the work of numerous hands. The founding text of Taoism, its mystical and paradoxical poems suggest ruling society in harmony with natural law.

c. 200 BCE

DEAD SEA SCROLLS

11 These papers include the oldest manuscripts of the Hebrew Bible.

c. 250 BCE

ASOKA'S LAWS

12 Asoka's precepts were promulgated on iron columns across his empire in India.

c. 79 CE

PLINY'S DESCRIPTION OF ERUPTION OF VESUVIUS

14 Roman naturalist Pliny the Younger's detailed description of the volcanic catastrophe that destroyed Herculaneum and Pompeii and killed his uncle, Pliny the Elder.

c. 200 BCE

ROSETTA STONE

13 Carved on granite in alphabetic Greek, hieroglyphs, and Egyptian demotic, this proclamation from the reign of Ptolemy V was found in 1799 and deciphered by Jean-François Champollion.

c. 100 CE

GANDHARA BUDDHIST TEXTS

15 The oldest Buddhist scriptural manuscripts, from central Asia, written on birch bark and including accounts of the Buddha's life and teachings.

c. 30 CE

NEW TESTAMENT

16 Twenty-seven books and documents relating to the life of Jesus and the early Christian church. The earliest (Paul's Epistles) date from 50 CE, the latest (Peter's) from after 100 CE. The four Gospels were written between 70 CE and 100 CE.

DIOCLETIAN EDICT ON PRICES

317 Diocletian tried unsuccessfully to end inflation by decreeing the value of the coinage and prices of goods across the Roman Empire.

LINDISFARNE GOSPELS

19 Highly decorated manuscript of the Gospels created by the monks of Lindisfarne, Northumbria, England.

DONATIONS OF CONSTANTINE

20 A fake document that claimed that the Roman emperor had granted the Pope power to intervene in secular politics in Europe.

MAGNA CARTA

25 King John of England was forced by his barons to sign this document, which limited his power.

THE MILLION

26 Also known as *Book of the Marvels of the World*, this is Rustichello da Pisa's version of stories told to him by Marco Polo about the Venetian merchant's trips to China and life at the court of Kublai Khan.

KORAN

17 The text of the sacred book of Islam is believed to have come from Allah (God) and been revealed by the Angel Gabriel to Muhammad. It is written in Arabic and contains 114 suras (chapters), arranged in the order Muhammad received them. The revelations began in 609 CE, and continued to Muhammad's death. Written in highly poetic style, the Koran emphasizes the oneness of God, incorporates elements of Judaism and Christianity, and acknowledges Moses and Jesus Christ as prophets.



CAPITULARY OF CHARLEMAGNE

21 The laws of the great Frankish ruler, set out in a (now lost) document named for its subject headings (capitularies).

DIAMOND SUTRA

22 This key Buddhist text contains the Buddha's most important teachings. It is called the Diamond Sutra because it cuts through irrelevant matter like the rock-hard gemstone.

THE TALE OF GENJI

23 These Japanese stories of imperial court life, written by Murasaki Shikibu, are claimed as the first novel.

DOMESDAY BOOK

24 This was a survey, commissioned by King William I of England (William the Conqueror), of the population, agricultural wealth, and landholding of the whole country for tax purposes.

DECLARATION OF ARBROATH

27 This letter to the Pope, composed by the Scottish parliament and signed by 51 nobles, declared Scotland's status as a sovereign state independent from Edward II's England. It is widely regarded as the earliest assertion of nationalism.

GOLDEN BULL

20 This constitution for the Holy Roman Empire, promulgated by Charles IV, created an electoral college of the major princes and bishops to choose the emperor. It remained in force for 500 years.

TREATY OF Tordesillas

29 Spain and Portugal agreed that the former could have lands to the west of the Atlantic while the latter could have free rein in the east.



LUTHER'S NINETY-FIVE THESES

30 German monk Martin Luther nailed his protests against church abuses to the door of Wittenberg Cathedral. His 95 brief propositions challenged the sale of indulgences and other corrupt Roman Catholic practices and launched a pan-European protest movement that led to the Reformation.

1520

LEONARDO DA VINCI'S NOTEBOOKS

31

Leonardo's private writings offer unparalleled insights into his exceptional curiosity and visual acuity.

1543

DE REVOLUTIONIBUS

32

Astronomer Nicolaus Copernicus's book demonstrated that Earth and other planets orbit the Sun, upsetting centuries of Church teaching.

1649

DEATH WARRANT OF CHARLES I

37

Document signed by Lord Protector Oliver Cromwell and 58 other regicides after the king had been found guilty of treason.

1610

SIDEREUS NUNCIUS

33

Scientist Galileo Galilei's book used pioneering telescope observations to show the uneven surface of the Moon.

SHAKESPEARE'S FIRST FOLIO

34

A collection of 36 plays, 20 of which had not previously been published. Around 250 copies of the original printing of 750 survive.

1639

SAKOKU EDICT

35

This proclamation expelled Western missionaries from Japan and prevented natives from leaving the country and foreigners from entering it. It remained in force until 1853.

1648

TREATY OF WESTPHALIA

36

This treaty ended the Thirty Years' War in the Holy Roman Empire and 130 years of religious conflict. It permitted princes to determine the religion of their states but protected minority faiths.

1660-1689

PEPYS'S DIARY

38

English civil servant Samuel Pepys gave a vivid, personal account of the life of a prominent civil servant in Restoration London. Written in shorthand, it was not decoded until 1825.

1776

PENNSYLVANIA CONSTITUTION

39

Quaker William Penn's constitution was the first written state constitution. It enshrined religious tolerance and barred capital punishment.

1763

ASIENTO

40

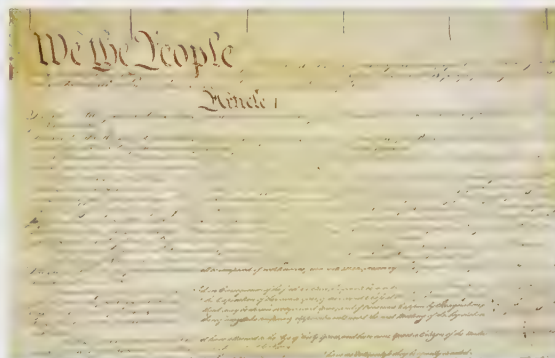
Anglo-Spanish treaty giving British ships a 30-year monopoly on transporting African slaves to Spain's New World territories. Earlier *asientos* had given the monopoly to Spaniards.

1776

AMERICAN DECLARATION OF INDEPENDENCE

41

This momentous document, drafted mainly by Thomas Jefferson, announced the intention of the 13 American colonies to break free from British domination and become the United States of America. Its contents were ratified by the Continental Congress on July 4, 1776.



DECLARATION OF RIGHTS OF MAN

43

"Men are born and remain free and equal in rights" is as great a desideratum today as it was when it was formulated during the French Revolution.

AMERICAN CONSTITUTION

42

This is the founding document of the United States, drafted by a Constitutional Convention representing 12 states and ratified by the Continental Congress. It has seven articles that create a balanced division of power between executive, legislature, and judiciary and enshrines the concept of federalism, setting out the relationship between the federal government and the states. By 2015, it had been amended 27 times.

US BILL OF RIGHTS

44

The first ten amendments of the US Constitution enshrine personal rights (including freedom of speech and the right to bear arms) and restrict the government's powers.

CONSTITUTION OF POLAND

45 The world's second written constitution was drafted by Stanisław Augustus. It enshrined an Enlightened monarchy and encouraged social equality.

RIGHTS OF MAN

46 This tract by British polemicist Thomas Paine favored democracy, universal rights, and revolution, if necessary.

REPORT ON THE PRINCIPLES OF PUBLIC MORALITY

47 Maximilien Robespierre, justifying the guillotining of thousands of aristocrats, defended terror as an instrument of the French Revolution. Soon after this report came out, he was executed.

GEORGE WASHINGTON'S FAREWELL ADDRESS

48 Letter published by the first US president near the end of his second term, asserting the values of republicanism, opposing factionalism, and advising the United States to remain at peace.

DENON'S TRAVELS IN LOWER & UPPER EGYPT

49 This was a survey of antiquities by Dominique Vivant, Baron Denon, during Napoléon's 1798 invasion.

NAPOLEONIC CODE

50 This series of laws, issued by Bonaparte and based on principles of Roman civil law, established meritocracy and ensured freedom of religion. It remains influential in many European countries.

BEETHOVEN'S EROICA

51 The manuscript of the composer's third symphony shows the name of Napoléon scratched out after the intended dedicatee was proclaimed emperor.

LEWIS & CLARK'S DIARY

52 A vivid account by Meriwether Lewis and William Clark of their journey of exploration across the Rockies.

CARTAGENA MANIFESTO

53 Written by Simón Bolívar, this document is an account of the fall of the first Venezuelan republic after liberation from Spanish rule, and a blueprint for the future independence of South American states.

1870

BOOK OF MORMON

54 The sacred book of the Latter-day Saints was purportedly found by Joseph Smith inscribed in hieroglyphs on buried golden tablets.

CHARLES DARWIN'S BEAGLE DIARY

55 The naturalist's account of his voyage around South America shows the development of his ideas.

GREAT CHARTER

56 This document, drawn up by the radical Chartists, called for annual elections in Britain and universal secret suffrage. Six million people signed the petition, and half a million turned out to a rally in London, but the government ignored them.



SENECA FALLS CONVENTION DECLARATION

57 This manifesto, drafted by US campaigners Lucretia Mott and Elizabeth Cady Stanton after a convention of their supporters in New York State, set out the historic abuse of women by men and the fundamental principles of women's rights. It states: "The history of mankind is a history of repeated injuries and usurpations on the part of man toward woman, having in direct object the establishment of an absolute tyranny over her." The declaration is widely regarded as the foundation stone of the American women's movement.



COMMUNIST MANIFESTO

58 This document—written and published in England by German journalist Karl Marx and Manchester industrialist Friedrich Engels—predicted a revolutionary uprising of the working classes against the bourgeoisie that was inevitable.

TIMES ARTICLE ON THE CHARGE OF THE LIGHT BRIGADE

59 London journalist W. H. Russell reported on a disastrous British military operation during the Crimean War.

RUSSIAN EMANCIPATION DECLARATION

60 Czar Alexander II liberated the serfs but gave them no land and compensated their former owners.



GETTYSBURG ADDRESS

61 This is the speech made by US president Abraham Lincoln when consecrating the graveyard for the Union dead fallen at the Civil War's Battle of Gettysburg a few months earlier. Just 271 words long, it is considered a masterpiece of concision and expression of deep feeling. It concludes thus: "We here highly resolve that these dead shall not have died in vain—that... government of the people, by the people, for the people, shall not perish from the Earth."

GENEVA CONVENTION

62 This international treaty, devised by Henry Dunant, set out rules for the treatment of war wounded and prisoners and founded the Red Cross.

LINCOLN'S LETTER TO MRS. BIXBY

63 US president's letter to a mother thought to have lost five sons in the Civil War is a model of compassion.

QUEEN VICTORIA'S HIGHLAND JOURNAL

64 The British Queen kept a diary all her life. Her account of a summer at Balmoral with her family was published and became a best seller.

PAPAL INFALLIBILITY BULL

65 In Pius IX's reign, the Vatican Council declared that a pope's pronouncement *ex cathedra* could not be erroneous.

PROCLAMATION OF BRITISH EMPIRE IN INDIA

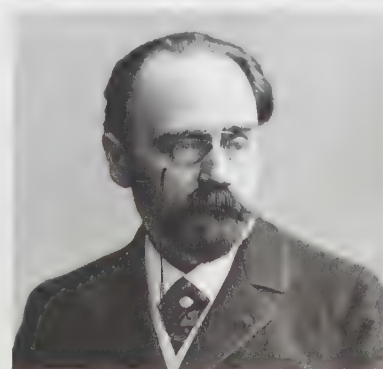
66 Queen Victoria was proclaimed Empress of India at the durbar (court gathering) at Delhi on January 1. The title was the idea of British prime minister Benjamin Disraeli.

MEIJI CONSTITUTION

67 Japan's first written constitution was introduced by the Meiji emperor as part of a sweeping modernization program that introduced constitutional monarchy and a parliament.

ZOLA'S J'ACCUSE LETTER

68 During the Dreyfus scandal, in which spying charges against a Jewish officer in the French army revealed anti-Semitism and cronyism at the heart of the establishment, novelist Émile Zola published an attack on prominent individuals in the *Aurore* newspaper. The author was convicted of libel but ensured that the affair could not be hushed up. Dreyfus was later exonerated.



ORVILLE WRIGHT'S TELEGRAM

69 Aviator Orville Wright reported news of the first heavier-than-air flight at Kitty Hawk, North Carolina, in this cable to his father.

EINSTEIN'S THREE PAPERS

70 In one year Albert Einstein published three papers that revolutionized physics, introducing the theory of relativity.

FUTURIST MANIFESTO

71 Poet Filippo Tommaso Marinetti rejected tradition and stability in favor of movement, machinery, violence, and youth.

CAPTAIN SCOTT'S DIARY

72 British explorer R. F. Scott's expedition lost the race to the South Pole and failed to return to base; his best-selling account of the journey epitomized British sangfroid in extreme circumstances.

PROCLAMATION OF IRISH INDEPENDANCE

73 Irish revolutionary Pádraig Pearse drafted the independence proclamation for the doomed rising at Dublin Post Office.

SOVIET DECREES ON PEACE & LAND

74 The first acts of the Supreme Soviet after the Bolshevik Revolution were to withdraw the nation from World War I and allow the peasants to take the land. Further decrees were issued on workers' rights.

MUNICH AGREEMENT

81 Hitler promised to make no more land grabs after taking a big slice of Czechoslovakia; British premier Neville Chamberlain believed him.

ZIMMERMANN TELEGRAM

75 The interception of this message from the German foreign secretary to the Mexican government, calling on them to invade the United States, inspired the US declaration of war on Germany.

BALFOUR DECLARATION

76 British foreign secretary Arthur Balfour "viewed with favor" a national home for Jews in Palestine, while protecting the rights of non-Jewish inhabitants.

WILSON'S 14 POINTS

77 US president Woodrow Wilson's speech set the postwar agenda, with the focus on free trade, democracy, and self-determination.

ARMISTICE

78 This agreement, signed on November 11 in a railway carriage in the Compiègne forest, France, brought a ceasefire and the withdrawal of German troops.

DADA MANIFESTO

79 This artistic mission statement by Tristan Tzara rejected traditional values, including war, and proclaimed the triumph of absurdity.

MEIN KAMPF

80 Written in prison, *My Struggle* was the autobiography and manifesto of Adolf Hitler, in which he outlined his ideas about Aryan supremacy and a "Jewish conspiracy" to gain world leadership.

EINSTEIN'S LETTER ABOUT THE NUCLEAR BOMB

82 Albert Einstein wrote to US president Franklin D. Roosevelt to stress the need for this weapon.

BEVERIDGE REPORT

83 This landmark report by British economist William Beveridge identified "five social evils" (squalor, ignorance, want, idleness, and disease) and laid out the principles for the postwar welfare state.

WANNSEE CONFERENCE MINUTES

84 These are the contemporaneous notes of a brief meeting of Nazi leaders near Berlin at which they determined that the SS would carry out the "Final Solution" to the "Jewish problem." The minutes were dictated by Reinhard Heydrich and written by Adolf Eichmann.

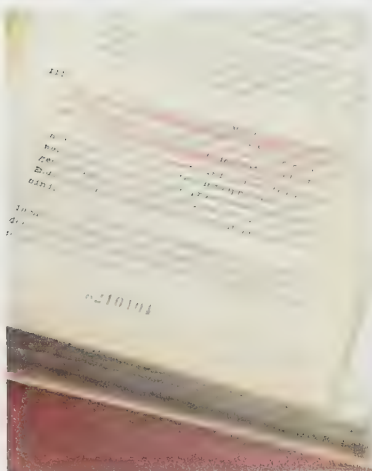


ANNE FRANK'S DIARY

85 This was the journal kept for two years by a young Jewish girl while hiding with her family from the Nazis in the attic of a house in Amsterdam, Netherlands. It set out with exceptional honesty and vividness the hopes, pleasures, and frustrations of her life until her family was betrayed and deported in August 1944. Anne Frank died in a concentration camp in February or March 1945, aged 15 years. Her diary was later found and published to worldwide acclaim.

YALTA AGREEMENT

86 This was the product of a meeting at which the "Big Three"—Joseph Stalin, Winston Churchill, and Franklin D. Roosevelt—decided the shape of postwar Europe. Free elections were promised in all the liberated countries of Europe, but this undertaking was not honored in the regions under Soviet control.



1945 SURRENDER OF GERMANY

87 This document of unconditional surrender was signed on May 7 in Rheims, and the next day in Berlin, in the presence of representatives of the Allies.

1945 SURRENDER OF JAPAN

88 This document, signed on September 2 by Japanese foreign minister Mamoru Shigemitsu aboard USS *Missouri*, ended World War II in the Pacific.

1948 UNIVERSAL DECLARATION OF HUMAN RIGHTS

89 The United Nations set out its intention to protect the rights of the individual, including the right to life and the prohibition of slavery; rights of the individual in civil and political society; spiritual, public, and political freedoms such as freedom of association, thought, conscience, and religion; and social, economic, and cultural rights.

1957 TREATY OF ROME

90 This agreement established the European Economic Community (precursor of the European Union). It was signed by six nations: France, Germany, Italy, the Netherlands, Belgium, and Luxembourg.

1998 GOOD FRIDAY AGREEMENT

97 This agreement between the British and Irish governments, and the paramilitary groups in Northern Ireland, ended decades of sectarian conflict.

1998 SOUTH AFRICAN TRUTH AND RECONCILIATION COMMISSION REPORT

98 To help create a unified South African nation postapartheid, this inquiry allowed crimes to be admitted without necessarily being prosecuted.

1962 CUBAN MISSILE INTELLIGENCE PHOTOS

91 Nuclear war was narrowly averted in October 1962 after CIA aerial reconnaissance photographed Soviet missile sites being built in the Cuban jungle and missiles being transported from the Soviet Union. The photos were shown to the United Nations as the Pentagon pondered its response.



1963 ZAPRUDER FILM

92 This 26-second sequence, filmed by Abraham Zapruder, who turned out to see the presidential motorcade in Dallas, is the best visual evidence of the Kennedy assassination and the most studied movie footage in history.

1991 THE INTERNET PROTOCOL

95 Tim Berners-Lee proposed a hypertext transmission protocol (HTTP) that connected with the transmission control protocol (TCP) and the domain name system (DNS)—birthing the World Wide Web.

1991 LITTLE RED BOOK

93 More than one billion copies were printed of these aphoristic "Quotations from Chairman Mao Zedong"—427 thoughts in 33 sections, compiled by army marshal Lin Biao.

1977 VOYAGER 2 "GOLDEN RECORDS"

94 Recordings on gold-plated copper, sent into deep space on *Voyager 2*, portray life and culture on Earth in music, speech, and images.

2001 BIN LADEN'S PROCLAMATION OF JIHAD

96 Saudi-born Islamist Osama bin Laden, founder of the al-Qaeda terrorist network, issued a fatwa declaring holy war on the United States, accusing it of ransacking the Middle East.



2006 WIKILEAKS

99 The nonprofit website Wikileaks, led by Australian journalist Julian Assange, released 400,000 classified US documents relating to the Afghan and Iraq Wars, as well as redacted State Department cables. Most of the leaks were traced to Chelsea (Bradley) Manning, a young US soldier.

2013 EDWARD SNOWDEN LEAKS

100 CIA administrator Snowden leaked classified documents revealing how the US National Security Agency was secretly collecting telephone and Internet data from all over the world. Some of the documents were published by *The Guardian* and *The Washington Post*.



10,000 BCE

FIRST AGRICULTURAL REVOLUTION

1 The domestication of seeds and animals, and the consequent transition from a hunter-gatherer lifestyle to a sedentary farming one, took place over many millennia. Yet it constitutes one of the most important and far-ranging revolutions in history, allowing population growth, the emergence of specialized skill sets, and the creation of surpluses that would permit urban life. It began in the Zagros Mountains and Fertile Crescent of the Middle East, and soon spread to the Nile Valley. Similar agricultural revolutions occurred on different continents at different periods.

ATHENIAN REVOLUTION

2 A political revolution when the reformer Cleisthenes overthrew the existing tyranny and introduced the world's first democratic constitution, based on a Council of Five Hundred, with members appointed by the city's ten tribes, allowing citizens directly to participate in the assembly and the courts.

MACCABEAN REVOLT

3 Also known as the Hasmonean revolt, this was a Jewish guerrilla uprising against Seleucid Hellenistic rule. In 164 BCE the Maccabees liberated Jerusalem and restored the temple, an event commemorated in the festival of Hanukkah. Maccabee ("Hammer") was an honorific title given to Judas, son of Mattathias, and became the family name.

SLAVE REVOLT

4 An uprising of 70,000 slaves led by Spartacus against Rome. They tried to escape Italy but retreated south and were defeated.

100 REVOLUTIONS

66 CE

GREAT JEWISH REVOLT

5 This Jewish revolt, led by Josephus, drove the Romans from Jerusalem. It was crushed by Vespasian and Titus.

GREAT BERBER REVOLT

6 A Kharijite (Islamic sect) rebellion in the Maghreb against the Umayyad caliphate; led to Moroccan independence.

859

ZANJ REBELLION

7 This was a major rebellion against Abbasid rule in the Basra region of southern Iraq by the Zanj—thousands of black Africans brought to the region mainly as slaves. Although not originally Muslim, many converted to the strict Kharijite interpretation of Islam that suggested a black man could become caliph. An independent Zanj state was established; the Zanj sacked Basra in 871, but ten years later an Abbasid offensive ended the rebellion.

SICILIAN VESPER

8 The revolt against the French Angevin king Charles I in Sicily began with a massacre of the French in Palermo during the hour of vespers. In the ensuing war, the Sicilians supported the claims of Aragon, initiating a long period of Spanish rule.

1200

GUNPOWDER REVOLUTION

9 Gunpowder—an explosive mixture of sulfur, saltpeter, and charcoal—was invented in China, perhaps in the tenth century, and used militarily by about 1200. The introduction of gunpowder in European warfare, via the Arabs, in the early fourteenth century began to revolutionize tactics both in sieges and on the battlefield. Initially, artillery was used, but from the mid-fifteenth century, handheld arquebuses and then muskets were introduced. Gunpowder reduced the need for expensive armor, and eventually of cavalry. For infantry it led to increased drilling and to the professionalization of armies. Gunpowder has also been used in Europe as a blasting agent in mining and road building since the seventeenth century.

JACQUERIE

10 A peasants' revolt against the nobility in Paris and northeastern France—peasants were typically known as Jacques Bonhomme. The rebellion was routed within a month.

PEASANTS' REVOLT

11 A southern English peasants' rebellion led by Wat Tyler, protesting the poll tax and feudal impositions. The peasants marched on London and took the tower. The young king Richard II appeared to concede their demands, but Tyler was killed and the rebels routed.

HUSSITE REVOLT

12 This was a religious and political revolt against the Bohemian Church by followers of Jan Hus, who was burned at the stake in 1418. After fighting and negotiations, the Bohemian Church retained some autonomy in the Roman Church, though some factions became precursors of Protestant churches.



PRINTING REVOLUTION

13 Printing using movable type allowed a printer to produce many identical copies of a text far more cheaply and quickly than previous methods. The technology was developed in the Rhine Valley in the 1440s by Johannes Gutenberg, who invented a printing system, and from 1460 the technology spread through the Rhine region and beyond. During the next 50 years tens of thousands of titles were printed. Printing revolutionized the spread of ideas, knowledge, and opinions—whether scholarly, popular, educational, or religious—and meant that the media were no longer easily controlled by political or religious authorities. Its importance was not challenged until the digital revolution of modern times.

REVOLT OF THE COMUNEROS

14 An uprising in Castile against the rule of Charles I (Holy Roman Emperor Charles V) based on nascent ideas of democracy, it was crushed in Toledo in 1522.

PEASANTS' WAR

15 The largest popular uprising before the eighteenth century, this revolt by peasants in west and south Germany—many inspired by the antiauthority of the religious reformer Martin Luther—demanded freedom from oppression by landlords. Around 100,000 died after Luther condemned their actions.

PILGRIMAGE OF GRACE

16 An uprising of northern England, led by Robert Aske, against the Reformation legislation of Henry VIII.

REVOLT OF THE NETHERLANDS

17 This Dutch Protestant rebellion against Spanish rule continued until 1648, though the "United Provinces" (so-called after the Union of Utrecht, 1579), had de facto independence by 1609.

MORISCO REBELLION

18 The Arabic population in Spain revolted against Philip II's edict forbidding Arabic language and dress; 80,000 Moriscos (Muslim converts to Christianity) were expelled from their homes, and persecution increased until their complete expulsion from Spain (1604–14).

TYRONE'S REBELLION

19 Hugh O'Neill, Earl of Tyrone, led the Irish rebellion against English rule. With his defeat the English conquered Ulster, leading to the settlement of Scottish Protestants.

CATALAN REVOLT

20 Also known as the "reapers' war," this Catalan peasant uprising against rule from Castile was supported by Louis XIII of France. A Castilian army eventually recaptured Barcelona, the capital of the revolt, but Roussillon and the half of Cerdanya were ceded to France.

ENGLISH CIVIL WAR

21 This war between Charles I and Parliament was indecisive until the Parliamentary army reformed ("New Model Army") and won at Naseby (1645). The king was executed for treason (1649).

THE FRONDE

22 Intrigues caused these popular aristocratic uprisings against the young Louis XIV to fail, leaving Louis unchallengeable.



SCIENTIFIC REVOLUTION

23 Intellectual development of empirical knowledge built on inductive reasoning, observation, and experiment. Key developments included Bacon's empirical method (c. 1620), Descartes's reasoning (1637), and Newton's mathematical model of the universe (1687).

1688

GLORIOUS REVOLUTION

24 Bloodless overthrow of the Catholic English king James II by the Protestant Mary II and William of Orange. The settlement ended absolutism and secured Parliament's authority.

1715

JACOBITE UPRISINGS

25 The 1715 uprising in Scotland to restore the Catholic Stuarts was defeated at Sherrifmuir. A second uprising (1745) in support of "Bonnie Prince Charlie" was defeated at Culloden.

1780

AGRICULTURAL REVOLUTION

26 The second agricultural revolution began in Britain; its improvements in farming practice increased productivity.

1789

JAMAICAN SLAVE REVOLT

27 The largest slave revolt in the British Empire involved 1,500 people. It was not put down for 18 months; the degree of planning remains controversial.

1781

PONTIAC'S REBELLION

28 This war of Native American tribes in the Great Lakes region against British rule was named after the Ottawa leader Pontiac. Although very violent, the rebellion ended with a peace treaty, with both sides making concessions.



1781

INDUSTRIAL REVOLUTION

29 The development of factory-based mechanical production methods and emergence of coal, iron, steel, and cotton industries led to a socioeconomic transformation of British society. It created a capitalist middle class and an urban proletariat, and brought trade unions, movements for universal suffrage, and socialism. Associated transport revolution with canals and railways.

1773

PUGACHEV'S REBELLION

30 Cossacks and other peasants in Russia rebelled against the rule of Catherine the Great, led by Yemelyan Pugachev, who claimed to be Catherine's murdered husband Peter III, and sought to abolish serfdom and resist other social changes.

1776

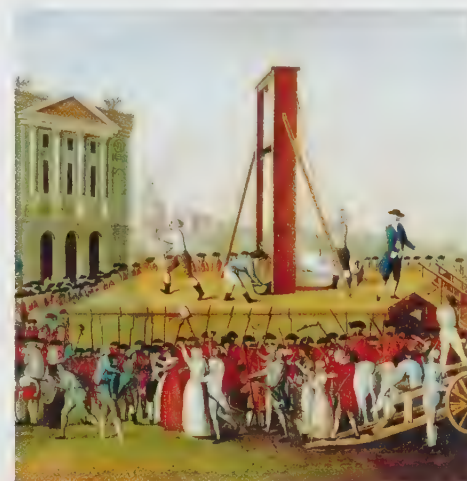
AMERICAN REVOLUTION

31 Also known as the United States War of Independence, the successful revolt of the British colonies in North America (excluding Canada) against rule from London began as a protest against the imposition of taxes and lack of representation in Parliament, and turned into armed rebellion in 1775. Despite the arrival of a British Army, assisted by American loyalists, George Washington was appointed commander of the revolutionary forces by the Continental Congress that coordinated the 13 colonies, and the following year the Declaration of Independence was proclaimed, asserting the universal right to resist tyranny. After the French and other European powers came to the assistance of the Americans, the British Army surrendered in 1783.

1789

FRENCH REVOLUTION

32 The French Revolution, which began with the fall of the Bastille on July 14, 1789, began as a popular and liberal attack on the monarchy's failure to address popular grievances or reform taxation or political representation. It later became an all-out republican and anticlerical assault on the aristocracy, church, and monarchy, in the name of "liberty, equality, and fraternity."



1790

SAXON PEASANTS' REVOLT

33 A spontaneous revolt centered around Dresden and Leipzig, focused on hunting rights and feudal dues.

1791

HAITIAN REVOLUTION

34 A successful and widespread slave revolt in the French colony of Hispaniola, in the wake of the French Revolution. It was initially led by the former slave Toussaint Louverture on the Caribbean island of Saint-Domingue. After Napoléon attempted unsuccessfully to suppress the revolution in 1802, Jean-Jacques Dessalines created the independent state of Haiti in 1804.

VENDÉE REVOLT

1795 Monarchist revolt in the Vendée region of western France against the revolution. It resulted in the massacre of thousands, on both sides of the conflict.

POLISH REVOLT

1830 Uprising led by Tadeusz Kościuszko and Józef Niemojewski against Prussian rule, after the Second Partition of Poland (1793). Kosciuszko was forced to defend Warsaw against a Prussian-Russian siege. The revolt was defeated, and Poland dismembered.

WHITE LOTUS REBELLION

1897 Chinese peasant rebellion in Shandong province and elsewhere against Qing taxation. It was suppressed, and 100,000 died.

IRISH REBELLION

1801 A nationalist uprising against British rule by both Catholics and Protestants. A French expedition in support soon failed. After widespread violence, the rebellion led to the Act of Union (1801).

PENINSULAR WAR

1808 Spanish and Portuguese guerrilla opposition to Napoleonic rule began with a popular uprising in Madrid and spread across the peninsula. From August 1808 a British force led by Wellington supported the rebels. The war, though indecisive for several years, wore down Napoléon, and the French were eventually defeated at Vitoria and expelled from the peninsula.

MEXICAN WAR OF INDEPENDENCE

1810 This revolt against Spanish rule was started by Catholic priest Miguel Hidalgo, who issued the "Cry of Dolores" and called for independence and equality of the races. He was captured and killed in 1815, but constitutionalists and conservatives forced through independence in 1820–21.

GREEK WAR OF INDEPENDENCE

1821 The initial guerrilla campaign of this Hellenist rebellion against Ottoman rule was ineffective, but independence was declared in 1822. After Russian, French, and British assistance, independence was conceded in 1832.

JULY REVOLUTION

1830 A French uprising against Bourbon king Charles X, with barricades across Paris streets, caused Charles to abdicate. A constitutional monarchy under Louis-Philippe II followed.

TEXAN WAR OF INDEPENDENCE

1836 This war led to Texan independence from Mexico. The siege of the Texans defending the Alamo mission (February to March 1836) against Santa Anna's Mexican forces led to the death of around 185 defenders.

CANADIAN REBELLIONS

1837 Separate armed uprisings in Upper (British) and Lower (French) Canada in pursuit of political reform led to the creation of a unified Canada (1867).

1848 REVOLUTIONS

1848 In 1848 a series of uncoordinated uprisings took place in many cities across Europe, mainly middle-class, liberal, and nationalists against authoritarian governments. The first rising, which took place in February, saw the overthrow of Louis-Philippe's regime in France. Unrest in many German cities led to an abortive pan-German parliament in Frankfurt. Risings in Austria, Hungary, Denmark, and the Netherlands had some success; others, less successful, took place in Italy and Poland. Working-class protest also occurred in Britain with the Chartists, with the publication of Marx and Engels's *The Communist Manifesto*.



GERMAN REVOLUTION

46 The 1848 Revolution saw unrest—some of it violent—in many states and cities of the German confederation, including Berlin, Frankfurt, Munich, and Dresden, and caused the Prussian king Frederick William IV to call a national parliament in Frankfurt. The first attempt to create a unified German political entity, this demanded a constitution with democratic elements and civil rights. After several months' discussion, the king forcibly dissolved the parliament and reverted to authoritarian rule.

TAIPING REBELLION

47 A Chinese uprising against the Manchu Qing dynasty, led by the revolutionary Christian Heavenly Kingdom of Peace. In 1853, the revolutionaries captured Nanjing and controlled the Yangtze valley. The unrest spread across China; by the time of its final suppression, more than 20 million had died.

MIAO REBELLION

48 A revolt against the Manchu Qing dynasty in China by the Miao ethnic group in Guizhou province, led by Zhang Xiumei. More than a million people died.

INDIAN WAR OF INDEPENDENCE

49 Also known as the Indian Mutiny, this war against British rule in India began when Hindu and Muslim soldiers refused to use bullets coated in cattle and pig fat. Unrest led to atrocities on both sides. It led to the creation of the British-Indian Empire.



AMERICAN CIVIL WAR

50 The American Civil War began after the secession in 1860–61 of 11 southern states from the Union over the issue of slavery and its extension into western territories as new states joined the Union. A Confederacy government was established in February 1861 under Jefferson Davis, and the first, bloodless, action was the surrender of Fort Sumter in Charleston, South Carolina, to rebel forces on April 13, 1861. Large-scale conflict ensued as the Confederate states sought to defend themselves and win international recognition. From 1863 the Unionist forces won the upper hand, and President Abraham Lincoln promised slave emancipation. The war ended with the surrender of the Confederate commander Robert E. Lee at Appomattox in April 1865.

FENIAN RISING

51 This uprising by Irish nationalists began in counties Kerry and Dublin, and a provisional Republican government was proclaimed. A nationwide uprising failed, and actions in Britain, as well as in Canada, came to little. Afterward, many Irish nationalists focused on political activity rather than violence.

MEIJI RESTORATION

52 This was a mainly peaceful reassertion of the authority of the Meiji emperor of Japan over the Tokugawa shogunate that had wielded effective power for 250 years. The restoration was inspired by the challenge of the arrival of an American naval force in 1853. It inaugurated a new constitution and the abolition of feudalism, and led to rapid Westernization of the country. The restoration was supported by young samurai.

RED RIVER REBELLION

53 A brief revolt against the new Canadian government by the Métis (of mixed-race First Nations and European background), led by Louis Riel and based in Manitoba.

PARIS COMMUNE

54 The Socialist uprising in Paris against the French government following the city's siege by the Germans led to widespread violence; more than 20,000 died before it was quashed.

NORTH WEST REBELLION

55 After Red River, the Métis rose again in Saskatchewan. Louis Riel returned but was defeated.

PHILIPPINE REVOLUTION

56 US intervention led to a declaration of independence from Spain, but in 1898 the islands became US territory, and the nationalist struggle lasted until 1901.

BOER REVOLT

57 The Boer (Dutch) resistance to British rule in Cape Colony, South Africa, led to the Great Trek to Transvaal and Orange Free State in the 1840s, but tensions persisted and in a three-year war, the British failed to suppress Boer resistance.

BOXER REBELLION

58 An anti-imperialist uprising that sought to drive Westerners from China, based on the secret "Society of the Righteous and Harmonious Fists" (better known as the Boxers), and led to a multinational invasion that took Beijing in 1900.

YOUNG TURK REBELLION

59 A Turkish nationalist rebellion operating through the Committee of Union and Progress (CUP) overthrew Sultan Abdul Hamid II and led to a modernizing CUP government in 1913.

MEXICAN REVOLUTION

60 A complex national and local civil war ousted the government of Porfirio Díaz and led to a new constitution (1917).

XINHAI REVOLUTION

61 Widespread unrest involved many revolutionary groups and resulted in the abdication of the last Chinese emperor (1912) and the creation of a republic.

ARAB REVOLT

62 This Arab and Bedouin revolt in Arabia, Syria, and Palestine against Ottoman rule was assisted by the British officer T. E. Lawrence during World War I. It led to the redrawing of the map of the Middle East at the Treaty of Sèvres in 1922.

EASTER RISING

63 A nationalist uprising in Ireland, using German weapons, against British rule, was led by Pádraig Pearse, and resulted in the declaration of a republic and occupation by the Irish Republican Brotherhood of the Post Office in Dublin. After a weeklong siege the post office was retaken and most of the leaders executed.

FEBRUARY RUSSIAN REVOLUTION

64 After widespread mutinies by the Russian Army, and a week of huge, unplanned demonstrations in Petrograd in March (February in the Russian calendar), the czar was forced to abdicate, and a reform-minded provisional government introduced under Prince Lvov called a constituent assembly to create a republic.

BOLSHEVIK REVOLUTION

65 Following the February overthrow of the czar, the revolutionary Bolshevik party established soviets (workers' councils) in many districts and factories. The Germans allowed the exiled Bolshevik leader, Lenin, to return to Petrograd in April 1917, and he implemented a coup in Petrograd and dissolved the constituent assembly. In the ensuing civil war, the Bolsheviks defeated the "white" (czarist) forces and other socialist, liberal, and national minority groups. They introduced draconian "War Communism," causing economic chaos in both the cities and countryside.



FRENCH ARMY MUTINIES

66 The largest Western mutiny in World War I occurred at Étapes; 554 men were sentenced to death but only 26 were executed.

GERMAN REVOLUTION

67 After Germany's defeat in World War I, German cities saw revolutionary attempts to set up soviets. In January 1919 the socialist Spartacist uprising in Berlin was crushed.

1933 BEER HALL PUTSCH

68 In this failed coup attempt in Germany by Adolf Hitler and the National Socialists, several thousand Nazis confronted police in Munich; Hitler was arrested and convicted of treason. While in prison he wrote *Mein Kampf* but determined on gaining power through the ballot box.

1948 MALAYAN WAR OF INDEPENDENCE

71 In the guerrilla war between the Communist Malayan National Liberation Army and Britain, the insurgents were mainly ethnic Chinese, who were not popular with the Malay population; after a harsh but ineffective military campaign against them, the British commissioner introduced reforms that reduced their appeal.

1949 CHINESE REVOLUTION

72 The Chinese Communist party had built a power base with peasant support in the 1930s, despite resistance from the nationalist government of Chiang Kai-shek. Following the defeat of the invading Japanese in 1945, the two sides fought a civil war that resulted in victory for Mao Zedong's Communists, and nationalist withdrawal to Taiwan in 1949. Communist rule was established across mainland China, and through to the 1970s the revolutionary spirit destroyed most aspects of traditional Chinese economy and culture.



1952 EGYPTIAN REVOLUTION

73 The overthrow of the monarchy by modernizing army officers Muhammad Naguib and Gamal Abdel Nasser, who nationalized the Suez Canal.

1952 MAU MAU UPRISING

74 This was a nationalist movement against British rule, primarily of the Kikuyu people, in Kenya. The resulting war continued to 1956, with atrocities on both sides, before Kenya was granted independence in 1963 with former Mau Mau leader, Jomo Kenyatta, as president.

1954 ALGERIAN CIVIL WAR

75 The war for independence from France was led by the National Liberation Front (FLN). The brutal fighting, especially in the Battle of Algiers 1956–57, led to the return of French settlers to France after President de Gaulle agreed to the principle of Algerian independence.

1959 CUBAN REVOLUTION

76 In a three-year guerrilla campaign led by Fidel Castro and supported by Raúl Castro and Che Guevara, a few hundred revolutionaries defeated the much larger Cuban Army, resulting in the Communist overthrow of the Cuban government of Fulgencio Batista in 1959. The revolution gave the Soviet Union a foothold in the Western hemisphere and led to the Cuban Missile Crisis of 1962.

1956 HUNGARIAN REVOLUTION

77 In the Soviet sphere from 1945, and ruled by the Stalinist Mátyás Rákosi from 1949, Hungarians campaigning for liberalization staged a popular uprising in support of Imre Nagy in October 1956; the following month the Red Army invaded, suppressed the revolution, and executed Nagy for treason.

1959 TIBETAN UPRISING

78 A revolt in Lhasa, Tibet, against Chinese rule, which had been effective since 1951. The Dalai Lama (Tibetan spiritual leader) fled to India, and Chinese rule was ultimately confirmed.

1943 WARSAW GHETTO UPRISING

70 Armed Polish-Jewish resistance to Nazi deportations began in April, and for four weeks the Jewish resistance survived, often in the sewers. Finally, the Nazis blew up the ghetto.

ANGOLAN WAR OF INDEPENDENCE

79 This uprising against Portuguese rule ended after a coup in Portugal and the granting of independence.

RHODESIAN BUSH WAR

90 The long guerrilla war by several groups, one led by Robert Mugabe, against the white regime in Rhodesia, ended with the introduction of universal suffrage and the renaming of the country as Zimbabwe.

STUDENT REVOLUTION

81 Anarchist- and Maoist-inspired unrest among students in France, Germany, the United States, and elsewhere had disparate goals, but all challenged the assumptions and power of the capitalist state, opposed the Vietnam War, and demanded radical reform of higher education. In Paris a week of protest in May brought widespread chaos, and threatened a general strike that almost brought down the government. Though these events brought few tangible gains, they influenced the outlook of a generation.



PRAGUE SPRING

82 Popular rejection of Stalinist rule in Czechoslovakia was supported by Premier Alexander Dubček. The movement was crushed by a Warsaw Pact invasion.

1968

NORTHERN IRELAND TROUBLES

83 Atrocities on both sides of this conflict between Catholic and Protestant paramilitaries prolonged a struggle that began as a campaign for the rights of the Catholic minority.

CHILEAN COUP D'ÉTAT

84 The election of Marxist Salvador Allende as president in 1970 brought nationalization of the mines; a US-supported army coup led to his murder and a military dictatorship.

PORTUGUESE REVOLUTION

85 After the right-wing dictatorship of António Salazar, Portugal experienced a mainly peaceful popular revolution ("revolution of the carnations"), from the 1930s to 1970s, introducing reforms and ending the empire in Africa. Marxist elements took power in Lisbon but were defeated by democratic socialists in 1976.

KHMER ROUGE REVOLUTION

86 A Communist revolution in Cambodia followed a guerrilla campaign and the US bombing of that country (1965–73). In 1975 the Khmer Rouge (or Communist Party of Kampuchea), led by Pol Pot, took the capital Phnom Penh, and instituted an extreme isolationist regime. Non-Cambodian knowledge and technology were outlawed; schools, hospitals, and markets closed; and urban-dwellers sent to the countryside. Agricultural and technical autarky led to widespread disease and famine. Up to two million Cambodians died in the genocidal "Killing Fields" before the regime was overthrown by Vietnam.

IRANIAN REVOLUTION

87 The Westernizing and ailing Reza Shah Pahlavi in Iran was overthrown by a popular revolution that began with student demonstrations in 1978, coordinated by the Shiite cleric Ayatollah Ruhollah Khomeini from exile in Paris. Following the shah's abdication in January 1979, Khomeini returned to Iran and instituted a strictly Islamic republican regime strongly opposed to Western influence and enforced by the Revolutionary Guards.

POLISH SOLIDARITY UPRISINGS

88 Polish trade union movement founded by Lech Wałęsa, opposing Communist rule. It fought elections in 1989, and Wałęsa became president of Poland in 1990.

SINGING REVOLUTION

89 Communist rule in Estonia, Latvia, and Lithuania ended after singing demonstrations.

1989

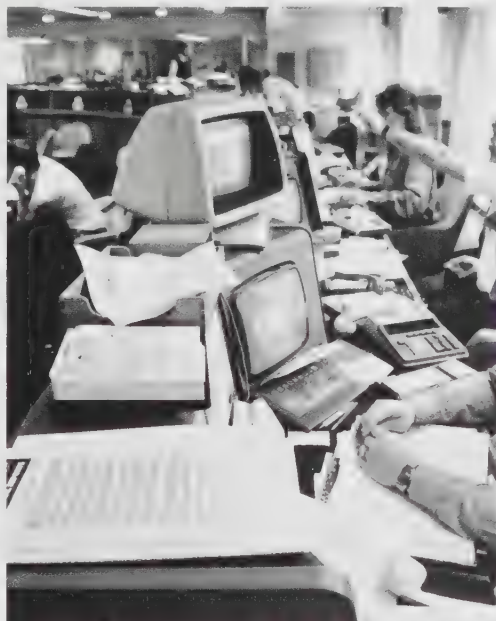
EAST GERMAN REVOLUTION

90 A series of massive popular demonstrations against 40 years of Stalinist rule, the events were inspired by Soviet leader Mikhail Gorbachev's liberalizations, and the consequent opening of borders in Hungary. East German leader Erich Honecker was replaced, but on November 9, 1989, a mistaken television announcement that the borders would be opened immediately led the crowds to force the opening of the Berlin Wall gates. The Communist government fell, and in 1990 Germany was reunified.

1990s

DIGITAL REVOLUTION

92 The most recent great technological revolution began with the rise of personal computing and digitization of audio and telecoms in the 1980s, but it took off in the 1990s with the advent of the digital content on the Internet and e-mail, and widespread adoption of data-based processes in businesses and governments, as well as the personal use of digital cameras and mobile phones. The introduction of social media extended the reach of digital communications and further revolutionized personal communications and broadcasting.



1989

VELVET REVOLUTION

91 Peaceful popular revolution in Czechoslovakia, which overthrew the Communist regime, in the wake of events in East Germany. By late November 1989, the Communist Party agreed to dismantle the one-party state, and the borders were opened. By the end of December a non-Communist government was headed by Václav Havel.

1990s

CHECHEN REBELLION

93 The resistance by the Muslim Chechen people of southern Russia to rule from Moscow led the Russian Army to devastate much of Grozny, the Chechen capital, and gave rise to a long-lasting guerrilla and terrorist insurgency.

1990s

INDONESIAN REVOLUTION

94 Widespread protests in Jakarta and elsewhere forced the long-standing president Suharto to resign and ended his "New Order" regime. The new regime sought to address many of the human rights and other abuses, but it was not until Megawati Sukarnoputri became president in 2001 that political stability returned.

1980s

PALESTINIAN INTIFADA

95 The first Palestinian intifada ("shaking off"), or popular militant uprising, against Israeli occupation of the West Bank and Gaza Strip, began in 1987 and ended with the Oslo Accords of 1993. The second, which was more violent, began in 2000 and saw suicide bombs and small-arms attacks. It ended with agreement in 2005 between Israeli president Sharon and Palestinian president Abbas.

2000

BULLDOZER REVOLUTION

96 Popular overthrow of Serbian president Milošević after a bulldozer was driven at the RTF building on October 5.

1990s

ORANGE REVOLUTION

97 The protest against electoral fraud in Ukraine resulted in the election of opposition leader Viktor Yushchenko. During the campaign he survived an assassination attempt that resulted in disfiguring dioxin poisoning. The revolution is named after the orange flags adopted by his followers.

2001

JASMINE REVOLUTION

98 Protests in Tunis led President Ben Ali to resign, and inspired a democratic constitution. A key part of the so-called Arab Spring.

2001

EGYPTIAN REVOLUTION

99 Mass protests in Cairo forced the resignation of President Mubarak.

2011

SYRIAN UPRISING

100 Resistance to Bashar al-Assad's authoritarian rule in Syria appeared following the successes of the Arab Spring elsewhere. A complex but hugely destructive civil war emerged, involving several militias, resulting in millions of refugees and leading to the emergence of powerful Islamist groups, including ISIS.



KT METEOR

1 On the most disastrous day known in Earth's history, an asteroid hit the Yucatán peninsula in Central America, causing firestorms, tsunamis, and a dramatic lowering of the sea level that wiped out the dinosaurs and many other species, including ammonites.

EARTHQUAKE IN THERA

2 A massive volcanic explosion (the second-largest known) on the Aegean island of Thera (Santorini) caused a tsunami that devastated the Minoan civilization.

PLAGUE OF ATHENS

3 This epidemic, possibly bubonic plague, devastated the city, and contributed to its defeat in the Peloponnesian War against Sparta.

FIRE IN ROME

4 The inferno that destroyed two-thirds of the Eternal City was blamed by Emperor Nero on the Christian religious sect.

ERUPTION OF VESUVIUS

5 The eruption of this volcano in Italy created a plume of smoke 20 miles (32km) high and destroyed the nearby towns of Herculaneum and Pompeii, killing an estimated 20,000 people.

ANTONINE PLAGUE

6 This epidemic swept the Roman Empire and killed as many as one in every three people. It may have been measles.

TSUNAMI IN ALEXANDRIA

7 The tidal wave caused by an earthquake in western Crete killed 5,000 in the Egyptian city and engulfed its Royal Quarter.

100 DISASTERS

EARTHQUAKE IN ANTIOCH

8 A seismic tremor and consequent fires killed 250,000 people and destroyed much of this great Turkish city.

EXTREME WEATHER

9 Volcanic eruptions created clouds of ash that deprived the Northern Hemisphere of sunlight for almost a year, causing famine.

JUSTINIAN PLAGUE

10 One of the worst plagues in recorded history killed around one-quarter of the population of the Byzantine Empire.

EARTHQUAKE IN ALEPPO

11 The city in Syria was devastated by the first and largest of a series of earth tremors throughout the Caucasus, which, along with another, related earthquake the following year in Ganja (in modern Azerbaijan), killed an estimated 230,000 people.

EARTHQUAKE IN SYRIA

12 This earthquake or series of earthquakes was felt in Syria and throughout the Levant. Estimates of the death toll range between 30,000 and one million.

FIRE IN LONDON

13 A fire that started in Southwark soon engulfed London Bridge and the surrounding wooden buildings.

BLACK DEATH

14 This outbreak of bubonic plague killed half the population of Europe—around 200 million people—and considerable numbers in the Middle East. The infection, carried on the fleas of black rats, originated in Asia, entered Europe through the ports of Sicily, and spread along river valleys and trade routes. Attempts to slow its advance ranged from quarantine to prayer and flagellation. It caused a labor shortage that led to political upheavals in many countries.

FIRE IN AMSTERDAM

15 After this conflagration, and another in 1452, destroyed three-quarters of the Dutch city, thatched roofs were banned, and new buildings had to be made of brick.

SYPHILIS IN EUROPE

16 The syphilis bacterium was probably carried to Europe from the Americas by Spanish explorers; the first cases in Europe were in Naples. It mutated into a more lethal strain that was spread, notably by soldiers.

EASTER ISLAND DEFORESTATION

17 This disaster was caused either by the intensive agriculture of the Rapanui Polynesian inhabitants or by the spread of rats, which ate all the palm seeds. The ensuing famine drastically reduced the human population and destroyed the culture that created the *moai* stone heads

SMALLPOX IN NEW WORLD

18 The Spanish conquistadors took the smallpox virus to the Americas, where the native population had no immunity. In the 1520s, smallpox killed millions in Mexico, Central America, and Peru, and over the next 150 years, up to 90 percent of the native population in areas from Chile to New England. The epidemic of the related disease measles that followed in the 1530s was virulent in the Caribbean.



EARTHQUAKE IN SHAANXI

19 The deadliest (though not the strongest) earthquake in recorded history killed more than 800,000 people. Its epicenter was in the Wei River valley

NEW ENGLAND PLAGUE

20 This outbreak of what was probably leptospirosis came from a French shipwreck off Cape Cod. It killed around one-third of Native Americans.

PLAGUE IN ITALY

21 This outbreak of bubonic plague killed around one-quarter of the population of Milan, Venice, and other cities of the Po River valley.

FIRE OF EDO

22 Also known as the Meireki Fire, this blaze was the greatest disaster in pre-twentieth-century Japan. It killed around 100,000 people in what is now Tokyo.

GREAT PLAGUE

23 The last major outbreak of bubonic plague in London killed 15 percent of the population. It is described in Samuel Pepys's diary.

FIRE OF LONDON

24 The immolation of 85 percent of London's buildings in four days led to major reconstruction.

ERUPTION OF ETNA

25 The most destructive eruption of the Sicilian volcano in modern times occasioned the first attempt to divert the flow of lava away from villages.

CYCLONE IN BENGAL

25 A great, swirling wind over the Bay of Bengal whipped up a tidal wave that surged into the Ganges River estuary and engulfed much of Calcutta (modern Kolkata) under 40 feet (12m) of water. It is claimed that the cyclone destroyed 20,000 ships and killed 300,000, although the true figures are probably much lower.



EARTHQUAKE IN JAMAICA

26 The destruction of Port Royal inspired suggestions this was God's judgment on "the wickedest place on Earth."

ENGLISH GREAT STORM

27 This great gale caused widespread flooding in the south of England and sank 13 naval ships.

GREAT FIRE OF COPENHAGEN

28 The inferno that engulfed the Danish capital's medieval quarter left 70,000 homeless and destroyed the university library, which contained the works of astronomer Tycho Brahe

EARTHQUAKE IN LISBON

30 This major earthquake and the subsequent fires and tsunami destroyed 85 percent of the Portuguese capital, including most of its churches, and killed around 100,000 people. The nation's prime minister sought to gather detailed information about the event, and the findings have been recognized as the beginning of modern seismology. The disaster focused debate about divine responsibility for natural suffering.

1775

SMALLPOX IN NORTH AMERICA

31 Following British use of smallpox as a weapon against the US army, the disease spread along trade routes and devastated native populations from Mexico to British Columbia.



1812

FIRE IN MOSCOW

32 The cause of this disaster remains unclear: it may have been natural, but it may have been a Russian scorched-earth policy against the French invaders.

1883

TAMBORA ERUPTION

33 Ash from this Indonesian volcano disrupted the global climate and created a "year without a summer."

1845

IRISH POTATO FAMINE

35 The repeated failure of the Irish potato crop through blight in the years from 1845 to 1852 led to the deaths of one million people, and the emigration of another million to North America. Those who remained in Ireland demanded freedom from Britain.



CHOLERA PANDEMIC

34 This wave of disease probably originated in Bengal, whence it spread across Asia and Europe. From there it was taken to the United States, Canada, and Mexico by emigrants. The mechanism of transmission was not understood, but the bacterium was identified in 1854, and in the same year, London doctor John Snow definitively linked cholera to contaminated water. The pandemic gave rise to the first modern attempts at improving public health, and many cities introduced sewerage systems.

1845

GREAT NEW YORK FIRE

36 This fire broke out in a whale-oil factory and caused a saltpeter warehouse to explode, resulting in the destruction of a large part of Lower Manhattan.

1847

TYPHUS EPIDEMIC IN CANADA

37 Infections from Irish famine refugees caused the deaths of 20,000 people in Quebec and Ontario.

GREAT FIRE OF MONTREAL

38 A house caught light while the city's reservoir was drained for repair, so there was not enough water to prevent disaster.

FIRE IN SANTIAGO

39 An oil lamp ignited some cloth on the altar of a crowded Jesuit Church in the capital of Chile. Almost 3,000 people died in a stampede to escape the flames.

c. 1865

CHOLERA EPIDEMIC IN RUSSIA

40 More than a million died in Russia alone in another nineteenth-century cholera pandemic.

1862

STEAMSHIP *SULTANA* DISASTER

41 A Mississippi riverboat exploded and sank near Memphis, Tennessee, killing 1,800 of the 2,427 onboard.

1871

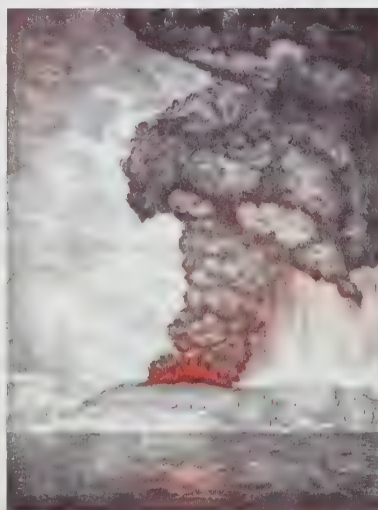
CHICAGO'S GREAT FIRE

42 A fire started when a cow kicked over a lantern; one-third of the city's inhabitants were left homeless.

c. 1870

FAMINE IN NORTHERN CHINA

43 The consequence of a prolonged drought, this disaster is estimated to have claimed the lives of around 13 million people.



KRAKATOA

44 On August 26, 1883, four huge volcanic eruptions between Java and Sumatra in the Dutch East Indies (modern Indonesia) killed around 36,000 people. Most of the victims drowned in the flooding caused by the subsequent tsunami. The explosions—the loudest ever recorded—were audible more than 3,000 miles (4,800 km) away. The eruptions darkened and colored the sky and lowered global temperatures by nearly 3°F (1.6°C). Worldwide weather did not return to normal until 1888.

YELLOW RIVER FLOOD

45 Human-made dikes along the banks of China's Huang He (Yellow) River caused a gradual build-up of silt in the riverbed. Heavy rain caused the river to breach the dikes in Henan province, inundating 5,000 square miles (13,000km²) and killing 900,000.

EARTHQUAKE IN SAN FRANCISCO

48 Seismic tremors and ensuing fires killed more than 3,000 and left two-thirds of the population homeless.

EARTHQUAKE IN MESSINA

50 Europe's most powerful earthquake killed more than 120,000 people in Sicily and southern Italy and destroyed the cities of Messina and Reggio Calabria. Many survivors lost everything and emigrated to the United States.



RMS TITANIC

51 At the time of its launch, the White Star liner was the largest passenger ship ever built. It was said to be unsinkable, but this hubristic claim soon brought nemesis in the form of an iceberg, into which the vessel plowed on its New York-bound maiden voyage four days out from Southampton, England. There were insufficient lifeboats for even half of the 2,200 people on board, and 1,500 of them were drowned when the ship went down on April 15.

GALVESTON HURRICANE

46 The deadliest US hurricane killed around 12,500 people and destroyed much of the city in Texas.

MT. PELÉE EXPLOSION

47 The volcano destroyed the town of St. Pierre, Martinique, and killed 30,000 people.

TUNGUSKA EVENT IN SIBERIA

49 This massive explosion in a remote part of Russia was probably caused by an asteroid, 600 feet (180m) across, hitting the ground in the largest impact in recorded history. It destroyed around eight million trees, but there was no known loss of life.

RMS EMPRESS OF IRELAND

52 This Canadian ocean liner sank in the St. Lawrence River after a collision with a Norwegian collier, killing more than 1,000 of 1,400 people aboard.

MODANE RAIL DISASTER

53 Some 700 French soldiers died when the train carrying them home from the front was derailed in the Alps.

HALIFAX EXPLOSION

54 When a French ship loaded with high explosives collided with another vessel close to the harbor of Halifax, Nova Scotia, much of the city was blown to smithereens. The largest artificial explosion before the nuclear era killed 2,000 people and blinded many more.

SPANISH FLU

55 This global epidemic came in two waves and caused 100 million deaths. (World War I took only 16 million lives.) Its name is misleading: it did not originate in Spain, but initially only Spanish cases were reported by English-language news media.



SOVIET FAMINE

56 Five million died in the famine in Ukraine and other grain-producing regions of the Soviet Union after the forced collectivization of farms.

GREAT KANTŌ EARTHQUAKE

57 A devastating earthquake off the coast of Honshu island, and an accompanying typhoon, caused extensive damage to Tokyo and Yokohama, and the deaths of around 105,000 people.

DUST BOWL

58 Drought and dust storms eroded the topsoil on the North American prairies and rendered farming virtually impossible. The mechanization of agriculture in previous decades had added to the ecological fragility of the region. Thousands of displaced farmers migrated to California.

1955 FLOODS IN CHINA

59 Many people were killed when the Yangtze and Huai Rivers burst their banks, and many more died in the famine caused by the consequent crop failure. The death toll may have been as high as four million. The Yangtze flooded again in 1935.

1944 BENXIHU COLLIERY EXPLOSION

60 The world's worst mining disaster—an explosion and a fire at a coal mine in Japanese-occupied Manchukuo—killed 1,500 Chinese forced laborers underground.

1949 FIRE IN CHONGQING

61 This waterfront blaze killed 2,800 and destroyed 7,000 buildings shortly before the Chinese city fell to the Communists.

1952 LONDON SMOG

62 High pressure and atmospheric pollutants caused a week of "pea-souper" smog that killed 4,000 and gave rise to regulations for cleaner air.

1953 NORTH SEA FLOOD

63 A storm and tidal surge overran coastal defenses in the Netherlands, killing more than 1,800 people. The nation's sea barriers were urgently upgraded as a result.

1954 MINAMATA EPISODE

64 A Japanese chemical company began dumping industrial waste into the sea in 1932. The effluent contaminated seafood, and eventually people in Minamata showed signs of mercury poisoning.

FAMINE IN CHINA

65 This famine across China, responsible for at least 30 million deaths, was in large part caused by the policies of the Communist leadership. These included the abolition of private property and the diversion of many agricultural resources to iron- and steel-making; in addition, unwise agricultural practices (such as closer planting and deeper plowing) were enforced, thereby cutting yields, while a national campaign to reduce the bird population upset the ecological balance further. In addition, a drought in 1960 was followed by severe storms; China's harvest of 1960 was two-thirds down from 1958.



1968 HONG KONG FLU

66 This influenza pandemic originated in Hong Kong and killed one million people worldwide.

1970 HUASCARÁN AVALANCHE

67 A landslide caused by an Andean earthquake buried two towns in Peru and killed around 60,000 people.

1971 CYCLONE IN BHOLA

68 Swirling wind in East Pakistan (now Bangladesh) caused widespread flooding and killed 500,000 people.

1975 BANQIAO DAM COLLAPSE

69 The worst-ever dam collapse after flooding in Henan, China, killed 170,000 and displaced 11 million.

1976 SEVESO DISASTER

70 This industrial accident near Sveso, a town north of Milan, produced a major leak of deadly dioxin across an area affecting thousands of people. Two thousand were monitored for adverse health effects, which were expected to be long-term.

1976 TANGSHAN EARTHQUAKE

71 Between 250,000 and 650,000 people died in the deadliest earthquake of the twentieth century, near the city of Tangshan in Hebei province, China.

1977 TENERIFE AIRPORT CRASH

72 In the world's worst plane crash, 583 people were killed when two fully-laden jumbo jets collided on a fogbound runway.

AMOCO CADIZ

73 The tanker ran aground off Brittany, spilling 1.6 million barrels of crude oil into the sea, causing huge damage to marine and coastal life.

THREE MILE ISLAND

74 Tragedy was narrowly averted after the failure of a cooling system caused the partial meltdown of this commercial nuclear plant in Pennsylvania.



AIDS

75 First identified in this year, acquired immune deficiency syndrome is caused by human immunodeficiency virus (HIV), which is transmitted mostly by unprotected sex or through blood (sharing needles or transfusions of infected blood). The disease spread quickly in US gay communities, and has since become prevalent in Africa. By 2016, 39 million people had died, and a similar number were HIV positive. Drugs can prevent the onset of the disease but are unaffordable for most.

FAMINE IN ETHIOPIA

76 Chronic drought, exacerbated by decades of regional conflict as Eritrea struggled for independence, caused the deaths from starvation of around 400,000 people.

BHOPAL GAS LEAK

77 A negligent leak of methyl isocyanate gas at a factory in Bhopal, India, caused 2,000 immediate deaths and at least 16,000 later, plus many blinded.

CHERNOBYL

78 The world's worst nuclear disaster occurred when a reactor in Ukraine (then part of the Soviet Union) exploded during an unauthorized experiment by staff, who switched off the emergency safety system and withdrew many of the control rods that slow the rate of reaction in the core. Thirty-two people died in the explosion and subsequent fire, and the radioactive cloud extended across Europe, contaminating crops and livestock as far west as Wales. A large area around the site was evacuated. The eventual total casualty figures—including future deaths from cancers caused by exposure to the radiation—are much debated, as is the ultimate cost of the catastrophe.



SPACE SHUTTLE CHALLENGER EXPLOSION

79 The US Space Shuttle *Challenger* exploded seventy-three seconds into its flight, killing all seven crew.

FERRY DISASTER IN MANILA

80 Only 24 people survived the collision between MV *Doña Paz* and an oil tanker. Around 4,400 died.

EXXON VALDEZ

81 In one of the world's worst environmental disasters, this tanker ran aground in Prince William Sound off Alaska and spilled 750,000 barrels of oil.

FAMINE IN NORTH KOREA

83 Food shortages resulting from droughts, floods, poor economic policies, and the loss of support from the Soviet Union and China, caused an estimated 1.5–3 million deaths.

OIL SPILL IN KUWAIT

82 Iraq deliberately spilled 11 million barrels of oil during the 1991 Gulf War against US-led coalition forces.

EARTHQUAKE IN KOBE

84 Tremor-resistant building design kept the death toll in this Japanese city down to 6,500. Most of the victims were in old-style, traditional structures.

SINKING OF SENEGAL FERRY

85 The severely overcrowded *Le Joola* capsized in a storm off the Gambia, killing 1,863 people.

EUROPEAN HEAT WAVE

86 The hottest summer for almost 500 years caused 70,000 deaths, particularly among older people, across Europe.

2004

INDIAN OCEAN TSUNAMI

87 A large submarine earthquake off Sumatra caused a 100-foot-tall (30m) tidal wave that swept across the Indian Ocean, killing 227,000 and displacing millions, especially in Indonesia, Thailand, Sri Lanka, and India.

2004

PERALIYA RAIL DISASTER

88 The worst rail disaster in history occurred in Sri Lanka during the Indian Ocean tsunami. The waves overturned a crowded train traveling along the coast between Colombo and Galle, killing more than 1,700.

2005

HURRICANE KATRINA

89 With winds of up to 130 miles per hour (200kph), the hurricane flooded New Orleans and caused damage along the coast of Louisiana, killing more than 1,800 people and causing more than \$100 billion of damage. The poor state of the flood defenses, and the slow responses from the federal, state, and local governments, were much criticized in the aftermath.



2008

CYCLONE NARGIS

90 This tropical storm caused more than 130,000 deaths in Myanmar (Burma), but the ruling military junta, afraid of foreign interference, initially refused all aid.

2008

EARTHQUAKE IN SICHUAN

91 This tremor near Chengdu, Sichuan, central China, killed around 70,000 and rendered more than five million people homeless. Government critics argued that the death toll was increased by poor building construction.

2009

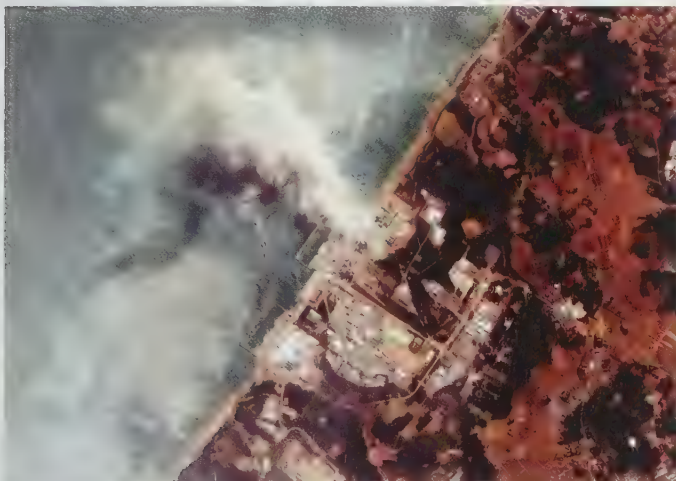
DEEPWATER HORIZON SPILLAGE

92 An explosion on a BP drilling rig in the Gulf of Mexico caused a spillage of 4.9 million barrels of oil from the ocean floor a mile (1.6km) below sea level.

2010

EARTHQUAKE IN HAITI

93 This disaster near Port-au-Prince, capital of one of the world's poorest countries, killed 200,000 and destroyed much of the infrastructure.



2011

FUKUSHIMA

94 The nuclear reactors here in Japan were damaged by an earthquake and a tsunami, causing explosions, the partial meltdown of three of the six reactors, and a release of radiation into the atmosphere and groundwater. Some 300,000 people were evacuated, and the government—which was criticized for withholding information, and briefly considered evacuating Tokyo—shut down its nuclear program. Management of the stricken reactors has proved difficult, and the clean-up will take decades.

2011

PACIFIC GYRE GARBAGE PATCH

95 The full extent and horror of this area are not yet fully documented, but it is already clear that vast quantities of plastic refuse and indeterminate sludge are agglomerating in a large area of the North Pacific Ocean.

2011

TSUNAMI IN JAPAN

95 The tidal wave resulting from Japan's strongest-ever earthquake, 40 miles (64 km) offshore, killed 15,000 people on the country's east coast.

2012

HURRICANE SANDY

96 The strongest storm since Katrina, Sandy killed more than 200 people on its rampage through the Caribbean and the United States.

2012

PAKISTAN FLOODS

97 Heavy monsoon rainfall caused widespread flooding in the Punjab and the Indus Valley, killing 2,000 and affecting the livelihoods of 20 million.

2013

MALAYSIA'S LOST AIRLINER

98 A Malaysian Airlines Boeing 777 on flight MH 370 disappeared without trace between Kuala Lumpur and Beijing, with 227 passengers and 12 crew.

2014

EBOLA EPIDEMIC

100 An outbreak of this highly contagious virus in Senegal, Liberia, and Guinea threatened to spread more widely despite aid efforts.



c. 4000 BCE

ADAM & EVE

1 In the Bible, the first parents were Adam and Eve. Eve's curiosity had them thrown out of Eden, condemning their descendants to work and pain.

c. 1800 BCE

ABRAHAM & SARAH

2 Abraham, the first Jewish patriarch, lived as a nomad with Sarah. In extreme old age, they had a son, Isaac, who became the second patriarch.

c. 1500 BCE

THUTMOSE II & HATSHEPSUT

3 These half-siblings and spouses jointly ruled Egypt. After Thutmose died, Hatshepsut became pharaoh.

c. 1350 BCE

AKHENATEN & NEFERTITI

4 Ancient Egypt's most famous couple worshipped the sun disk (Aten) and built a new capital (Amarna).

c. 480 BCE

AGAMEMNON & CLYTEMNESTRA

5 Agamemnon sacrificed his daughter to secure a safe journey. When he returned, his wife murdered him.

100 INFLUENTIAL MARRIAGES

c. 1000 BCE

DAVID & BATHSHEBA

6 David, king of Israel, fell in love with Bathsheba, ordered her husband to be killed, and then married her. Reproved by prophet Nathan, David was remorseful, and Bathsheba gave birth to Solomon.

c. 60 BCE

CLEOPATRA & MARK ANTONY

8 The famously entrancing Cleopatra VII, last pharaoh of ancient Egypt, had a son with Julius Caesar; after Caesar's assassination, she married his supporter Mark Antony and had twins. She supported Mark Antony's campaign against Caesar's heir, Octavian, but after Antony's defeat and suicide in 30 BCE, she committed suicide, and Egypt became a Roman province.

c. 100 CE

JOSEPH & MARY

10 Part of the Holy Family of the Christian tradition, Joseph was a carpenter from the village of Nazareth, but of royal descent. When his betrothed, Mary, announced she was pregnant, he stood by her and she gave birth to Jesus in Bethlehem. The boy was brought up with his brothers and learned his father's trade.

327 BCE

ALEXANDER & ROXANA

7 During his conquest of Asia, Alexander the Great captured Roxana and then married her in the same year. When Alexander died in 323 BCE, Roxana had his other two wives killed.

c. 100 BCE

AUGUSTUS & LIVIA

9 Livia was married to a conspirator against Julius Caesar, before Octavian (later Augustus) forced her divorce and remarriage to him. Although chaste and respected, some thought that she poisoned Augustus.

c. 100 CE

CLAUDIUS & AGRIPPINA

11 Emperor Claudius scandalously married his beautiful, powerful, and scheming niece Agrippina. Ancient sources say she caused his death in 54 by poison.

c. 100 CE

NERO & POPPAEA SABINA

12 Poppaea Sabina was mistress to Emperor Nero. When she was with child, they both divorced and married one another.

CONSTANTIUS & HELENA

Constantius married Helena, a serving girl from Asia Minor. He divorced her before being proclaimed emperor of Rome.

CLOVIS & CLOTILDA

Pagan Frankish king Clovis I married Catholic Burgundian princess Clotilda. She had two children secretly baptized; Clovis converted in 496.

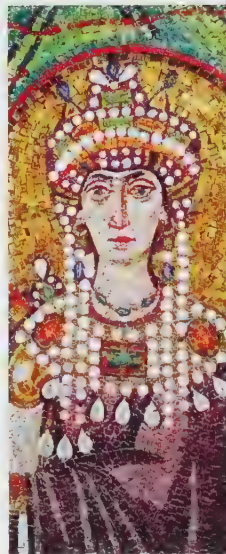
JUSTINIAN & THEODORA

Byzantine emperor Justinian restored the empire across the Mediterranean. Shortly before his accession, he married a former prostitute and actress, Theodora. They ruled together, with Theodora playing an important role in facing down the challenge of the Nika riots of 532 and contributing to the emperor's constitutional reforms. Rumors persisted of her sexual appetite and vulgar behavior, but Justinian was inconsolable at her death in 548.



MUHAMMAD & KHADIJA

Although Muhammad is said to have had 13 wives, he had a monogamous relationship with his first wife, merchant Khadija, for 25 years. They had six children together. Muhammad described his first revelation from Allah to Khadija; she became the first person to convert to Islam and was known as the "mother of Islam."



ABELARD & HELOISE

Parisian philosopher and teacher Abelard fell in love with his brilliant, beautiful student Heloise, and a scandalous affair began, which culminated in pregnancy. Héloïse's uncle, Canon Fulbert, forced them to marry and then had Abélard castrated while Héloïse retreated to a nunnery with their child, Astrolabe. Abélard took up the life of a monk in Brittany, and Héloïse became an abbess. The two wrote passionate letters to one another over 20 years; this correspondence has become famous.

EDWARD II & ISABELLA OF FRANCE

The gay Edward II of England married Isabella, the French king's daughter. She became close to Roger Mortimer, and their rebellion led to Edward's murder. As regent for her son Edward III, she was known as the "she-wolf of France."

LOUIS VII & ELEANOR OF AQUITAINE

At the age of 15, Eleanor, Duchess of Aquitaine, married the future Louis VII of France. After an estrangement during the Second Crusade, the marriage was annulled.

LOUIS IX & MARGARET OF PROVENCE

Louis IX, king from the age of 12, assumed personal rule when he married. Margaret encouraged his piety, and in 1249 they went on Crusade together. She raised the ransom for Louis's release after his capture in Egypt.

HENRY II & ELEANOR OF AQUITAINE

The marriage laid the foundations for the Angevin Empire from Northumberland to the Pyrenees. The king had many affairs, while the queen's actions led to her imprisonment for 16 years.

EDWARD I & ELEANOR OF CASTILE

Edward and Eleanor married to avoid a diplomatic row over Gascony. According to legend, Eleanor saved her husband's life at Acre by sucking poison from a dagger wound. Upon her death in 1290, Edward erected 12 crosses to mark the body's journey to London.

HENRY VI & MARGARET OF ANJOU

Henry, king of England, and Margaret married in 1445; she ruled while her mentally disturbed husband focused on religion and learning. Her partisan approach contributed to the outbreak of the Wars of the Roses.

EDWARD IV & ELIZABETH WOODVILLE

24 Edward of York claimed the English crown after defeating the Lancastrians and then secretly married a penniless widow, Elizabeth Woodville. Two of their sons died as the “princes in the Tower.”

FERDINAND & ISABELLA

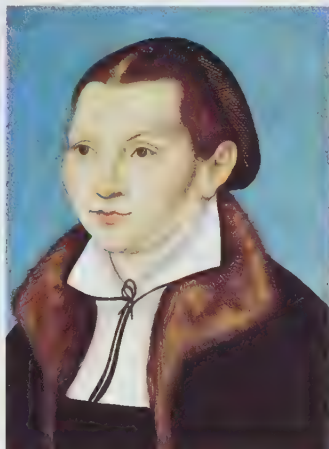
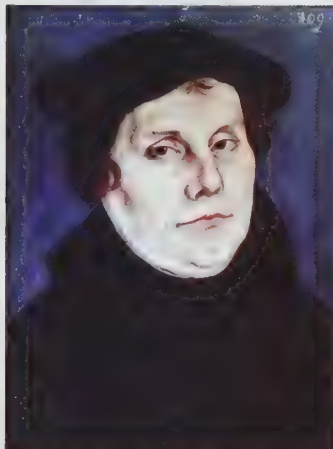
25 As the rulers of the two main kingdoms of medieval Spain, the marriage of Ferdinand and Isabella created a unified Catholic monarchy.

HENRY VII & ELIZABETH OF YORK

26 The marriage between Henry Tudor, who won the English throne at the Battle of Bosworth, and Elizabeth, daughter of Edward IV, united the rival camps and ended the Wars of the Roses.

HENRY VIII & CATHERINE OF ARAGON

27 Henry VIII married his brother's widow, and they were happily married until Catherine failed to produce a son. Henry sought a divorce, and when the pope refused, he broke with Rome.



MARTIN LUTHER & KATHARINA VON BORA

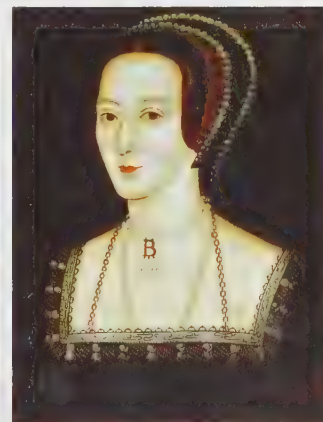
28 Augustinian monk Martin Luther began to challenge Church teachings in 1517 and broke with the Church in 1521, thereby initiating the Reformation. He abjured his vow of celibacy, arguing that marriage was a holy state and that clerical celibacy was unbiblical. He married the former nun Katharina von Bora, and they lived in a former monastery in Wittenberg, where they had five children and took in boarders to pay the bills. Katharina provided an important testing ground for her husband's ideas. Luther's book *Table Talk* described their domestic life.

HENRY II & CATHERINE DE MEDICI

29 Catherine married French prince Henry in 1533. She had little political or cultural influence because Henry preferred his mistress, Diane de Poitiers. After Henry's death, three of his sons successively became king, with Catherine the power behind the throne.

HENRY VIII & ANNE BOLEYN

30 Henry VIII's infatuation with Anne Boleyn and his determination to have a male heir led him to divorce his first wife, Catherine—against the wishes of the pope—and to marry the pregnant Anne. The latter gave birth to the future queen Elizabeth and encouraged reformed religion at court. In 1536, Anne was convicted of treason, incest, and adultery, and was executed.



MARY TUDOR & PHILIP II

31 A year after her succession, Mary married Philip, king of Spain. They nominally ruled jointly.

MARY, QUEEN OF SCOTS & HENRY STEWART

32 Mary Stuart, Queen of Scots, married her cousin Henry Stuart, Lord Darnley. The marriage was tempestuous, and Darnley murdered her secretary, David Rizzio. In 1567, Darnley was also murdered. Mary then eloped with the Earl of Bothwell, who was implicated in her husband's murder.

SHAH JAHAN & MUMTAZ MAHAL

33 Prince Khurram, later Shah Jahan, the fifth Mughal emperor of India, married the Persian beauty Mumtaz Mahal in 1612. She accompanied him on military expeditions, and he was inconsolable when she died.

JOHN ROLFE & POCAHONTAS

34 A founding member of Virginia's Jamestown colony, Rolfe married Pocahontas, daughter of the local chief.

LOUIS XIII & ANNE OF AUSTRIA

35 Anne and Louis XIII were never close and she became embroiled in conspiracies against his minister, Richelieu. In 1638 she fell pregnant after a thunderstorm forced Louis to spend a rare night with her. Her son inherited as Louis XIV.

REMBRANDT & SASKIA VAN UYLENBURGH

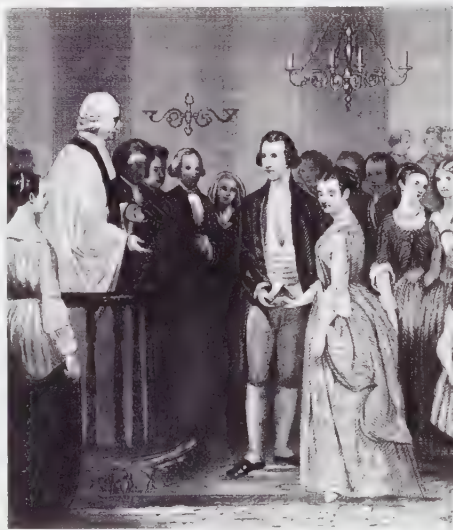
30 Saskia van Uylenburgh came from a wealthy family; she met Rembrandt at the house of her cousin, an art dealer. They married in 1634, although her family saw him as socially beneath her. They had four children.

LOUIS XIV & MARIA THERESA OF SPAIN

37 The Sun King and the Spanish Infanta married in St. Jean de Luz near the Spanish–French border, but the king quickly returned to his mistresses, thus ignoring the queen who played little part in court or political life. When she died, 23 years after their marriage, Louis said, “This is the first trouble she has given me.”

GEORGE & MARTHA WASHINGTON

38 George Washington and wealthy widow Martha Dandridge Custis married at the White House Plantation, Virginia. They did not have any children but raised Martha’s children from her previous marriage. Martha was opposed to Washington becoming US president and did not attend his inauguration in 1789. However, once he was in office, she effectively served as the first First Lady and hosted state affairs. She burned their correspondence after his death.



GEORGE IV & CAROLINE OF BRUNSWICK

44 The Prince of Wales (later George IV) married Caroline in return for the payment of his debts. However, George was already secretly, and unlawfully, married to Maria Fitzherbert. The marriage between George and Caroline was a disaster, and they separated after the birth of their daughter. George made a will leaving one shilling to Caroline and the rest to Maria.

NAPOLÉON BONAPARTE & JOSÉPHINE DE BEAUHARNAIS

45 Joséphine, a wealthy widow from Martinique, married the Corsican soldier before his Italian campaign. Both had several affairs, but their passionate relationship is evident in their letters. Joséphine was unable to bear children and he divorced her in 1809. They remained close until her death in 1814.

JOHN & ABIGAIL ADAMS

39 Adams consulted Abigail widely on political issues; she supported women’s rights and opposed slavery. She was the first First Lady to occupy the White House.

CHRISTIAN VII & CAROLINE MATILDA

40 Danish king Christian VII was a hypochondriac. His wife, the sister of George III of England, had an affair with the king’s doctor, which led to her exile.

LOUIS XVI & MARIE ANTOINETTE

41 Daughter of the Holy Roman emperor, Marie Antoinette presided over an extravagant court at Versailles while her husband spent most of his time hunting. Resentment toward their lifestyle spilled over after the Fall of the Bastille (July 1789). The king and queen were kept as virtual prisoners in Paris, and a republic was declared. In 1793, Louis was executed in January and Marie Antoinette in October.

WOLFGANG AMADEUS & CONSTANCE MOZART

42 When Mozart met the young Constanze Weber, their scandalous behavior meant neither family approved the marriage.

JAMES & DOLLEY MADISON

43 Tobacco planter Madison and Quaker Dolley moved to the White House when he became president in 1808.



MARY WOLLSTONECRAFT & WILLIAM GODWIN

46 Radical author Mary Wollstonecraft was a supporter of women's rights. Inspired by the revolution, she moved to Paris in 1792. She married anarchist William Godwin when she returned to England, but they lived in adjacent houses to maintain their independence.

MARY & PERCY BYSSHE SHELLEY

47 Mary and Shelley began a relationship in 1814, conceived a child, and faced rejection from English society. They married after the death of Shelley's first wife. In 1818 they traveled to Switzerland with Lord Byron then to Italy where Shelley drowned in 1822.

ABRAHAM & MARY TODD LINCOLN

48 Illinois lawyer Abraham and his wealthy wife, Mary, had four children. In the White House she was accused of extravagance; during the Civil War, members of her family fought for the Confederacy.

NAPOLÉON III & EUGÉNIE DE MONTIJO

52 Louis Napoléon became emperor of France in 1851 and married Spanish countess Eugénie. They were exiled to England after defeat by Prussia in 1870.

FREDERICK III & PRINCESS VICTORIA

53 Frederick III, prince of Prussia, married the eldest daughter of Queen Victoria and Prince Albert. Frederick became German emperor in 1888 but died shortly after.

QUEEN VICTORIA & PRINCE ALBERT

49 Victoria's German husband, Albert, was Prince of Saxe-Coburg and Gotha. As Prince Consort, Albert had little power, but Victoria greatly respected his political opinions. He inspired the Great Exhibition and a series of social reforms, and when he died in 1861, Victoria entered deep mourning for 20 years.



KARL MARX & JENNY VON WESTPHALEN

50 Radical journalist Karl Marx married his childhood friend: the aristocratic Jenny von Westphalen. They moved to London in 1848, where they lived an impoverished lifestyle. Of their seven children, only three survived.

ROBERT BROWNING & ELIZABETH BARRETT BROWNING

51 Poet Elizabeth Barrett was a long-term invalid, but her work attracted fellow poet Robert Browning. They had a protracted courtship and a secret marriage because Elizabeth's parents disapproved, and her father disowned her.



RICHARD & COSIMA WAGNER

54 Composer Wagner and Cosima, then wife of conductor Hans von Bülow, had a passionate affair from 1863 to 1870, when they married. She acted as his muse and recorded much about his life in her journal.

RANDOLPH CHURCHILL & JENNIE JEROME CHURCHILL

55 US heiress Jennie Jerome and British aristocrat Lord Randolph Churchill became engaged three days after they met. Their son Winston (later British prime minister) was born eight months after the wedding. Jennie had many affairs, including one with the Prince of Wales.

NICHOLAS II & ALEXANDRA FEODOROVNA

56 The last czar of Russia married a German princess, and they had five children, including Alexei, a hemophiliac. Alexandra was widely disliked, and she became reliant on the monk Rasputin to heal Alexei and for emotional support. Nicholas abdicated in 1917, and the family was imprisoned. They were murdered by the Bolsheviks in 1918.





PIERRE & MARIE CURIE

57 The French physicist and his Polish wife Marie were jointly awarded the Nobel Prize in 1903 for their work on radioactivity. Pierre was killed in a road accident in 1906; Marie won a second Nobel Prize in 1911, for isolating the elements radium and polonium.

VLADIMIR LENIN & NADEZHDA KRUPSKAYA

58 The future Bolshevik revolutionaries married so that Krupskaya could accompany Lenin to exile in Siberia and translate his work. Krupskaya took on various roles in the Bolshevik party, and their relationship was mainly political.

FRANKLIN D. & ELEANOR ROOSEVELT

59 The longest serving US president and First Lady were distant cousins and met in 1902. They married despite the opposition of Franklin's mother. When Franklin contracted polio in 1921, Eleanor persuaded him to stay in politics, but stood in for him on occasions, thereby developing her own profile.



WALDORF & NANCY ASTOR

60 When US heiress Nancy Langhorne married future newspaper proprietor Astor, they received an English stately home, Cliveden, as a wedding gift. Both entered politics, and in 1919, Nancy became the first woman in the House of Commons.



WINSTON & CLEMENTINE CHURCHILL

61 British politician Churchill married twice-engaged Clementine Hozier, and they became lifelong companions. Clementine supported her husband through his turbulent political life and also patronized charities during World War II. These included the Red Cross Aid to Russia Fund and a maternity hospital for the wives of junior officers.

VIRGINIA & LEONARD WOOLF

62 British writer Virginia Stephen and publisher Leonard Woolf became key members of the Bloomsbury group in the 1920s and supported one another's writing.

D. H. & FRIEDA LAWRENCE

63 German writer Frieda von Richthofen eloped with novelist D. H. Lawrence in 1912. They traveled widely in the United States, Mexico, and Europe.

F. SCOTT & ZELDA FITZGERALD

64 Four years after US socialite Zelda Sayre married aspiring writer F. Scott Fitzgerald, the couple moved to Paris. They parted company in 1930.

MARY PICKFORD & DOUGLAS FAIRBANKS

65 Known as "the first couple of Hollywood," the two movie stars married after touring the United States to promote the sale of government war bonds. With Charlie Chaplin and D. W. Griffith, they founded United Artists.

ERNEST HEMINGWAY & HADLEY RICHARDSON

66 Despite her misgivings about their age difference, Hadley married Hemingway and moved to Paris. They divorced in 1927 as a result of his affair with Pauline Pfeiffer.

GEORGE VI & ELIZABETH BOWES-LYON

67 Shy Prince George married Elizabeth Bowes-Lyon with little expectation of ascending to the throne until his brother Edward VIII abdicated in 1936. Elizabeth supported George in this unexpected role, and together they led Britain through World War II.



1929

JEAN-PAUL SARTRE & SIMONE DE BEAUVOIR

68 French writers and philosophers Sartre and de Beauvoir met as students in the 1920s. Although they never formally married, they had a lifelong relationship, and both enjoyed other liaisons.

1727 & 1784

DIEGO RIVERA & FRIEDA KAHLO

69 Mexican artist Rivera married painter Kahlo. She had been badly injured in a traffic accident at the age of 18, which damaged her health permanently. They had a turbulent marriage, during which both had many affairs, including homosexual ones. They divorced in 1939 but briefly (and unhappily) remarried in 1940.

JOSEPH & MAGDA GOEBBELS

70 Magda and Joseph were both close to Hitler. In his Berlin bunker in April 1945, Magda poisoned their six children, and then the pair committed suicide.

LYNDON & CLAUDIA "LADY BIRD" JOHNSON

71 The aspiring Texan Democrat politician proposed on his first date with his future wife. She supported him both financially and politically.



QUEEN JULIANA & PRINCE BERNHARD

73 As queen of the Netherlands, Juliana was the richest woman in the world; Bernhard was involved in corruption scandals.

MAO ZEDONG & JIANG QING

74 The fourth wife of Chinese Communist leader Mao Zedong stayed out of politics until the Cultural Revolution, when she led the "Gang of Four."

1871

EDWARD VIII & WALLIS SIMPSON

72 The Prince of Wales's affair with US divorcee Simpson was scandalous and therefore hushed up by the British establishment. However, when the prince became King Edward VIII, a constitutional crisis loomed. Edward abdicated, saying, "I have found it impossible to carry the heavy burden of responsibility, and to discharge my duties as King as I would wish to do, without the help and support of the woman I love." As Duke and Duchess of Windsor, they lived in exile, mostly in France.

VIVIEN LEIGH & LAURENCE OLIVIER

75 The turbulent marriage of these British actors mirrored their many dramatic collaborations on stage and screen. They divorced in 1960.

INDIRA & FEROZE GANDHI

76 Penniless Indian journalist Feroze Gandhi and Indira, the daughter of Jawaharlal Nehru, waited eight years before they married. Both became politicians, and Indira twice served as prime minister of India. In 1984, while still in office, she was assassinated in a revenge attack carried out by her own bodyguards.



1945

JUAN & EVA PÉRON

77 As First Lady during her husband's first term as president (1946–52), Eva served as a figurehead for social justice and reform. She was widely loved by the poor but reviled by the establishment. She also set up a foundation that built schools, hospitals, and clinics across Argentina. She died aged 33.

HUMPHREY BOGART & LAUREN BACALL

78 The iconic Hollywood stars of the 1940s married after meeting on the set of *To Have and Have Not* (1944). They made several other noteworthy movies together, including *The Big Sleep* (1946) and *Key Largo* (1948). Both actors publicly opposed McCarthyism in the 1950s.

ADOLF HITLER & EVA BRAUN

79 Eva Braun was the long-term, undemanding companion of the führer from 1936. They married in the last-ditch bunker in Berlin (April 1945), but committed suicide two days later.

ELIZABETH II & PRINCE PHILIP

80 Greek naval officer Philip brought fresh air to the stuffy royal atmosphere around Princess Elizabeth, who became Elizabeth II in 1952. He has remained at her side ever since.



JOHN F. & JACKIE KENNEDY

84 Once in the White House, John F. Kennedy, scion of a wealthy Democrat family, and socialite Jacqueline (née Bouvier) created a glamorous salon (known as Camelot). John, however, had numerous affairs and health problems. When he was shot in 1963, Jackie cradled her dying husband and accompanied his body back to Washington. She married Greek shipping magnate Aristotle Onassis in 1968.

GERALD & BETTY FORD

81 Betty became First Lady when her husband succeeded Richard Nixon as president in 1973. She was active in social reform, mental health, women's rights, and breast cancer awareness, and also set up a clinic for addictions.

MARGARET & DENIS THATCHER

82 Businessman Denis met the chemist and aspiring Conservative politician in 1949. He supported her political career to become Conservative leader (1976) and British prime minister (1979–90), maintaining a low-public profile but offering no-nonsense advice in private. He was awarded a hereditary baronetcy in 1991.

RONALD & NANCY REAGAN

83 Movie actor/US president Ronald Reagan and Nancy Davis remained in love throughout their lives. She was protective of him after a failed assassination attempt (1981) and sometimes reorganized his schedule on astrological advice.

MARTIN LUTHER KING & CORETTA SCOTT KING

85 Coretta was studying music when she met theology student Martin; they married shortly before he became a Baptist pastor. After Martin's assassination, she continued to campaign for civil rights.

MARILYN MONROE & JOE DIMAGGIO

86 Film star Monroe eloped with Yankee baseball player Joe DiMaggio. His fury at the notorious skirt-blowing scene in *The Seven Year Itch* (1955) ended the marriage.

MARILYN MONROE & ARTHUR MILLER

87 Monroe's third marriage, to playwright Arthur Miller, took place in private in order to avoid intense media interest. His screenplay for *The Misfits* (1961), her last film, was thought to echo their marriage.

TED HUGHES & SYLVIA PLATH

88 British nature poet Hughes met US poet Plath in Cambridge in 1956. They lived in the United States and in London, writing and bringing up a young family. Plath committed suicide in 1963, aged 30.



NELSON & WINNIE MANDELA

89 South African activists Nelson and Winnie met in Soweto and had two children before his imprisonment in 1962. By the time of his release in 1990, she had become a leading but controversial figure in the anti-apartheid movement, supporting violence and intimidation. The couple were divorced in 1992, but she remained a hard-line figure in the ANC.

1944 & 1975

ELIZABETH TAYLOR & RICHARD BURTON

90 British actors Burton and Taylor met on the set of *Cleopatra* in 1960 and had a highly publicized romance, even though they were both already married. It was a notoriously tempestuous relationship, and he was prone to lavish gestures, including gifts of costly jewelry. They were married for ten years, until Burton almost died of alcohol poisoning, and they divorced. The pair subsequently remarried in 1975. In all, Burton married five times; Taylor eight.



1941

DANIEL BARENBOIM & JAUQUELINE DU PRÉ

91 British cellist du Pré converted to Judaism in order to marry Argentinian-Israeli pianist and conductor Barenboim. In 1973 she was diagnosed with multiple sclerosis, which ended her career. She died in 1987.

1932

JOHNNY CASH & JUNE CARTER

92 Country musicians Cash and Carter toured together for 35 years and won two Grammys for their duets. He died heartbroken a few months after her death in 2003.

1963

JOHN LENNON & YOKO ONO

93 Musician Lennon's relationship with Japanese conceptual artist Ono heralded the breakup of the Beatles. Their honeymoon included a "love-in" for peace in a bed in Amsterdam. Lennon's music became more personal and intimate. After retiring from music, he was murdered in 1980.

1964

PAUL & LINDA MCCARTNEY

94 Beatle McCartney married US rock photographer Linda Eastman amid the rancor of the Beatles breakup. They opted for a rural idyll in Scotland and formed the band Wings. Linda became an animal rights activist and promoter of vegetarianism. She died of breast cancer in 1998.



1991

BILL & HILLARY CLINTON

95 Democrat politician Bill Clinton and lawyer Hillary Rodham became the ultimate "power couple" when he was elected US president in 1991 and she took on a role reforming US health care. Despite public humiliation when he was impeached in connection with his extramarital affairs, the couple stayed together. She narrowly lost the Democrat nomination in 2008 to Barack Obama, who appointed her Secretary of State, while Bill remained a power broker in the party.

1988

NELSON MANDELA & GRAÇA MACHEL

96 Following his divorce from Winnie Madikizela, Nelson married Machel, former wife of Mozambican president Samora Machel. She was well known as a human rights activist and is the only woman to have been First Lady in two different republics.

ELTON JOHN & DAVID FURNISH

99 Flamboyant pop star John and film director Furnish entered a civil partnership on the first day that it was legalized in Britain. They have since married.

1981

PRINCE CHARLES & DIANA SPENCER

96 A fairy-tale marriage became a nightmare when Diana could not cope with royal life. Both confessed to affairs; they divorced in 1996.

1993

BARACK & MICHELLE OBAMA

97 The Obamas met when they worked for a Chicago law firm. In 2009 they became the first African-Americans in the White House. As First Lady, Michelle attracted higher approval ratings than Barack and focused on social issues such as healthy eating.

2005

BRAD PITT & ANGELINA JOLIE

100 Pitt and Jolie's high-profile relationship began in 2005, after the pair starred together in *Mr. & Mrs. Smith*. They married in 2014.



SOCRATES

1 Athenian philosopher Socrates—who for years had asked awkward questions that tested people's assumptions—was 70 years old when he was accused of "corrupting the city's youth and not believing in its gods." The trial was heard by around 100 judges chosen at random from the citizenry, and Socrates vigorously defended himself. When narrowly convicted, he was invited to propose a suitable punishment; he suggested a large fine, but the prosecutor's recommendation of death was voted in. Socrates refused to flee into exile, as was expected, and died by drinking hemlock.

VERRES

2 The Roman patrician was accused of corruption while governor of Sicily. The court was packed with Verres's supporters, but the judge, Manius Acilius Glabrio, was an honest man, and Cicero made a famous speech for the prosecution. Fearing conviction, Verres fled into exile rather than continue the trial.

JESUS

3 The wandering healer and preacher Jesus provoked the Jewish religious authorities by entering Jerusalem at Passover and causing a disturbance in a temple. Betrayed by a follower and arrested, he was tried by the Sanhedrin—the main religious and administrative authority—for the capital crime of blasphemy for claiming to be the son of God. He was convicted "from his own mouth." Rather than carry out the punishment itself, the Sanhedrin handed him to the Romans; the governor Pontius Pilate interviewed Jesus and found nothing wrong with the convict. Pilate washed his hands of responsibility but agreed to carry out the punishment demanded: Jesus was crucified.

100 FAMOUS TRIALS

JACQUES DE MOLAY

4 The wealthy and powerful Knights Templar were dissolved by Pope Clement V in 1307 and their goods distrained by French king Philip IV. Their Grand Master de Molay was accused of blasphemy and obscenity; he admitted some charges after torture. In 1314 he was burned at the stake in Paris.

JAN HUS

5 The Bohemian priest who had urged church reform and translated the Bible into Czech was tried for heresy by an ecclesiastical court in Constance. He refused to recant his opinions, was condemned, and burned at the stake.

JOAN OF ARC

6 The teenager who inspired a French revival in the Hundred Years' War was captured by the Burgundians at Compiègne and handed over to the English. Tried by a church court in Rouen, she defended herself but was convicted of heresy and burned at the stake.

GIROLAMO SAVONAROLA

7 This Florentine monk urged the burning of books, art, and other worldly vanities. He was excommunicated, tried, and condemned as a heretic, hanged, and then burned.

WITCHCRAFT TRIALS

8 From the late fifteenth century to the seventeenth, and peaking in the period 1580–1630, tens of thousands (some have claimed millions) of women across Europe (and some in North America) were tried and condemned as witches in league with the devil.

MARTIN LUTHER

9 Summoned by Holy Roman emperor Charles V to the Diet of Worms, the religious reformer was condemned for his writings. He then fled into hiding.

THOMAS MORE

10 For opposing King Henry VIII's break with the Roman Catholic Church, the Lord Chancellor of England was tried for treason, convicted, and beheaded.

ANNE BOLEYN

11 Henry VIII's second queen, Anne Boleyn, failed to produce a male heir. Four men, including her brother, George, were tried and found guilty of treason and adultery with the queen while she was convicted of adultery, incest, and high treason. She was beheaded.

MARY, QUEEN OF SCOTS

12 While in custody in England, Mary, Queen of Scots was implicated in the Babington plot against the life of her cousin, Queen Elizabeth I of England. Mary was convicted of treason, although she protested that the trial had been unfair since she had not been allowed to review the evidence or to have access to a lawyer. Mary was executed the following year.

GIORDANO BRUNO

13 Italian philosopher and astronomer
Bruno argued that the universe might be infinite and that life might not be unique to Earth. He was tried for heresy and then burned at the stake in Rome.

WALTER RALEIGH

14 The English adventurer was tried in this year for treason for plotting to replace King James I with Arabella Stuart. He was found guilty but was not executed until 1618.

GUY FAWKES

15 Caught red-handed trying to blow up the English Parliament, Fawkes was tortured, tried, and then convicted. He died by jumping from the scaffold.

GALILEO

16 For subscribing to the new theory that Earth orbited the Sun rather than vice versa as the Roman Catholic Church taught, Italian astronomer Galileo Galilei was brought before the Inquisition and accused of heresy. He was forced to recant, and spent the last 27 years of his life under house arrest.



LOUDUN WITCH TRIALS

17 A group of Ursuline nuns in western France were supposedly possessed by the devil at the instigation of a priest, Urbain Grandier. Grandier was tortured, tried, and burned at the stake.

CHARLES I

19 Following the defeat of the Royalists in the English Civil War, negotiations for a future political settlement were unsatisfactory and protracted until Oliver Cromwell, Parliamentary leader, issued a writ for Charles's trial in the High Court of Justice. Claiming that kings rule by divine right, Charles denied the validity of the court, and so refused to plead or to hear witnesses. After seven days the king was convicted of treason against the English people for having solicited an invasion by the Scots, to whom he had turned in the final stages of the conflict. Three days later, Charles I went to the scaffold; he blamed his fate on his failure to save his confidant, the Earl of Strafford.



EARL OF STRAFFORD

18 The chief minister of Charles I during the king's 11 years of personal rule, Strafford was impeached for his high-handedness in Ireland. Initially acquitted of treason, he was declared guilty by Act of Parliament and executed.

WILLIAM PENN & WILLIAM MEAD

20 When these two Quakers were tried in London for preaching illegally, they were acquitted, but the judge, disapproving of the verdict, imprisoned the accused and the jurors, too. All were freed on appeal.

SALEM WITCH TRIALS

21 At these trials, held in and around Salem, Massachusetts, over a 15-month period, more than 160 people, mostly women and girls, were accused of consorting with the devil. Twenty of the accused were hanged; four more died in prison.

ADMIRAL JOHN BYNG

22 This British naval officer was court-martialed and shot for "failing to do his utmost" to prevent the French capture of Minorca.

MANSFIELD CASE (SOMERSET V. STEWART)

23 An African, enslaved in Boston, Massachusetts, was moved to England, where his supporters argued successfully in court that slavery was illegal.

WARREN HASTINGS

24 The British governor of Bengal was impeached for corruption and embezzlement, but was acquitted after a lengthy trial (148 days spread over seven years). The trial became highly political, as public opinion turned in his favor.

BOUNTY MUTINEERS

25 Following the seizure of HMS *Bounty* by Fletcher Christian and others, the vessel sailed to Tahiti, where it dropped 14 mutineers before sailing on to Pitcairn Island. The surviving ten on Tahiti were arrested by the Royal Navy and taken to England for court-martial; most were acquitted and others convicted but pardoned. The Pitcairners were never brought to justice.

MARIE ANTOINETTE

27 Nine months after the execution of Louis XVI, his widow was tried without notice of the charges, which included incest, organizing orgies, and theft. After a two-day trial, Marie Antoinette was found guilty of treason and guillotined the same day.

AARON BURR

31 US president Thomas Jefferson indicted his former vice president for treason for raising a private army to help Mexico against Spain.

TOLPUDDLE MARTYRS

32 For joining a trade union, six English farm laborers were tried and sentenced to transportation to Australia.

LOUIS XVI

26 King Louis XVI became plain Louis Bourbon when France was declared a republic in September 1792. The former monarch was then put on trial by the Jacobin-dominated National Convention and found guilty of high treason, for having conspired against the revolution and encouraged an Austrian invasion of France. He was defended eloquently by lawyer Raymond de Sèze, but convicted and guillotined in the Place de la Révolution on January 21, 1793.



GEORGES JACQUES DANTON

28 The first head of the French revolutionary Committee of Public Safety was tried for corruption and executed the same day.

WOLFE TONE

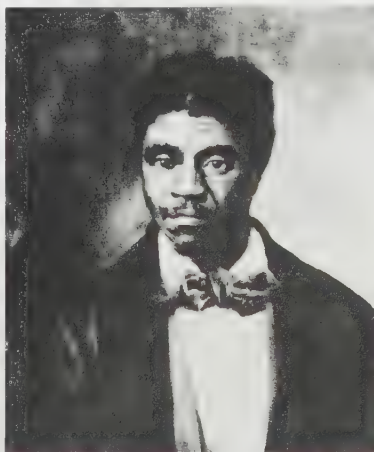
29 The Irish patriot was tried by the English for his part in a failed French invasion of his homeland. He killed himself before the death sentence was carried out.

ROBERT EMMET

30 This Irish patriot was hanged for organizing a coup against British rule in Dublin. At his trial he made a great speech beginning: "Let no man write my epitaph."

AMISTAD CASE

33 After the seizure of a Spanish slaving ship by the Africans imprisoned on it, and the vessel's subsequent arrest near New York, a federal district court ruled that the Africans had, as free men, legitimately taken steps to secure their freedom.



DRED SCOTT

34 This case was brought by Scott, an African-American slave, against his owner on the grounds that in the places where they had lived—Illinois and the Wisconsin Territory—slavery was illegal. The case was rejected by the Supreme Court but fueled opposition to slavery.

JOHN BROWN

35 Following the Harpers Ferry Raid, in which abolitionist Brown sought to start a slave rebellion in Virginia, he was captured and tried in Virginia for treason, murder, and conspiracy. He was found guilty and hanged despite widespread protests.

SUSAN B. ANTHONY

37 Anthony, a campaigner for women's rights and suffrage, led a group of women to vote in Rochester, New York, in the US presidential elections of 1872. She was arrested for illegal voting. The judge directed the jury to convict her before she had been allowed to speak; she refused to pay her fine.

LOUIS RIEL

38 This campaigner for the rights of Métis (Canadians of mixed ancestry) led a rebellion in northwest Canada. He was tried for treason, found guilty, and hanged.

FLORENCE MAYBRICK

39 The American-born Liverpool housewife was convicted of murdering her older husband with arsenic, but there were doubts that she had administered sufficient poison to kill him. She was released after 14 years in prison.

LIZZIE BORDEN

40 Lizzie Borden was famously tried and acquitted for the murder of her parents in Fall Massachusetts.

ANDREW JOHNSON'S IMPEACHMENT

36 The seventeenth president of the United States became the first to be impeached, accused of violations of the Constitution, including removing Secretary of War Edwin Stanton from office. After a hearing that lasted two months, and during which there was much deal making behind the scenes (some of which was suspected of being corrupt), Johnson was narrowly acquitted and saw out the remainder of his only term of office.



OSCAR WILDE

41 When the Marquess of Queensberry suggested that Wilde was homosexual, the Irish author issued a writ for libel. Queensberry produced evidence that his allegation was true. Wilde dropped the prosecution, and then he himself was charged, tried, and imprisoned for gross indecency.

ALFRED DREYFUS

42 French army officer Alfred Dreyfus was court-martialed and convicted for espionage; shortly after, it was shown that evidence against him was fabricated by anti-Semitic army officers. A scandal erupted across France. In 1906, Dreyfus was exonerated, and the conviction quashed.

EDITH CAVELL

43 This British nurse was court-martialed by the Germans for aiding prisoners of war to escape. Her last words before the firing squad were: "Patriotism is not enough."

ROGER CASEMENT

44 This Irish journalist and patriot was convicted and hanged for treason for soliciting German assistance to launch an anti-British uprising in Dublin.

MATA HARI

45 This Dutch exotic dancer was convicted and shot in France for having spied for Germany in World War I.

1920-27

SACCO & VANZETTI

46 Found guilty of murder, these anarchists went to the electric chair even though they were widely believed to have been framed.

1922

MOHANDAS GANDHI

47 The leader of the mass non-cooperation movement against British rule in India, Gandhi was tried for sedition and sentenced to six years in prison.

1924

LEOPOLD & LOEB

48 On trial for murder, these two privileged students confessed to having tried to commit the "perfect crime." Clarence Darrow defended them, but they still got life sentences.

1925

SCOPES "MONKEY TRIAL"

49 Schoolteacher John Scopes was put on trial for teaching Darwinism. He was found guilty, but his conviction was later overturned.

1931

AL CAPONE

50 America's most notorious gangster, after seven years as "boss" of Chicago, Capone was prosecuted for tax evasion and sent to prison for 11 years.



1938

NIKOLAI BUKHARIN

51 Bukharin was a leading Bolshevik revolutionary and an ally of Stalin on his ascent to power. But after differences over the policy of collectivization, Bukharin was arrested in 1937 as part of the "great purge" to eliminate opposition. He was put on trial with 17 others, charged with conspiring to overthrow the Soviet state, and conspiracy to murder both Lenin and Stalin to hand Soviet territory to its enemies. Forced to confess, he was executed in March 1938.



1945-49

NUREMBERG TRIALS

52 These military tribunals—set up by the Allies to bring 24 leading Nazis to justice—were the first time that influential individuals within a regime had been publicly called to account. Twelve of the accused were sentenced to death; three were acquitted; the others received long prison sentences.

1944

HIDEKI TOJO

53 The prime minister of Japan during World War II was tried by an Allied military tribunal, found guilty of waging aggressive war, accepted his guilt, and was hanged.

HOLLYWOOD TEN

54 These movie directors and scriptwriters were all jailed or fined for the "un-American activities" of supporting trade unions or of being or having been communists.

BROWN V. BOARD OF EDUCATION OF TOPEKA, KANSAS

55 A key victory for the civil rights movement, this class action—brought by the parent of a black child against the authorities for running segregated schools—was reviewed by the Supreme Court, which found unanimously against segregation.

1953

ETHEL & JULIUS ROSENBERG

56 These US citizens were tried, convicted, and executed for espionage—passing atomic secrets to the Soviet Union.

SOUTH AFRICA TREASON TRIAL

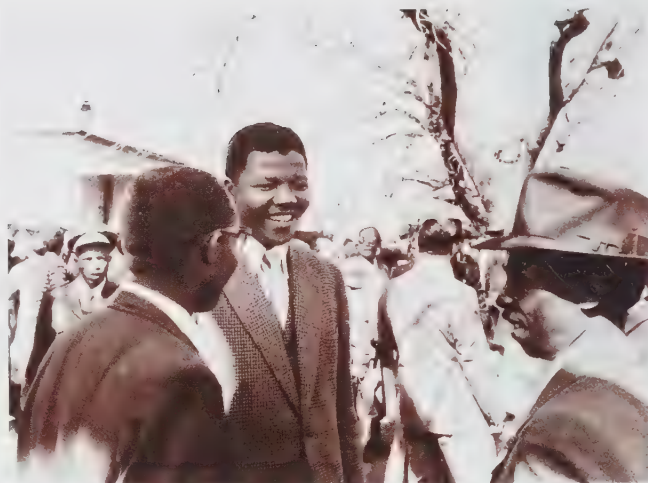
57 Nelson Mandela and Walter Sisulu were among the 156 members of the African National Congress and other anti-apartheid organizations charged with treason. After a long time in custody, they were eventually acquitted.

LADY CHATTERLEY

50 Penguin Books was prosecuted in Britain for publishing the allegedly obscene *Lady Chatterley's Lover* by D. H. Lawrence. The case was thrown out by the jury, and the previously obscure 1928 novel became a best seller.

ADOLF EICHMANN

59 Eichmann, a key supporter of Hitler and organizer of the mass transportation of Jews to Auschwitz, lived in hiding in Argentina after the war until he was kidnapped and taken to Jerusalem, where he was put on trial for crimes against humanity. He was convicted and hanged in the only capital punishment ever carried out in Israel.



RIVONIA TRIAL

60 This was the case against nine leading members of the African National Congress for leading a guerrilla organization and committing acts of sabotage against the apartheid state of South Africa. The defendants were found guilty, including Nelson Mandela, whose long speech from the dock ("It is an ideal for which I am prepared to die") has since been widely quoted. Eight were sentenced to life imprisonment; Mandela received a 27-year term.

JACK RUBY

61 Ruby was the Dallas nightclub owner with links to the mob who shot dead Lee Harvey Oswald, the presumed assassin of US president John F. Kennedy. Ruby was tried in Dallas, convicted of murder, and died of cancer before his appeal was heard.

WILLIAM CALLEY

63 The US Army lieutenant was court-martialed for killing 22 unarmed civilians at My Lai, Vietnam, in 1968. He claimed he was obeying orders, but was convicted and sentenced to life imprisonment.

DANIEL ELLSBERG'S PENTAGON PAPERS

64 Ellsberg was a Pentagon analyst who leaked secret documents about military decisions in Vietnam. He was charged under the Espionage Act. The case was dismissed when it emerged that evidence against him had been obtained illegally.

ROE V. WADE

65 Jane Roe was the alias of Norma McCorvey; Henry Wade was the Dallas district attorney. McCorvey filed a suit against the state of Texas for having not permitted her an abortion. The US Supreme Court ruled 7-2 in Roe's favor, making abortion a constitutional right. The decision was, and remains, controversial.

GERRY CONLON

66 A Northern Irish Catholic, Conlon was one of the Guildford Four sentenced to life in jail for a pub bombing that killed five people in 1974. In 1989 the conviction was overturned because evidence against him had been fabricated.

CHARLES MANSON

67 Manson was leader of a commune known as "the Family" tried for the murder of seven people, including movie star Sharon Tate. He and Family members repeatedly tried to disrupt the trial.

ZULFIKAR ALI BHUTTO

67 Having been deposed in a military coup, the former president of Pakistan was tried for authorizing the murder of a political opponent. Bhutto was found guilty and hanged.

JIANG QING

68 Mao Zedong's widow, leader of the ultra-revolutionary Gang of Four, was arrested in 1976 and charged with attempting to seize power, subverting the government, counterrevolutionary activity, and treason. The case was eventually heard in 1980. Madame Mao claimed to have been following her husband's orders, but she was nevertheless sentenced to death (later commuted to life imprisonment).

CHAMBERLAIN DINGO TRIAL

69 Australian parents claimed that their daughter had been killed by a dingo. They were convicted of murder, but later freed when new evidence came to light.

MAFIA COMMISSION TRIAL

70 This was the first major trial in the United States of alleged mafia members, with 11 defendants, including the heads of five families.

KLAUS BARBIE

71 "The Butcher of Lyons," Barbie was extradited from Bolivia in 1983 to be tried in France for war crimes, including the torture of prisoners of the Gestapo in World War II and deporting 842 people to the death camps. His lawyer claimed that the crimes were no worse than those of many colonial authorities, but Barbie was convicted and jailed for life.



NICOLAE CEAUȘESCU

72 The president of Romania and his wife, Elena, were captured on December 22 while trying to escape a popular uprising. They were convicted of genocide in a 90-minute kangaroo court hearing on December 25 and shot by firing squad the same day.

JOHN GOTTI

74 Mafia boss Gotti was acquitted in three trials in the 1980s, but in this year he was finally convicted of five murders and a range of other charges after one of his former associates agreed to testify against him. He was sentenced to life imprisonment.

JON VENABLES & ROBERT THOMPSON

75 The youngest murderers of modern times in Britain, Venables and Thompson were aged just 11 when convicted of the murder of two-year-old James Bulger in Liverpool. Much of the trial concerned whether children of this age should be held responsible for their actions. Their names were made public after being sentenced.

NICK LEESON

77 Leeson was the British banker whose unauthorized trading on the Singapore stock market caused the collapse of the 250-year-old Barings Bank. He pled guilty to fraud and was sentenced to six and a half years' imprisonment.

TIANANMEN SQUARE DISSIDENTS

73 Following protests in Beijing in 1989, student leaders Chen Ziming and Wang Juntao were tried for attempting to overthrow the government and distributing counterrevolutionary propaganda. Both were sentenced to 13 years in prison.

ERICH HONECKER

75 The former East German leader was accused of the murder of 68 people who had tried to flee the country. Honecker denied that a West German court had jurisdiction over him. After 170 days he was released and flew to Chile, where he died.



O. J. SIMPSON

78 US football star Simpson was accused of murdering his former wife and her friend at her Los Angeles mansion. The trial became a huge media draw, and he was found not guilty by the jury. A civil case two years later forced him to pay huge damages to the families of the deceased.

TIMOTHY MCVEIGH

79 McVeigh claimed that he carried out the 1995 Oklahoma bombing in response to the US government's "crimes" at the 1993 siege in Waco, Texas.



DAVID IRVING

82 British historian Irving brought a libel case against Penguin Books for publishing Deborah Lipstadt's volume claiming that he was a Holocaust denier. Over a six-week trial, expert witnesses presented abundant evidence of Irving's sympathy for Hitler. Eventually the judge ruled in favor of the defendants, forcing Irving into bankruptcy.

SLOBODAN MILOŠEVIĆ

84 The ex-president of Serbia was indicted by the UN for crimes against humanity committed during the Kosovo War, genocide in Bosnia, and war crimes in Croatia. Milošević defended himself; he died before the trial ended.



MARTHA STEWART

85 The US media star was tried for insider trading, securities fraud, and obstructing justice after her sale of stocks in a biotech company ImClone. She was jailed for six months.

MICHAEL JACKSON

86 The superstar pop singer was charged with child sexual abuse following a TV documentary in which he discussed his sleeping arrangements with a 13-year-old boy at his California ranch, Neverland. After a five-month trial, he was acquitted.

BILL CLINTON'S IMPEACHMENT

80 Clinton became the second US president, after Andrew Johnson, to be impeached when he was charged with perjury and obstruction of justice following a report that he had had, and then denied, an affair with an intern while in office.

HAROLD SHIPMAN

81 Shipman was a British family doctor convicted of the murder of 15 patients, mostly elderly women, and of forging the will of one of them. He committed suicide in jail and is now believed to have killed around 250 people in all.

SADDAM HUSSEIN

87 The former dictator was tried by an Iraqi tribunal for mass murder, torture, and illegal arrest. Convicted and sentenced to death, he was hanged in December 2006.

KENNETH LAY & JEFFREY SKILLING

88 The chief executive and operating officers of the US energy company Enron were accused of fraud after the 2001 collapse of the company and the world's largest accounting scandal. Skilling was jailed for 24 years; Lay died before being sentenced.

ABDEL BASSET ALI AL-MEGRABI

83 In 1998, Al-Megrahi, head of security of Libyan Arab Airlines, was one of two men handed over by Libyan authorities to stand trial for the 1988 bombing of a Pan-Am airliner over Lockerbie, Scotland, killing 270. The trial began in 2000 in The Hague under Scottish jurisdiction. Al-Megrahi was sentenced to 20 years in prison; the other accused was found not guilty. In 2009 Al-Megrahi was controversially released because he was thought to be close to death; he died in 2012.



ZACARIAS MOUSSAOUI

89 Accused of involvement in the 9/11 attacks on the United States, this Frenchman was tried in Virginia, found guilty of conspiracy to murder, and sentenced to life in prison.

2006

BOUMEDIENE V. BUSH

90 This case led to the US Supreme Court judgment that foreign nationals detained in Guantanamo Bay could claim habeas corpus, despite their designation under the Military Commissions Act (2006) as “enemy combatants.” Lakhdar Boumediene was an Algerian suspected of planning an attack on the US embassy in Sarajevo, Bosnia.

2009–11

JOHN DEMJANJUK

93 Demjanjuk was a Ukrainian-American who had been a guard at Sobibór concentration camp in Poland in World War II. He was convicted by a lower court in Germany for war crimes and died while waiting for his appeal to be heard. He had been tried for war crimes in Jerusalem in 1988, found guilty, but released in 1993 on appeal.

2012

AI WEIWEI

95 The Chinese artist and political activist—the dissident son of a dissident father, the poet Ai Qing—was arrested in 2011 for tax evasion. Accused of owing 12 million yuan (\$1.8 million/£1.3 million), he was held for three months before being released under house arrest; the case was appealed in summer 2012. He was not allowed to attend the hearing, and a large fine was imposed.



2007

NUON CHEA & KHIEU SAMPHAN

91 Former Khmer Rouge leaders were tried in Cambodia for crimes against humanity during the 1970s. Convicted, they were imprisoned for life.

2007

BERNIE MADOFF

92 This US financier was accused of securities fraud to the extent of \$65 billion (£41 billion). He pled guilty and was sentenced to 150 years in jail.

2010

CHELSEA (BRADLEY) MANNING

97 Manning, a transgender US army intelligence analyst, was convicted of aiding the enemy after leaking hundreds of thousands of classified documents about the war in Iraq. She received a prison sentence of 35 years.

2012

ANDERS BREIVIK

94 At his televised trial, the Norwegian neo-Nazi, who in 2011 bombed Oslo and shot dead 69 teenagers, was permitted to give political statements. Much of the trial concerned his psychiatric state—he was adjudged sane, as he had himself argued. He was sentenced to “containment” (imprisonment) for 21 years, extendable.

2013

GEORGE ZIMMERMAN

98 This white resident of Lake Mary, Florida, was accused of murdering a black teenager, Trayvon Martin, in what was widely seen as a racially motivated crime. The jury acquitted him, a verdict that led to big public protests.

2013–14

REBEKAH BROOKS

99 Brooks, editor of the British tabloid newspaper *News of the World*, was one of four accused of authorizing hacking the phones of celebrities and others. She was acquitted after a seven-month trial.

2014

OSCAR PISTORIUS

100 The South African Paralympian shot model Reeva Steenkamp in the bathroom of his apartment. His initial conviction for culpable homicide was overturned in 2015 when an appeals court found him guilty of murder.



fl. 1300–1200 BCE

RAMESES II

1 This Egyptian pharaoh of the nineteenth dynasty built an army of 100,000 men and thousands of chariots. He campaigned against the Nubians in the south, and also in Syria. There, in 1274 BCE, he fought a costly but indecisive chariot battle at Kadesh against the Hittites, with whom he subsequently signed the first peace treaty in history.

CYRUS THE GREAT

2 Founder of the Achaemenid Empire in Persia and conqueror of the Median, Lydian, and Neo-Babylonian Empires, Cyrus became ruler of much of the Middle East, Arabia, central Asia, and the Caucasus. He adopted the armies and strategies of the peoples he conquered and created an elite corps of 10,000 “immortals,” which formed the backbone of the later Achaemenid armies that invaded Greece. He offered a remarkable degree of religious tolerance and was lauded by the Greek writer and soldier Xenophon.

fl. 5th century BCE

SUN TZU

3 A legendary Chinese general, Sun Tzu was supposedly active during the Warring States period in China and served the king of Wu. He insisted on discipline and responsibility in warfare and is renowned as the author of *The Art of War* (513 BCE), a manual on strategy that was studied for thousands of years in China and is still widely read today.

fl. 4th century BCE

LEONIDAS

4 This Spartan warrior and king was chosen to lead the Greek army against the Persians. At the Battle of Thermopylae (480 BCE), his force comprised around 7,000 men and held back a far larger Persian army led by Xerxes. After two days of fighting, the Greek position was hopeless, and Leonidas dismissed all the Greeks except for 300 Spartans and 1,500 others to cover the retreat. Although every man still under his command died, eventually Greece was safe.

100 GREAT WARRIORS

PHILIP OF MACEDON

5 The king of Macedon's heavy cavalry and well-drilled infantry army, which used a long, two-handed spear, made Alexander the Great's conquests possible.

336–323 BCE

ALEXANDER THE GREAT

6 One of the world's most successful generals, Alexander led the 40,000-strong Macedonian army to conquer the Middle East, Egypt, Iran, and the Indus Valley. He won the loyalty of his troops by sharing their hardships and led from the front in battle. He was renowned as a superb strategist, acclaimed for adapting his tactics to address the threat he faced, and relied on the shattering power of his cavalry to destroy his opponents. Alexander followed up his victories ruthlessly.

CHANDRAGUPTA MAURYA

7 Indian king and founder of the Mauryan dynasty, he is said to have commanded an army of 400,000 men and 9,000 elephants to conquer much of India while he was still only 20 years old. He later defeated the Macedonians in Gandhara.

PYRRHUS

8 This Greek ruler of Epirus (Albania) and Macedon fought against the Romans in southern Italy. He won the battle of Asculum (279 BCE) at a very high cost, thus giving rise to the term “Pyrrhic victory.”

LIU BANG

9 A Chinese peasant who rebelled against the successors of Emperor Shihuangdi, Liu Bang (aka Gaozu) won control of the Han kingdom in western China before becoming ruler of all China, initiating the Han dynasty.

HANNIBAL

10 While crossing the Alps in 218 BCE, the Carthaginian general lost two-thirds of his army and all but one of his 38 war elephants. His victory against the Romans at Cannae (216 BCE) in southern Italy is considered to be the greatest in history, renowned for its long line of battle with reinforced flanks that allowed Hannibal to envelop the larger Roman army. Eventually forced to leave Italy in 203 BCE, he was defeated at Zama the following year. Hannibal was widely seen in antiquity as the greatest-ever soldier because he maintained his campaign in hostile territory for 15 years.

SCIPIO AFRICANUS

11 Having defeated Hannibal at Zama (202 BCE), the Roman general drove the Carthaginians from Iberia, developing flanking maneuvers to surprise the enemy.

JUDAS MACCABEUS

12 This Jewish leader waged a successful seven-year campaign against the Hellenistic king Antiochus, driving his forces from Jerusalem.

GAIUS MARIUS

12 A Roman republican general, Gaius Marius was responsible for reforming the Roman legions, organizing them into cohorts, and opening them to the urban poor.

POMPEY

14 As a Roman general, Pompey purged the Mediterranean of pirates and then defeated Mithridates of Pontus. In 49 BCE, as Roman consul, he began a civil war against Julius Caesar and was defeated at Pharsalus. His military success was based on organization and the ability to outmaneuver opponents.



JULIUS CAESAR

15 Having conquered the Celtic tribes of Gaul (58–50 BCE) and defeated Vercingetorix at the siege of Alesia (52 BCE), Caesar was renowned for the dynamism of his campaigns. In 55 BCE he staged a crossing of the Rhine that was in itself an exceptional feat of military engineering. He waged civil war with the consul Pompey and was appointed dictator before being assassinated by a group of senators.

VERCINGETORIX

16 The Arverni leader united the Celtic tribes of Gaul against Caesar, adopting scorched earth tactics and harassing supply lines. Caesar besieged the Gallic army on a hilltop at Alesia; Vercingetorix personally surrendered.

BOUDICCA

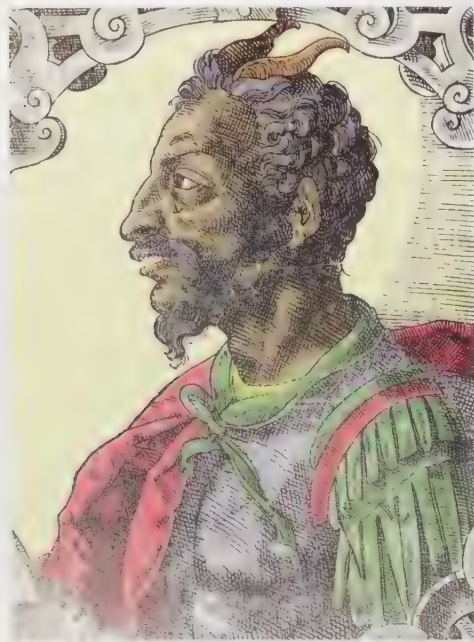
17 Queen of the British Iceni tribe, Boudicca led a revolt against Roman rule in 60 CE and is said to have massacred 70,000 Romans. She was killed in the battle of Watling Street and later became a British national heroine.

TRAJAN

18 Roman emperor Trajan fought in the Middle East and brought the Roman Empire to its greatest extent. His campaigns of 101–106 CE in Dacia (modern Romania) were recorded on the frieze on Trajan's Column in Rome.

SHAPURI

19 This Sasanian king of Persia defeated the Romans in Armenia, Georgia, and Syria. He sacked Antioch and captured Emperor Valerian at Edessa in 260, humiliating him and imprisoning him for the rest of his life.



ATTILA THE HUN

20 The name of this Hunnic leader has become a byword for an irresistible mania for destruction and indiscriminate slaughter. Attila the Hun inherited a large empire, reaching to the Alps in the west and the Caspian in the east, but his horse-based army—nomadic in lifestyle—attacked and overwhelmed the Roman eastern frontier and devastated many of the Balkan provinces before crossing the Alps and plundering northern Italy and Gaul. He commanded large armies comprising men of many different tribes and held his empire together through force of personality. His soldiers used bows and arrows from the saddle and relied on mobility and shock, avoiding close combat whenever possible.

BELISARIUS

21 This Byzantine general reconquered much of the Mediterranean littoral for Justinian and came out of retirement to protect Constantinople from the Huns.

c. 575–641

HERACLIUS

22 Byzantine Emperor Heraclius drove the Persians out of Palestine and Armenia, fighting with great bravery. However, he lost much territory to the Muslims.

KHALID IBN AL-WALID

23 Key to the first wave of Muslim expansion—conquering Iraq, Syria, and Palestine—Khalid slaughtered 50,000 Byzantine troops at the battle of Yarmuk River.

c. 688–741

CHARLES MARTEL

24 The Frankish “mayor of the palace” wielded supreme power in Merovingian Austrasia (eastern France). He built up the first standing army in Europe since the fall of the Romans, and his Frankish infantry army at Tours stopped the Arab advance into western Europe (732). He was known for swift and surprising maneuvers.

849–99

ALFRED THE GREAT

26 The king of Wessex (England) resisted the expansion of the Norsemen and organized English defenses. He instituted the first English navy and unified Anglo-Saxon England under his rule.



c. 1043–99

EL CID

30 Rodrigo Díaz de Vivar was a Castilian soldier who supported the Muslim ruler of Zaragoza and fought the Almoravid invasion of Valencia (southern Spain) on behalf of Alfonso VI of Castile.

755–808

ABD AL-RAHMAN

25 Umayyad emir and later caliph in al-Andalus (Spain), Abd al-Rahman fought against the Christian kingdoms of northern Spain and the Fatimids of Tunisia, strengthening his navy and defending his southern ports. He was also known as a great patron of the arts, especially in his capital of Córdoba.

866–934

ERIC BLOODAXE

27 The Viking king of Norway and Northumbria campaigned throughout Britain. Renowned for his prowess on the battlefield, he proved a cruel and unsuccessful ruler.

973–1025

MAHMUD OF GHAZNI

28 This Afghan sultan waged jihad and invaded India 17 times, often returning with large quantities of booty. His campaigning extended between Kashmir and Gwalior.

1066–1087

WILLIAM THE CONQUEROR

29 As Duke of Normandy, William fought for his duchy from an early age, and in 1066 he launched an invasion fleet to England to secure the promised throne. At the Battle of Hastings, he defeated Harold II and killed a large proportion of the Anglo-Saxon aristocracy. Over the next ten years, he secured his throne by devastating much of northern and western England. William's postconquest settlement involved building castles across England and granting land to many of his followers in return for military service.

c. 1080–1111

BOHEMOND I OF ANTIOCH

31 The Prince of Antioch was a Norman from southern Italy, who fought against Byzantine dominance in the Balkans. He became one of the leaders of the First Crusade, taking Antioch in Syria (1098) and establishing a Crusader kingdom there.

1162–1211

YUE FEI

32 This Chinese general led the Southern Song armies against nomadic Jurchen invaders. He was stopped from removing them from China entirely, but in the twentieth century he became a national hero.



1137–1193

SALADIN

33 The Kurdish Ayyubid sultan was based at Damascus. He led Muslim forces against the Crusader kingdoms, defeated their armies at Hattin (1187), and retook Jerusalem, allowing the Christian survivors safe passage to the coast. He then defended his gains against the Third Crusade. He was widely acknowledged as a great leader and soldier by both Christians and Muslims.

RICHARD THE LIONHEART

34 Renowned for his energy and chivalry, the English king, and one of the leaders of the Third Crusade, failed to retake Jerusalem from Saladin. He was imprisoned by the Holy Roman emperor on his way back to England.

MINAMOTO YOSHITSUNE

With his brother Minamoto Yoritomo, this Japanese samurai dominated medieval Japan by defeating the powerful Taira clan. After Yoritomo set up the Kamakura shogunate, he turned against Yoshitsune, who was forced to commit suicide.



GENGHIS KHAN

Born in obscure circumstances as Temüjin, he united the disparate Mongol tribes by 1206 and then led them on a series of campaigns that created the world's largest land empire in China and across the steppes into Afghanistan and Iran. Wherever he was opposed, he massacred the population and razed the cities. He died on campaign and was buried in Mongolia, where he was revered as a god.

SUBUTAI

An associate of Genghis Khan and his son, Ogedei, this Mongolian general was known for waging several campaigns simultaneously, and he regularly landed armies that were far apart geographically.

HULAGU

The grandson of Genghis Khan destroyed Baghdad in 1258 then founded the Ilkhanate, a Mongol state, in Iran.

ALEXANDER NEVSKY

Acclaimed as a Russian hero and saint, the Kievan prince defeated the Swedes at the Battle of the Neva (1240), but also submitted to the Mongol Golden Horde.

BAIBARS

Originally a slave from the Caucasus, Baibars initially won power and acclaim by fighting on the side of the Ayyubid sultan of Egypt against Louis IX of France. He became the fourth Mamluk sultan of Egypt and Syria after executing Sultan Qutuz and seizing the throne. He strengthened his position and drove the Crusaders from many of their strongholds in Syria, including Antioch in 1268.

EDWARD I

Before his accession in 1272, the English king defeated the rebellion of French Crusader Simon de Montfort. Afterward, he campaigned in Scotland and Wales, where he built uniquely strong castles, including Harlech and Caernarfon.

BERTRAND DU GUESCLIN

This Breton-born French commander sought to wear down the enemy by avoiding battle wherever possible.

BLACK PRINCE

Prince Edward was the eldest son of Edward III of England and campaigned against the French in the Hundred Years' War. His major victory was at Poitiers (1356), where he took the French king as prisoner.



TIMUR

The Mongol-Turkic leader was the last great conqueror from central Asia. He won power in Transoxiana and then built a personal empire in Turkestan, Iraq, Syria, the Caucasus, Iran, Afghanistan, and India. His name became a byword for cruelty, and he campaigned constantly, extending the cavalry and archery tactics that Genghis Khan had developed.

HENRY V

This king's victory at Agincourt (1415) marked the high point of the English achievement in the Hundred Years' War against the French. Nevertheless, his strategic objective was to capture the main cities of northern France. Shortly before he died, he was made regent of France.

1405-46

SKANDERBEG

46 This Christian Albanian national leader fought the far larger forces of the Ottoman Turks for 25 years, delaying their advance into Europe. He is said to have personally killed 3,000 Turkish soldiers.

1412-31

JOAN OF ARC

47 Inspired by God, Joan was a peasant girl who led the French effort in the Hundred Years' War. Her greatest victory was at Orléans (1429). In 1431 she was convicted as a heretic and burned at the stake.

1432-69

MEHMED II

48 The Ottoman sultan conquered the Byzantine Empire when he captured Constantinople in 1453, at the age of 21. He built up his navy and campaigned successfully in Anatolia, Greece, Moldavia, and the Balkans. He ensured the loyalty of the Janissaries—a powerful elite corps that formed the sultan's personal bodyguard—and fought in front of his troops; he also developed his artillery on an unprecedented scale. In addition to his achievements in battle, he was renowned for his religious and social tolerance.

1483-1530

BABUR

49 He sought to reconstruct the empire of Timur. Although he was heavily outnumbered, Babur defeated the Delhi sultanate at Panipat (1526), which allowed him to create the Mughal Empire in India.

1534-83

ODA NOBUNAGA

50 This Japanese daimyo overthrew the Ashikaga shogunate and began unifying Japan. He developed new military tactics, including the use of muskets and pikes, and introduced promotion on merit.

1542-82

TOKUGAWA IEYASU

51 As a young man Tokugawa supported Oda Nobunaga, and after Nobunaga's death in 1582 he built a large private army that enabled him to dominate Japan after the Battle of Sekigahara (1600) and found the Tokugawa shogunate. He built the world's largest castle at Edo.

1566-98

YI SUN-SHIN

52 Sometimes seen as the most successful naval commander in history, the Korean admiral was undefeated in 23 battles. He is well known for resisting the much-larger Japanese invasion fleets and building a squadron of *kobukson* (turtle ships), the world's first ironclad battleships. They were put into service in 1592 and were armed with cannon and covered in metal spikes to repel boarders. Yi's main tactics were to avoid hand-to-hand fighting and to sink the enemy with cannon.



1594-1632

GUSTAVUS ADOLPHUS

53 Known as the "lion of the north," the Swedish king built an impressive empire in eastern Europe during the Thirty Years' War. As a teenager he fought Denmark and Russia and then attacked Poland. In 1630 he intervened in the Holy Roman Empire as a champion of the Protestants. His novel tactics included organizing his troops to fight in a flexible line, and he frequently relied on the shock of a cavalry charge, supported by field artillery that could play an offensive role. Gustavus Adolphus introduced newer, lighter muskets and developed salvo firing. All this was a precursor to the emergence of much-larger armies in European warfare.

JOHN MAURICE OF NASSAU

54 Leader of the Dutch in their war for independence from Spain, Maurice improved military training by developing systematic drills and by paying soldiers regularly.

1611-65

HENRI DE LA TOUR D'AUVERGNE

55 Henri de La Tour D'Auvergne, Vicomte de Turenne, was the French commander who led Louis XIV's troops from the 1640s to the 1670s. He was renowned for his tactical mastery and attention to detail and avoided large battles when possible.

1619-44

LOUIS II DE BOURBON

56 Louis II de Bourbon, le Grand Condé, was well known for his brilliance on the battlefield, as demonstrated at the Battle of Rocroi (1643).

DUKE OF MARLBOROUGH

57 The British general led campaigns against Louis XIV. His skill at logistics and deception lured his opponent to defeat at Blenheim (1704).

1663-1736

EUGENE OF SAVOY

58 In battle with the Turks and the French for 40 years, the Austrian general won a series of victories and secured successful peace as a result.

MAURICE DE SAXE

59 This Saxon-born soldier fought for France from the early eighteenth century and also for Sweden. He was made Marshal of France after his victory over the British at Fontenoy (1745). He championed the use of infantry in shock columns rather than in extended lines in battle.



FREDERICK THE GREAT

60 Also known as "Old Fritz," the king of Prussia fought wars in Poland and against Austria that expanded Prussian territory and its standing army, which he made central to the Prussian state. He emphasized drill and discipline rather than inspired leadership, but promoted medical care and veterans' welfare. His greatest victories as a commander were at the battles of Hohenfriedberg (1745), Rossbach (1757), and Leuthen (1757).

ALEXANDER SUVOROV

61 The Russian general was undefeated in more than 60 battles, mostly against the Turks and revolutionary French; he also crushed a revolutionary rising in Poland in 1794. His book *The Science of Victory* (1796) stressed the importance of cold steel over bullets and of mobility on the battlefield. The Russian army followed his philosophy into the twentieth century.

NATHANIEL GREENE

62 This revolutionary US war commander supported Washington in 1776 and led the southern army from 1778. He successfully thwarted Cornwallis in 1781.

MIKHAIL KUTUZOV

63 Late in his career, this Russian general was defeated by Napoléon at Borodino outside Moscow (1812), but his campaign led to the French retreat and ultimate defeat. He had previously fought for Catherine the Great in the 1760s against the Turks.



HORATIO NELSON

64 Using aggression, innovative tactics, and trust in his subordinates, the British naval commander produced a string of victories, notably against France at the Nile (1798) and against Denmark at Copenhagen (1801). They made him a national hero. His victory at Trafalgar (1805), against a combined French and Spanish fleet, gave Britain mastery over the seas for a century, but Nelson was shot and did not survive the battle.

DUKE OF WELLINGTON

65 The British commander fought the French in India, Iberia, and the Low Countries and was famed for his coolness under fire. The Peninsular War (1808-14) was a masterpiece of defensive campaigning and demonstrated his ability to anticipate enemy actions. He led the allied army in the decisive victory against Napoléon at Waterloo (1815).



MICHEL NEY

66 One of Napoléon's 18 marshals, Ney was promoted for skill rather than social position.

NAPOLÉON BONAPARTE

67 A Corsican artillery officer who became a hugely successful general. His greatest victory was at Austerlitz (1805); defeats included Leipzig (1813) and Waterloo (1815).

SHAKA ZULU

68 The Zulu chief founded an empire in southern Africa in the 1820s by creating an aggressive army of highly mobile regiments, armed with stabbing spears and logistically supported by bands of children. His revolutionary tactics included encirclement of the enemy by deploying his troops in a central "chest" flanked by lighter "horns" and supported by "loins" (a strong reserve).



HELMUTH VON MOLTKE THE ELDER

69 Appointed chief of general staff in 1857, Moltke the Elder modernized the Prussian army, pioneering the use of railways for large-scale troop movements, revolutionizing training, and planning for battle on a broader scale than ever before. He masterminded victory in Bismarck's wars against Denmark (1864), Austria (1866), and France (1870–71). His "Schlieffen Plan" was used to attack France and Russia in 1914.

HERBERT KITCHENER

76 After fighting in Sudan and South Africa, Kitchener served as secretary of state for war in World War I, organizing Britain's volunteer army and munitions; he died in a naval accident in 1916.

FERDINAND FOCH

77 The French general was the supreme Allied commander on the Western Front at the end of World War I. A tenacious leader, in 1917 he urged a unified Allied command, which he was awarded in May 1918. Foch negotiated the terms of the German armistice on November 11, 1918.

ROBERT E. LEE

70 As Confederate commander in the US Civil War, initially of the Army of North Virginia, and from 1865, of all Southern forces, Lee was unable to match the Unionist forces in the field. He sought to protect key locations and achieved notable victories at Manassas (1862) and Chancellorsville (1863).

WILLIAM SHERMAN

71 Unionist general in the US Civil War, Sherman worked with Ulysses S. Grant. His "March to the Sea" through Georgia (1864) devastated that state, weakened the South, and introduced the modern concept of "total war."

ULYSSES S. GRANT

72 Commander of the Unionist forces in the US Civil War from 1864, Grant combined flexibility with numerical superiority and forced Lee's surrender at Appomattox (1865). He became US president in 1869.

STONEWALL JACKSON

73 The Confederate commander from Virginia in the US Civil War was mortally wounded at Chancellorsville (1863). He was known for his combination of aggression and religious piety.

GERONIMO

74 The Bedonkohe Apache Native American leader organized resistance against the Mexicans from 1858 and waged guerrilla campaigns against the US Army until 1886, when he surrendered as a prisoner of war. Geronimo is renowned for his daring exploits and for evading capture, and his name has become synonymous with fearless resistance against overwhelming odds.

HEIHACHIRO TOGO

75 This Japanese admiral brought about the victory of his country in the war of 1904–05 against Russia. He blockaded Port Arthur and destroyed two-thirds of the Russian fleet at Tsushima (1905), where he employed the innovative tactic of confronting the enemy by "crossing the T" (sailing across the enemy's line of advance, bringing more guns to bear).



PHILIPPE PÉTAIN

78 This French commander became a national hero at the age of 60 by defending the German assault on Verdun (1916). Renowned for his care of the common soldier, he became leader of Vichy France in 1940.

JOHN PERSHING

75 Known as "Black Jack," Pershing was commander of the American Expeditionary Forces in World War I. He built up the tiny US army and took it to France. After successfully engaging at St. Mihiel, he fought at the Argonne in 1918, driving back the Germans at huge cost by using outmoded tactics of all-out attack.

1862-1919

HINDENBURG

81 The German general was supreme commander with Hindenburg. They mobilized the German economy, and their offensive of 1918 almost broke through to Paris.

PAUL VON LETTOW-VORBECK

82 With an army of 14,000 against an Allied force of 300,000, the German commander fought a guerrilla campaign in East Africa from 1914 to 1918. After the war he was a national hero.



DOUGLAS HAIG

80 This controversial British commander in World War I adopted a costly but successful policy of attrition to wear down the enemy, notably at the Somme (1916) and Third Ypres (1917). Some historians reject his callous reputation and stress his relative flexibility and adoption of new tactics and technologies.



JOSEPH STALIN

83 Soviet general secretary and supreme commander of the Soviet forces, Stalin caused great damage to the army command through his purges of the 1930s. His indifference to suffering allowed him to reorganize the country's defenses, and he maintained control over strategies, battlefield tactics, and supplies. He waged a costly counteroffensive against the Germans at Stalingrad and Kursk and dominated the political postwar settlement in negotiation with Roosevelt and Churchill.

DOUGLAS MACARTHUR

84 US field marshal and commander of the South West Pacific theater in World War II, MacArthur was driven out of the Philippines in 1942 but vowed to return. He led the liberation in 1944-45 (the largest operation was Luzon, 1945); he also retook Papua New Guinea and received the Japanese surrender in 1945. As supreme commander of the occupation (1945-51), he oversaw the rebuilding of Japan. MacArthur was UN commander in chief in Korea from 1950 to 1951, until he was controversially relieved of command by US President Truman for his reluctance to fight a limited war against the Communist North.

HIDEKI TOJO

85 This Japanese prime minister masterminded the attack on Pearl Harbor (1941). He resigned as chief of staff after the fall of Saipan (1944).

1890-1945

GEORGE S. PATTON

86 "Old Blood and Guts," the US tank commander in Normandy and the Battle of the Bulge (1944), was known for his colorful personality, aggression, and mobility.

1895-1978

ERICH VON MANSTEIN

87 A German field marshal and career Wehrmacht soldier, he devised the tactics for the fall of France (1940). He fought at Stalingrad and Kursk.

1897-1975

CHIANG KAI-SHEK

88 The Chinese nationalist leader and head of government from 1928 resisted the Japanese in World War II and the Communists in the Civil War (1946-49) before retreating to Taiwan.

1887-1976

BERNARD MONTGOMERY

89 This British field marshal defeated Rommel at Alamein (1942), assisted in the Allied invasion of Sicily (1943), and commanded the British forces on D-Day (1944).

1885-1954

HEINZ GUDERIAN

90 This German tank commander was an architect of the blitzkrieg strategy. He led the panzer invasions of Poland (1939), France (1940), and Moscow (1941).

1890-1969

DWIGHT D. EISENHOWER

91 The US supreme commander of Allied forces in Europe from 1944 to 1945, he was responsible for D-Day, the largest amphibian invasion in history. His early career involved staff jobs, but he showed he could organize and work with others. He led the invasions of North Africa (1942) and Sicily (1943). After D-Day he oversaw the liberation of France and the invasion of Germany.



1912-2013

VÕ NGUYỄN GIÁP

96 This Vietnamese commander's guerrilla campaign drove the French from Indo-China. He commanded the North Vietnamese forces in the Vietnam War.

1918-81

MOSHE DAYAN

97 The Israeli tank commander was chief of staff of the Israeli Defense Forces during the Suez Crisis. In 1967, as minister for war, he directed the Six-Day War.

1924-93

AUDIE MURPHY

98 This US soldier of World War II received every possible combat award for valor, fighting in southern Italy and France. He became a movie actor after the war.



1891-1944

ERWIN ROMMEL

92 Rommel, the Desert Fox, Wehrmacht field marshal and tank commander in World War II, won stunning victories in North Africa through fast-moving maneuvers and momentum to make him a Nazi hero. He was in charge of Germany's Channel defenses at D-Day in June 1944; the next month he was linked with the plot to assassinate Hitler and was forced to commit suicide.

1896-1974

GEORGY ZHUKOV

95 Soviet marshal during World War II, Zhukov organized the defenses of Leningrad and Moscow (1941) and of Stalingrad (1942). In 1943 he was a commander at the world's largest tank battle at Kursk, and he commanded the Red Army in the liberation of Eastern Europe, the invasion of Germany, and the assault on Berlin. After the war, he tried to free the army from Communist party control. Assessments vary: he is criticized for the lives lost under his command but praised for his effectiveness.



1883-1950

WILLIAM SLIM

93 This British field marshal resisted the Japanese advance in Burma (Myanmar), developing new techniques of jungle warfare and winning at Imphal and Kohima (1944).

1893-1966

HERMANN GOERING

94 *Reichsmarschall* in World War II, Goering was the top-ranking soldier in the Third Reich, with responsibility for both the Wehrmacht and Luftwaffe. He was effectively second-in-command to Hitler. His Luftwaffe made blitzkrieg possible but he was unable to develop the fighter capacity of the Luftwaffe after the Battle of Britain (1940).

1918-2007

ARIEL SHARON

100 Strategist in the Six-Day War (1967) and Yom Kippur War (1973), Sharon masterminded victory in Sinai. He served as Israeli prime minister (2001-06).

1928-97

CHE GUEVARA

99 Argentinian Marxist fighter Guevara took part in the Cuban Revolution (1956-59) and supported guerrilla campaigns in the Congo and Bolivia.



1274 BCE

KADESH

1 The earliest recorded battle, and the largest involving chariots (perhaps more than 5,000 of them), was fought on the modern border of Syria and Lebanon between Egyptian Pharaoh Rameses II and the Hittite king Muwatalli II. The outcome was indecisive, but the battle marked the farthest extent of Rameses' expansion in the Levant.

605 BCE

CARCHEMISH

2 Nebuchadnezzar II destroyed the Egyptian and Assyrian armies and ended their power in the region. The high point of the Neo-Babylonian Empire.

550 BCE

PASAGARDAE

4 This was a key battle in the rise of Persian power. Cyrus II held off a much larger Median army in mountainous terrain of western Iran.

JERUSALEM

3 After failing to invade Egypt, Nebuchadnezzar II faced a revolt in Judah. He besieged and took Jerusalem, exiling its inhabitants to Babylon.

BABYLON

5 Cyrus II destroyed the Neo-Babylonian army under Nabonidus at Opis. He then entered Babylon after diverting the Euphrates River, which protected the city. This Persian victory consolidated the Achaemenid Empire, and ended the Jewish "Babylonian captivity."

100 BATTLES

490 BCE

MARATHON

6 The Persians, under Darius I, met little effective opposition as they expanded westward until they came upon a hostile force on a plain around 25 miles (40km) from Athens. Their opponents, the Athenians, led by Miltiades and supported by Plataeans, were numerically inferior—most historians believe they were outnumbered ten to one—but they routed the invaders.

480 BCE

THERMOPYLAE

7 The second Persian invasion of Greece, led by Xerxes, involved at least 100,000 men. Just 7,000 Greeks met them at this narrow coastal pass. After having been held up for three days, the Persians took a mountain path to outflank the Greeks and attack them from the rear. Seeing his position to be impossible, Leonidas, king of Sparta and commander of the Greek army, sent most of his troops away, but he himself remained with around 300 Spartan soldiers, who fought on until they were nearly all killed. The Greeks had lost, but the heroic manner of their defeat inspired a major fightback against the invaders.

480 BCE

SALAMIS

8 After Thermopylae, Xerxes' fleet of 800 galleys cornered 370 Greek triremes in the Saronic Gulf. The Greek commander, Themistocles, then lured the enemy fleet into the narrow waters of the strait at Salamis, where the massed Persian ships had difficulty maneuvering. Three hundred of the Persians' vessels were rammed and sank.

333 BCE

ISSUS

9 This battle on a coastal plain in southern Turkey was the first of Alexander the Great's victories against Darius III of Persia. Alexander's Macedonian army crossed the Pinarus River and charged the Persians' left flank. Darius escaped, but his family was captured.

333 BCE

GAUGAMELA

10 Alexander the Great defeated Darius III in the heart of the latter's Mesopotamia power base. His victory spelled the end of the Achaemenids.

263 BCE

CHANGPING

11 In this battle of the Warring States period in China, the state of Qin defeated that of Zhao and buried 450,000 prisoners alive.

218 BCE

CANNAE

12 The Carthaginian Hannibal had been in Italy since crossing the Alps two years earlier. When he confronted a much larger Roman force in southern Apulia, he sent his troops forward in a crescent formation to encircle the enemy. Only 14,000 of an estimated 86,000 legionnaires survived one of the worst Roman defeats.



ZAMA

13 The Romans' final victory over Hannibal was won by Scipio Africanus. Fighting a few miles from Carthage, Hannibal began with a charge of 80 elephants; when this proved ineffective, the Numidians (allied to the Romans) destroyed the Carthaginian cavalry and then proved decisive in the close-fought infantry battle. Carthage surrendered shortly afterward and ceded Spain to Rome.

GAIXIA

14 After this great victory over the western Chu, Liu Bang proclaimed himself emperor of China and founded the Han dynasty.

ALESIA

15 Julius Caesar besieged a hill fort in Gaul and defeated the 80,000 Celts led by Vercingetorix inside it.

ACTIUM

16 Octavian defeated Mark Antony and Cleopatra of Egypt in a naval battle off Greece to end the Roman civil war.

TEUTOBURG FOREST

17 German tribes ambushed and annihilated a legion under P. Quinctilius Varus to end Roman expansion east of the Rhine River.

ADRIANOPOLE

18 Having invaded the Roman Empire, the Ostrogoths and Visigoths were confronted in Thrace by the emperor Valens, but his army was destroyed by a Goth cavalry charge. The defeat left the Roman Empire open to barbarian invasion.

CATALAUNIAN PLAINS

19 After suffering huge losses in this battle against an alliance of Romans and Visigoths, the forces of Attila the Hun could no longer hope to dominate western Europe.

QADISIYYAH

20 This Arab victory over Sassanid Persia in southern Mesopotamia paved the way for the Muslim takeover of the region.

TOURS

21 Charles Martel's victories over the Umayyad caliphate ended Muslim expansion into France and led to Frankish domination over western Europe.

TALAS RIVER

22 As the Abbasid caliphate expanded into Asia from its base in the Middle East and Mesopotamia, it came into conflict with China, where the Tang dynasty was simultaneously expanding westward. The military showdown came here, in an area of what is now Kyrgyzstan. The battle resulted in a victory for the Arabs, giving them control over most of the Silk Route, but marked the farthest extent of their eastward expansion.

HASTINGS

23 This decisive victory for William, Duke of Normandy, over King Harold of England marked the start of the Norman conquest and the end of Anglo-Saxon England. William's 7,000-strong army of cavalry and bowmen defeated a similar-sized infantry armed with battle-axes.



1071

MANZIKERT

24 This major defeat for the Byzantine Empire in eastern Asia Minor gave the expansionist Seljuk Turks control over Armenia and Anatolia.

1099

JERUSALEM

25 When the soldiers of the First Crusade reached Jerusalem, they found the city a Fatimid Arab stronghold. After a five-week siege they stormed it and massacred the defenders.



HATTIN

26 The pivotal battle that heralded the emergence of the Kurdish sultan Saladin. His Muslim forces drove the Christian army against the Horns of Hattin (steep hills on the Plain of Galilee), annihilated them, and captured and imprisoned their leader, Guy of Lusignan, king of Jerusalem. From here, Saladin began his final push toward the holy city, which fell to him three months later.

ACRE-CRUSADER WARS

27 The 15-month siege of this Muslim stronghold by the French and English kings leading the Third Crusade was successful but cost 15,000 Christian lives.

CONSTANTINOPLE

28 Following unrest in Constantinople, the Fourth Crusade, led by the blind doge of Venice, took a detour to restore the deposed emperor. The city fell after a few days; the Crusaders sacked and looted the place and established a new Latin Empire.

1241

MOHI

29 This Mongol victory over Béla IV of Hungary established the khanate in central Europe. The invaders seemed unstoppable, but the death of the khan Ögedei a few months later meant the victory was not followed up. After Mohi, Mongol influence in the west declined.

1260

AIN JALUT

30 At this battle north of Jerusalem, the Mamluks of Egypt inflicted a key defeat on the Mongol fighting machine. The Mongols had formed an alliance with the remnant Crusader states, but their 20,000-strong army was trapped and defeated by forces under Sultan Qutuz and his general, Baibars. The defeat prevented the Mongol Ilkhanate from gaining a foothold on the Mediterranean. Baibars assassinated Qutuz on the journey back to Egypt and made himself sultan.



1346

CRÉCY

31 In this early confrontation during the Hundred Years' War, English King Edward III's archers defeated French King Philip VI's cavalry—ill-disciplined, and exhausted after a long journey—while themselves sustaining minimal casualties.

1356

POITIERS

32 English archers again destroyed the disorganized French cavalry in the Hundred Years' War. Edward the Black Prince captured French King John II (Jean le Bon).

1368

LAKE POYANG

33 The largest naval battle in history was fought between the Ming and the Han on China's largest lake. After 37 days' fighting, the smaller Ming boats were able to encircle the Han vessels and destroyed many of them using fireships. Ming victor Zhu Yuanzhang declared himself emperor in 1368.

1389

KOSOVO

34 This battle between the Serbs, under Prince Lazar, and the Ottoman Turks, led by Sultan Murad I, was damaging to both sides and left Serbia open to annexation.

TANNENBERG

35 This heavy defeat for the Teutonic Knights, at the hands of the Lithuanians and Poles, led to a permanent decline in their power in eastern Europe.

AGINCOURT

36 This battle is celebrated by the English, who won it, but forgotten by the defeated French.

CONSTANTINOPLE

37 The city was held by the Byzantine emperor Constantine XI Palaiologos with Venetian support. It was besieged by Ottoman Turks led by Sultan Mehmed II. Its surrender after seven weeks marked the end, not only of the Roman Empire, which had already lost its Byzantine territories, but also, in the view of many historians, of the Middle Ages.



TENOCHTITLÁN

38 With a small group of conquistadors and disaffected locals, Hernán Cortés completed the Spanish takeover of the Aztec capital. Less than a year previously, Cortés had been invited into the city by the unsuspecting Aztecs and had their emperor, Montezuma, killed.

MOHÁCS

39 The Hungarians were heavily defeated by Ottoman sultan Suleiman I (the Magnificent) as their cavalry was mown down by artillery and muskets. After the battle, Hungary was partitioned.

PANIPAT

40 The Turkish Mongol Babur, from Kabul, defeated Sultan Ibrahim northwest of Delhi to establish the Mughal Empire. Babur's cannons scared Ibrahim's elephants, which then trampled many of his soldiers.

CAJAMARCA

41 The decisive victory in Francisco Pizarro's conquest of Peru. He and his 168 conquistadors executed the Incan emperor, Atahualpa; killed or captured his unarmed followers; and put to flight his army of 80,000.

MALTA

42 The island's 9,000-strong garrison of Knights Hospitallers bravely withstood a four-month siege by a Turkish fleet.



LEPANTO

43 This naval battle in the Gulf of Corinth, off western Greece, was fought between the Ottomans, commanded by Ali Pasha on one side, and the Catholic League (Spain, the papacy, and several Italian states), commanded by Don John of Austria, who sought to stop the Ottoman takeover of Cyprus. Both fleets were mainly galleys. The Holy League emerged victorious, capturing 117 ships. The battle confirmed Western ability to dominate the Mediterranean, though Cyprus itself surrendered two years later.

ARMADA

44 Spain's attempt, headed by the Duke of Medina Sidonia, to invade England from the sea was disrupted by a highly maneuverable fleet under Lord Howard of Effingham and then dispersed by gales.

SEKIGAHARA

45 Tokugawa Ieyasu's victory in this battle against his main rival, Toyotomi Hideyori, made him shogun of Japan.

1632

LÜTZEN

46 In this Thirty Years' War battle near Leipzig, the Swedish Protestant alliance lost its leader, King Gustavus Adolphus, mortally wounded, but decisively defeated the forces of the Holy Roman Empire and the Catholic League under General Albrecht von Wallenstein.

NASEBY

47 Parliament's New Model Army, led by Oliver Cromwell and Thomas Fairfax, won a key victory over King Charles I in the English Civil War.

VIENNA

48 After a two-month siege, during which the Turks came close to breaching the city's defenses, Polish king John III Sobieski arrived with a relief force in alliance with several German states. In the ensuing battle the Turkish army was routed, and its leader, Ottoman Commander Kara Mustafa Pasha, was forced to flee, leaving vast amounts of booty in Austrian hands. This was the last great Turkish attack on Europe.



NARVA

49 An early defeat for Czar Peter the Great in the Great Northern War for control of the Baltic Sea. In a blizzard, Swedish forces relieved a Russian siege of their fort at Narva.

BLENHEIM

50 In Bavaria, Prince Eugene of Savoy, along with the Duke of Marlborough, repelled the forces of French king Louis XIV, who were attempting to seize Vienna.

POLTAVA

51 Most of the Swedish army was killed or captured in this decisive victory for Czar Peter the Great over Charles XII, fought in the Ukraine.

PLASSEY

52 By this victory over Nawab Siraj ud-Daulah and his French allies, the British East India Company, under General Robert Clive, annexed the whole of Bengal to King George II of England.

PLAINS OF ABRAHAM

53 British troops led by James Wolfe captured the French stronghold of Québec after a daring nighttime assault up a cliff face. Wolfe and defending commander Montcalm were among those killed.

1777

SARATOGA

54 In this turning point of the American War of Independence, British General John Burgoyne was forced to surrender to US General Horatio Gates.



YORKTOWN

55 British Commander Lord Charles Cornwallis was forced back to Yorktown on the Virginia coast, where he was encircled by US General George Washington and his French allies. After several unsuccessful British rescue attempts, Cornwallis's forces surrendered. Thus ended the American War of Independence.

VALMY

56 Alarmed by the potential knock-on effects of the French Revolution on their own lands, Prussia and the Holy Roman Empire joined forces for a march on Paris, but French generals François Kellermann and Charles Dumouriez stopped the advance near this northeastern village.

1798

NILE

57 The British Royal Navy, under Horatio Nelson, destroyed 13 French ships in this encounter at Aboukir Bay, Egypt.

1805

TRAFALGAR

58 Admiral Horatio Nelson was killed in this battle, but after his forces defeated a Franco-Spanish fleet off southwestern Spain, the British Royal Navy was undisputed master of the world's oceans.



1805

AUSTERLITZ

59 The Battle of the Three Emperors, between Napoléon on one side and the Czar and the Holy Roman emperor on the other, was fought near Brno in Moravia (part of the modern Czech Republic). Napoléon's 68,000 troops defeated 90,000 Russians and Austrians. Napoléon's tactical skills and troop deployment lured the allies into attacking his deliberately weakened wings. Only then did his main force, hidden in the center, drive forward to divide and destroy the allied army. The victory, often considered Napoléon's greatest, left him master of nearly all mainland Europe and precipitated the dissolution of the 1,000-year-old Holy Roman Empire.

1812

BORODINO

60 In this epic battle on the outskirts of Moscow, the Russians tried to halt the advance of Napoléon's Grande Armée toward the city. The Russians lost, but the French depleted so many of their resources and lost so many men that they could not hold on to their gains.

1812

VITTORIA

61 A British, Spanish, and Portuguese army commanded by the Duke of Wellington defeated the French army of Joseph Bonaparte and Marshal Jean-Baptiste Jourdan to bring an end to the Peninsular War. The French were forced back over the Pyrenees.

1815

WATERLOO

62 Napoléon's final defeat after his return from exile on Elba. His forces engaged with those of the Duke of Wellington in a field south of Brussels. The battle was, as the British general later described it, "a damned close run thing" until the intervention of the Prussian army under Gebhard Blücher turned the tide against the French, who surrendered a few days later.



1819

BOYACÁ

63 Latin American freedom fighter Simón Bolívar beat the Spanish. Shortly afterward he liberated Bogotá and established Gran Colombia (incorporating Venezuela) as the first independent state in South America.

1826

NAVARINO

64 The combined fleets of Britain, France, and Russia defeated the Ottoman navy off the Peloponnese and helped free Greece from Turkish rule.

1836

ALAMO

65 The Mexican siege of this fort in Texas resulted in the deaths of all 200 defenders and galvanized the Texan will for independence.

1836

SAN JACINTO

66 Texan forces, led by Sam Houston, killed 600 Mexicans in less than half an hour and took Mexican president Antonio López de Santa Anna prisoner. Texas then proclaimed its independence.

1859

SOLFERINO

67 This battle near Lake Garda between Austria and the forces of Napoléon III and Victor Emmanuel II paved the way for Italian independence.

1862

ANTIETAM

68 The bloodiest day of American history, with more than 22,000 casualties, ended indecisively but allowed Union forces to halt Robert E. Lee's advance into Maryland. In the aftermath, President Abraham Lincoln issued his Emancipation Proclamation.

1870

SEDAN

72 Helmuth von Moltke defeated Napoléon III at this decisive battle in the Franco-Prussian War. German forces then advanced westward and laid siege to Paris.

1879

ISANDLWANA

73 A large Zulu army led by King Cetshwayo kaMpande wiped out a much smaller British force.

1904

PORT ARTHUR

74 This surprise attack by Japan on the unprepared Russian fleet in the harbor in Manchuria ended inconclusively but sparked the Russo-Japanese War.

1862

FREDERICKSBURG

69 Robert E. Lee's victory here over Union General Ambrose Burnside did much to restore Confederate morale after the setback at Antietam.

1905

TSUSHIMA

75 The victory of Japan's new warships over Russia's antiquated fleet, only recently redeployed to the Pacific from the Baltic, confirmed the former nation's status as a world power and sparked violent revolution in the latter. Fought in the waters off Korea, Tsushima is the most decisive naval battle of modern times and the first in which radio played a role.

1863

GETTYSBURG

70 In Adams County, Pennsylvania, Confederate forces led by Robert E. Lee attempted to destroy the Unionists led by George Meade. It was the worst battle of the American Civil War, with 50,000 casualties.

1914

SADOWA

71 Aka the Battle of Königgrätz, Bismarck's victory in Bohemia over Austria made the Prussians supreme in Germany.



1914

MARNE

76 This battle—named for the river near which it was fought—was the final effort by France, with assistance from Britain, to prevent the German advance reaching Paris at the start of World War I. After Marshal Joseph Joffre had stopped Helmuth von Moltke the Younger (nephew of the German general who defeated Napoléon in 1870), both sides dug trenches and remained lined up against each other for the next four years.



1914

TANNENBERG

77 In East Prussia at the start of World War I, German forces under Paul von Hindenburg and Erich Ludendorff destroyed two much larger, but poorly equipped, Russian armies.

1915

GALLIPOLI

78 This amphibious assault on impregnable Turkish positions in the Dardanelles was doomed from the start, but the Allies kept it up for eight months, sustaining terrible casualties.

1918 SOMME

79 The Allies planned to drive the Germans out of their trenches on the Western Front with a huge artillery assault. The first day of the battle produced 20,000 British casualties and no territorial gains. The offensive continued for five months and succeeded in pushing the Germans back 6 miles (10km), but at the cost of 300,000 lives.



1918 VERDUN

80 When German chief of staff Erich von Falkenhayn attacked the garrison of Verdun, his stated intention was to "bleed France dry." Marshal Philippe Pétain led the French defense, and the town was supplied by heroic convoys along the "Voie Sacrée." After ten months and more than a million casualties, one-third of them fatal, the Germans abandoned their assault.

YPRES

81 Aka Passchendaele, this Allied assault near Brussels was fought in appalling conditions and cost 500,000 casualties.

1918 MEUSE-ARGONNE

82 In the first major US engagement of World War I, General John J. Pershing made significant gains in the face of German resistance, but at the cost of more than 100,000 US casualties.

1940 ATLANTIC

83 The Battle of the Atlantic was the ongoing Allied marine blockade of Germany, and the German counterblockade of Britain with warships and U-boats.

1940 BRITAIN

84 The first major aerial battle in history was fought over southern England between the Luftwaffe and the Royal Air Force. Britain's victory forced the Nazis to abandon plans for invasion.

1941 LENINGRAD

85 The 874-day Nazi siege was intended by Adolf Hitler to completely destroy the Soviet Union's second city. His plan failed, but not before it had caused more than a million deaths and a total of 3.4 million casualties.

1941 PEARL HARBOR

86 This was the surprise Japanese aerial attack on the US naval base in Hawaii. Four battleships were sunk and three damaged, along with three cruisers and many smaller ships; 2,500 men died. The following day, President Franklin D. Roosevelt declared war on Japan; three days later, the United States took up arms against Germany.



1942 STALINGRAD

87 The decisive battle between the German Wehrmacht, commanded by Friedrich Paulus, and the Soviet Red Army under Marshal Georgy Zhukov, for control of the Volga River basin and access to the Caucasus oil fields. The Germans drove the defenders back to the banks of the river, but the city did not fall, and the Red Army regrouped and surrounded the Germans in the ruined downtown area. Paulus disobeyed Hitler's orders and surrendered.



1942 MIDWAY

88 This decisive victory for the US Navy under Chester Nimitz enabled American forces to start attacking Japanese positions in the Pacific Islands.

1942 EL ALAMEIN

89 This Allied tank victory in the Egyptian desert was described by Churchill as "the end of the beginning" of World War II.

1942

GUADALCANAL

90 This battle on the Solomon Islands was an early Allied success in the land war against Japan. After US forces seized the airport in August, jungle fighting ensued, plus naval encounters as both sides sent in reinforcements. In February 1943 the Japanese fled the island.



KURSK

91 This battle, 300 miles (480km) southwest of Moscow, involved 6,000 tanks and two million troops. A Wehrmacht attack was repulsed by the Red Army, which then embarked on a Soviet advance that ended two years later in Berlin.

1944

D-DAY

92 The largest amphibious attack in history, the Allied landings on five Normandy beaches—code-named Utah, Omaha, Gold, Juno, and Sword—opened a western offensive against Hitler's Germany. Commanded by US General Dwight D. Eisenhower, Operation Overlord involved 156,000 troops, 3,000 naval vessels, and 13,000 aircraft. While infantry on four of the beaches met only light opposition, US forces at Omaha beach were fiercely resisted. By day's end the beachhead was established. The town of Bayeux was liberated shortly afterward, but Caen, a major D-Day objective, held out for another month.

1944

NORMANDY

93 After D-Day, Allied advances through the *bocage* (hedgerow country) were slow, but gradually the German army was encircled at Falaise and destroyed by mid-August.

LEYTE GULF

94 This attack, led by General Douglas MacArthur, on Japanese positions in the Philippines, gave the USA a launchpad to win the Pacific war against Japan.

ARDENNES BULGE

95 The final German assault of World War II. The Wehrmacht counterattack in Belgium and Luxembourg almost broke Allied lines, but a lack of supplies forced them to withdraw.

1950

INCHON

96 The UN invasion of Korea, led by US General Douglas MacArthur, liberated Seoul and resulted in partition of the country.

1954

DIEN BIEN PHU

97 This offensive against the French in northern Vietnam by nationalists resulted in the European colonialists' withdrawal from Indo-China.

1968

TET OFFENSIVE

98 This surprise attack by the North Vietnamese on targets throughout the country marked a major change in attitudes to the Vietnam War: the North despaired when its offensive failed while the South lost faith in the ability of the United States to protect it.



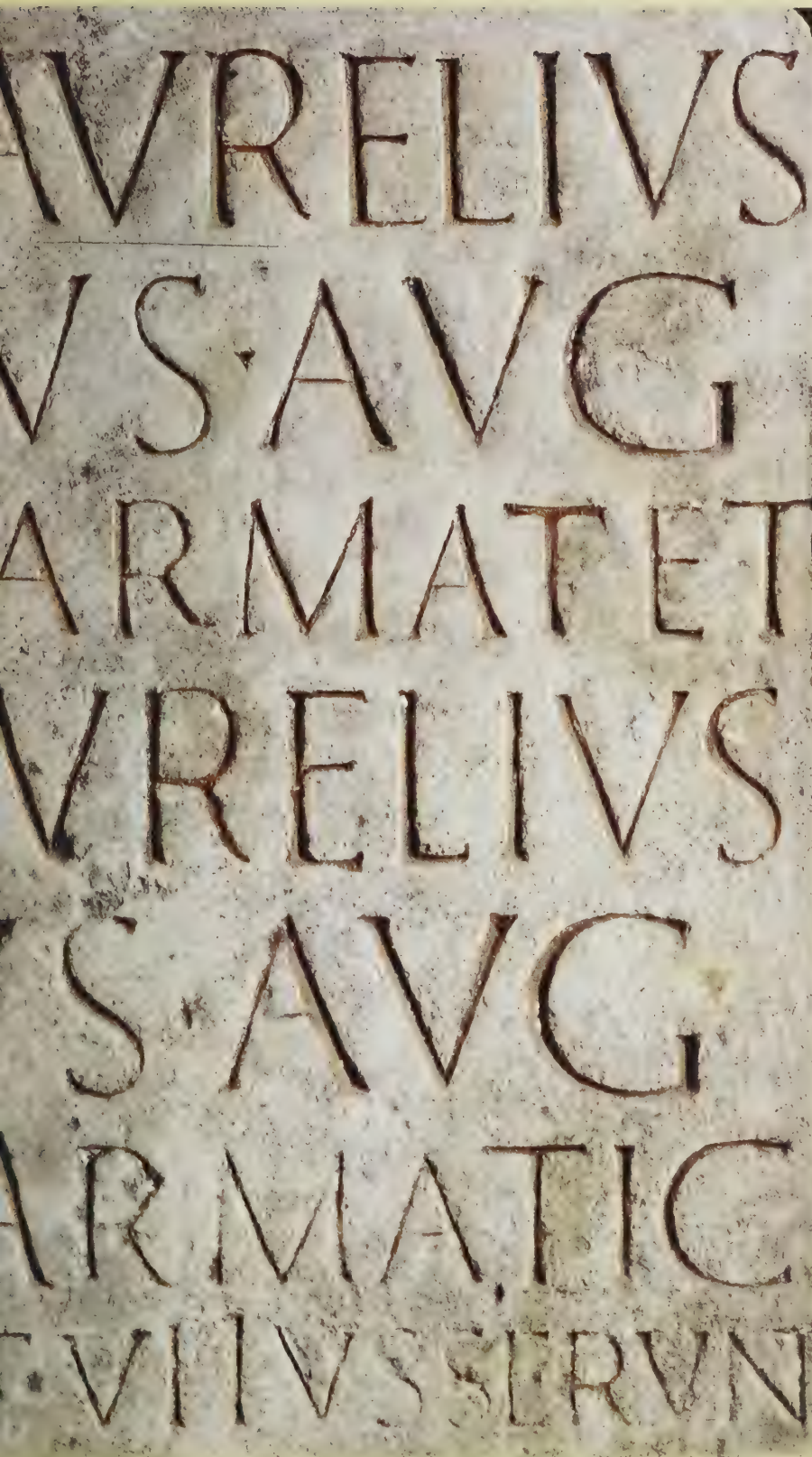
GOOSE GREEN

99 The foremost battle of the Falklands War, in which Britain banished the military forces of Argentina that had occupied the South Atlantic islands.

FALLUJAH

100 After the invasion of Iraq, US forces bombarded this city on the Euphrates River in Operation Phantom Fury, an effort to drive out Islamist insurgents. The city, which had initially welcomed the coalition forces, was devastated.

IMPCAESARM
ANTONIN
GERMANICVS
IMPCAESARLA
COMMODY
GERMANICVSS
HOSLAIDESCONST



SOCIETY & PHILOSOPHY

It's the thoughts that count—whether it is universal suffrage or fair trade, now-familiar concepts all began as someone's idea. Explore how philosophical, religious, economic, and psychological ideas dismantle barriers and open new horizons in the social sciences, whereas other notions have been weighed in the balance, found wanting, and have become popular logical fallacies. Assess how the theories of great thinkers such as Karl Marx still influence society today, examine the significance of your dreams, learn the meaning of symbols, and marvel at the myths and legends humankind has invented to make sense of the world.

◀ A border stone from the second century that delimited the city toll gates of Rome.



fl. c. 850 BCE

HOMER

1 The blind poet who narrated the epic tale of the Trojan War and its aftermath in the *Iliad* and the *Odyssey* may not even have existed. As for the works themselves, they are keystones of Western literature, both in terms of their narrative and style, and have inspired writers from William Shakespeare to James Joyce.

fl. c. 600 BCE

THALES OF MILETUS

2 One of antiquity's "Seven Wise Men," Thales marks the birth of Western philosophy, according to Bertrand Russell, while Aristotle saw him as the earliest philosopher in the Greek tradition. He was one of the first thinkers to seek natural causes behind natural phenomena rather than attribute them to supernatural forces.

fl. c. 600 BCE

AESOP

3 A storyteller and former slave, Aesop composed the series of moral tales known as *Aesop's Fables*. Familiar for centuries as children's stories, these allegorical myths also offered coded criticisms of the state at a time of authoritarian rule in Greek history. Aristotle even advocated using a fable to support a point in argument.

fl. c. 550 BCE

ANAXIMANDER

4 Most probably a student of Thales of Miletus, Anaximander was reportedly the first person to create a map of the world. Unlike Thales, who thought that water was the primary substance in creation, Anaximander argued that everything in the universe derived from a limitless primordial entity that he named apeiron ("unbounded" or "infinite"), which he believed unified all nature.

fl. c. 500 BCE

SIDDHARTHA GAUTAMA

5 The founder of Buddhism, who quit his palace to seek out how to relieve universal suffering. After six years of study, he saw that the key to enlightenment (nirvana) lay in avoiding extremes and living a balanced life—which he called the "Middle Way." His teachings are known as "the Dharma."

100 GREAT THINKERS

551–479 BCE

CONFUCIUS

6 This ancient Chinese founder of the Ru school of thought taught the concept of "ren"—compassion and love for others, from family to wider society. He proposed self-discipline via study and achieving "li"—respect for tradition and superiors and fulfilling one's role in society. His political philosophy advocated that rulers should lead by example.

fl. c. 400 BCE

KAPILA

7 One of the founders of Samkhya philosophy, and in some sources an incarnation of Vishnu, Kapila was a Vedic sage. In the works commonly attributed to him, *Samkhya Pravachan* and *Tatvsmas*, he outlined the basic tenets of the faith. The doctrine of Samkhya proposes that humanity suffers from three kinds of misery: that caused by oneself; that caused by the elements; and that caused by supernatural forces. Their resolution is seen as humanity's abiding goal.

fl. c. 400 BCE

LAOZI

8 According to tradition, Laozi ("Old Master") was the author of the *Tao Te Ching* and founder of Taoism (or "Daoism"), a fundamental strand of Chinese thought with Buddhism and Confucianism. The term "Tao" is a reference to the essence and origin—the "way"—of the universe. *Tao Te Ching* explores this in terms of "de" ("virtue"), in particular through the somewhat fluid concepts of "naturalness" and "nonaction."

fl. c. 545 BCE

ANAXIMENES OF MILETUS

9 This ancient Greek philosopher believed that air was the source of all things: that condensed, it becomes water and by rarefaction it becomes fire. He also believed air was divine and created life.

fl. c. 500 BCE

HERACLITUS

10 A Greek thinker whose key ideas were that things are in constant change, that fire is the basic substance of the world, and that apparently contrary states are actually connected.

fl. c. 500 BCE

PARMENIDES

11 The founder of Eleatic philosophy, which advocated monism—that the world is all one fundamental reality ("being"). Contrary to Heraclitus's concept of eternal flux, Parmenides argued that change was impossible and that our senses could not lead us to "truth." He is considered one of the founders of metaphysics for these theories.

fl. c. 300 BCE

SUN TZU

12 Also known as Sun Zi, this Chinese general is traditionally regarded as the author of *The Art of War*, the earliest recorded treatise on war-making. The tactics it describes have been used by strategists from Mao Zedong to Donald Rumsfeld.

ZENO OF ELEA

13 A member of the Eleatic school, Zeno was regarded by Aristotle as the father of dialectics (logical argument). He is best known for devising paradoxical situations that were designed to hone logical and mathematical rigor.

EMPEDOCLES

14 Empedocles stood apart from earlier thinkers who assumed the world to be comprised of one element. Instead, he proposed four "roots": earth, air, fire, and water. He argued that the divine forces of "love" and "strife" were the source of all change.

DEMOCRITUS

16 With Leucippus, Democritus founded ancient atomist theory, which stated that the world consists of tiny, indestructible bodies in a void.

XENOPHON

17 This prolific writer's *Memorabilia* and *Apology* provide, along with Plato's accounts, the basis for our knowledge of Socrates. Xenophon provided detailed accounts of ancient Greece and was a pioneer in literary genres including history, military writing, and biography.

MENCIUS

20 A major interpreter of Confucius, Mencius proposed that humanity is inherently good and that while this quality can be diminished through neglect, it cannot be destroyed altogether.

SOCRATES

15 A pivotal figure in Western philosophy, known mostly through the writings of Plato, Aristophanes, and Xenophon. Socrates evolved a pedagogic form of learning: the teacher questions the student in a way intended to elicit an informed answer. Plato's *Apology* accords him the line "The unexamined life is not worth living." The Socratic method is a system of inquiry whereby hypotheses are improved via a logical progression of questions to eliminate those that result in contradictions. His advocacy of independent thought proved too radical for the Athenian authorities, however: found guilty of corrupting the city's youth, he was sentenced to commit suicide by swallowing poison.



PLATO

18 A student of Socrates and the teacher of Aristotle, this high-born Athenian practiced a rigorous, provocative, and hugely influential strand of philosophy. His best-known work is the *Republic*, which—through a series of dialogues—develops a proposal that the sensory world is an illusory and pale imitation of the true, eternal world of "forms." The term "Platonic love" describes a longing for the highest form of beauty.

ARISTOTLE

19 Although he studied with Plato, Aristotle rejected the Platonic concept of eternal, immaterial "forms," arguing instead that a form was an inextricable part of the material object. Aristotle also believed that the Prime Mover (or God) was pure form, however. He pioneered a system of solid reasoning based on logic, arguing that an individual's moral virtues should evolve from this process and that the highest human good resulted from rational thought. Aristotle also believed that a hypothesis must be based on fact and emphasized the importance and value of observation from nature.

ZHUANGZI

21 A formative figure in Taoist philosophy. His text the *Zhuangzi*, a collection of fables and tales edited by Guo Xiang—who also provided a highly influential commentary—was important in the development of Buddhism in China.

EPICURUS

22 This Hellenistic thinker rejected both the gods and Plato's idea of the soul, arguing that we know the world through our senses alone. He believed the purpose of life to be the pursuit of pleasure, but saw this as indivisible from living wisely and justly.

ZENO OF CITIUM

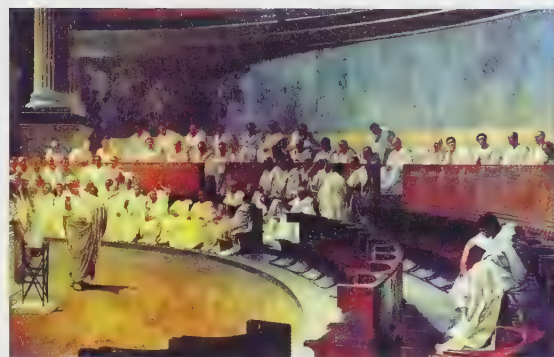
23 The founder of Stoicism held that we conquer the world by conquering our passions (wisdom via asceticism) and that meditation brings tolerance both to pain and pleasure.



c. 300 B.C.

EUCLID

24 The most significant mathematician of the ancient Greco-Roman world, Euclid was a teacher during the time of Ptolemy I's rule in ancient Egypt. After intense research at Alexandria's famous library, he produced a pivotal, 13-book treatise on mathematics, *The Elements*. This led to his being dubbed the "father of geometry," although he addressed a wealth of other subjects in the text, including algorithms and prime and irrational numbers. At the core of the treatise were ten statements, or axioms, that he felt could be unequivocally accepted. Five related to mathematics in general, five specifically to geometry, and Euclid termed them his "postulates." His rigorous logic—accepting no theorem without incontrovertible proof—has proved an enduring influence on Western philosophy.



c. 106–43 B.C.

CICERO

25 A leading figure during the twilight years of the Roman Empire for whom philosophy's role was to inform politics. St. Augustine recorded that Cicero's *Hortensius* (now lost) led him to take up philosophy and, ultimately, find God—although Cicero saw himself as a conduit for the work of earlier Greek philosophers and acknowledged his sources. A redoubtable orator, he devised what is known as Ciceronian rhetoric.

c. 127–50 B.C.

PTOLEMY

26 This important geographer and astronomer proposed a model of the universe with Earth at its center, subsequently known as the Ptolemaic system.

c. 130–c. 210

GALEN

27 Born in Greece, Galen became the most famed physician of the Roman Empire. His ideas built on those of Hippocrates, but also philosophers such as Plato and Aristotle.

c. 160–c. 220

TERTULLIAN

28 By introducing ecclesiastical Latin, this early Christian theologian had a long-term influence on his religion. Controversially, he abandoned the orthodox faith to join the rigorous Montanist sect.

c. 204–270

PLOTINUS

29 The founder of Neoplatonism, his work also drew on Stoics and Neopythagoreans.

PORPHYRY

30 The Neoplatonic philosopher who assembled the *Enneads*, the sole collection of Plotinus's writing.



354–430

ST. AUGUSTINE

31 Augustine applied reasoned argument to religious concepts, fusing Neoplatonism with early Christian doctrine—a cornerstone of Western philosophy. He believed in the fundamental importance of will and that humans bore moral responsibility for their actions, but he also thought that the course of our lives was predestined.

c. 370–415

HYPATIA

32 Daughter of the scholar Theon, Hypatia was a gifted Neoplatonist philosopher and mathematician.

780–855

AHMAD IBN HANBAL

33 A champion of orthodox Islam, Ibn Hanbal was a Muslim theologian who founded the Hanbali school of law.

980–1037

AVICENNA

34 This Persian polymath strove to reconcile theology with Greek philosophy. His ideas influenced medieval Islamic thought.

ST. ANSELM

35 Seen as the father of scholasticism, this leading Christian theologian and Archbishop of Canterbury devised "ontological argument" to explain God's existence.

AL-GHAZALI

36 An important Sunni jurist, mystic, and theologian; Al-Ghazali's contribution to Islamic thought was partly influenced by ancient Greek philosophy.

AVERROES

37 This Islamic thinker's commentaries on Plato and Aristotle resonated with Muslims and Christians alike.

MOSES MAIMONIDES

38 Perhaps the foremost medieval Judaic philosopher, although he also drew on Arab and Greco-Roman thought, Maimonides wrote studies on Jewish law, notably *The Guide for the Perplexed*.

DŌGEN

39 A pivotal Japanese Soto Zen Buddhist known for his rigorous philosophical stance, Dōgen saw seated meditation as the manifestation of enlightenment itself, a state both of becoming and being. His key work is the *Treasury of the Eye of the True Dharma*.

BLESSED JOHN DUNS SCOTUS

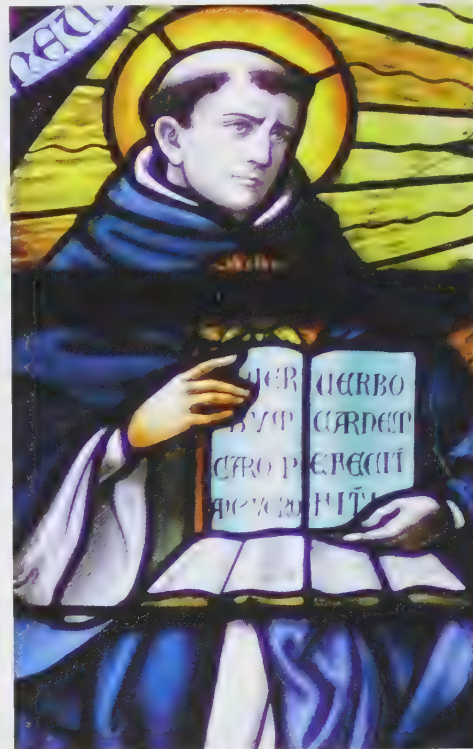
41 The founder of Scotism, this gifted Franciscan priest was dubbed the "Subtle Doctor" for his nuanced, insightful manner.

WILLIAM OF OCKHAM

42 A Franciscan friar, William devised the principle of "Occam's razor": when faced with competing hypotheses, choose that which has the fewest assumptions.

ST. THOMAS AQUINAS

40 This Dominican theologian and philosopher was a major intellect of the Middle Ages. Influenced by Aristotle, scholasticism, and the teachings of Avicenna, Aquinas strove to reconcile faith (theology) and reason (philosophy). He believed that faith and reason were compatible, as both stemmed from God, and that faith could guide reason while reason could focus and clarify faith. Aquinas also argued that the laws of state stemmed from human nature itself and that adherence to them would ultimately lead to the soul's salvation. His most important work is the unfinished *Summa Theologica* (1265–74), in which he brings together the main theological beliefs of the Catholic Church and proposes five logical arguments to prove the existence of God rationally, known as the "five ways."



NICCOLÒ MACHIAVELLI

43 In *The Prince* (1513), his key work, this former Florentine politician offered practical advice on how to rule a city. The book's central tenet is that a prince must demonstrate his strength and quash resistance, even if this entails resorting to subterfuge and treachery. Political stability, not moral approval, should be his goal.



MARTIN LUTHER

44 This German theologian's attacks on corruption in the Catholic Church (*Ninety-five Theses*, 1517) kick-started the Reformation. His vernacular translation of the Bible into German made it accessible to ordinary people and helped to foster a sense of national identity.

JOHN CALVIN

45 A French pastor and theologian; Calvin's sermons, letters, and works—notably *Institutes of the Christian Religion*—made him a key architect of the Protestant Reformation. He vigorously defended the primacy of Scripture over rationalism.

1547–1597
FRANCISCO SUÁREZ

46 A Jesuit theologian and scholastic philosopher, Suárez was a leading figure of the School of Salamanca.



1883–1958
TAKUAN SŌHŌ

47 This prominent Rinzai Zen Buddhist priest was a prolific writer. His best-known work is the treatise *The Unfettered Mind*.

1584–1633
SIR ROBERT FILMER

48 An English theorist, Filmer defended divine right, notably in *Patriarcha, the Natural Power of Kings*.

1588–1679
THOMAS HOBBS

49 An English political philosopher, Hobbes's key work is the pro-monarchy *Leviathan*.



1596–1650
RENÉ DESCARTES

50 Descartes broke with scholastic-Aristotelian philosophy to evolve metaphysical skepticism—start by doubting all beliefs and then determine those you can establish as true. In *Discourse on the Method*, he divined self and thought as inseparable (“I think, therefore I am”). He insisted that knowledge of the world relied both on sensual perception and mental deduction and evolved the concept of “dualism”: the mind controls the body, but the body can also influence the mind. Descartes influenced Locke and Spinoza, among others.

1623–62
BLAISE PASCAL

51 A prominent mathematician, inventor, and physicist, Pascal was a pioneer in many fields, including hydraulics, probability, and game theory. He was also a religious philosopher, his reputation resting on the posthumous *Thoughts of M. Pascal on Religion and on Some Other Subjects* (1670), in which he defends Christianity and suggests that truth is known not just through reason but also through the heart.

1632–1704
JOHN LOCKE

52 The author of *An Essay Concerning Human Understanding* (1689)—a defense of empiricism (the theory that knowledge must come from experience)—was also staunchly antiauthoritarian. In *Two Treatises of Civil Government* (1690), he proposed the theory of natural law and argued for the legitimate ousting of despotic governments.

1646–1716
GOTTFRIED WILHELM LEIBNIZ

53 A prominent philosopher and mathematician, Leibniz was a pioneer in the discovery both of calculus and binary arithmetic.

1685–1753
GEORGE BERKELEY

54 This British empiricist evolved the concept of immaterialism, summed up in the aphorism “To be is to be perceived.”

1711–76
DAVID HUME

55 British empiricist and founder of the Scottish Enlightenment, Hume evolved a moral theory based on empathy and the emotions rather than either logic or religion. His *An Enquiry Concerning Human Understanding* (1751) advocates skepticism and rejection of dogma as the rational way to interpret the world. He was a notable influence on Adam Smith and Immanuel Kant.

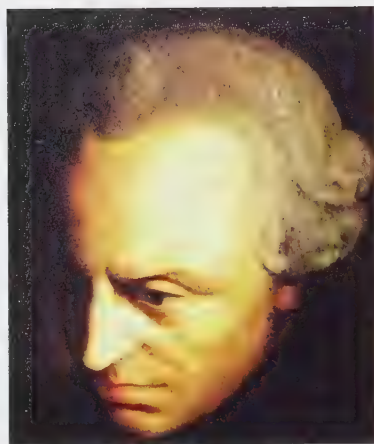


1712–78
JEAN-JACQUES ROUSSEAU

56 In *Discourse on the Origin of Inequality* (1755), Rousseau argues that humanity is good at heart but becomes corrupted by historical events. He believed in collective “good will”—citizens must set aside self-interest and cooperate—while in *The Social Contract* (1762), he outlines ways in which government can function and protect its citizens.

ADAM SMITH

57 A Scottish political economist and moral philosopher, Smith's best-known work, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776), prepared the way for the rise of free trade in the nineteenth century.



IMMANUEL KANT

58 A prominent figure in the Enlightenment, Kant was also one of the architects of modern philosophy. He drew both on empiricist and rationalist traditions to synthesize a new system of thought in a radical shift of perspective that he referred to as his "Copernican Revolution." Kant termed this new philosophical synthesis "transcendental idealism"—"transcendental" to indicate separateness from experience, and "ideal" to imply a dependence on ideas and the mind. He argued that the answer to philosophical questions lay not in speculation about the universe but in contemplation of one's own faculties—that rather than passively receiving experiences, the mind actively shapes our perceptions. Kant's main works include *Critique of Pure Reason* (1781), *Critique of Practical Reason* (1788), and *Critique of Judgment* (1790).

JEREMY BENTHAM

59 This British utilitarian thinker argued that any act must achieve the greatest good for the most people.

JOHN STUART MILL

62 A utilitarian philosopher and social theorist, Mill promoted women's rights, compulsory education, and individual liberty. His best-known work, *On Liberty* (1859), was co-written with his wife.

SØREN KIERKEGAARD

63 Denmark's "father of existentialism" saw resolute faith in God as the way to escape despair, ennui, and anxiety.

GEORGE BOOLE

64 The legacy of Boole's application of algebraic methods to logic persists today in computer programming. His key works include *The Mathematical Analysis of Logic* (1847).

1770–1831

G. W. F. HEGEL

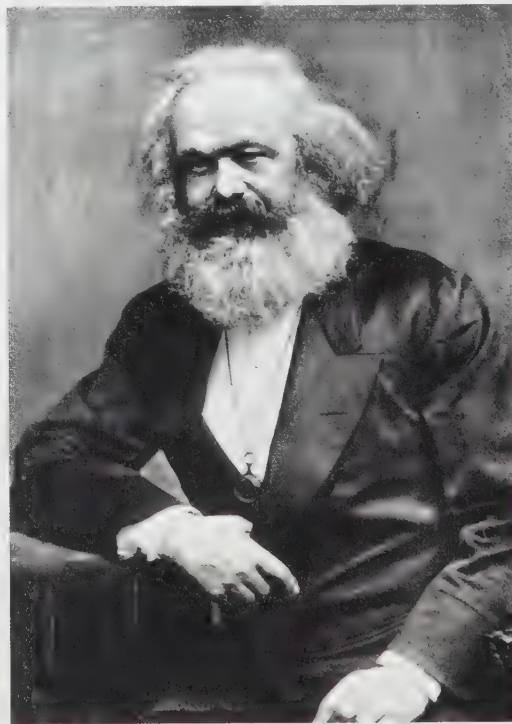
60 A German idealist, Hegel believed in the interrelatedness of things. He applied his dialectic (broadly: positive-negative synthesis) both to nature and to history.

AUGUSTE COMTE

61 This French proto-sociologist was also the founder of positivism, which held that only direct sense experience and the employment of scientific method could lead to true knowledge.

KARL MARX

65 The most important socialist thinker of the nineteenth century. In *The Communist Manifesto* (1848, coauthored with Friedrich Engels) and *Das Kapital* (1867), Marx created the blueprint for economic and social revolution in the twentieth century. Both works castigated capitalism, placing class struggle at the heart of human history. Marx argued that only with the victory of the working classes would this strife end, with the collapse of capitalism and communism victorious.



WILLIAM JAMES

66 Straddling both philosophy and psychology, pragmatist James penned the groundbreaking *Principles of Psychology* (1890).

FRIEDRICH NIETZSCHE

67 A nihilist to some, to others, a radical who redefined morality, Nietzsche envisaged the fall of organized religion ("the death of God")—obliging humanity to achieve self-realization.

1848–1925

GOTTLOB FREGE

68 A major figure in the fields of modern logic and modern analytic philosophy.

1849–1936

IVAN PAVLOV

69 Pavlov's pioneering study of conditioned reflexes was to have considerable implications for behaviorism.

1858–1917

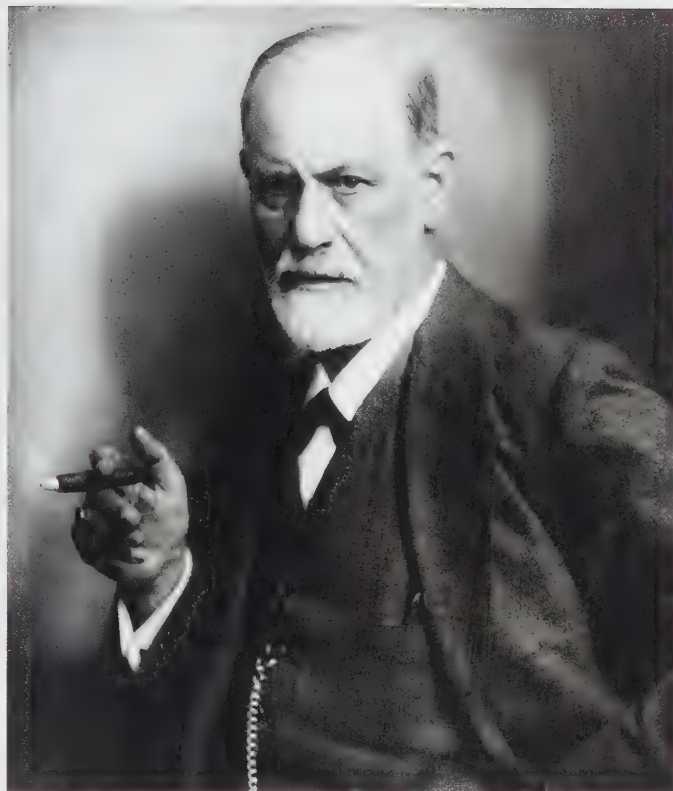
ÉMILE DURKHEIM

71 This leading figure in French sociology proposed the scientific study of human societies.

1858–1939

SIGMUND FREUD

70 Commonly regarded as the founder of psychoanalysis, Freud evolved groundbreaking theories about the subconscious that still arouse controversy today. His most important work *The Interpretation of Dreams* (published in 1899 but dated 1900), proposes that analysis of dreams can reveal our unconscious desires and argues that sexual drives lie behind many of our neuroses. The book also introduces his concept of the "Oedipus complex," which postulates that a child is subconsciously attracted to the parent of the opposite sex and exhibits hostile feelings to the parent of the same sex. In *Beyond the Pleasure Principle* (1920), Freud revised his earlier hypothesis that the libido dominated our actions, suggesting that it was also balanced by a competing death instinct.



1859–1938

EDMUND HUSSERL

72 The primary founder of phenomenology—a school of thought concerned with investigating objective phenomena as experienced from a first-person, subjective point of view. In later life, he questioned whether external phenomena exist at all outside our consciousness.

1859–1952

JOHN DEWEY

73 A major educational reformer, Dewey was also a social critic and founder of the philosophical school of pragmatism.

1870–1945

NISHIDA KITARŌ

74 Perhaps the most important Japanese philosopher of the twentieth-century Kyoto school, Nishida synthesized oriental spiritual and occidental philosophical traditions.

1872–1970

BERTRAND RUSSELL

75 Working within the rationalist tradition of Hume and Locke, Russell explored mathematical logic and analytic philosophy and wrote *A History of Western Philosophy* (1945). He was also a social reformer and antiwar protester.

1873–1961

CARL JUNG

76 Jung broke with Freud over the latter's theories of infantile sexuality. While both men proposed the concept of a subconscious, Jung developed the idea of a collective subconscious shared by all humanity, seen in common cultural "archetypes," as outlined in his *Psychology of the Unconscious* (1912).

1883–1946

JOHN MAYNARD KEYNES

77 Hugely influential, Keynes's economic ideology included active government spending, and deliberate policy-making as a means of reviving slow economies.

1889–1951

LUDWIG WITTGENSTEIN

78 Abandoning formal theorizing and the idea of philosophy as a science, Wittgenstein thought that philosophical problems stem from misunderstandings about the logic of language. His last work was the pivotal *Philosophical Investigations* (1953).

MARTIN HEIDEGGER

79 As an existentialist and phenomenologist, Heidegger concerned himself with the "question of being." He opposed technological world domination and positivism (and so influenced Lyotard, Derrida, and Foucault) and saw Western philosophy as nihilistic. His main work, the Aristotelian *Being and Time* (1927), explores the concept of "Dasein," which Heidegger interprets not purely as "existence" (something even inanimate objects do) but a human being's awareness of the meaning of his or her existence.



KURT LEWIN

80 The "father of social psychology," Lewin studied group dynamics and developed a three-stage model to describe how change works.

MAX HORKHEIMER

81 A leading member of the Frankfurt school, Horkheimer carried out research in Marxist-oriented critical theory.

MORTIMER J. ADLER

83 Educational theorist who championed classic philosophy and literature from the Western canon.

THEODOR W. ADORNO

84 A prominent sociologist influenced by Marx, Hegel, and Nietzsche; Adorno's prime concern was the impact of modern society on humanity.

B. F. SKINNER

85 One of the foremost psychologists of the century, Skinner pioneered behaviorism. He originated the concept of "operant conditioning"—the idea that behavior is determined by its consequences, which also determine the likelihood of the behavior being repeated.



JEAN PIAGET

82 Over a lengthy career devoted to genetic epistemology (the origins of thinking), Piaget helped to create several new fields, including developmental psychology and cognitive theory. He identified four stages of cognitive growth in children and identified "schema"—conceptual frameworks that children regularly update as they take in new information about the world.

KARL RAHNER

86 This outstanding Jesuit theologian was known for his rigorous and systematic approach.

AYN RAND

87 In nonfiction and best-selling novels, including *Atlas Shrugged* (1957), Rand advocated a philosophy of self-interest that she termed "objectivism."



HANNAH ARENDT

89 This political scientist and philosopher wrote widely on authority, liberty, revolution, and modernity. Her controversial work *Origins of Totalitarianism* (1951) examined the means by which the Stalinist and Nazi regimes evolved. *Eichmann in Jerusalem: A Report on the Banality of Evil* (1963) posited that the Nazis' monstrous acts were carried out by ordinary individuals who prized obedience above even morality.

JEAN-PAUL SARTRE

88 In all of Sartre's writing—notably *Being and Nothingness* (1943)—he explored basic existentialist issues such as alienation, personal responsibility, and art as a means of salvation. He argued that in a world without God, humanity must make meaning for itself—we create our own destiny.

1907–94

FREDERICK CHARLES COPLESTON

90 A scholar and Jesuit priest, Copleston was the author of the nine-volume text *A History of Philosophy* (1946–74).

A. J. AYER

92 In his most famous work *Language, Truth and Logic* (1936), this British humanist became the first writer to present an outline of logical positivism in the English language. Ayer remained a devoted empiricist.

THOMAS MERTON

93 A highly influential Catholic mystic, writer, and monk, Merton was active as a civil rights campaigner in the 1960s. He also studied, and wrote about, Zen Buddhism.

SIMONE DE BEAUVOIR

91 Although she was a prolific writer in many fields, including fiction, De Beauvoir is best known as a feminist theorist. Her core work, *The Second Sex* (1949), is a pivotal analysis of patriarchy and the way its systems work to force women into passive and submissive roles. It proved highly controversial and was even placed on the Vatican's index of forbidden books. De Beauvoir never intended her book to be exclusively about sexuality, however, seeing it also as a philosophical and political piece. She and her partner, Jean-Paul Sartre, moved in a circle of existentialists, but she knew the work of Husserl and Heidegger (phenomenology) and Kant and Hegel (idealism) and also drew on the writings of Descartes.



b. 1929

JÜRGEN HABERMAS

98 Drawing on critical social theory, Habermas focuses on politics and "communicative rationality" (rational behavior stems from effective communication).

ALVIN PLANTINGA

99 Perhaps today's leading Christian philosopher, Plantinga's interests include metaphysics and epistemology as well as religion. He argues that religious belief does not require external justification. His works include *God, Freedom, and Evil* (1974).

JOHN RAWLS

94 A key political philosopher, Rawls advocated a theory of "justice as fairness." He reinvigorated the concept of a social contract in his landmark *A Theory of Justice* (1971) and strove to reconcile religious and cultural diversity within a unified democracy in *Political Liberalism* (1993).

THOMAS S. KUHN

95 In *The Structure of Scientific Revolutions* (1962), Kuhn saw the course of scientific progress as a sequence of "normal" phases alternating with brief "revolutionary" bursts that signal truly significant advances. He coined the phrase "paradigm shifts" for the latter.

MICHEL FOUCAULT

96 This French structuralist and poststructuralist explored themes of the individual versus the power of society, why we subjugate ourselves to rules, and technologies of power. His key work is *Discipline and Punish: The Birth of the Prison* (1975).

NOAM CHOMSKY

97 An American linguist and political and analytical philosopher, Chomsky's key contribution to linguistics is "transformative-generative grammar," an attempt to describe mathematically the syntactical processes shared by all human languages.

DAVID CHALMERS

100 A cognate scientist and philosopher in linguistics and the mind, Chalmers is best known for raising the question of the "hard problem" of consciousness: why do we experience feelings when we take in sensory information? Or, in his own words, "Why should physical processing give rise to a rich life at all?"



c. 1500 BCE

NATURE OF TIME

1 The concept of time may be traced back to at least the account given in the Vedas, which are texts containing some of the oldest Sanskrit, as well as the earliest records of Hinduism. Time is measured in relation to a cosmos that passes through cycles for all eternity.

c. 600 BCE

ALL IS WATER

2 Thales of Miletus in Asia Minor is sometimes known as the Father of Western Philosophy. He tried to give an account of natural phenomena through argument and observation—as opposed to the Greek mythologists, who told stories of gods and magic to explain things—and attempted a metaphysical (going beyond the physical) explanation for the nature of reality by positing that everything in the universe is water in some way, shape, or form. His unprecedentedly rigorous approach influenced all subsequent pre-Socratic philosophers.

c. 500 BCE

ETERNAL FLUX

3 Pre-Socratic Greek philosopher Heraclitus of Ephesus supposedly once said “No one can step in the same river twice” to emphasize the fact that all of reality is constantly in motion, always changing, and unstable. Anything that appears to be at rest, unchanging, or stable is just that: appearing to be thus. Heraclitus used several arguments to support his conjectures, and here we have one of the first attempts in Western philosophy to use reason, rather than sense experience, to explain reality.

100 PHILOSOPHICAL IDEAS

c. 480 BCE

ETERNAL STASIS

4 Rejecting Heraclitus, Parmenides of Elea contended that reality is unmoving, unchanging, and stable. There are only two possible conditions—being and not being. What we perceive as “change” is merely a reshuffling of existent matter; there is no new thing under the sun.

c. 480 BCE

NOTHINGNESS

5 Having postulated eternal stasis, Parmenides upset the apple cart by stating that anything we think of must exist, ipso facto.

c. 400 BCE

EXISTENTIAL NIHILISM

6 This turns a minus into a plus: existence has no purpose, but we have the freedom and the power to invest it with meaning.

c. 400 BCE

THE SOCRATIC METHOD OF QUESTIONING

7 This form of inquiry is based on asking and answering questions in order to stimulate critical thinking, illuminate ideas, and ultimately—by the systematic elimination of untenable theories—to arrive at truth.

c. 400 BCE

DIVINE COMMAND THEORY DILEMMA

8 If everything we do and everything that happens are preordained by an almighty being, do we have free will? And how do we account for actions and events that seem evil?

c. 450 BCE

MAN IS THE MEASURE OF ALL THINGS

9 Plato attributes this claim to Protagoras of Abdera: that there is no absolute truth about anything and that everything is a matter of opinion and open to debate. Protagoras was a sophist—a term that has since become intellectually disreputable.

c. 300 BCE

MATERIALISM

10 A term that has come to mean the desire for possessions was originally a philosophical concept, propounded by, among others, Epicurus and Democritus, that everything is composed of matter—not just tangible objects, but also notions and emotions, concepts and dreams. Some parts of the theory have been rejected, but a substantial core of it bears a remarkable resemblance to modern atomic theory.

c. 300 BCE

CYNICISM

11 The fundamental tenet of cynicism is that a good life—one of reason, self-sufficiency, and freedom—can be led without wealth, power, fame, or any of their trappings. The first cynics were Antisthenes (a pupil of Socrates) and Diogenes of Sinope.

c. 300 BCE

DETERMINISM

12 This is the notion that everything is as it is because it could not possibly be any other way. This may be easy enough to accept with natural phenomena, but people have greater difficulty in accepting that determinism may also govern their actions.

PHILOSOPHICAL REALISM

13 Plato was the first Western thinker known to have offered sustained arguments for philosophical realism, which is the idea that abstract concepts and universal abstracts, such as "virtue" or "sin," exist in exactly the same sense as tangible objects—that they all have an objective reality and are completely independent of our perceptions, beliefs, and/or ideas. For example, Plato would have regarded the concept of "goodness" as every bit as real as the philanthropic deeds that goodness may inspire.

UNIVERSAL V. PARTICULAR

15 A universal is something that all members of a group have in common—all chairs are for sitting in. Meanwhile, a particular is something that some chairs may have (a certain size or color, for example) but not all of them have. Only when we can guarantee that there are no particulars can we proclaim a universal.

MORAL ABSOLUTISM

16 This is the belief that moral laws, such as the biblical Ten Commandments, are objective and immutable for all time.

ABSOLUTE POWER CORRUPTS ABSOLUTELY

17 This is a nineteenth-century one-liner, but Socrates warned Plato against excessive fame and fortune.

FORMS

14 According to Plato, there are objective, unchanging, universal qualities that make everything what it is and cause it to be thus perceived from the outside. Plato called these qualities "forms." He contended that they occupy primarily an intellectual realm and that they can be shown to exist only through rational argument. There is a singular form for everything that exists—all cats are what they are because of their "catness"; all tables are what they are because of their "tableness," and so on.



KNOWLEDGE AS JUSTIFIED TRUE BELIEF

18 To know something, you must believe it, it must be true, and you must be able to justify its truth with evidence.

SPACE

19 Plato envisioned a great receptacle in which everything exists and moves, and a godlike being, the Demiurge, that constructed the universe from chaos.

INFINITY

20 Aristotle discussed the possibilities of space without bounds and of time without beginning or end, both of which capture the notion of infinity.



REST AS THE NATURAL STATE OF THINGS

21 Aristotle would codify this position for nearly 2,000 years until Galileo and other philosophers and scientists at the beginning of the scientific revolution argued that things are naturally always moving until stopped by something else.

PERFECTION

22 Aristotle defined perfection as completeness, but from his philosophy we gather that it also entails the idea of something having achieved its purpose. He thought that one being—a kind of god—had attained its purpose completely and that all other things imitate this purpose-driven activity.

CATEGORICAL LOGIC

23 "All humans are mortal; Socrates is human; therefore, Socrates is mortal." This is an example of a syllogism, a kind of reasoning about categories of things that was essentially invented by Aristotle. Categorical logic would dominate Western and Islamic thinking until well into the nineteenth century.

c. 350 BCE

WHICH CAME FIRST: THE CHICKEN OR THE EGG?

24 Aristotle held that the nature of the bird was in both, so the order of appearance was irrelevant.

c. 350 BCE

TELEOLOGY

25 This is the determination and study of the purpose of everything in the universe.



c. 350 BCE

THE FOUR CAUSES

26 Aristotle taught that everything requires an efficient cause, a material cause, a formal cause, and a final cause. For example, the efficient cause of a knife is the knife-maker; the material cause is the steel from which it's made; the formal cause is its shape; its final cause is to cut.

HYLOMORPHISM

27 This idea—best put forward by Aristotle—is that everything is composed of matter and form (that which makes something be, and be known as, what it is). Hylomorphism also entailed an efficient principle or cause (that by which something exists) and a final cause (that for which it exists, its purpose).

c. 350 BCE

OCCAM'S RAZOR

28 This idea—attributed to William of Occam (1288–1347), but at least as old as Aristotle—is that the simplest explanation is usually the right one.

c. 350 BCE

A PRIORI & A POSTERIORI KNOWLEDGE

29 The former is anything that you know independent of your experience (for example, that all bachelors are unmarried). The latter is what you learn from experience.

c. 350 BCE

PHILOSOPHICAL HEDONISM

30 This is the belief that pleasure (bodily or mental) is intrinsically good, and that it should be sought after, and maximized, as much as possible.

c. 350 BCE

THE PROBLEM OF EVIL

31 The essential difficulty of all monotheism is: if God is omniscient, omnipotent, and benign, how can He or She permit evil and suffering?

c. 300 BCE

FREEDOM TO CHOOSE OTHERWISE

32 Some say that we are wholly predetermined by our nature and circumstances to do X rather than Y. Others say that we are free to change our minds right up to the last moment in any decision-making process. Is that predetermined, too? The argument may be circular.

c. 250 BCE

PROPOSITIONAL LOGIC

34 Propositional logic is the study of what can and cannot reasonably be inferred from any statement or group of statements. For example, the assertion "People get wet when it rains" may be uncontentious, unless or until we consider the possibility that rain may fall in uninhabited places. Now, consider the following statements: (1) "If it is raining, Bob carries an umbrella," (2) "It is raining," and (3) "Bob is carrying an umbrella." All three may be true, but the trap here is to assume that (3) follows logically from (1) and (2). It does not: Bob may be home and dry. Among the lessons of propositional logic is the importance of the correct use of conjunctions such as "if," of adverbs such as "now," and of conditional tenses: "If Bob is out in the rain now, he may be carrying an umbrella."



c. 300 BCE

SKEPTICISM

33 There are various brands and levels of skepticism, ranging from always cautiously refraining from making a judgment about something until enough evidence is put forward, to global skepticism—the belief that one cannot know anything at all with any certainty.

THE FREE-WILL DEFENSE

35 This is an answer to the problematic question of why a benevolent deity should allow his or her creations to suffer: because if he or she denied humans the freedom to make their own decisions, that would be a denial of their rights and a worse abuse than allowing them to feel pain.

INTELLECT & WILL

36 St. Thomas Aquinas was the leading proponent of this old idea that human rational, mental capacities can be broadly divided into intellect and will. The former is the reasoning part, concerned with truth. The latter initiates actions concerned with goodness, but is still subject to the former.

CAN GOD CREATE A BOULDER THAT IS TOO HEAVY TO LIFT HIMSELF?

37 Think about it: if there's a god that is omnipotent, then this question naturally arises. Some say no, because that would contradict god's nature as a singularly all-powerful being, while others say it's a misguided question, because god is purely spiritual, and boulders are purely material. Few if any people answer in the affirmative.

ONTOLOGICAL ARGUMENT FOR GOD'S EXISTENCE

38 If God is the greatest, and it's greater to exist in reality than in the mind alone, then God must exist (because, by definition, he's the greatest!). So, from the concept of God we can prove the existence or being of God.

DOCTRINE OF DOUBLE EFFECT

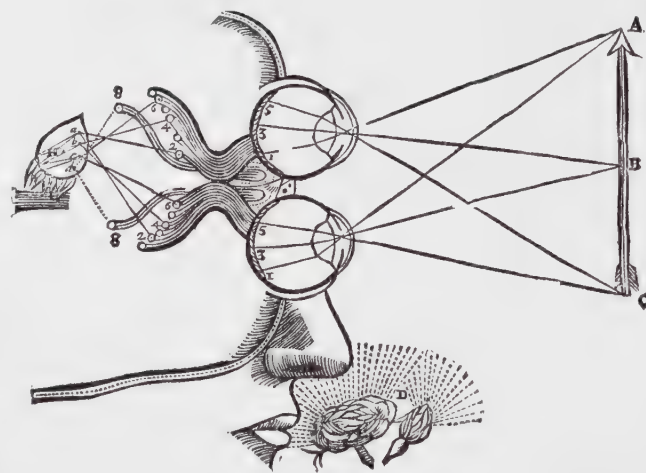
39 This contends that it is moral to allow evil to occur if we intend a good outcome, and the good outcome ("the single effect") outweighs the evil that is a by-product—"the double effect."

SUBSTANCE DUALISM

40 This idea goes back to the dawn of religious belief: that the soul survives the death of the body. In the seventeenth century, René Descartes devised the contemporary version: humans are made up of a physical, material, bodily substance, and a nonphysical, immaterial, mental substance, also known as the mind.

EVIL GENIUS

41 René Descartes suggested the possibility of a malicious being that deceives us in everything: two plus two isn't four, it's five.



EPISTEMOLOGICAL TURN

42 Epistemology is the study of knowledge itself. French seventeenth-century philosopher René Descartes is primarily responsible for the shift in the emphasis of intellectual inquiry in the West from material matters to the ways in which we come to know and understand things. Scientists became increasingly aware that reality is not objective because it is filtered through perception.

MASTERS OF THE UNIVERSE

43 The scientific revolution in Western civilization that began in the late sixteenth century inspired the notion that medicine would one day provide ways of postponing, and ultimately of cheating, death. Hence, humans would no longer be slaves of destiny and mortality; they would be the masters of the universe.

"I THINK, THEREFORE I AM"

44 This famous philosophical proposition—made by René Descartes in his *Discourse on the Method* (1637)—was intended to banish radical doubt—the notion that there was no such thing as reality, that life was just a dream. A later writer usefully clarified Descartes's meaning by the addition of two words: "I doubt, therefore I think, therefore I am"—that is, for as long as we wonder whether we exist, we must exist.

THE MIND/BODY PROBLEM

45 This is the difficulty of explaining not only how it is that a mind emerged from a brain, but also how it is that the mind and the brain interact with one another, given that the mind and mental states (such as thoughts, ideas, and perceptions) seem to be so fundamentally different from the brain. No one can adequately explain how it is that your desire to stand up, for example, causes your brain and the rest of your body actually to stand up.

1651

LEVIATHAN

46 Thomas Hobbes used the Leviathan (a sea monster from the Old Testament) as a symbol of a theoretical government that, in spite of its unlimited power, made a deal with its citizens to maintain order and peace—an early social contract.

IDENTITY OF INDISCERNIBLES

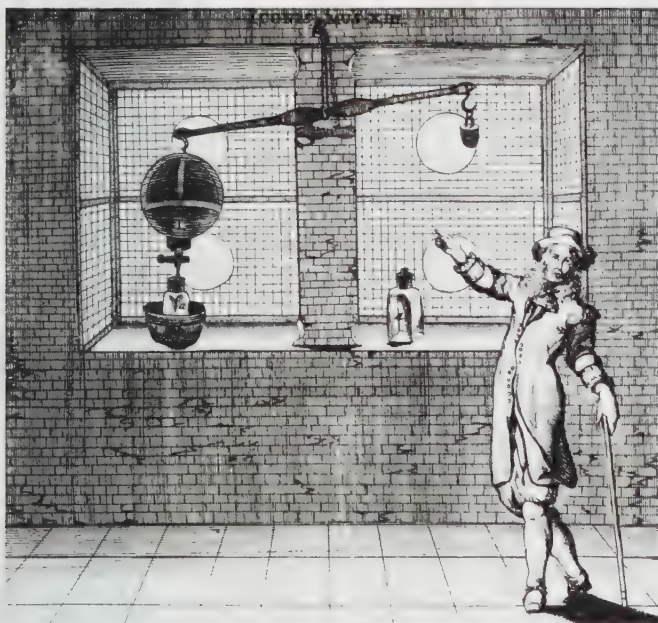
47 This is the principle that states: for any X and Y, if X and Y have all the same properties, then X is identical to Y. For example, the Morning Star and the Evening Star have all of the same qualities, thus, they're identical (they are otherwise known as the planet Venus).

MOTION AS THE NATURAL STATE OF THINGS

48 Galileo Galilei and other philosophers and scientists at the beginning of the scientific revolution argued that things are naturally always moving until stopped by something else. This notion soon gained widespread currency, and thus finally broke the hold that Aristotle had had on the scientific community for nearly 2,000 years.

PRIMARY & SECONDARY QUALITIES

49 The idea here was of a distinction between the objective properties of things, such as their solidity, their extent in space, and their movement (primary qualities), and the qualities of things insofar as we perceive them and now they affect us, such as their sound, smell, taste, and color (secondary qualities).



EMPIRICISM

50 Empiricism is the theory that sense experience is the foundation of knowledge. It values observation above a priori reasoning, intuition, and revelation, and in its most extreme form, denies that these others have any value at all. Although *An Essay Concerning Human Understanding* by John Locke is widely regarded as the first work of empiricism, the basic concept—value your own findings at least as much as any written authority—is much older.

TWO BODIES/ONE MIND THOUGHT EXPERIMENT

51 A thought experiment does not usually get carried out; it is more like a riddle. One of the most famous thought experiments, inspired by John Locke, considered the possibility that the same mind could exist in two bodies simultaneously. Its purpose was to test—and indeed to cast doubt on—the ideas of Descartes (Cartesian notions).

TO BE IS TO BE PERCEIVED

52 Anglo-Irish empiricist George Berkeley tried to demonstrate the inseparability of sensory experience and reality—if you can sense it, it exists; if you cannot sense it, it does not exist. This immaterialism, which is intellectually both inhibiting and liberating, was a precursor of theories of relativity.

1714

MONADOLGY

53 According to Leibniz, monads are eternal substances that follow a harmony put in place by God.

VERIFICATIONISM

55 This principle, with roots in the philosophy of David Hume, was put forward most forcefully by the Logical Positivists in the 1920s. It posited that only statements that can be empirically verified (tested and/or sensed via science) or which are logically necessary (true, by definition) are meaningful—thus, religious, metaphysical, and other similar statements need not detain us.

1739

IS/UGHT FALLACY

54 This is the error in reasoning that leads to the conclusion anything that is the case ought to be the case.

PROBLEM OF INDUCTION

56 "Induction" here refers to the assumption that everything that has always happened or been the case until now will continue to happen or be the case in the future. The sun has risen every day since the dawn of time, but nevertheless we do not—cannot—know with absolute certainty that it will rise again tomorrow.



COMPATIBILISM

57 If you accept determinism—the theory that every event has been preconditioned so that no other course was possible—you take the view that humans are unable to do anything other than what they in fact do. Compatibilism holds that while some events have predetermined outcomes, not all of them do. It is alternatively known as “soft determinism” and epitomized in Schopenhauer’s remark: “Man can do what he wills but he cannot will what he wills.”

MAN IS BORN FREE

58 In *The Social Contract*, Jean-Jacques Rousseau wrote that humans are naturally good and only become corrupted by social interaction and society’s institutions. Thus, he thought that people should return to nature and live simpler lives, free of the majority of society’s conventions.



ANALYTIC-SYNTHETIC DISTINCTION

59 Analytic statements—such as “All bachelors are unmarried males”—are known to be true by virtue of an understanding of the meanings of the words alone. Synthetic statements—such as “Some bachelors are unhappy”—are known to be or thought possibly true by virtue of knowing both the meaning of the words and something about the world we experience. The terms were coined by the German Immanuel Kant.

TRANSCENDENTAL IDEALISM

60 Immanuel Kant proposed that human beings are able to experience only the appearances of things (phenomena) and not the things in themselves (noumena). He further theorized that space and time are not real but rather subjective forms of human intuition that are presupposed in our experience of the world.

UTILITARIANISM

62 This is the principle, adumbrated by John Stuart Mill, that any action should be evaluated according to the benefits that it brings (pleasure, goods, or benefits) and the number of people to whom it brings them. This desideratum is summarized as “the greatest good of the greatest number.”

ABSOLUTE SPIRIT

64 The German philosopher Georg Wilhelm Friedrich Hegel’s principal contribution to Western philosophy was the idea that art, religion, and philosophy all grasp the same truths, in different ways, through different periods of human history. Hegel is probably the most difficult philosopher to read and understand.

CATEGORICAL IMPERATIVE

61 Immanuel Kant’s basis for deciding whether an action should be accounted moral or immoral was this: would it be all right if everyone did the same thing? Only if the answer to this question was affirmative would the action be acceptable. Thus, for example, it is permissible to borrow money only if you’ll pay it back, because if everyone borrowed money without paying it back, borrowing would soon become impractical.

WATCHMAKER ANALOGY

63 William Paley’s analogy states that just as one must conclude that there is an intelligent watchmaker when one discovers the intricacies of a watch, so too, one cannot help but conclude that there is an intelligent universe-maker when one considers the intricacies of the universe. Consider the eye—it’s so complex that it seems as if it was designed by a great mind.

POSITIVISM

65 The father of sociology, Auguste Comte, argued most vigorously for this position, which asserts that authoritative knowledge comes exclusively and entirely from information derived from logical and mathematical treatments and reports of sensory experience. In other words, the only valid knowledge and the only certitudes are scientific in origin.

THE LEAP OF FAITH

66 Danish philosopher Søren Kierkegaard noted that, in general, thinking can ultimately lead to skepticism and inaction. At a certain point, absurdities and contradictions must be accepted, and we have to make a “leap of (or to) faith” in order to live our lives. The idea relates principally to religion, but is also applicable to other parts of existence.

ON LIBERTY

67 In this influential work on political philosophy and public policy-making for democratic-based regimes, John Stuart Mill applies his utilitarian principles to the state. In so doing, he argues for individual rights and privileges as forms of liberty that are ultimately good for the entire state. The work is, among many other things, an extended meditation on the differences and the subtle relations between authority and liberty—the ways in which the two can both foster and stifle each other.

c. 1860

ABDUCTION

68 In its usage by Charles Sanders Peirce, the term refers to abductive reasoning, a form of logical inference that moves from an observation to a hypothesis that accounts for the observation; ideally, seeking to find the simplest and most likely explanation. It's basically an educated guess.

1878

PREDICATE LOGIC

72 Propositional logic is based on assumptions, such as "where x is greater than one." In cases where x is a variable, propositional logic is no use; predicate logic is used. It is the reasoning associated with quantified variables utilizing a standard symbology. Thus, "Someone loves you" is translated into the predicate logic form, $\exists x L(x)$, where \exists means "there exists," x means "someone," and L means "loves you."

1879

SYMBOLIC LOGIC

74 This method of representing logical expressions through the use of symbols and variables, rather than in ordinary language, was systematized and pioneered by English mathematician George Boole. For example, the argument, "If it rains, then the sidewalks get wet. It rains. Therefore, the sidewalk gets wet" can be symbolized as " $R \rightarrow S \mid R \therefore S$." Here, " \rightarrow " denotes "if/then"; " \mid " means "not both"; and " \therefore " means "therefore."

PRAGMATISM

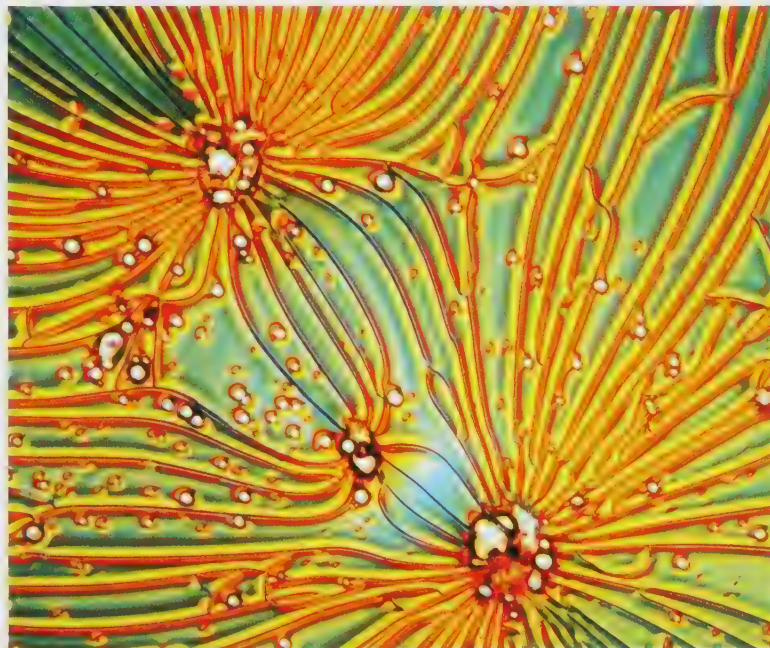
69 This is the belief that an idea or a position is true if it works satisfactorily and that the meaning of any statement lies in the consequences of accepting it.

PROPERTY DUALISM

70 The notion that the mind is made up of two kinds of property: physical (the brain organ), and mental (beliefs, desires, and emotions).

THE HEDONISTIC PARADOX

71 Henry Sidgwick noted that the attainment of pleasure is often a disappointment and much less fun than its pursuit.



1878

PRAGMATIC THEORY OF TRUTH

73 This is the idea that the test of whether something is true or not is simply whether it works: "Antibiotics are effective against bacteria"; that is all we know and all we need to know. There are three kinds of truth: monadic (self-evident); dyadic (dependent on the truth of something else); and triadic (veracious for as long as it relates to two other truths).

1887

MASTER MORALITY & SLAVE MORALITY

75 In Nietzsche's analysis, a slave morality judges actions according to good or bad intentions and values kindness, humility, and sympathy, while a master morality judges actions according to good or bad consequences and values pride, strength, and nobility.

1892

SENSE & REFERENCE

76 Gottlob Frege made strides in the philosophy of language by drawing a distinction between the sense of a word, the word's meaning or connotation, and the reference of a word, that which the word refers to, or what the word denotes.

1890

PHENOMENOLOGY

77 One of the most important findings of Edmund Husserl's study of the nature of consciousness is that consciousness is always conscious of something.

1901

RUSSELL'S PARADOX

78 Bertrand Russell blew a hole in Frege's theory by showing that (for example) the word "dog" is not a dog, it's a word.

CORRESPONDENCE THEORY OF TRUTH

79 The position that a statement is true insofar as it corresponds to, or matches up with, a state of affairs, and the statement is false if it doesn't. "Winston Churchill died in 1965" is true because it matches what occurred in the world. "An elephant holds up the Eiffel Tower" is false because it does not correspond to reality.

INFINITE MONKEY THEOREM

82 In response to the debates concerning whether blind or random processes of evolution can generate increasingly complex life-forms, this is the idea that a monkey typing at a keyboard randomly for an infinite amount of time would eventually produce a work such as Shakespeare's *Hamlet*.

BEING & TIME

85 In his book of this English title (originally *Sein und Zeit*), German Martin Heidegger seeks a thorough analysis of these two concepts, which are coextensive and coterminous—when we die, time dies. He thinks that the connection is fundamental and that it has generally been neglected over the history of Western philosophy.

PRISONER'S DILEMMA

87 Arrested on suspicion and held in separate cells, you and your friend are each offered a deal: if you confess, and your friend denies involvement, you go free, and your friend goes to prison for ten years; if you deny involvement, and your friend confesses, you go to prison for ten years, and your friend goes free; if you both confess, you each get six years; if you both deny everything, you both go to prison for six months. Each is better off confessing than remaining silent. But the outcome when both confess is worse for each than the outcome if both had kept silent.

COHERENCE THEORY OF TRUTH

80 A statement is true insofar as it is consistent with other statements that are known to be true. The theory works better with philosophy, which creates belief systems, than with science, which must accommodate new information.

DEFLATIONARY THEORY OF TRUTH

83 Most theories of truth share the assumption that there is some real property, "truth," which is over and above the statements that happen to be true. The deflationist thinks there's no such thing as "truth"—to call something "true" is merely an assertion, not a proof.

EXISTENTIALIST NAUSEA

86 Based in the writings of Jean-Paul Sartre and other French philosophers, this is the overwhelmingly negative and helpless feeling one has when one realizes that there is no god, that the universe is purposeless, that there's no reason for living, and that life is absurd.

OBJECTIVISM

88 This philosophical system was developed by Russian American novelist Ayn Rand, who summarized it thus: "The concept of man as a heroic being, with his own happiness as the moral purpose of his life, with productive achievement as his noblest activity, and reason as his only absolute."

KNOWLEDGE BY DESCRIPTION/KNOWLEDGE BY ACQUAINTANCE

81 Bertrand Russell is credited with this distinction: knowledge by acquaintance is had through direct perceptual experience; knowledge by description is not had through direct perceptual experience, but through a description or explanation, as in knowing that Genghis Khan founded the Mongol Empire.

MODAL LOGIC

84 Modality is what allows speakers to attach expressions of necessity and possibility, as well as of obligation and belief, to statements. Fully developed in the 1960s, modal logic is a formal structure within which can be performed the correct reasoning associated with modalities.



PARADIGM SHIFT

89 This is American philosopher Thomas Kuhn's idea that science at any point exists in its own paradigm (accepted worldview) and that when a scientific revolution occurs, there also occurs a paradigm shift. A major paradigm shift from an Earth-centered universe to a Sun-centered one occurred, for example, with Copernicus and scientists following in his footsteps.

1963

THE BANALITY OF EVIL

90 German American journalist Hannah Arendt put forward this idea while reporting on the 1961 trial in Israel of Adolf Eichmann, one of the prime movers of the Nazi attempt to exterminate European Jewry. She noted that Eichmann was not inhuman or monstrous, but a gray nonentity, a bureaucrat just doing his job.

1963

GETTIER PROBLEM

91 Plato defined knowledge as justified true belief, and in a 1963 paper titled, "Is Justified True Belief Knowledge?" Edmund Gettier put forward two scenarios where justification, truth, and belief are met, but where you wouldn't think that the guy has knowledge due to the fact that he seems to have just gotten lucky in his beliefs.

1967

DECONSTRUCTION

92 Based on French philosopher Jacques Derrida's *Of Grammatology*, this is the belief that the entire history of Western philosophy is misguided in having emphasized the possibility of accessing an objective reality when, in fact, this is not possible and there are no "absolute" truths.

1967

REFORMED EPISTEMOLOGY

93 Rooted in American philosopher Alvin Plantinga's *God and Other Minds*, this movement in the philosophy of religion aims to show that objections to theistic belief as misguided, unjustified, unreasonable, and/or delusional are themselves misguided. Perfectly sane, rational, and thoughtful people can believe in the existence of a god.

1967

LINGUISTIC TURN

94 This new direction in philosophy—toward a much tighter focus on language as a way to solve conceptual problems—came as a result of the work of Austrian-British Ludwig Wittgenstein and other early-twentieth-century thinkers.

1971

CONSTRUCTIVIST EPISTEMOLOGY

95 This is the branch of philosophy that holds that scientific knowledge is constructed by the scientific community, which presupposes that a wholly objective reality is impossible to attain.

1971

THE ORIGINAL POSITION

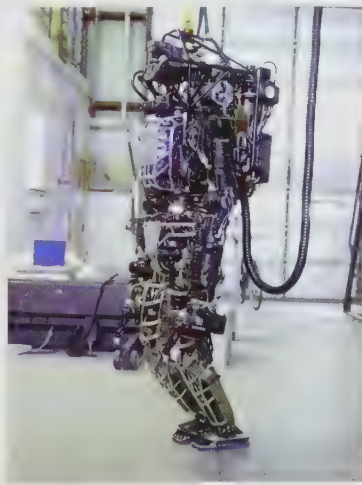
96 American philosopher John Rawls contended that if free and equal persons with no preconceptions were tasked to work out a justice system from scratch, the main principles they would want to be enshrined in statute would be: equal basic rights and liberties for all; fair and equal educational and employment opportunities enabling all to compete fairly for powers and positions of office; and a guaranteed minimum income for all at a decent level.



1973

COUNTERFACTUALS

97 A counterfactual is an "if/then" subjunctive conditional claim whose antecedent (the "if" claim) is false, and whose consequent (the "then" claim) describes how the world would have been if the antecedent had been true. It takes the form: if P had been true, then Q would have been true. It's also known as a counterfactual conditional (CF).



1980

CHINESE ROOM ARGUMENT

98 American academic John Searle asks us to imagine a person in a room being passed words that they then translate into Chinese using a dictionary. The person doesn't understand a word of Chinese. So, too, Searle argues, a computer that processes information will never understand what it is processing.

1980

NAMING & NECESSITY

99 American philosopher Saul Kripke speculates about the possibility of something having an exact twin in some other universe and then being able to distinguish the twins from one another. To solve the problem, he proposes rigid designators, which define each object so precisely that they cannot be applied to anything else.

1981

THE THEORY OF COMMUNICATIVE ACTION

100 German Jürgen Habermas postulates three realities—subjective, objective, and intersubjective—the last of which is the most socially significant.



c. 40,000 BCE

DEITY

1 As soon as humans started to think, they wondered what they were doing on Earth. They decided that there must be some greater purpose to their existence and that they must have been created by some power that they could only dimly imagine. Thus developed the idea of deity—one god or (more usually at the time) many gods.

AFTERLIFE

2 When early humans considered their abilities, they found it hard to accept that they might be no different from animals that were born, lived, died, and whose remains then decomposed. They came to believe that they must continue to exist in some way after they died. There were many different theories about what form this existence might take, and indeed, where the next world might be—some people believed it was in the sky; others that it was in the bowels of the earth. Competing theories soon became contentious.

SOUL

3 It was hard to see how the human body could survive more than a single incarnation, but people believed that the essence of their being was too important, and too strong, simply to wither and die. This essence was the soul, which was thought by some to transmigrate—to leave one human at the point of death and enter the body of another.

ANTHROPOMORPHISM

4 This is the idea that gods are like humans—they fall in love, get angry, feel pain, and so on. The theory was used to explain natural phenomena—thunder was divine wrath, for example. Gods did not die, but they might change forever into different forms.

MEDIUMSHIP

5 If the dead exist in some other form elsewhere, it would be desirable to contact them. People who claim to be able to communicate with the dead in the next world are known as mediums.

100 RELIGIOUS IDEAS

c. 40,000 BCE

SHAMANISM

6 Shamans are people who claim—and are believed—to achieve various powers through trance or ecstatic religious experience. They are thought to heal the sick and to communicate with, and even visit, the dead.

c. 40,000 BCE

FUNERARY RITES

7 Paleolithic people buried their dead ceremoniously, not merely disposing of the bodies but equipping them with weapons and other equipment, thereby strongly suggesting that they believed in some kind of afterlife.

ANIMISM

8 Animism is the belief that every living organism on Earth—not merely animals, but also trees, water, the winds—influences, and perhaps even governs, human affairs. Some animistic spirits are benign; some are malevolent; most, however, are mercurial and need to be handled with care and respect.

ORGANIZED RELIGION

9 This seems to have emerged during the Neolithic era, at around the same time as agriculture started to take over for hunting and gathering. As people began to live together in ever-enlarging groups, it made sense for them to worship at the same time and in the same place. It also made sense for them to share the same beliefs. But until now, ideas about a deity and an afterlife had been personal matters. With organized religion came organizers—people who strove to make the faith of group members homogeneous.

CANNIBALISM

10 In the West, eating people is widely thought to be wrong, but the practice has been accepted in other cultures. In some parts of Africa, the body parts of deceased loved ones may be eaten in the hope of transferring virtues and abilities from the dead to the living. In Polynesia and elsewhere, headhunters and soldiers used to kill their enemies and then eat them as a means of both absorbing their strengths and preventing revenge attacks from the next world.

SACRIFICE

11 The Aztecs sacrificed thousands of people annually in the belief that their sun god needed nourishment. The Inca practiced human sacrifice only on the accession of a ruler. Many of the victims would have been convicted criminals, but in parts of Africa and Asia, dead men would be buried with some of their living slaves.

EVIL AS A DIVINE ENTITY

12 God the creator is good, and yet there are bad things in the world. One way of accounting for this apparent anomaly is by the theory that good is constantly at war with evil, and that the two forces are mighty (but not quite equal) opposites.

MIRACLES

13 Miracles are amazing occurrences that are—and must remain—unexplained. Most religions have them; they include the resurrection of Christ and the revelation of the Koran to Muhammad.

HEAVEN

14 This is the abode of the supreme deity and the spirits of every good, dead person. Its exact location is unimportant, but it is generally thought to be somewhere above Earth.

HELL

15 This is the final destination of evildoers; a place of misery. It is often imagined as somewhere inside Earth. Many religions believe that, in hell, evildoers are punished for their crimes, sometimes for eternity.

CREATION MYTH

16 This is any orally transmitted or written account of the beginning of things that cannot be verified or refuted by science. Some creation myths describe the will and actions of an all-powerful being, often a sky god; others tell of a world that emerged from within itself through its own power, bringing order to chaos.

GHOSTS

17 In many cultures, people believe that the souls or spirits of the dead may return from time to time to the world of the living. The form in which they reappear is greatly variable: ghosts may look exactly as they appeared in life; they may be nebulous specters, disembodied voices, or take a range of other forms. Some such visitations may be welcomed (as, for example, when the ghost warns or gives good advice), but they are generally regarded as undesirable. Many funeral rituals feature prayers that the ghost of the deceased may be prevented from haunting the living.



JUDGMENT DAY

18 When people die, their good and bad deeds are weighed up so that the supreme being(s) can determine whether their spirits will spend eternity in heaven or in hell. The concept can be traced back to the ancient Egyptians, who believed that upon death a person's soul would enter the underworld and be judged in the Hall of Two Truths.

POLYTHEISM

19 The belief that there are many gods is common to most religions other than Judaism, Christianity, and Islam.

MAAT

20 In ancient Egypt, Maat was the goddess of order—of justice, truth, and moderation in all things. She was the daughter of the creator, sun god, Ra.

ORACLE

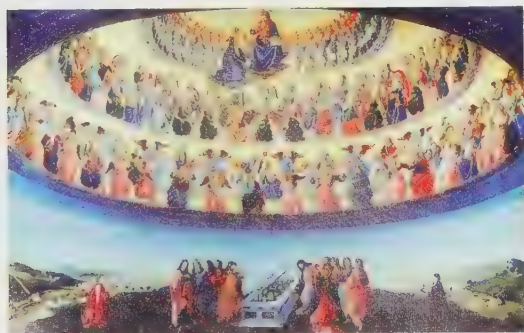
22 An oracle is a human through whom other humans communicate with a god and through whom the divine response is channeled. They are generally located in one particular place, where they are visited by petitioners. The most famous example was Apollo at Delphi, Greece.

INCARNATION

23 This is the idea that the deity may take human form. It is held most strongly by those who believe in the divinity of Jesus Christ. Islam, by contrast, holds that the greatness of Allah is everywhere, and that the notion of it being encompassed within one person is blasphemous. Sufism is among the religions that believe that we are briefly incarnations of the deity whenever we do good.

SPIRITUAL IMMORTALITY

21 Woody Allen famously said, "I don't want to achieve immortality through my work; I want to achieve immortality through not dying." Death is inevitable, but many people hope that to leave something of themselves to—and be remembered as the giver by—posterity. This desire is often expressed in poetry, notably in *Shakespeare's Sonnets*.



c. 1600 BCE

MYSTICAL EXPERIENCE

24 This term is any spiritual feeling that cannot be accounted for rationally, or easily described, other than perhaps as an altered form of consciousness.

c. 1500 BCE

SATYA

28 The word is Sanskrit for "truth." In Buddhist thought, there are two kinds: *samvrti-satya* is the truth that humans can comprehend and which should be honored in all their thoughts, words, and deeds. *Paramartha-satya* is ultimate truth, beyond our understanding.

c. 1500 BCE

RITA

29 In Hinduism and its antecedent Vedic religions, rita is order in all its forms, from the daily progression of the sun across the sky to the legal code. From rita emerged the notions of dharma (duty) and karma (fate).

c. 1500 BCE

AGNOSTICISM

32 Until T. H. Huxley coined this term in 1869, there was no word in any language for the view that there may or may not be a deity, but that humans cannot know anything beyond their own experiences. Nevertheless, such doubts have always existed.

RELIGION AS A BASIS FOR MORALITY

25 There is no doubt that religious texts provide guidelines for moral behavior—the Ten Commandments, for example. However, the notions that there can be no morality without religion, and that morality and religion are coextensive, are contentious.

ZOROASTRIANISM

30 Known today in India as Parsis, Zoroastrians worship one supreme god, Ahura Mazda, the creator of the world and of everyone and everything that is good within it. They believe that Ahura Mazda is fighting against evil in the form of Ahriman, creator of everything bad. The war is long, but they believe that in the end, good will prevail.

c. 1400 BCE

ATHEISM

31 Atheism denies the existence of any deity—not only of the monotheistic god of Judaism, Christianity, and Islam, but also of all the gods of even the most obscure religions. The problem with atheism is that, in the absence of proof, it is no less of a belief system than the religions it rejects: absence of evidence is not evidence of absence.

c. 1400 BCE

MONOTHEISM

33 This is the belief that there is one almighty, all-knowing creator of the universe. It is often suggested that it superseded polytheism, but research shows that the two systems are roughly coeval.

c. 1400 BCE

REINCARNATION

26 The belief that one, several, or possibly all aspects of any individual may be born again after bodily death, and continue to live through several existences, perhaps forever, is characteristic of, but not confined to, the religious traditions of South and East Asia.

c. 1400 BCE

SCAPEGOAT

27 The classic scapegoat was the one in the Old Testament that was sacrificed by the Israelites to appease a spirit of the desert. Later, the Romans sacrificed goats and dogs at their annual Lupercalia festivals in February.



c. 1400 BCE

ETERNAL RETURN

34 The idea that the universe is in some kind of loop, and that everything in it will recur again and again indefinitely—perhaps infinitely—across time and space, was a frequent subject of speculation in ancient civilizations from India to Greece. It remained on the philosophical agenda even after the rise of secularism, agnosticism, and atheism: although Nietzsche and Schopenhauer had no appetite for reincarnation, they viewed time as cyclical rather than linear and accepted the possibility that matter, having dissolved, might re-form much as it had been before.



ADAM & EVE

35 In the best-known version of the Book of Genesis in the Old Testament of the Bible, on the sixth day of creation, God made Adam "in His own image" and then Eve from Adam's rib. They were given the Garden of Eden on condition that they did not eat the fruit of the tree of knowledge, but they did and were banished forever. This is the backstory to the Christian concept of original sin.

EXORCISM

44 This is any method by which religious leaders banish evil spirits from anyone in whom they are believed to have lodged themselves. In Christianity, exorcism takes the form of a prayer (in Roman Catholicism, it is an important part of the baptismal rite). In some societies, it may take violent, physical forms, which are usually categorized as *ritual* or witchcraft.

SAMSARA

36 In the Buddhist belief system of reincarnation, samsara (Sanskrit: "flowing around") is the notion that the form you take in your current life is either a reward or a punishment for your conduct in your previous existence.

ATONEMENT

38 Atonement is the process by which humans remove obstacles to their reconciliation with the deity. It is a feature of almost every religion and typically involves one or more of the following acts: repentance, payment in direct recompense or as "conscience money," good works, suffering, pilgrimage, or prayer.

MEDITATION

40 Since it was popularized in the 1960s by the Beatles's association with the Maharishi Mahesh Yogi, meditation has been primarily associated with Hinduism. Nevertheless, the practice of deep and usually solitary contemplation of a spiritual or doctrinal matter or of a physical object has long been common to all the world's major religions.

KARMA

45 In Indian philosophy and religions, karma is the notion that what you do in this life determines what will happen to you in your next incarnation. Since the agreed common goal of all beings is to secure release from the long cycle of birth and death, karma motivates people to live good lives.

ANGELS

37 Angels are God's messengers. Examples include Mithra in Zoroastrianism, and archangel Gabriel in the Bible. They have semidivine power and status.

DHARMA

39 In Buddhism, Hinduism, and Jainism, dharma is moral law. There are several kinds of dharma: a general one, that demands virtuous behavior from everyone, and particular ones for different social classes.

CHAKRA

41 In Buddhism and Hinduism, a chakra is any of the 88,000 points in and on the body where physical and psychic forces interact.

AVATAR

42 The gods of Hinduism can take different human or animal forms to combat various evils. Each of these forms is known as an avatar.

MESSIAH

43 The Messiah is the king who will deliver the Jews from slavery, unite them, and restore them to their former glory. The term does not appear in the Old Testament, but Christians believe that this savior has already been. Jews believe that he is still to come.



THE END OF THE WORLD

46 How and when this will happen, and what, if anything, happens next is the central focus of eschatology. Most religions are based on the assumption that it will end sometime; among those that do not is the Bahá'í faith.

DEVIL

47 In Christianity the devil—known first as Satan, and then by several other names, including Beelzebub and Lucifer—is a fallen angel, a former believer in God who has rebelled against him. In Islam the devil is called Iblis. In both religions the devil tries to tempt humans to disobey God's will and commit sin.

DIETARY LAWS

48 Dietary laws may be religious or secular or both. They often forbid certain foods—pork, for example, in Judaism and Islam—but they may also be prescriptive—some societies demand participation in eating or drinking rituals.

THE TEN COMMANDMENTS

49 Also known as the Decalogue, the Ten Commandments are the religious precepts divinely revealed to Moses on Mount Sinai and engraved on two stone tablets. Four of God's strictures are about faith (for example: "You shall have no other gods before me"); six are moral (for example, "You shall not kill")

BAPTISM

50 Baptism has become an essential part of the ceremony by which people are admitted to the Christian church. It involves an invocation of the Trinity (three manifestations of God: Father, Son, and Holy Spirit) and the sprinkling of water over the head of the newcomer. The scriptural basis for this tradition is uncertain: Jesus was immersed by John the Baptist in the Jordan River, but the Son of God himself performed no baptisms. However, in the Gospel according to St. Matthew, Jesus tells his followers to go forth and "make disciples of all nations, baptizing them."



THEURGY

51 Theurgy is the art of persuading divine powers to help humans to be more like the gods, and ultimately, to become one with them. Not specific to any one religion, theurgy is a form of mysticism and typically involves potions and imprecations.

OMNISCIENCE OF GOD

52 The monotheistic God knows everything. More than that, he is omnipotent, and above all, good. How, then, does he permit evil? This doctrinal problem has puzzled theologians through the ages. The conventional answer is that he has given humans free will.

OMNIBENEVOLENCE OF GOD

53 Everything that God does, or allows to happen, is, by definition, good because God wants nothing but the best for everything in creation.

OMNIPRESENCE OF GOD

54 This is the notion that the God of monotheism is everywhere—that he sees all our actions and knows all our thoughts.

OMNIPOTENCE OF GOD

55 The idea that the monotheistic God can do anything is sometimes regarded as a more developed belief system than that of, for example, the ancient Greeks, most of whose gods were equal and mighty opposites. However, some aspects of omnipotence are either unimaginable or impossible: for example, how can God change the past?

TAOISM

56 This philosophical tradition has influenced the Chinese worldview since the dawn of the Common Era. At its core is an easygoing acceptance of one's lot, and a joy in existence. Taoism may also, but does not necessarily, feature a belief in spirits and the afterlife. It is a useful counterweight to the austerity, devotion to duty, and rejection of spirituality inherent in Confucianism.

WU WEI

51 This is Taoist fatalism. It is the idea that the Way (Tao)—in other words, the setup of the universe—needs no external input: “The Way does nothing, yet nothing remains unaccomplished.”

PACIFISM

50 Among primitive peoples, war was a way of life. Ancient philosophers recommended pacifism, but the first religion to espouse it was Buddhism, whose founder forbade any act of violence.

BODHI

51 This is the final enlightenment that frees the soul to reach nirvana. It comes at the end of the Eightfold Path, the route between self-denial and self-indulgence.

500 BCE

RELIGIOUS

52 Religions may promote themselves as the only true faith, but most of them share the same core values. In times of peace they coexist, which is pluralism.

THE PROBLEM OF EVIL

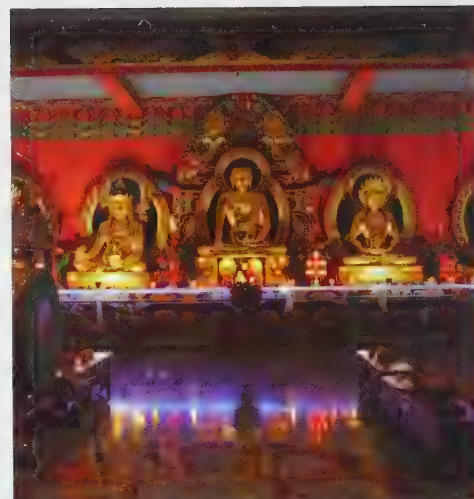
53 God is almighty; God is good—so how can there be evil? That is the problem. One of several possible answers is that we are not supposed to know: mystery essential to faith.

THE FOUR NOBLE TRUTHS

50 The cornerstones of Buddhism, laid down by its founder in his first sermon, are as follows: that suffering is an inevitable part of life; that the cause of it is the desire for what we do not have; that the end of suffering is nirvana; and that there is a path, known as *marga*, toward that end.

NIRVANA

60 In Buddhism, the cycle of birth, death, and rebirth is ended when the individual achieves nirvana, the word for which means “becoming extinguished” in Sanskrit. It is when all strife, ambition, suffering, and desire are finally extinguished, and we become perfectly content with what we are, and consequently have no need for further rebirth.



YOGA SUTRAS OF PATAÑJALI

64 The earliest guide to the practice of yoga, this great work comprises four volumes, entitled “Psychic Power,” “Practice of Yoga,” “Samadhi” (state of profound contemplation of the Absolute), and “Kaivalya” (separateness). The sutras are traditionally attributed to Patañjali, a Hindu writer of around the second century BCE, but modern scholarship has cast doubt on his authorship.



BODHISATTVA

75 This is the name for both the Buddha in his former lives and the path of the individual toward becoming a Buddha. Bodhisattvas occur frequently in Buddhist literature, in which their Buddha-like qualities often pass unrecognized.

CREATION EX NIHILO

56 This is the belief that God created everything directly. It is antithetical to emanationism, which holds that some of the things he created—light, for example—then created other things, at one or more removes from the deity.

ORIGINAL SIN

57 Adam and Eve were perfectly virtuous and immortal until they disobeyed God and tasted the fruit of the tree of knowledge. That was the original sin, for which humans have had to atone ever since by dying.

THE FREE REIN DEFENSE

68 This response to the problem of evil is the theory that God cannot, as it were, micromanage every detail, such as the direction of the winds, so he has given everyone and everything self-determination.

FIDEISM

71 Fideism is the conviction that faith alone is sufficient and that it is unnecessary—and, indeed, undesirable—for believers to seek rational explanations for things that are better shrouded in mystery.

PREDESTINATION

72 This is the mainly Christian idea, based on the writings of St. Paul, that God has preselected those he intends to save. From this, believers may conclude that anything they do is predetermined and thus inevitable.

FIVE PILLARS OF ISLAM

74 The duties that every good Muslim should undertake: *shahadah* (proclaiming the faith), *salat* (ritual prayer, performed five times daily), paying *zakat* (the tax levied to benefit the poor and needy), *sawm* (fasting during the month of Ramadan), and *hajj* (pilgrimage to Mecca).

MIDRASH

69 In its original meaning, Midrash is a method of interpreting the Talmud, one of the core works of Judaism, second in importance only to the Bible (Old Testament). By extension, Midrash has come to refer also to the works of exegesis that this field of study has generated.

HOLY TRINITY

70 The idea that there are three manifestations of the deity—God the Father, God the Son, and God the Holy Spirit—has no foundation in the Bible, but from the fourth century CE it began its rise to prominence and is now a central part of the Christian creed.



THE FREE WILL DEFENSE

73 This may be summarized as follows: even though God could prevent evil, because he is almighty, he permits it in order to give his creations the liberty to decide for themselves. If the monotheistic deity had forced everyone and everything to follow all his requirements to the letter, he would have created puppets, not life. Most people, other than determinists, currently accept that humans have free will. Everyone has a notion of freedom, although there is no consensus about whether liberty is desirable: the existentialist Jean-Paul Sartre, for example, wrote of those “condemned to be free.”

JIHAD

75 This solemn religious duty imposed on Muslims is often rendered in translation as “holy war,” but it does not mean simply taking up arms against the enemy. Jihad is any form of struggle, internal or external, against adversaries that range from temptation by the devil to sickness of the flesh.

SHARIA LAW

76 Sharia—“the path leading to the watering place”—is a fundamental concept of Islam, obedience to which, Muslims believe, will lead the faithful to happiness in the world to come. As with all religious-based laws, it is open to interpretation.

SHINTOISM

77 An adaptation of Buddhism, Shinto is the predominant indigenous religion of Japan. It is polytheistic: divine spirits may be anywhere, in any thing. Unlike any of the world’s other major faiths, Shinto has no founder, no canonical texts, and no leader.

TRANSUBSTANTIATION

78 In Roman Catholicism the bread and wine taken by the congregation during the Holy Communion service become in that moment the body and the blood of Christ. That there is no visible change to either component is a symbol of God’s mystery.

INDULGENCES

79 Christians could gain forgiveness for their sins through prayers and good works, the nature of which was decreed by the Church on a sliding scale according to the offense.

c. 1200

THEISTIC SATANISM

90 This is the belief that Satan can be worshipped directly, in the same way as conventional religionists express their faith in God. Some of those accused of this practice—the Salem witches, for example—have been framed, but gnostic heresies are not unknown.

1274

FIVE PROOFS OF GOD'S EXISTENCE

81 In *Summa Theologica*, Thomas Aquinas offered an explanation of why the world could have been created only by God.

c. 1600

KABBALAH

82 According to this mystical Jewish tradition, creation happened when the ten divine numbers of God were combined with all the letters of the Hebrew alphabet to make the “32 paths of secret wisdom.”



1469

SIKHISM

83 Sikhs believe in a supreme, just creator and that all humans have the capacity to become one with this being as long as they work hard and unselfishly for the good of humankind and share all their gains. The religion was founded by Guru Nanak in the Punjab, India; it currently has around 25 million followers worldwide.

1977

NINETY-FIVE THESES

84 These protests by Martin Luther against the corrupt practices of the Christian church—nepotism, simony, usury, pluralism, and the sale of indulgences—sparked the Protestant Reformation.

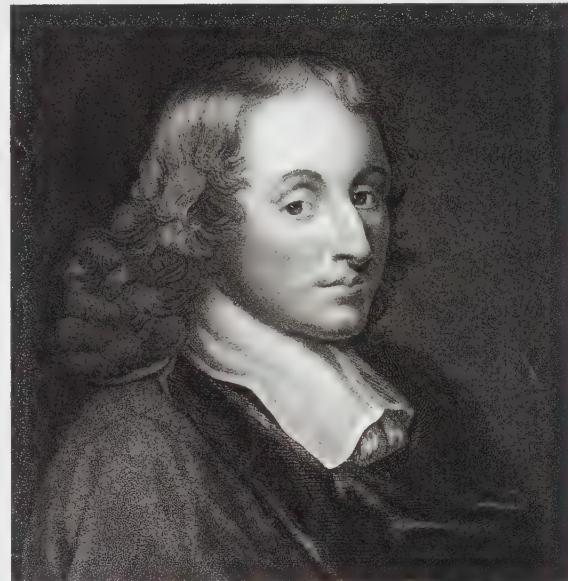
1800

DEISM

85 Deists believe that religious knowledge can be acquired through reason alone and that it does not require revelation or the teachings of any established faith organization. Deism is termed a natural religion

PASCAL'S WAGER

86 This is Blaise Pascal's suggestion to nonbelievers: if God does not exist, they lose little by believing in him and gain little by not believing. If God does exist, they gain eternal life by believing and lose an infinite good by not believing. Critics have objected that while this may be a practical reason for not denying the existence of God, it is by no means a rational proof that he does exist or that he can bestow everlasting life.



1801

PANTHEISM

87 Pantheism is a doctrine, favored by the Romantics, that God and the universe are coextensive: he is it, and it is he. Thus, “God” is not only an almighty creator but also a blanket term for every thing that exists or has ever existed. The closely related doctrine of panentheism holds that the universe is a part, but not the whole, of God's being.

1830

MORMONISM

88 This Christian church, founded by Joseph Smith after he had a vision of an angel, has its headquarters in Salt Lake City, Utah. Its core values—family life, desire for order, respect for authority, and missionary work—have attracted and retain more than 10 million adherents worldwide.

c. 1800

ANTI-THEISM

89 This is semantically tricky: it is defined both as “denial of the existence of God” and “opposition to God.” But the latter presupposes the existence of a deity. In real life most anti-theists disapprove of organized religion.

1849

RELIGION OF HUMANITY

90 This secular faith was founded by Auguste Comte, a French philosopher who believed that positivism—learning through observation of the natural world—would supplant religion.

SECULAR HUMANISM

91 Secular humanism rejects religion and everything else that it regards as superstition, and holds that the only basis of morality is reason.

1863

BAHÁ'Í FAITH

92 Founded in Iran, this movement is an attempt to reconcile all the religions of the world. Its central tenets are that everyone has the same fundamental moral values and that mystery is an essential part of faith. The Bahá'ís have no rituals and no priests, and their teachings are concerned with social issues.

1915

THE FUNDAMENTALS

93 *The Fundamentals: A Testimony to the Truth* is the overall title of 90 essays by various hands that defended conservative Protestant beliefs and laid the ground for modern Christian fundamentalism.

1944

PARABLE OF THE INVISIBLE GARDENER

94 This is a simple tale devised by philosopher John Wisdom to illustrate how the faith of a believer in God cannot be shaken by rational argument; it merely alters its ground to accommodate any inconvenient facts.

1961

YOUNG EARTH CREATIONISM

96 Young Earth Creationists believe that Earth and life were created in less than a week 10,000–6,000 years ago. They reject evidence to the contrary, such as fossils, as a hoax.

1966

LAVEYAN SATANISM

97 Occultist Anton LaVey promoted self-indulgence and excess in all things. Laveyan Satanists do not worship Satan, but merely behave as they imagine the devil would.



1950

SCIENTOLOGY

95 L. Ron Hubbard developed Dianetics, a method of combating mental health problems. He later came to the view that the human condition was most easily improvable through religion, and in pursuit of that objective he founded the Church of Scientology. The organization has always attracted controversy, not least for its alleged harassment of lapsed members, but it now operates all over the world.

1981

LIBERATION THEOLOGY

98 This is one of the terms used to pigeonhole the efforts of Peruvian priest Gustavo Gutiérrez to persuade people to read and interpret the Bible as if they had no money. Another term is Christian Marxism.

1996

INTELLIGENT DESIGN

99 Fundamentalist Christians are among those who believe that the world is too complicated to have developed through random processes such as natural selection, so there has to be a great mind behind it all.

2000

PASTAFARIANISM

100 Science graduate Bobby Henderson wanted to know why US schools that taught intelligent design and creationism would not also teach students about the god he claimed to worship, the Flying Spaghetti Monster (FSM). When the Kansas State Board of Education failed to answer his question, he posted his letter to them online. Soon the Church of the FSM had millions of followers, who are known as Pastafarians.



c. 12,000 BCE

MONEY

1 In the beginning, people exchanged goods: my horse for three of your cows. However, society soon became too complicated for such transactions: what if I wanted your three cows but you didn't want my horse? So money developed as a symbol of value: the coins I give you are worth the same as your cows; you can spend those coins on anything else you want to buy. The earliest coins were gold, silver, or copper. Later came paper money, which has no inherent value but works by general agreement.

c. 1000 BCE

ACCOUNTING

2 This is the method by which companies and individuals keep track of what they earn and spend. At their simplest level, accounts are simply side-by-side lists of incoming and outgoing cash. In normal practice, they also include assets and liabilities. Assets are possessions that you could sell if you had to. Liabilities are debts that you are repaying gradually, such as a loan on a house. If your total assets exceed your total liabilities, you are said to be solvent.

c. 1000 BCE

TAXATION

3 People must give up a portion of the money they earn and spend in order to subsidize government activities, such as civic works and defense.

c. 1000 BCE

LOANS

4 A gives B a commodity or some money for a certain period only. In return for this loan, A may ask for some recompense, which is known as "interest."

c. 1000 BCE

TITHING

5 Based on ancient Jewish law, a tithe was originally one-tenth of a person's income that was given to charity. By the sixth century CE, tithes had become regular payments to the church.

100 ECONOMIC IDEAS

c. 700 BCE

COINS

6 The earliest coins were made of precious metal. As civilization developed, trade became so extensive that there was not enough gold or silver in the world to pay for it all. Nation-states took charge of the money supply, and used base metals to make coins that they guaranteed were equivalent in value to the real things.

c. 1000 BCE

TREATY OF MARGUS

8 The Roman Empire bought off further attacks by the forces of Attila by paying the Huns an annual tribute.

c. 1000 BCE

ISLAMIC ECONOMICS

9 *Riba* (usury; lending at high rates of interest) is forbidden, but there is no consensus about how high is too high.

c. 1000 BCE

BILL OF EXCHANGE

13 A signed agreement that party A will pay party B a certain amount either immediately (a sight bill) or on a stated future date (a term bill).

c. 1000 BCE

STOCK

14 Investors in a corporation hold stock in it. There are two types of stock: preferred and common. The former is entitled to a bigger slice of the profits than the latter.

c. 1000 BCE

FIAT MONEY

10 To reassure traders that the replacement of gold and silver coins by coins made of base metal was not a cheat, governments guaranteed the value of the new currency. *Fiat* is the Latin for "let it be"; the term is applied to this sort of money because everyone agreed to accept it.

c. 1000 BCE

SUPPLY & DEMAND

15 The higher the price of a good or a service, the fewer the number of customers. The greater the availability of it, the lower its price must be to prevent people getting it cheaper some place else.

c. 215 CE

ANNUITY

7 An annuity—from the Latin *annus*, year—is any payment made from accumulated funds year-on-year over several years. A pension is an example of an annuity.

c. 1100 CE

SCUTAGE

11 In return for land, knights owed the king military service, but they could buy their way out of it by paying this tax.

c. 1100 CE

BOND

12 A bond certifies that a loan to a company or a government will be repaid with interest on a certain date. It confers no rights of ownership.

c. 1400 CE

DEPOSIT BANK

16 Banks make 80 percent of their profits from storing other people's money. There are three kinds of deposit account. Checking accounts let customers withdraw funds on demand. Savings accounts pay interest, and give customers instant access to their money. Time accounts are deposits for set periods; these pay the highest rates of interest.

CAPITALISM

17 Under this economic system, businesses are privately owned and prices find their own level.

COMMON OWNERSHIP OF PROPERTY

18 Under this economic system—a central tenet of communism and some forms of socialism—every member of society has an equal share in all its wealth. No one has private, exclusive rights to any means of production or to property, all of which is rented.

MERCANTILISM

19 Mercantilism was a trading policy adopted in the Age of Exploration by several European nation-states—notably England, France, the Netherlands, Portugal, and Spain—that were vying for economic supremacy. Among the main aims of mercantilism were self-sufficiency at home, and self-assertion overseas. The rules demanded that the colonies should trade only with the mother country (in other words, the ruling colonial power). There was a total ban on the export of gold or silver, even for payments. No country could send goods on the ships of any other country. Domestic manufacturing and exports were subsidized. Domestic consumption was limited by import bans on commodities from rival nations. Wages were limited by law. With the benefit of hindsight, it may be unsurprising that mercantilism led to war.



1731 ECONOMIC BUBBLE

27 This occurs when there is a rush to invest in a business that has no firm foundation. The South Sea Company was a famous example; another was Dutch tulips.

c. 1750 LAISSEZ-FAIRE ECONOMICS

28 This is the policy of permitting commercial transactions without government interference.

1929 LAW OF DIMINISHING RETURNS

29 If one worker can produce two products a day, it may be that two workers can produce four products. But too many workers will get in each other's way. That's the law.

1929 TRADE ASSOCIATION

20 Companies in the same line of business may pool resources or expertise in their common interest.

1613 STOCK EXCHANGE

21 The place where shares in companies are bought and sold according to demand. The oldest is in Amsterdam.

1848 RATIONAL CHOICE THEORY

22 This is the notion that people's purchasing decisions are based on maximizing the benefits to themselves.

1626 TONTINE

23 Investors pay into an investment fund and receive annual interest payments. As group members die, the surviving members get bigger annuities.

CHECK

24 A check, issued by a bank, is a printed form on which the named account holder can order payments from his or her own funds to any individual or business. The form has spaces in which to write the name of the payee and the amount of money.

1690 ARGUMENT FOR PROPERTY AS THE BASIS OF CIVIL SOCIETY

25 This is John Locke's theory that people "buy into" society, and submit only to rulers who can safeguard their possessions.

1690 ARGUMENT FOR ACQUIRING UNLIMITED WEALTH

26 No. 25 leads to the conclusion that the more one owns, the greater one's importance to the fabric of society, which is thus a plutocracy.

1972 TRAVELER'S CHECKS

30 These are checks of pre-determined denominations in one major currency (most often US dollars or pounds sterling) that can be exchanged for the local currency in countries other than those in which they were issued. Their advantage is that they save carrying different currencies in cash.

1776

MUTUAL FUND

31 The very rich make their own choices about where to put their money. People with fewer resources at their disposal usually invest through mutual funds. These are investment companies whose chief assets are the securities of other companies. Mutual funds offer investors two forms of protection: one is, that their investments are managed by a knowledgeable broker; the other is that their funds are spread over several companies, so that while one asset may decline in value, other assets might increase in value to compensate.



CLASSICAL ECONOMICS

36 The basis of Adam Smith's classical economics is that markets generally function best without government interference.

SAY'S LAW

37 French economist Jean-Baptiste Say asserted that production is the source of demand. For example, someone who sells something has, as a result, the money to buy something else. In theory, this should mean that economic activity is self-perpetuating and unending, but in practice the law fails to take sufficient account of "boom and bust," in the latter part of which, those with money are unwilling to spend it.

1770

THE INVISIBLE HAND

32 This is Adam Smith's suggestion that an individual's financial activity might unintentionally benefit the wider economy.

1791

ENLIGHTENED SELF-INTEREST

33 Any good that one does for society as a whole will also benefit the doer; it is therefore in everyone's interests to help other people.

1776

ABSOLUTE ADVANTAGE

34 This is the ability of a firm or nation to produce more of a good, product, or service than its competitors, using the same amount of resources.

1776

LAW OF UNINTENDED CONSEQUENCES

35 These are good and bad: Prohibition boosted the US liquor trade; Chernobyl became a thriving nature reserve.

1817

LAW OF RENT

38 In essence, David Ricardo's rule states that the price of ownership or use of land increases in proportion to its desirability, and, moreover, that cost of the cheapest land influences that of the most expensive.

1817

COMPARATIVE ADVANTAGE

40 Some nations are better than others at making certain goods. Italy has a warmer climate than Finland, hence it produces better wine.

1838

COURNOT COMPETITION MODEL

42 In this model, created by the French economist whose name it bears, there are two rival companies both servicing a market of known size. Each company has to decide how much of its product to make: it is part of game theory.

1817

RICARDIAN EQUIVALENCE

39 Ricardo believed that any government move to stimulate demand was doomed to failure because consumers would hold back in the expectation that tax-funded spending would be reined in again before long.

1854

BUSINESS CYCLE THEORY

41 Companies go through repeating sequences of expansion, contraction, and recovery. Profitability rises and falls accordingly.

1844

ALIENATION OF THE WORKER

43 Karl Marx believed that, as industrialization spread, more and more people would become detached from their humanity by the mechanistic and repetitive nature of their work.

1824

COOPERATIVES

44 Most companies are run by the owners. Some are controlled by the workforce. A few share labor and profits equally—they are cooperatives.

COST-BENEFIT ANALYSIS

45 This is any attempt to balance the expenditure involved in any project against the gains. Cost-benefit analysis is straightforward when both sides of the equation can be measured in financial terms, but harder when social issues are involved.

OPPORTUNITY COST

46 The basis of this concept is that doing anything prevents you from doing something else. How much more or less would the choice you didn't make have cost you than the one you did make?



FRANCHISE

47 When a big company licenses a small operator to use its name, that is a franchise. The licensee pays for the privilege, and has to maintain corporate standards.

MATHEMATICAL METHOD IN ECONOMICS

48 Conventional economics is a combination of philosophy, politics, and elementary math. Modern economics uses calculus, matrix algebra, and other advanced techniques to produce more accurate models.

EFFICIENT MARKETS HYPOTHESIS

49 According to this theory, it is impossible to "beat the market" (make more money than anyone else with your investments), because stocks always trade at their fair value.

GENERAL EQUILIBRIUM THEORY

51 If you charge too much, you'll sell nothing; if you charge too little, you won't make money. The right price is the equilibrium price.

BERTRAND COMPETITION MODEL

54 Competing companies may lower their prices until they make no profit at all in order to drive their rivals out of the market, whereupon the survivor can charge anything.

MARGINAL REVENUE PRODUCTIVITY

56 With even the most successful products, there is always a danger of over-production. Eventually, the profit from making extra units starts to be less per item than it was when supply and demand were balanced. How can we stop before we reach that point?

NEOCLASSICAL ECONOMICS

58 This approach to economics makes greater use than its predecessors of mathematical formulae. Among its controversial contentions is theory that workers will gain more rights as the global economy grows.

MARGINAL UTILITY ANALYSIS

50 You can drive only one car at a time, but, if you have a second car, the pleasure you get from that is its marginal utility.

GEORGISM

52 American economist Henry George opposed the arbitrary nature of most taxes, and proposed that people should be taxed only on their use of land.

INDIFFERENCE CURVE

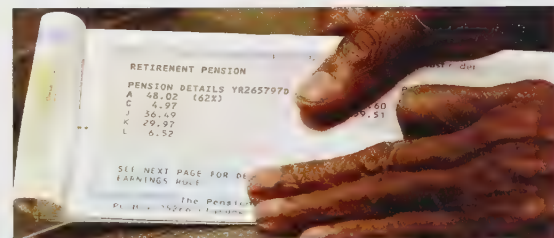
53 We may not care which of two identical products we buy, unless or until their prices differ greatly.

DIRECT SELLING BUSINESS MODEL

55 A form of retail in which the producer needs no premises, but uses agents to present the product direct to potential buyers in their homes or workplace. For example, Avon.

STATE PENSION

57 In an effort to ensure that its citizens are not left destitute after they stop working, through advancing years, sickness or injury, government pays them a certain sum of money every week. This is funded by tax deductions throughout their careers.



1901

LAW TO PROTECT REMITTANCES

59 Remittances are sums of money paid by foreign workers to individuals in their home country. In this year, Italy became the first country in the world to legislate to protect such transfers.

1906

PARETO EFFICIENCY

60 In an economic state that is Pareto efficient, any changes that improve one participant's situation will inevitably make another's worse.

1918

PURCHASING POWER PARITY

64 Economists use this to assess the amount of adjustment needed on the exchange rate between countries in order to match the purchasing power in each. If a candy bar costs \$1 in the United States and £3 in Britain, there are 33¢ to the pound sterling.

c. 1930

ECONOMETRICS

66 Econometrics is the use of statistics and mathematics to analyze economic performance and predict future trends. It also tests old and new hypotheses. Among its key tools are frequency distributions, probability and probability distributions, statistical inference, simple and multiple regression analysis, simultaneous equations models, and time series methods. The term was coined by Ragnar Frisch, one of the first two Nobel laureates in economics.

MARKET SOCIALISM

61 This is a compromise between communism and capitalism in which businesses are publicly owned but subject to market forces rather than state control. Market socialism was practiced in Yugoslavia.



MONETARISM

62 Milton Friedman held that inflation was pegged to the amount of money in circulation, and that a bit more money should be printed annually to allow for natural growth.

1916

WAR BOND

63 War bonds are debt securities issued by nations in times of conflict. Their interest rate is low; they appeal to patriotism.

1919

PONZI SCHEME

65 Named for a Boston clerk, this is a scam that can be sustained only for as long as it can attract new investors. It is similar to a pyramid scheme, but has the added attraction for the fraudster that he or she takes in all the funds before redistributing them to the other participants.



1933

MONOPOLISTIC COMPETITION

67 This is a market in which sellers are offering slightly different products to the same prospective purchasers. One restaurant may sell burgers, another pizza—quite different foods, but both are aimed at the same kind of customers.

GROSS DOMESTIC PRODUCT

68 This broad measure of a nation's prosperity takes account of all legitimate economic activity.

1936

KEYNESIAN ECONOMICS

69 John Maynard Keynes believed that national economies can best be stimulated by increasing government spending. Critics call this short-termism.

1913

SUBSTITUTION V. INCOME EFFECT

70 If you raise the price of one product, your customers will either shop elsewhere or spend less on your other goods.

1913

KINKED DEMAND CURVE THEORY

71 Every product has an optimum price, any alteration to which will cause a reduction in sales.

1940

AGGREGATION PROBLEM

72 This is about the relation between micro behavior and macro (aggregate) statistics. What, if anything, can the behavior of one product tell us about the market as a whole?

GAME THEORY

73 Increasingly important in economics, game theory is concerned with how people try to outthink each other in pursuit of their own ends. As a simple example, imagine two competing companies producing virtually identical products. In a perfect world, it might make sense for them to agree to charge the same amount for each item, but in the real one their rivalry dictates that each will try to undercut the other in an effort to corner the market. But how does each company work out what to charge? The decision will be based partly on finance—how narrow can the owners stand their profit margins to be? But it will also be based on attempts to second-guess the opposition: how far will the competitors dare to reduce their own price? Successful game players know—or guess correctly—their opponents' thoughts, and make best use of the information available.

BRETTON WOODS SYSTEM

74 The United Nations's conference in New Hampshire set up, among other things, the International Monetary Fund (IMF) to intervene when the balance of payments between nations went dangerously out of kilter.

PERMANENT INCOME HYPOTHESIS

80 A boost to the economy might not boost the spending of individuals who can foresee no improvement to their own situation.

PUBLIC CHOICE THEORY

81 American Nobel laureate James Buchanan showed convincingly that we are governed by self-servers, not by altruists.

NEOCLASSICAL SYNTHESIS

75 One of the main emphases of this attempt to reconcile the theories of John Maynard Keynes with those of classical economics is the importance of incentives and costs in decision-making.

ENDOGENOUS GROWTH THEORY

82 This is the notion, which runs counter to several of the orthodoxies of classical economics, that a nation's development is internally powered by talented individuals, rather than driven by its success in foreign trade.

CREDIT CARDS

76 These small pieces of plastic, supplied by banks and other lenders, give the holders freedom to spend up to an agreed limit. The sums are to be repaid up to 60 days later in whole or in part. If paid off in full, there is usually no charge for the loan; partial repayments incur high rates of interest on the outstanding amount.



PORTFOLIO THEORY

77 This is the proposition that a shrewd investor, such as a trust fund manager, can erect an "efficient frontier" that assures a certain profit in return for a given level of risk.

LIFE-CYCLE HYPOTHESIS

78 Young people save for the future; old people worry about spending money they may not be able to replace; the middle-aged spend the most, not least because they usually earn the most.

SOLOW-SWAN MODEL

79 Three factors above all affect a nation's economic growth: the labor force, capital accumulation, and technology. The normal sequence of events is: the number and productivity of workers increase comparably up to a certain point, beyond which the law of diminishing returns starts to apply. Thereafter, further improvements can be achieved only by installing better equipment. The model may be simple, but it explains a lot.

ONE-DIMENSIONAL MAN

83 Herbert Marcuse's book of this title criticized repression under communism and the creation in Western society of consumerist desires that are not real needs.

CAPITAL ASSET PRICING MODEL

84 This mathematical formula, used to determine the price of risky investments, attempts to balance the up-front costs against the expected returns.

CUTTING OUT THE MIDDLEMEN MODEL

85 In theory, nothing could be more clearly beneficial to both producer and consumer. In practice, retailers offer greater choice, credit, and easier return policies.

MORTGAGE-BACKED SECURITY

86 Anyone with a mortgage on a house will lose it if he or she doesn't keep up repayments to the bank. The bank may use such security for other investments.

1968

NATURAL RATE OF UNEMPLOYMENT

87 This is the number of jobless people who can be maintained by the government without causing inflation.

1968

TRAGEDY OF THE COMMONS

88 This occurs when the actions of individuals in their own best interest goes against the greater (common) good.

1981

BUSINESS SYSTEM PLANNING

92 Originally introduced internally by IBM, and now widely adopted worldwide, this is a method of bringing every part of a business—purchasing, inventory, sales, marketing, finance, human resources, forecasting—together organically.

1987

BUSINESS ARCHITECTURE

95 Business architecture aims to achieve full synthesis between the strategic goals and the tactical requirements of any company. There are many business architects, often working as consultants to established enterprises. Among their principal methods is to present the company's internal structures and external relationships in diagrammatic form in order to reveal connections and overlaps that might not be apparent to full-time staff with close-up, day-to-day involvement in the processes. Business architecture also tightens up corporate terminology, confirming, for example, that all staff understand the same by any given term.

1970

MANAGERIAL DUTY TO MAKE MONEY

89 In an article in the *New York Times*, Milton Friedman wrote that any business executives who attempted to do anything other than make money were "unwitting puppets of the intellectual forces that have been undermining the basis of a free society these past decades." The notion may be flawed—it certainly has its critics—but after the author won the Nobel Prize in 1976, it took deep root in corporate thinking.

1970

NEW CLASSICAL MACROECONOMICS

90 Adherents of this theory believe that unemployment is largely voluntary, and that inflation can be controlled by monetary policy.

BEHAVIORAL ECONOMICS

91 This examines the ways in which, and the reasons why, consumers do not always do what is best for them in financial terms.

1980

COMMON POOL RESOURCES THEORY

93 An example of a common pool resource is a forest, which can be of benefit to an indeterminate number of people and society as a whole, unless or until certain individuals start to use it for their own selfish purposes, thus causing a tragedy of the commons.

1985

OUTSOURCING

96 Some companies subcontract parts of their commissioned work to an external supplier, especially when doing so costs them less than having such a provider on their full-time staff.



1985

BRICKS & CLICKS MODEL

97 This is term for any business that has a physical outlet like a shop (bricks) and also takes orders online (clicks).

CROWDSOURCING

99 This is basically a method of disseminating or gathering information about events on or from the Internet. It is also used to raise money from individuals for projects that many conventional lenders have declined to support. There are online platforms for presenting such schemes to the public.

SIX SIGMA



SIX SIGMA

94 This was originally Motorola's statistically based method of reducing variations in its own electronic manufacturing processes. It has since been developed into the most popular management methodology in the world.

1981

ASYMMETRIC INFORMATION

98 In any commercial transaction, this is when one party (usually, but not always, the seller) knows more than the other.

c. 2010

PLATFORM BUSINESS MODEL

100 Platform businesses facilitate the exchange of goods or services, usually online. LinkedIn and Uber are examples.



VENERATION

BENEVOLENCE

FIRMNESS

MORAL

HUMAN NATURE

CONSCIENTIOUSNESS

HOPE

SPIRITUALITY

REFLECTIVES

COMPARATIVENESS

MIRTHFULNESS

PERFECTING

AGREEABLENESS

CAUSALITY

SUBLIMITY

SPRING

IDEALITY

CONSTRUCTIVENESS

EVENTUALITY

CAUTIOUSNESS

SECRETIVENESS

ACQUISITIVENESS

IDEALITY

LOCALITY

INDIVIDUALITY

DESTRUCTIVENESS

BIBATIVENESS

TUNE PERCEPTIVES

WEIGHT

SIZE

FRIENDSHIP

COMBATIVENESS

SECRETIVENESS

ACQUISITIVENESS

DESTRUCTIVENESS

BIBATIVENESS

TUNE PERCEPTIVES

WEIGHT

SIZE

CONJUGALITY

COMBATIVENESS

SECRETIVENESS

ACQUISITIVENESS

DESTRUCTIVENESS

BIBATIVENESS

TUNE PERCEPTIVES

WEIGHT

SIZE

VITATIVENESS

COMBATIVENESS

SECRETIVENESS

ACQUISITIVENESS

DESTRUCTIVENESS

BIBATIVENESS

TUNE PERCEPTIVES

WEIGHT

SIZE

LANGUAGE

1. 50,000 BCE

MIND DISTINCT FROM BODY

1 The concept of a soul—the immaterial essence or animating principal of an individual life—is believed to have emerged around the same time as human consciousness. The soul is generally viewed as separate from the body and is often credited with the faculties of thought, action, and emotion. This dualistic nature was later explored by the French philosopher René Descartes in the sixth of his *Meditations on First Philosophy* (1641), who developed a theory of “substance dualism.” He argued that the nature of the mind—the essence of which is thought; in other words, it is not an extended thing—is fundamentally different from that of the body (the essence of which is extension; unlike the mind, the body does not think).

YIN & YANG

2 A concept that first arose in ancient China, explaining that opposing forces (day/night; man/woman) are inseparable and essential to life, both cosmic and human. Yin and yang is part of the fabric of the universe.

PLATONIC TRIPARTITE SOUL

4 In *Republic*, Plato outlined three parts of the soul. The “appetites” represent all our desires for pleasure or ease. The “spirited” or “hot-blooded” part is that which rises to a challenge. The logical mind, or “nous,” refers to our facility to reason, analyze, and judge.

PERCEPTION AS ILLUSION

3 Any of the senses may be deceived: desert mirages affect the sight; phantom limbs affect the touch. We may sometimes be uncertain whether a memory is of a real event or of a dream. These may all be described as errors of perception and attributed to either a physical or a cognitive cause, unless we share the view of Buddhists and some ancient philosophers that the whole of existence is merely an illusion.

100 PSYCHOLOGY IDEAS

PLATONIC LOVE

5 Plato described this form of affectionate but nonsexual love in his *Symposium*. He intended it to reference a love of high qualities that the beholder appreciates in another individual—such as intelligence or lofty ideals.

KAMA SUTRA

7 This ancient Hindu text covers sexual intercourse in some detail, but also discusses other aspects of love, such as that for family, and how to live a virtuous life.

KOAN

8 Zen Buddhist monks use koans (paradoxical ideas) to help free disciples’ minds.

WABI-SABI

9 Japanese *wabi-sabi* counsels us to accept and find beauty in life’s flaws and transience.

INTELLECT & WILL

10 Thomas Aquinas theorized that the intellect and the will are constantly engaged in a dynamic and complex interaction that may from time to time be influenced by a third force, passion. In any case, it is the intellect that makes the final decision, and the will that makes the body do whatever is required. Aquinas believed that humans made their own will—if their will were divinely determined, he argued, they would be free of moral responsibility, and that was a heretical idea.

HUBRIS

6 When it arose in ancient Greece, this concept referred to the humiliation of one individual by another through violence. Aristotle discusses it in *Rhetoric*, his treatise on the art of persuasion, and considered it shameful.

NUNCHI

11 This Korean term denotes being aware of another’s feelings and tactfully moderating your actions to avoid embarrassing them.

THE MIND IS A BLANK SLATE

12 The familiar term “blank slate” (*tabula rasa*) first arose in the philosopher John Locke’s *An Essay Concerning Human Understanding*. He states that the mind is blank until experiences (such as sensations and mental observation) enable basic ideas to form, to which more complicated knowledge may then be added.

CULTIVATE YOUR GARDEN

13 In *Candide*, Voltaire employs this as a metaphor to suggest that happiness lies in meaningful work and strong relationships.

EMERGENTISM

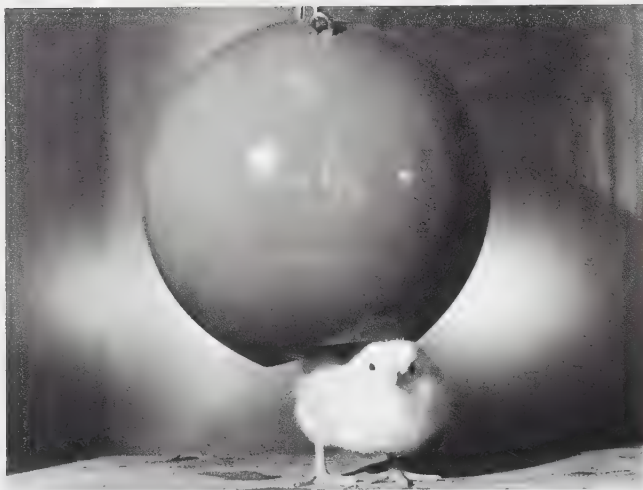
15 In J. S. Mill’s *System of Logic*, “emergent” properties (those that make others work) are more than the sum of their parts.

PHRENOLOGY

14 This is the practice of studying the shape of the skull in order to deduce character traits.

NATURE V. NURTURE

16 The question of whether characteristics are inherited or fostered.



COMPARATIVE PSYCHOLOGY

17 In 1873, *Macmillan's Magazine* featured reports of Douglas Spalding's groundbreaking research into animal behavior. The English biologist studied chicks to find which behavioral traits were inborn ("innate") and which were learned from experience—the earliest-known example of comparative psychology.

VOLUNTARISM

22 Ferdinand Tönnies first used this term, denoting that intellect and emotion are dominated by the will, in *Community and Civil Society*.

WHAT DOES NOT KILL YOU MAKES YOU STRONGER

23 This aphorism is paraphrased from a line in the philosopher Friedrich Nietzsche's *Twilight of the Idols*.

CULTURAL RELATIVISM

24 Although he did not use this term, Franz Boas referred to the idea that all culture is relative to individuals in their particular contexts in "On Alternating Sounds."

FREUDIAN SLIP

25 The concept that an unpremeditated comment by an individual might reveal hidden truths first arose in a letter from Sigmund Freud to his friend Wilhelm Fliess.

PSYCHOTHERAPY

26 The treatment of any psychological disorder, usually in the form of discussion between a consultant and one or more patients.

COMPULSIVE LIAR

27 The German physician Dr. Anton Delbrück published a report in which he described examples of pathological lying in five of his patients in this year.

CONNECTIONISM

28 Edward L. Thorndike proposed that learning takes place by forming connections.

STREAM OF CONSCIOUSNESS

29 William James was first to propose the theory that human consciousness is an unending stream of continuous thought.

INTENTIONALITY

30 The quality of consciousness that makes it conscious of something ("intentionality") was first defined in *Psychology from an Empirical Standpoint* (1884) by Franz Brentano.

PSYCHOLOGY LABORATORY

31 German psychologist Wilhelm Wundt founded the Institute for Experimental Psychology in four rooms at the University of Leipzig in 1879. Before Wundt's innovation, psychology had been regarded as an offshoot of philosophy and physiology rather than as a recognized area of study in its own right. By setting up an experimental workspace where structured, scientific experiments could take place in carefully controlled conditions, Wundt effectively established psychology as a discrete discipline, and the psychology laboratories that were set up in its wake were modeled on this one.

SADISM

32 Richard von Krafft-Ebing popularized this term in his study *Psychopathia Sexualis*, defining it as the experience of finding sexual gratification in cruel or degrading acts or punishment.

MASOCHISM

33 Krafft-Ebing's *Psychopathia Sexualis* also spread awareness of this term, which refers to the concept of deliberately submitting oneself to another's will for sexual gratification.

DUCK-RABBIT ILLUSION

34 This trick of the eye presents an image that can appear as either of two discrete objects. The viewer can switch between them. Joseph Jastrow used this and related artworks to suggest that perception is not just passively receiving a stimulus; it also involves conscious mental activity.



1899

PSYCHOLOGY OF DREAMS

31 Freud's *The Interpretation of Dreams* argued that analysis of dreams can reveal unconscious motivational desires.

c. 1900

STRUCTURALISM IN PSYCHOLOGY

32 The study of the structure of the mind by breaking mental processes down into their basic building blocks.

1900

PARANOIA

33 This psychotic disorder is commonly understood as the delusion that one is being persecuted.

c. 1900

PHENOMENOLOGY

34 A psychology based on the theory that subjective experience determines behavior.

1912

GESTALT PSYCHOLOGY

39 Gestalt is a theory that emphasizes that humans perceive images as patterns or as a whole rather than as their components. Therapy is based on the premise that a healthy person is one whose needs and perceptions of the world are all in balance.



PAVLOV'S DOGS

35 Russian psychologist Ivan Pavlov carried out a series of groundbreaking experiments into how dogs might be trained to respond to a stimulus. Initially, Pavlov's studies revolved around the way dogs salivated when presented with meat. He realized, however, that when he or one of his assistants entered the room, the dogs would begin to salivate, whether they were being brought meat or not. Other psychologists have since discovered that humans can also be primed to respond unwittingly to stimuli.

1913

BEHAVIORISM

40 American psychologist John B. Watson's theory that actions are more indicative of character than thoughts, which, because they are immeasurable, are not a fit subject for scientific study.

1917

DELUSION

41 German philosopher Karl Jaspers defined as delusional anyone who holds preposterous beliefs that cannot be changed by counterargument or proof to the contrary.

1897

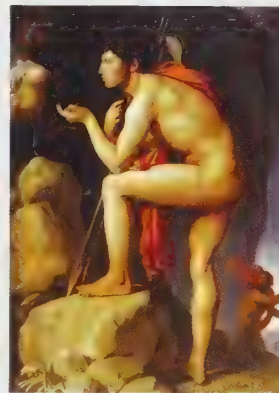
STEINER EDUCATION

36 Rudolf Steiner, founder of anthroposophy, believed controversially that children should be taught, not according to a strict timetable, but in a way that captured and harnessed their emerging interests and capabilities.

1910

OEDIPUS COMPLEX

37 Sigmund Freud observed the tendency of male children to feel a sense of rivalry with their fathers for the love of their mothers. The complex was named for the son of Jocasta and Laius in Greek mythology.



TRANSVESTISM

38 The practice of dressing in the clothing of the opposite sex is as old as time, but the term "transvestism" wasn't coined until 1910, with the publication of *Die Transvestiten* (*The Transvestites*) by German physician Magnus Hirschfeld. It was originally used to describe cross-dressing for sexual excitement, but later came to refer to transvestic disorder, a recognized mental condition.

1907

ARCHETYPES

42 Carl Jung posited 12 universal behaviors that derive from what he termed the collective unconscious.

1858

AUTOSUGGESTION

43 Émile Coué believed that people cannot be hypnotized without allowing themselves to be.

1919

ID, EGO & SUPEREGO

44 Sigmund Freud believed that the human psyche was tripartite. The id is that part of the mind that features all the basest, most selfish desires; the animal instincts. The ego mediates between the id and the external world and raises questions like "How would I feel if someone did that to me?" The superego is partly conscience and partly the idealized self—"What would people think of me if I did that?"

LIBIDO

45 The libido is the sex drive, which, according to Freud, passes through five phases up to maturity: oral (birth to two years of age), anal (two to four years of age), phallic (ages four to six or seven), latency (ages six or seven to puberty), and genital (puberty). Carl Jung used the term more broadly, to encompass all life processes.

c. 1920

INFERIORITY COMPLEX

46 Some people overcompensate for their low self-esteem by trying too hard to impress.

DEATH DRIVE

47 Freud posited that the desire for death can be as strong as the desire for sex.

RORSCHACH TEST

48 This free-associative test requires candidates to look at ten inkblots in turn and then to say what each makes them think of.

CHILD DEVELOPMENT

49 Jean Piaget argued that the development of a child's cognitive abilities is evolutionary, occurring in four distinct stages.

STAGES OF PSYCHOLOGICAL DEVELOPMENT

50 Erik Erikson identified eight: (1) trust v. mistrust (birth to one year old), (2) autonomy v. shame and doubt (one to three years), (3) initiative v. guilt (three to six years), (4) industry v. inferiority (6 to 11 years), (5) identity v. role confusion (11–19 years), (6) intimacy v. isolation (19–39 years), (7) generativity v. stagnation (39–65), and (8) ego integrity v. despair (65 years on).

TRANSEXUALISM

51 Magnus Hirschfeld first used the term "transsexual" in a journal article. He considered transsexualism to be a form of intersex condition.

A ROOM OF ONE'S OWN

52 Virginia Woolf's essay helped to make lesbianism a topic for open discussion.

MASS HALLUCINATION

53 Faked film footage of the Loch Ness monster led to a huge number of sightings.

ORGONE ENERGY

54 This is Wilhelm Reich's hypothetical universal life force, the source of all energy.

LOBOTOMY

55 A purported cure for various psychotic conditions, lobotomy involves cutting or scraping away most of the connections to and from the prefrontal cortex, the anterior part of the frontal lobes of the brain. The procedure was always controversial, and is now rare.



MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

56 Almost as soon as it was originally published, this psychometric test of personality and psychopathology was adopted by a wide range of professions, from employers screening job applicants to law enforcement agencies seeking criminal profiles. The MMPI was updated in 1989, produced in a special edition for testing adolescents in 1992, and restructured in 2008.

HIERARCHY OF NEEDS

57 Abraham Maslow developed a five-stage model for achieving what he termed "self-actualization." The cornerstone of Maslow's structure is physiological needs, which must be satisfied if a human is to achieve anything in life. The next requirement is safety, both physical and emotional. The third desideratum is love, which must be both given and received in order to create a sense of belonging. The penultimate stage is esteem—regard for others and oneself.

PASSIVE-AGGRESSIVE BEHAVIOR

58 Passive-aggression is silent, sullen, and bloody-minded resistance. Such behavior is thought to become established at a young age in children who do not feel that it is safe to express their feelings. It may sometimes be cured through cognitive therapy.

1946

CHILD-CENTERED CHILD-REARING

59 The traditional approach is that the child receives the wisdom of the adults, as and when they wish to impart it: the grown-up is "the sage on the stage." In the child-centered approach, the adult is "the guide on the side," who allows the pupil to take the lead and then encourages development along that chosen line. Such child-rearing is categorized as responsive but not demanding. Thus, for example, if the child expresses an interest in shapes, the teachers take that as their cue to give lessons in geometry. The adults do not renounce all authority; they can still impose discipline, but punishments are forewarned, consistent, and calmly administered.



1949

ALPHA MALE/FEMALE

60 The concept is drawn from observation of social animals. Wolves, for example, have a leader, a strong and assertive beast to which subordinates in the pack defer. In the animal realm, the alpha is almost always male, but in human society there are alphas of both sexes.

1949

ROLE MODEL

62 A role model is anyone whom other people wish to emulate. Role models may set standards of personal probity (Mother Teresa, for example), but most of them are venerated for their success: aspiring basketball players may adopt Michael Jordan as their role model.

1949

SELF-FULFILLING PROPHECY

61 If you say you are bound to fail, you probably will fail, for no other reason than that you have said you will.

1949

DOUBLETHINK

63 The term comes from George Orwell's *Nineteen Eighty-four*. It is now used to describe cognitive dissonance—keeping up appearances.

1950

HOMOSEXUALITY AS DISORDER

64 In countries where strict laws had failed to stop people being gay, doctors stepped up their efforts to cure it.

1950

IMPOSSIBLE OBJECTS

65 These are line drawings that the brain interprets as three-dimensional but which could never exist in reality. Escher's cube is a famous example.

1950

NATIVISM

66 This is the theory that some skills and abilities are with us from birth. It is antithetical to the blank slate theory, in which we know nothing at the start.

1950

ENNEAGRAM

67 The enneagram identifies nine basic types of personality—achiever, challenger, enthusiast, helper, individualist, investigator, loyalist, peacemaker, and reformer. It describes the qualities and shortcomings of each while acknowledging that every individual displays traits from more than one category.



1981

MUNCHAUSEN SYNDROME

68 This psychological disorder impels sufferers to feign illness or injury in order to draw attention to themselves. Unlike hypochondriacs, they do not really think they are ill. The condition is named for a habitual fantasist in a 1785 novel by German author Rudolf Erich Raspe.

1979

PEER PRESSURE

69 This influences the individual to conform to the standards of the group. It can be real or imagined (a desire to fit in). Some individuals may deliberately not conform in order to set themselves apart.

1972

DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS

70 The American Psychiatric Association's directory is the standard reference work for clinicians, researchers, pharmaceutical manufacturers, and insurance companies throughout the United States.

1958

GROUPTHINK

71 When no one disagrees, through fear or the desire to avoid conflict, lousy decisions get made.

1962

PSYCHEDELIC EXPERIENCE

72 Several drugs, notably LSD, are reputed to change one's perception of reality.

FAMILY THERAPY

73 Some problems—even those that appear to be afflicting only one individual—are best solved by group discussions of this type.

COGNITIVISM

74 This is the term for the branch of psychology that studies the way people think: how they learn; remember; develop likes and dislikes, passions and aversions. Cognitivism is distinct from, and may be in conflict with, behaviorism, which concentrates on people's actions rather than on the mental processes behind them.

BLOOM'S TAXONOMY

75 Named after American educational psychologist Benjamin Bloom, this is the framework on which educators in the United States base discussions of curricula and approaches to learning.

MIND-BRAIN IDENTITY

76 This is the recurrent and unresolved question of the relationship between the two: the brain is a physical entity, but the thoughts it "contains" (if that is the correct term; it may not be) are parts of what we call "the mind." Are different, identifiable parts of the brain the seat of particular aspects of the mind?

ALIEN ABDUCTION

77 Most scientists believe that such stories are fantasies. However, some people who claim to have been abducted in groups give strikingly similar accounts of their experiences, apparently without confabulation. The most likely explanation is shared delusion derived from science-fiction movies.

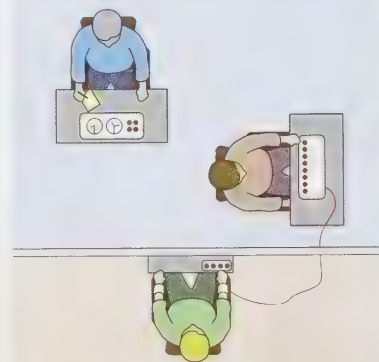
GENERATIVE GRAMMAR

78 This is Noam Chomsky's proposition that every language has a unique set of linguistic rules that govern word order, grammar, and other aspects that native speakers regard as natural.



NYMPHOMANIA

79 This diagnosis of excessive sexual desire in women was common in the late nineteenth century, but it was then applied to anyone whose behavior diverged from the social norms, even unmarried mothers. The term is suspect today because of the acknowledged difficulties of defining the term "excessive."



MILGRAM EXPERIMENTS

80 Stanley Milgram of Yale University tested the ease with which people could be persuaded to administer electric shock to an actor pretending to be a patient. Conducted around the time of the Eichmann trial, it showed that it is not only Nazis who obey orders.

RATIONAL CHOICE THEORY

81 As political science became truly scientific, researchers developed this notion that party preferences and affiliations are determined not by culture or history, but by analysis, a term that encompasses both altruism and opportunism.

MYERS-BRIGGS PERSONALITY INDICATOR

82 Based on the theories of Carl Jung, this self-conducted test identifies 16 distinct psychological types, including Jung's extrovert and introvert.

BRAIN AS A COMPUTER

83 The basis of this theory, first outlined by Hilary Putnam, and subsequently developed by another American philosopher, Jerry Fodor, is that the brain is a computer—that is, something that can interpret symbols and re-present them in another form. The mind is the program that runs on it.

REPRESSIVE TOLERANCE

84 Herbert Marcuse argued that tolerance, as practiced in modern liberal democracies, permits actions such as terrorism that create fear.

FUNCTIONALISM

85 Structuralism is concerned with the anatomy of the mind; functionalism is a reaction to it that emphasizes the importance of behavior.

ELIMINATIVE MATERIALISM

86 This is the theory that certain states of mind—joy, for example, and even perhaps pain—have no neural foundation and are in fact merely perceptions.

1967

ANTIPSYCHIATRY

87 This is the view that psychiatry is a form of oppression in which the medical practitioner imposes his or her view of normality upon the patient.

1957

LATERAL THINKING

88 This term, coined by popular psychologist Edward de Bono, refers to patterns of thought that are not ploddingly step by step, but tangential.

1969

THE FIVE STAGES OF GRIEF

89 In their influential book, Elisabeth Kübler-Ross and David Kessler describe these as, in order: denial, anger, bargaining, depression, and acceptance.

1970

CODEPENDENCY

90 Codependents need to help others in order to gain approval or to maintain their self-esteem. Thus, it may be in their interests to keep an addict on drugs.

1969

WAYS OF SEEING

91 British novelist John Berger alerted attention to some often overlooked problems in painting, such as how infrequently female nudes are true to real form.

1977

GROSS NATIONAL HAPPINESS

92 The concept of gross national happiness (GNH) was originated by the king of Bhutan. He proposed it as a Buddhist alternative to the Western world's gross domestic product (GDP) as a measurement of prosperity. GNH is assessed according to four criteria: (1) the amount of sustainable development, (2) the extent to which the national government preserves and promotes its citizens' cultural values, (3) the success of conservation efforts, and (4) the quality of governance. The idea has since been adopted in slightly altered form by several countries, and since 2011, in the United Nations's *World Happiness Report*.



1973

STOCKHOLM SYNDROME

93 This psychological response, in which captives begin to identify closely with their captors, is named after the Swedish capital because hostages taken during a bank robbery there came to trust the thieves more than the police. The most famous case of Stockholm syndrome is that of Patty Hearst.

1975

NEURO-LINGUISTIC PROGRAMMING

94 This is a method of life coaching that encourages followers to turn negative concepts to positive account: never think you cannot; you can.

1971

NEAR-DEATH EXPERIENCE

95 This is any transcendental sensation that occurs in extremis, or which puts the person who feels it in mind of death: out-of-body feelings, and suchlike.

1976

MEME

97 This is a term, coined by British biologist Richard Dawkins, for cultural influences that are spread by imitation. Memes can be disseminated by any method, but today they move around most quickly via the Internet and social media.



1973

MALE GAZE

95 British feminist film theorist Laura Mulvey coined this term for the way in which many or most moving pictures are made by males and show the world from an exclusively masculine viewpoint.

1976

MISSING LETTER EFFECT

98 When asked to mark every occurrence of a single letter on a page, people find them more reliably in unfamiliar words than in common ones. They are more likely to notice the *h* in "lather" than in "the."

1983

MULTIPLE INTELLIGENCES

99 American psychologist Howard Gardner challenged the notion that people were either clever or stupid by positing seven types of intelligence: linguistic, musical, logical-mathematical, spatial, bodily kinesthetic, interpersonal, and intrapersonal. He later added an eighth, naturalistic.

1978

HARD & SOFT PROBLEMS OF CONSCIOUSNESS

100 It is easy to say that we have experiences, but hard to account for how we categorize and evaluate them—colors and tastes, for example.



CODE OF URUKAGINA

1 This is the oldest-surviving political statute, compiled by or on behalf of the king of Lagash in Mesopotamia for whom it is named. Among its precepts are tax exemptions for widows and orphans and that silver should be used as currency.

CODE OF UR-NAMMU

2 The oldest-known laws are written on a stone tablet in the Akkadian language. Found in Mesopotamia, they are attributed to the founder of the Ur dynasty. They are all phrased along the lines of: "If you do x, y will be done to you."

CODE OF HAMMURABI

3 Inscribed on a diorite stela, this consists of 282 laws of Babylon. The code covers civil, family, and criminal laws, and sets out a sliding scale of punishment according to circumstances and individual means.

CASTE SYSTEM

4 Indo-European-speaking people, later labeled "Aryans," migrated to northwestern India and reduced the social status of the people already living there, thus starting a social hierarchy that exists to this day.

100 SOCIAL REFORMS & MOVEMENTS

AGRICULTURALISM

5 This Chinese theory was the earliest known codification of egalitarianism. Its central tenet was that everyone working in the fields should have equal rights, be equally involved in all decision-making, and receive an equal share of the benefits. It also demanded that prices be unchanging, regardless of supply or demand.

DRACONIAN LAWS

6 The lawgiver Draco simplified the legal system of his native Athens by making death the default penalty for almost every crime, from murder to the most trivial offense, even petty theft. "Draconian" has become a byword for unnecessarily harsh legislation, but it may be that Draco's laws were special measures introduced merely for the duration of some crisis.

FREEDOM OF RELIGION

7 Cyrus II (the Great), founder of the Achaemenid Empire in Persia, initiated a general policy of permitting religious freedom throughout his realm. He is credited in the Bible with liberating the Jews.

DEMOCRACY

8 The concept of rule by the people was first practiced in Athens. Democracy has since been widely adopted by nation-states, but its definition has become so broad that it can be almost meaningless.

CONFUCIANISM

11 This Chinese moral code is based on wise sayings. It is in some ways similar to a religion, but it has no god and teaches only of the need for goodness and the ways of achieving it.

LAW OF THE TWELVE TABLES

12 The earliest extant Roman laws were inscribed on bronze tablets and displayed in the Forum, a great public space in the heart of the city, in order to make the plebians (common people) aware of their rights and obligations in disputes with the patricians (ruling classes).

FREEDOM OF SPEECH

9 This basic right is thought to have first been codified in ancient Athens. It has never been unconditional—it does not extend to incitement to violence, defamation, or obscenity. It is enshrined in the First and Fourteenth Amendments to the Constitution of the United States as the freedom to express information, ideas, and opinions, free of government restrictions, other than those that may be imposed when there is thought to be "clear and present danger"—that is, a risk or threat to safety or to other public interests that is serious and imminent.

MERITOCRACY

10 This is the idea that advancement should be based on ability alone, rather than on wealth, rank, or heredity. The earliest-known advocate of meritocracy was the Chinese philosopher Confucius.

LEGALISM

13 The Chinese legalists doubted that the people would follow any leader unquestioningly, and so introduced strict laws to control them.

PLATO'S TRIPARTITE THEORY OF SOUL

14 In *Republic*, Plato proposes that the soul (the human psyche) has three parts: spirited, appetitive, and logical. He bases this idea on the fact that while the mind is a single entity, it is capable of entertaining contradictory thoughts at the same time. You can be angry with people (spirited), or want them to give you money (appetitive), but know that both thoughts are wrong (logical).

RIGHT TO BEAR ARMS

15 This was given to all free men in Athens because they were required to perform military duties. Note that by no means were all Athenians free men.

KAIHUANG CODE

20 The Chinese emperor Wendi, founder of the Sui dynasty, compiled a new legal framework that was simpler and more lenient than its predecessors. It comprised 12 chapters and 500 provisions, which reconfirmed, among other things, the eight main legal precedents on which future rulings should be based, and the ten major crimes that were punishable by death.

ISLAMIC STATE

21 The Constitution of Medina, negotiated by the prophet Muhammad, gave his Muslims (the Quraysh) equal status with the eight clans of the Saudi peninsula.

FEUDALISM

22 Under this medieval European system, all land was owned by the king or emperor, who granted it to his nobles in return for payments and military service.

GUILD

23 These were associations formed by merchants and craftsmen in related trades to serve their common interests.



SOCIAL WELFARE

16 This is the notion that, in a civilized society, no one should starve, be homeless, or be denied medical care and that the state should provide these benefits gratis to those who cannot afford them. The earliest recorded handouts to the poor were made by the Roman emperor Augustus (ruled 27 BCE–14 CE), who instituted a monthly grain dole for poor citizens. However, social welfare in a recognizable modern form was first introduced by one of Augustus's successors, Trajan. He distributed unprecedentedly large amounts of cash and increased the number of people who could claim it. He also reduced taxes and set aside public funds for the support of poor children.

EDICT OF MILAN

17 This proclamation, jointly agreed between the Western emperor Constantine I and his Byzantine counterpart, Licinius, granted all persons throughout the Roman Empire freedom to worship whatever deity they pleased. Religious tolerance was particularly beneficial to Christians, who were henceforth guaranteed legal rights and had all their confiscated property returned.

JUST WAR THEORY

18 Jesus was a pacifist who advised his followers to turn the other cheek, but theologian St. Augustine of Hippo argued that military action was justifiable if it was demonstrably in pursuit of a Christian objective.

JUSTINIAN CODE

19 Developed under the aegis of the Byzantine emperor Justinian I, this was more a conspectus of existing laws than a new set of precepts. However, any old law that did not make it into the Justinian Code was thereafter unenforceable.

HOBBESIAN STATE OF NATURE

35 English philosopher Thomas Hobbes speculated on what humankind was like before the start of civilization. Among his conclusions was that everyone was equal.

SOCIAL CONTRACT THEORY

36 The idea that rulers and subjects have both rights and obligations was given wide currency by Thomas Hobbes.

ENGLISH BILL OF RIGHTS

37 This centerpiece of the British constitution made the monarchy subject to the will of Parliament.

LIBERALISM

38 The key tenet is John Locke's—that people have inalienable natural rights to "life, liberty, and property."

ENLIGHTENED DESPOTISM

39 Absolute rulers should use moderation in all matters other than those that might restrict their powers

BICAMERAL LEGISLATURE

40 The first two-chamber government was that of Britain. The separate House of Lords and House of Commons maintained the distinction between the nobility and the ordinary people.

SEPARATION OF GOVERNMENTAL POWERS

41 The idea that the judiciary, the executive, and the legislature should be separate, and able to act as checks and balances on each other, was not new, but in this year the French philosopher Montesquieu produced the perfect modern statement of it.

NATIONALISM

42 Until the mid-eighteenth century, people's loyalties were to a religion, a city-state, a feudal lord, a culture, to fellow speakers of a certain language, or perhaps to an employer, some association, sect, or club. The idea of loyalty to a country (usually, but not necessarily, that of one's birth) arose only after the proliferation of nation-states. The consequences were mixed: nationalism imbued people with a sense of purpose and missionary zeal, but it also led by a simple extension of ideas to the belief that there was a hierarchy of nations and that the weak and poor should bend their knees to the rich and powerful. Later, some of the nation-states that were formed along arbitrary lines came under pressure from groups within their frontiers that wanted independence—the Basques in Spain, for example.



CRITIQUE OF INEQUALITY

43 Jean-Jacques Rousseau perceived two types of inequality. Nothing could be done about the natural kind, but artificial inequality could be prevented by acknowledging that humans were happy on their own and that society was responsible for their ills.

ABOLITIONISM

44 As philosophical debate focused on human rights, the slave trade came under increasing scrutiny, and public opinion gradually turned against it.

DECLARATION OF THE RIGHTS OF MAN AND OF THE CITIZEN

45 In what turned out to be the buildup to the French Revolution, republican activists turned the ideas of French political philosophers Montesquieu and Rousseau into this superficially modest, but in reality demanding charter of basic human liberties. They were also influenced by the Virginia Declaration of Rights (1776) in North America. The declaration's basic principle—that all "men are born and remain free and equal in rights"—would be passed into law over thousands of dead bodies.

1789

UTILITARIANISM

46 Jeremy Bentham and John Stuart Mill asserted that an action is right if it tends to promote happiness, and wrong if it tends to produce unhappiness—the aim should be for the greatest good of the greatest number.

c. 1790

TRADITIONAL CONSERVATISM

47 In this European political philosophy, developed partly as a reaction against the French Revolution, the prime requirements for stability and prosperity included tradition, hierarchy, and high culture.

c. 1790

FREE LOVE

48 During the Enlightenment, some people challenged the involvement of the state in personal relationships and casted doubt on the sanctity of marriage, which they saw as a form of bondage for both sexes.



c. 1840

FEMINISM

49 In 1792, Mary Wollstonecraft's *A Vindication of the Rights of Women* put forward the radical argument that women and men should be given equal opportunities in education, work, and politics. Women's rights movements grew throughout the nineteenth century with calls for female suffrage, and are still active today in pursuing gender equality.

MALTHUSIAN SCISSORS

50 Thomas Malthus believed that the world's population was increasing faster than the food supply and that this would bring about the end of the world in 1890.

c. 1848

NONVIOLENT RESISTANCE

53 Eleven people were killed and hundreds injured when the British army broke up a peaceful demonstration in Manchester, England. What became known as the Peterloo Massacre set a precedent for nonviolent resistance. In the twentieth century, the policy was adopted successfully first by Mahatma Gandhi and his followers to undermine the legitimacy of the British colonial government in India, and later by Martin Luther King Jr., to draw attention to the plight of African Americans in the United States. Many commentators take the view that such an approach is effective only when the governing powers have some moral scruples: certainly, nonviolent resistance did not stop Adolf Hitler's expansion through Europe.

1840

ANIMAL RIGHTS

54 Formed in this year in London, England, the Society for the Prevention of Cruelty to Animals was the first organization of its kind. In 1840 it received a royal charter, and became the RSPCA. Today there are similar organizations in every country in the world.

c. 1839

COMTE'S SOCIOLOGY & POSITIVISM

55 Auguste Comte, father of sociology, described three stages of thought: theological (thunder is the sound of an angry god); metaphysical (thunder is a force of nature); and positivistic (thunder is caused by electricity).

c. 1840

PHRENOLOGY

51 This pseudoscience that purported to extrapolate the nature of the mind from the shape of the head was used as the basis of arguments for social reform.

c. 1516

DYSTOPIA

52 Thomas More coined the name Utopia for the location of one's dreams; John Stuart Mill invented "dystopia" for anywhere no one would want to go.



CHILD LABOR LAWS

56 The rapid rise of mechanized industry during the Industrial Revolution in Britain required more workers than the adult population could provide, so children were pressed into service. Their pay and conditions became a scandal, and this year saw the passage into law of the Factory Act, which restricted their working hours and banned the employment of children under nine for anything other than silk manufacture. In 1844 the Factory Act afforded similar protection to women, who had also been exploited.

UK VACCINATION ACT

57 Britain was the first country to provide optional vaccination free of charge. Thirteen years later, the UK government made vaccination for smallpox compulsory.



CLASS STRUGGLE

60 Karl Marx laid down the first precepts of communism in a work that shows the humanist basis of his theories. His magnum opus, *Das Kapital*, was published in 1867.

MANIFEST DESTINY

61 This term, coined by journalist John L. O'Sullivan, was taken up by American politicians and used to validate territorial expansion toward the Pacific Ocean.

COMMUNISM

62 Karl Marx and Friedrich Engels published a pamphlet entitled *Manifesto of the Communist Party*, which had been commissioned by a small group of radicals. A critique of capitalism and a brief sketch of a possible future society, the work concludes with the rallying cry that became famous: "The proletarians have nothing to lose but their chains. They have a world to win. Workingmen of all countries, unite."



ANARCHISM

58 In a controversial academic study, French socialist Pierre-Joseph Proudhon contended that laws are tyrannical, that property is theft, and that crime is merely a consequence of those two injustices. Without either, he wrote, humans would be free to develop their natural inclination, which is to help each other.

THE M'NAGHTEN RULES

59 Alexander Cockburn's defense of Daniel M'Naghten, accused of killing the secretary of British prime minister Robert Peel, established the usual test of insanity in Anglo-American criminal proceedings: whether the defendant was capable of realizing that what he or she did was wrong.

SELF-RELIANCE

63 Henry David Thoreau practiced the things of his mentor, Ralph Waldo Emerson, and his simple life in *Walden, or Life*

NATIONAL LABOR UNION

64 This US movement tried to improve working conditions through legislation rather than collective bargaining.

FOURTEENTH AMENDMENT

65 The Reconstruction Amendment to the US Constitution granted equal civil and legal rights to African Americans.

EUGENICS

66 British scientist Francis Galton wanted to give "the more suitable races or strains of blood a better chance of prevailing speedily over the less suitable."

UNIVERSAL HEALTHCARE

67 Germany was the first nation to compel employers to provide injury and illness insurance for their staff.

1887

CULTURAL RELATIVISM

68 We should not judge other civilizations by our standards, because they have their own.

1893

UNIVERSAL SUFFRAGE

69 In this year New Zealand became the first country in the world to give voting rights to adult women.

1899

CONSUMERISM

70 US economist Thorstein Veblen identified the spending habits of the nouveau riche—to display wealth.

1920

LEAGUE OF NATIONS

71 The founding of this organization was intended to prevent another conflict like World War I. The brainchild of US president Woodrow Wilson, it was fatally weakened by his nation's refusal to join.



1920

PROHIBITION

72 The Eighteenth Amendment of the US Constitution outlawed the manufacture, transportation, and sale of alcoholic beverages throughout the nation. Future president Herbert Hoover described Prohibition as "a noble experiment," but millions of Americans regarded it as an infringement of their rights, and their efforts to get hold of liquor in spite of the law created a commercial opportunity of which criminal gangs were quick to take advantage. The legislation was repealed in 1933.

**FASCISM**

73 The first Fascist ruler was Benito Mussolini in Italy.

Fascism took many different forms in various parts of the world, but among its constants were aggressive nationalism, militarism, implacable opposition to electoral democracy and any form of liberalism, a belief in a natural social hierarchy and the rule of elites, and the subordination of individual desires to national purpose.

1933

NEW DEAL

74 This was the overall term for a host of initiatives introduced by US President Franklin D. Roosevelt to help his nation recover from the Great Depression that began with the Wall Street Crash of 1929. The New Deal created jobs throughout the economy, particularly in the construction industry, and introduced federal insurance to restore confidence in banks.

1935

NÜRNBERG LAWS

75 These race-based measures deprived Jews in Nazi Germany of key rights. They were among the first of the racist Nazi laws that culminated in the Holocaust.

1935

AMERICAN SOCIAL SECURITY ACT

76 Part of the New Deal, this legislation provided federal assistance for the elderly and the deprived.

NEOLIBERALISM

77 The term "neoliberalism" was introduced by German socialist and economist Alexander Rüstow to describe a new form of liberalism that emphasized the value of free market competition and advocated minimal state intervention in economic and social affairs.

1929

CRITICAL THEORY

78 Marxist philosopher Max Horkheimer described how the capitalist state defused opposition by integrating workers into its economic system.

APARTHEID

75 This policy, adopted by South Africa's ruling National Party, codified racial segregation and enshrined in the law. All South Africans were classified as "white," "native" (black), or "colored" (those of mixed descent). The "native" group was later renamed "Bantu" (although it included all black South Africans). In 1959 the government created a fourth category, "Asian." Apartheid (an Afrikaans word meaning "the state of being apart") remained in place until 1994.

RIGHT-WING LIBERTARIANISM

81 The fundamental tenet is that the state should not take money from the rich to give to the poor; the rich can give it to them themselves.

UNIVERSAL DECLARATION OF HUMAN RIGHTS

80 This declaration adopted by the United Nations sets out the desideratum for everyone on Earth. Among the rights it demands are those to marry, to leave one's country and return to it, to asylum from persecution, to participate in government, to social security, to work, to receive equal pay for equal work, to rest and have leisure time, to an adequate standard of living, to education, to participate in the cultural life of the community, and to social and international order. A subsection deals with the rights of children. The Universal Declaration of Human Rights is not a treaty, and therefore has no force in law. Nevertheless, it has been described as "the UN's Magna Carta," and it is widely used as a "common standard of achievement for all peoples and all nations." The day on which it was formally adopted, December 10, is now celebrated annually as Human Rights Day.



AMERICAN CIVIL RIGHTS

82 African Americans were increasingly active in their opposition to segregation. The US Supreme Court ruled that separate could never be equal. In the following year in Montgomery, Alabama, Rosa Parks refused to give up her bus seat to a white person.

ENVIRONMENTAL PROTECTION AGENCY

85 This US government body brought in a Clean Air Act and a Water Pollution Control Act.

VEIL OF IGNORANCE

87 An argument that seeks to show that if you have a 50:50 chance of being a slave, you will be opposed to slavery.

THE GREAT LEAP FORWARD

83 Most countries modernized their farms first, and then their heavy industries. China set up communes in order to do both at the same time.

SOCIAL EXCHANGE THEORY

84 Research conducted by US sociologist George Homans appeared to show that, in relationships, people need to give in order to receive.

VELAYAT-E FAQIH

85 This is the Muslim doctrine that, in the absence of a divinely inspired imam, the community should be led by a jurist.

ORIGINAL POSITION

88 This is an extension of the idea outlined in the "veil of ignorance." Any lawmaker who believes that he or she has a chance of being punished by the law he or she is administering, will make every effort to ensure that all new legislation is fair to everyone.

ROE V. WADE

89 In this case, the US Supreme Court ruled that the state of Texas's attempt to deny a woman the right to terminate her pregnancy was unconstitutional.

1973 REHABILITATION ACT OF 1973

90 This was the first civil rights legislation in the United States designed to protect individuals with disabilities from discrimination. It was signed into law by President Richard M. Nixon.

1973 SMALL IS BEAUTIFUL

91 British economist E. F. Schumacher showed that increased productivity did not improve human welfare.

1980 AL-QAEDAISM

92 This may be summarized as the point of view that wants to end foreign interference in the Arab world.



1988 FAIR TRADE

93 This is an international initiative to help ensure that producers of goods in developing countries receive the best possible payments for their efforts and that their workers are not exploited. The movement is also concerned with the establishment and maintenance of sustainable environmental growth and regeneration policies.

1987 THE REGISTERED PARTNERSHIP ACT

94 In this year Denmark took the first step toward allowing same-sex couples to avow commitment in civil ceremonies.

1991 MCDONALDIZATION

95 Term coined by US sociologist George Ritzer for what he regards as the worldwide homogenization of cultures. McDonaldization is efficient, calculable, predictable, and controlled.

1997 KYOTO PROTOCOL

96 This international treaty commits the signatories to reduce greenhouse gas emissions in order to reduce global warming. Thirty-seven nations have binding targets.

1997 VIRTUAL WORKPLACE

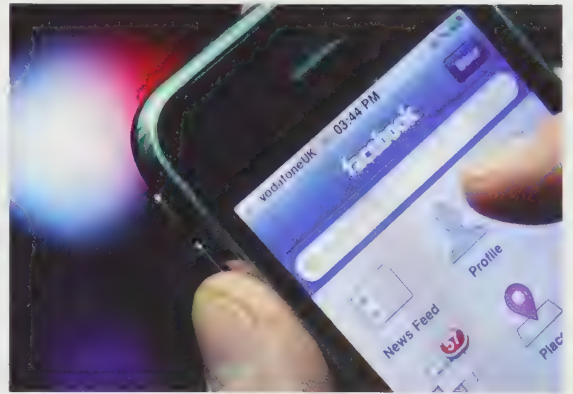
97 This is the office of the computer age: it has no physical premises, but exists wherever its staff members happen to be linked to each other on their computer networks.

1997 WIKIPEDIA

98 Founded by Jimmy Wales, this online encyclopedia may be read for free by anyone with access to the Internet and is potentially available to any writer who wants to make a new contribution or amend an existing entry.

1997 FACEBOOK

99 Founded by four Harvard University students, this is an online social networking service for information sharing. It is free to account holders (around 500 million of them) and makes its money from advertisements on its website.



2011 OCCUPY MOVEMENT

100 The Occupy movement is a nonviolent international protest movement that opposes the control that it believes large corporations have over the global financial system. It claims that their power favors too small a minority and undermines democracy. Its name refers to its strategy of massing in a building or confined public space and remaining there until its demands are addressed by the authorities.





**Alle Wege des Marxismus
führen nach Moskau!**

FORMAL

AFFIRMING A DISJUNCT

1 The mistake, when faced with alternatives, of assuming that if one option isn't true the other can't be either.

FORMAL

AFFIRMING THE CONSEQUENT

2 The assumption that if the "if" part of an "if... then" construction is correct, the second part is also true.

FORMAL

CONJUNCTION FALLACY

3 The failure to recognize that two things are less likely to happen together than to occur separately.

FORMAL

DENYING THE ANTECEDENT

4 The converse of No. 2: assuming that if the "if" part of an "if... then" is wrong, the second part is also false.

FORMAL

FALLACY OF FOUR TERMS

5 Syllogisms have only three steps (terms) each; the introduction of an extra step destroys their logical foundation.

100 COMMON FALLACIES

FORMAL

ILLICIT AFFIRMATIVE

6 This is a false, positive inference from two negative statements. For example: we don't watch reality television; people who watch reality television have no culture; therefore we have culture.

FORMAL

ILLICIT NEGATIVE

7 This is a negative conclusion falsely reached from two positive premises. For example: all colonels are officers; all officers are soldiers; therefore no colonel is a soldier.

FORMAL

UNDISTRIBUTED MIDDLE TERM

8 A proposition that leads to a false conclusion: all students may be dirty, but not all dirty people are students.

FORMAL

ILLICIT MAJOR TERM

9 If the first part of a syllogism is true, its converse must be, too: all dogs are mammals; no cats are dogs; therefore no cats are mammals.

FORMAL

ILLICIT MINOR TERM

10 "Cigarettes taste good but they're harmful. Everything that tastes good is harmful." The minor term, "harmful," is correctly applied the first time but not the second.

FORMAL

AD HOMINEM

11 This is a form of argument that attempts to cast doubt on a person's authority in a matter: "You can't criticize *Hamlet* unless you've written a play yourself." This is usually disreputable, but it may be legitimate in certain circumstances: "How can you chair the Vegan League when you're a carnivore?"

FORMAL

AD POPULUM

13 This approach to discussion is epitomized by assertions starting with the words: "Everyone agrees that..." Even if that were true (unlikely), it would not put the matter beyond dispute.

MATERIAL

APPEAL TO COMMON PRACTICE

15 "Everybody does it" is a phrase used to justify some less than admirable action. But there are two difficulties: one is that it's likely to be an exaggeration; the other is that, even if it isn't, it is no excuse.

MATERIAL

AD HOMINEM, TU QUOQUE

12 This attempts to undermine the arguments of others by pointing out that they themselves do or did the opposite of what they're now suggesting. If your father, a smoker, tells you not to smoke, you can say "Tu quoque" (You too).

MATERIAL

APPEAL TO BELIEF

14 The lazy notion that common beliefs are believable because they're commonly held: it was once commonly believed that the world was flat.

MATERIAL

APPEAL TO COMMON SENSE

16 The usually complacent assumption that anything one has never previously experienced or read about cannot be possible.



APPEAL TO CONSEQUENCES OF A BELIEF

18 The number of people who believe something has no bearing whatever on whether their belief is true. Yet some people think that we have to keep faith with certain concepts simply because rejecting them might cause conflict.

APPEAL TO IGNORANCE

17 This is the assertion that a statement is true simply because no one has proved it false. The converse, however, is not fallacious: scientists have to be skeptical, and they must assume that nothing is true until it has been proven.

APPEAL TO INAPPROPRIATE AUTHORITY

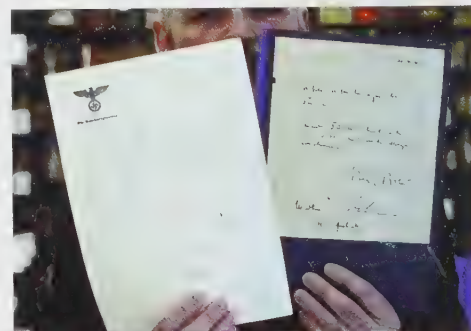
22 The fallacy of quoting a recognized authority on a subject as if his or her words were holy writ, while failing to take account of the possibility that even the greatest expert might be wrong. In 1983, an Oxford professor of modern history was duped into authenticating the diaries of Adolf Hitler, which turned out to be forgeries.

APPEAL TO FEAR

20 "If you vote for the socialist candidate, the Russians will invade." This may be true, but prognostication has no place in logical argument: who can say for sure that such a thing will ever happen?

APPEAL TO FLATTERY

21 "A clever woman like you must know . . ." This kind of argument is aggressive because it aims to make the woman think that if she doesn't agree she might not be clever.



APPEAL TO NOVELTY

23 The false notion that anything new is better than anything old, and that the latest fashion is superior to the styles that it has superseded. The truth is perhaps better reflected in the Book of Ecclesiastes ("There is no new thing under the sun") and in The Who's song "Won't Get Fooled Again" ("Meet the new boss/Same as the old boss").

APPEAL TO PITY

24 This is any attempt to bring people around to your point of view, out of sympathy for some real or invented malaise: "You must agree with me because I'm very old/tired/sick/dying." The well-being of the speaker has no bearing on the quality of the point being made, which should be judged exclusively on its own merits.

APPEAL TO RIDICULE

25 Some people attempt to demolish the arguments of others by laughing at them. For example: "Paris the capital of France? That's the most ridiculous thing I've heard in my life!" (Even if Paris were not the capital of France, the approach would still be unattractive.)

APPEAL TO SPITE

26 This is the fallacy that anyone you don't like is always wrong. "When I think of the way he let you down over that business deal, I can't understand how you can possibly agree with his suggestion that there should be a new tax in a year."

APPEAL TO TRADITION

27 "This is the way we've always done it," may be factually accurate, but it may not be the best method. The success of the past does not necessarily equate to the failure of the future.

ARGUMENT FROM PERSONAL INCREDULITY

28 A thing is not impossible merely because you cannot imagine it. By the same token, something that's hard to understand is not necessarily an act of God.

APPEAL TO PROBABILITY

29 This is the assumption that something is true for no better reason than that it is not demonstrably false.

ARGUMENT FROM FALLACY

30 "I can't go out in daylight because I'm a vampire." The second part of this statement is false, but that has no bearing on the truth or otherwise of the first part.

MATERIAL

ARGUMENT FROM REPETITION

31 Some people argue by steamrolling the opposition, repeating the same point over and over, often in the same words. But saying something doesn't make it true: argument from repetition is another bullying tactic.

MATERIAL

BASE RATE FALLACY

34 This is either the use of irrelevant statistics or the omission of vital ones in the mistaken belief that they're irrelevant.

MATERIAL

BURDEN OF PROOF

35 There is a burden of proof in all cases, but it is important to put it on the right side. In Western democratic legal systems, it is on the prosecution, not the defense. In debates, it rests with the side that's trying to prove a proposition rather than disprove it.



MATERIAL

DIVINE FALLACY

39 The notion that anything inexplicable must be the work of God. The question of whether God exists is irrelevant here: the fallacy lies in the fact that there's no evidence either way.

MATERIAL

ARGUMENT FROM SILENCE

32 Sometimes people will respond to a point with nothing more than silence, and perhaps a meaningful look. Does this mean that they concede the point, or that it was not worth a reply? We may never discover the answer.

MATERIAL

BANDWAGON

33 This is the unattractive tendency to spike independent thought by saying that members of "our" group simply don't consider such matters, and that anyone who does faces ostracism. It may be that in some societies this is regarded as a necessary homogenization of disparate and perhaps sometimes inchoate views, but that doesn't alter the fact that it's a fallacy.



MATERIAL

BEGGING THE QUESTION

38 This is basing two conclusions on each other, rather than on proof. Descartes begged the question in an essay in which he asserted that God made all that is good; that the world is good; and therefore that God made the world. Begging a question is not the same as inviting one or leading to one.

MATERIAL

BIASED SAMPLE

36 If a journalist stops 100 people in the street and 90 of them say they favor capital punishment for traffic violations, does that mean that 90 percent of the population support such a move?

MATERIAL

CONFUSING CAUSE & EFFECT

37 Just because two things happen at the same time, that does not necessarily mean that there is any link between them.

MATERIAL

EXISTENTIAL FALLACY

40 This occurs when the two universal premises of a syllogism lead to a merely partial conclusion. Every unicorn has a horn on its head; all horses look like young unicorns; therefore some horses are young unicorns. The fallacy here is to believe that things belong to a group when they don't.

MATERIAL

ECOLOGICAL FALLACY

41 This occurs when an analysis of group data is used to draw conclusions about an individual—extrapolating the part from the whole. You are left-handed. Creative people are left-handed. Therefore you are creative.

MATERIAL

BROKEN WINDOW

42 French economist Frédéric Bastiat demonstrated why it's fallacious to assume that damage can stimulate prosperity by making work—it merely causes expenditure.

MATERIAL

CHRONOLOGICAL SNOBBERY

43 This is any idea that more recent times are superior to earlier times, that humanity is constantly improving, and that our ancestors knew less than we know.

MATERIAL

COMPARING APPLES TO ORANGES

44 This is any attempt to find likenesses in objects, events, or circumstances that seem to have common features, but which are in fact quite distinct from each other in every way, apart from shared membership of an arbitrary category, in this case "fruit."



MATERIAL

FALLACY INTRODUCED BY THALES

45 According to Aristotle, Thales of Miletus heard there was going to be a hot summer, so he reserved a lot of olive presses early in the year, and then rented them out at a much higher price at harvest time. He made a fortune, and congratulated himself on his ability to forecast the weather. But he overlooked the real reason for his success: he'd got in ahead of the crowd; the farmers would have needed the presses in any event.

MATERIAL

FALSE DILEMMA

46 This is when someone believes that there is only a single choice—A is right, and if not, B must be—when in fact there are many other possibilities. “Either you are with us, or you are with the terrorists.”

MATERIAL

GAMBLER'S FALLACY

47 This is the notion that the frequency with which a number has come up (in a lottery, for example) in the past has any bearing on the likelihood of it coming up in the future.

MATERIAL

GENETIC FALLACY

48 “I read that the Korean War ended in 1953, but my dad always said it ended in 1954, and I’d never doubt his word; he wouldn’t have told me that for no reason.”

MATERIAL

GUILT BY ASSOCIATION

49 You may dislike someone, but that does not mean that you should discount everything he or she says. Neither should you condemn people out of hand simply because of the company they keep.

MATERIAL

HEDGING

50 You lose some points in an argument; you revise your claim, and make it again without acknowledging the changes.

MATERIAL

HOMUNCULUS FALLACY

51 This is any argument that accounts for something in the very terms that it is supposed to explain, and is hence infinitely regressive.

MATERIAL

IF-BY-WHISKEY

52 Named after a speech about liquor by a Mississippi politician that meant nothing, this is any argument that’s all things to all people.

MATERIAL

INCOMPLETE COMPARISON

53 “Glasgow is miles better” was a slogan of the 1980s. It invites the question “Better than what?” It’s an incomplete comparison.

MATERIAL

HASTY/FALSE GENERALIZATION

54 This is a false conclusion drawn from a small, unrepresentative sample. For example: “I drive home from the bar every evening and I’ve never had an accident. Drunk driving is not the great menace to society that it’s said to be”; “My dad smoked 60 a day and lived till he was 90: cigarettes don’t kill you.”



MATERIAL

INCONSISTENT COMPARISON

55 This is asserting likenesses in unlike things, usually for the purposes of disparagement. “Cigarettes are healthier than [illegible]”

MATERIAL

IRRELEVANT CONCLUSION

56 This is when the argument ends by demonstrating something that may be related to, but is different from, the premise.

MATERIAL

HISTORIAN'S FALLACY

57 This is the mistake of stating that a figure of the past should have taken account of something that he or she could not possibly have known.

MATERIAL

IGNORING COMMON CAUSE

58 You may think you’re sneezing because you have a cold, but it may be because you’re standing in a corn field. In this instance, the field is the common cause.

MATERIAL

KETTLE LOGIC

59 This fallacy, named for a story told by Sigmund Freud, is that of offering two or more contradictory explanations of one thing.

MATERIAL

LUDIC FALLACY

60 This is the probable flaw in game theory: that no game, no matter how complicated, can accurately reflect real life.

MATERIAL

MIND PROJECTION FALLACY

63 In its simplest terms, this is the lazy confusion of personal preference with objective quality. For example: "I like candy; therefore candy is good."

MATERIAL

NIRVANA FALLACY

66 It is not a perfect world and attempts to make it better are futile. There's no point in banning things that will happen anyway.

MATERIAL

POST HOC ERGO PROPTER HOC

67 This is the false assumption that, when two things happen one after the other, the earlier event has caused the later one. The truth is that sequences don't establish probable causes any more than coincidences do. But it's easy to think that my cold went away because I took aspirin.

MATERIAL

MASKED MAN FALLACY

61 Lois Lane knows that Superman can fly. Lois Lane knows that Clark Kent can't fly. Therefore Lois Lane knows that Clark Kent is not Superman. In formal terms, her error is to think that she knows something without knowing all of its possible names.

MATERIAL

MIDDLE GROUND

62 This is the false, but possibly tempting, conclusion that the moderate approach—straight down the line between two extremes—is the right one. Some say that God is all-powerful; others say that there is no God; I believe that God is very strong, but that there are some things he cannot do.



MATERIAL

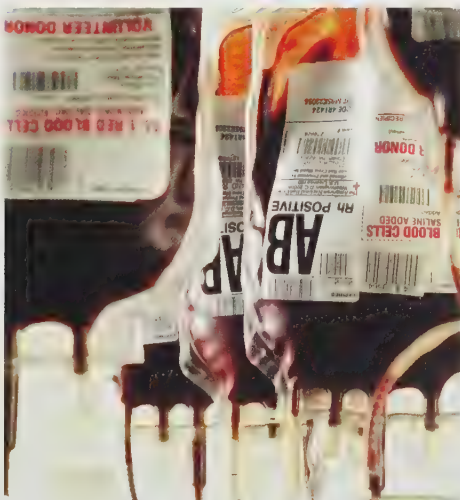
NATURALISTIC FALLACY

65 Every living creature is doomed to die, and it is therefore wrong to do anything to delay or prevent this inevitable fate. Medical intervention is wrong; nature must take its course.

MATERIAL

PROSECUTOR'S FALLACY

68 Only one person in a thousand has the same blood type as the defendant. Blood of that type was found at the crime scene. Therefore the chances of the defendant not being guilty are 1,000 to one.



MATERIAL

QUESTIONABLE CAUSE

69 My team wins whenever I am wearing my special lucky socks. If I wear anything else under my boots on match days, my team will lose. Put like this, it plainly makes no sense, but such fallacies govern the lives of many people.

MATERIAL

RED HERRING

70 This is any attempt to divert an interrogator away from an awkward line of questioning onto a topic with which the interviewee is less uncomfortable. It's a favorite device of politicians.

MATERIAL

PSYCHOLOGIST'S FALLACY

71 This is the unwarranted assumption that one's own perspective is "normal," and that anyone different is aberrant.

MATERIAL

REDUCTIO AD HITLERUM

72 This is the trick of bringing the Nazi leader into an argument in order to discredit the opposing view. You like dogs? Hitler liked dogs.

REGRESSION

73 This is the fallacy of attributing the natural ebb and flow of events to proximate, but in truth unrelated, occurrences.

REIFICATION

74 This is the attribution of real qualities to abstractions. "Death will find you" may work in literature, but it's logically flawed.

RELATIVIST FALLACY

75 This is any attempt to undermine an argument by asserting that the opposing view may be acceptable to or right for some people, but that it will not do for the speaker. The fallacy is the failure to recognize that facts are facts, whether people accept them or not.

RETROSPECTIVE DETERMINISM

76 Anything that ever happened was inevitable; there was nothing anyone could have done about it.

SLIPPERY SLOPE

77 This is the false determinism which asserts that, for example, a cigarette smoker will inevitably decline into cannabis addiction and then heroin abuse. If our nation lets in one asylum seeker, it will have to let them all in.

SPECIAL PLEADING

78 Anyone who applies standards and principles to the world at large while excusing himself or herself from the need to comply with them is guilty of special pleading. It's thinking one is above the law.

SPOTLIGHT

79 This is the idea that, because some members of a group have a certain characteristic, they all have: Africans have natural rhythm.



STRAW MAN

80 This is the trick of undermining a view opposed to one's own by misrepresenting it, often in a grossly exaggerated way. For example, a supporter of the Affordable Care Act (ACA) might suggest that anyone opposed to it wants to see poor people dying on the streets; an opponent of further US involvement in Iraq might be denounced as someone who wants Americans to be killed in their beds.

SUBJECTIVIST FALLACY

81 This is almost the same as the relativist fallacy, the main difference being that extreme subjectivists will make no attempt to empathize with the rest of humanity. It is immaterial to them whether anyone else has ever felt or thought this way before—they are solipsists who believe that the only certainty is their own existence.

TEXAS SHARPSHOOTER

82 This is the mistaken attribution of causes to random events. If you make enough predictions, some of them may come true: does that mean that you have seen the future?

TWO WRONGS MAKE A RIGHT

83 Mr. A killed Mr. B because Mr. B would have killed Mr. C. This may sometimes be right in law (justified homicide) but in logic it's a fallacy.

COMPOSITION

84 This is the fallacy that a whole is no more than the sum of its constituent parts. Water is two parts hydrogen and one part oxygen. Hydrogen and oxygen are both gases and neither of them is wet. Therefore water can't be a liquid.

CONTINUUM FALLACY

85 A heap of sand contains countless grains. But every grain can be counted, if we have the time and the desire to do so, so in that case there is no such thing as a heap of sand, only a number of grains waiting to be counted.

DEFINIST FALLACY

86 This is the trick of defining one's terms in a way that will make it easier to argue the case. "Let's assume that all liberals are crypto-commies . . ."



DIVISION

87 This is inaccurately concluding that what is true of a whole must also be true of its component parts. For example: ten is an even number. It is (or can be) made by adding together seven and three. Therefore, according to the fallacy of division, seven and three must also be even numbers. All swimmers are athletes, but not all athletes are swimmers.

VERBAL

EQUIVOCATION

88 Equivocation is the (often deliberate) use of a term that may be taken more than one way. It's meant to mislead. It's different from a double entendre, which in spite of its name has only one real meaning.

VERBAL

ETYMOLOGICAL FALLACY

89 This is the idea that the current meaning of any word is the same as it's always been. Thus Chaucer's statement that the Knight "was not gay" is wrongly taken as a reference to his sexuality.

VERBAL

LOADED QUESTION

90 This is a question that admits of no straightforward yes or no answer. The classic example is "When did you stop beating your wife?"

VERBAL

MISLEADING VIVIDNESS

91 A small number of dramatic and vivid events are used as anecdotal evidence against a significant amount of statistical evidence.

VERBAL

MORAL HIGH GROUND

92 As a fallacy, any assumption that one has the authority to moralize is snobbery, but virtue can lecture vice, so long as it's genuine virtue.

VERBAL

MOVING THE GOALPOSTS

93 Someone has proved or disproved a proposition, as required. He or she is then asked to prove or disprove another one, perhaps ad infinitum.

VERBAL

NO TRUE SCOTSMAN

94 This is reinterpreting the evidence in order to avoid a refutation of your former position. For example: I first suggest that no Scotsman dislikes Burns; you say that your best friend, a Scot, would rather be shot than read a word of poetry. I then say that no true Scotsman dislikes Burns . . .



VERBAL

PROOF BY VERBOSITY

97 It may be that, by talking for hours or writing at great length in highfalutin language, your audience will stop following the argument and assume that you must know your subject. But maybe you know less than them.

VERBAL

OVERSIMPLIFICATION

95 The attribution of an event to a single cause, when there were multiple factors. For example: "I didn't get that job because I was a woman." "Is it not possible that the employer turned you down because you came to the interview drunk and a day late?"

VERBAL

POISONING THE WELL

96 This is any effort to undermine a point by pre-emptively casting aspersions on the character of the person making it. "He may seem liberal now, but at college he went to Communist Party meetings." In formal logic, such matters should have no bearing on the rightness or wrongness of his statements now.

VERBAL

QUOTING OUT OF CONTEXT

98 The billboard outside the Broadway theater reads: "The star was pretty—the *New York Times*." What the critic really wrote was: "The star was pretty lousy."

VERBAL

SORITES FALLACY

99 The rejection of a vague claim because it is not as precise as the listener would like it to be. It is also known as the Line-Drawing Fallacy.

VERBAL

SUPPRESSED CORRELATIVE

100 This is the unjustified reduction of everything to alternatives: either you're hungry or you're not hungry; anyone who isn't for us is against us, and so on. In its benign form, it's simple-minded; in its worst manifestations, it's bullying.



CAVE PAINTINGS

1 Since the end of the nineteenth century, archaeologists have discovered art of varying complexity on the walls of nearly 300 Eurasian caves between Maltravieso, Spain, and Kapova, Russia. Of the numerous theories about their purpose, one of the most widely held is that the depictions of animals symbolized astronomical data.

MOTHER GODDESS

2 This personification of motherhood, fertility, and creation has been found in human culture since the Paleolithic era.

SERPENTS

3 They may symbolize fertility, regeneration, or lust. The Greek snake-entwined staff of Asclepius symbolizes medicine.

100 SYMBOLS & CODES

SWASTIKA

4 This is an equilateral cross with arms bent at right angles, all in the same rotary direction: clockwise often symbolizes the Sun; counterclockwise, the forces of night, such as the Hindu goddess Kali. The swastika appears in most religions, but has been in disrepute since it was adopted by the Nazis.

NEOLITHIC SYMBOLS

5 Inscriptions on artifacts discovered in the late nineteenth century at Vinca, on the outskirts of Belgrade, Serbia, and in the late twentieth century at three sites in China—Jiahu, Dadiwan, and Damaidi—have divided opinion. Some archaeologists believe that they are still-to-be-deciphered symbols; others take the view that they are the earliest forms of writing.

FENG SHUI

6 This is the ancient Chinese philosophical system that attempts to reconcile all aspects of existence by finding the opposite or the converse of everything: for day, there is night; for pain, there is pleasure; for love, there is hate; for war, there is peace; and so on.

PENTAGRAM

7 The five-pointed star has always had mystical significance, partly because it represents the five human senses—hearing, sight, smell, taste, and touch.

TRISKELION

8 This three-pointed figure with rotational symmetry symbolizes indomitability—it will always remain upright. It is a symbol of Sicily.

PICTOGRAM

9 This is any attempt to communicate specific information through visual representation; it is not art in the usual sense.

NUMEROLOGICAL SIGNS

11 On the basis that every letter of the alphabet has a numerical equivalent (A=1; Z=26), fortune-tellers use people's names (and their dates and times of birth) to make predictions about them.

EGYPTIAN HIEROGLYPHS

10 A hieroglyph is a picture that can be taken literally, as what it depicts, or as a symbol of another word or of a sound. For example, a large circle might represent the Sun, but it might also be used figuratively for "day," or even as a clue to pronunciation. The Egyptians used this form of writing only on monuments; for documents they used hieratic script.

ANKH

12 A cross surmounted by a loop, this Egyptian hieroglyph represents life. The ankh is one of the most widely used symbols of the Coptic Christian church.

CADUCEUS

13 This staff or wand entwined with two serpents, and sometimes surmounted by wings, was carried by Hermes, the messenger of the Greek gods. It originally symbolized peace and was widely employed by ambassadors and heralds.

SCARAB

16 The scarab was a representation of the dung beetle, which in ancient Egypt symbolized the Sun's daily movement across the sky.

TREE OF LIFE

17 This represents, among other things, the link between Earth (the roots) and Heaven (the trunk and branches).

WINGED SUN

14 In ancient Egypt, this was a symbol of royal power. Variations on the theme have appeared down the ages, as for example in the logo of Chrysler.

I CHING HEXAGRAMS

15 The earliest Chinese book of divination contains 64 figures, each composed of six lines, some broken (to represent yin), and some solid (to represent yang).

DOVE

19 Doves—especially white ones—most usually symbolize peace. In the New Testament of the Bible, they also represent the Holy Spirit.

TATTOO

20 Tattoos are common among light-skinned people in most cultures other than that of the Chinese. Some of them are thought to have magical properties (to ward off evil, and suchlike); others are indicative of rank and wealth; many are merely decorative.

LABYRINTH

21 This generally symbolizes the path to God (at the center) from a single point of entry (birth). The route is tortuously circuitous, but there is only one way through it. A labyrinth is thus different from a maze, which has many blind alleys.

LINEAR A & B

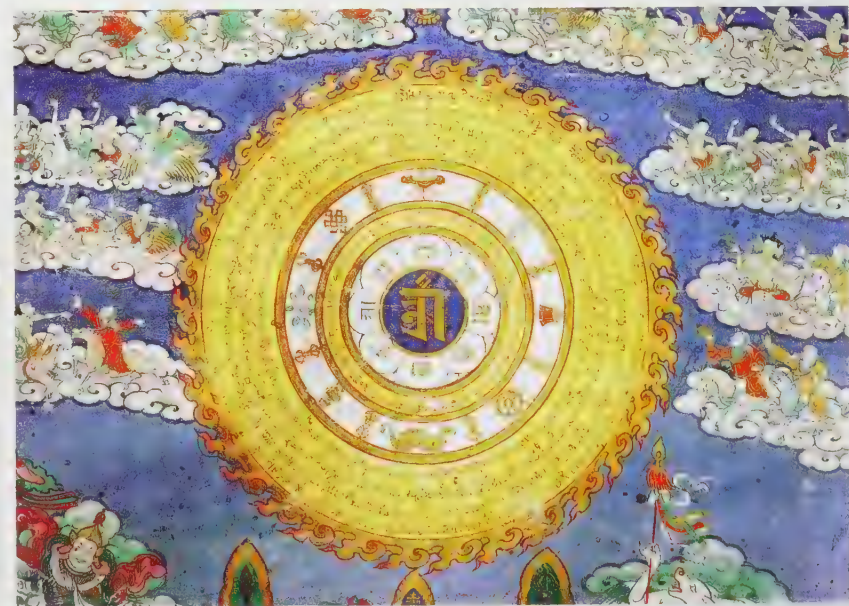
22 These scripts, used by Aegean civilizations in the second millennium BCE, were discovered in Crete in the nineteenth century, but remained undeciphered until 1952, when an English cryptographer deduced that Linear B was a form of Greek. Linear A, however, remains a mystery until this day. It is a syllabic script written (usually) from left to right and has around 90 symbols, but no one has yet discovered what language it is.

SPHINX

18 The earliest and most famous depiction of this mythological creature with the body of a lion and the head of a human is the great monument in Giza, Egypt. The sphinx symbolizes omniscience.

CHAKRA

23 A chakra is a wheel in Sanskrit. In several Asian philosophical and religious systems, there are thought to be seven energy centers in the human body, which are like interlocking wheels in a machine. Each chakra is located in a different part of the body and governs a particular aspect of being: the base of the spine is instinct; the navel is emotion; the solar plexus is intellect; the heart is love; the lungs are compassion; the eye is intuition; and the crown of the head is spirituality.



c. 1500 BCE

ZERO

24 The ancient Babylonians represented nothing with nothing: they merely left a space. They later took to using two slanted wedges to represent nought. Hindus adopted the zero in their original binary numbering system and retained it when they later converted to the decimal system that is now used universally.

c. 1500 BCE

MEDICINE WHEELS

25 These are monuments made from rough stones laid side by side and orientated to the cardinal points of the compass. Often erected by North American native peoples, their purposes are varied and not always certain.

c. 1000 BCE

MANDALA

26 In Buddhism and Hinduism, the mandala is an instrument of meditation; it is a circle symbolizing the universe.

c. 1000 BCE

HITCHING POST OF THE SUN

27 This is any of the stones in South America that are arranged so that at midday on the annual winter solstice, they cast virtually no shadow.

c. 1400 BCE

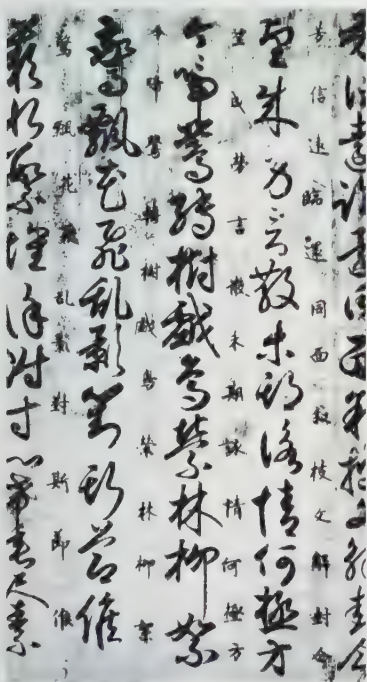
EYE OF HORUS

28 In ancient Egypt, this all-seeing eye symbolized royal power and was thought to confer good health.

c. 1400 BCE

LOTUS FLOWER

29 In Buddhism the lotus symbolizes purity of body, speech, and mind, because it sprouts beauty from muddy ground.



c. 1200 BCE

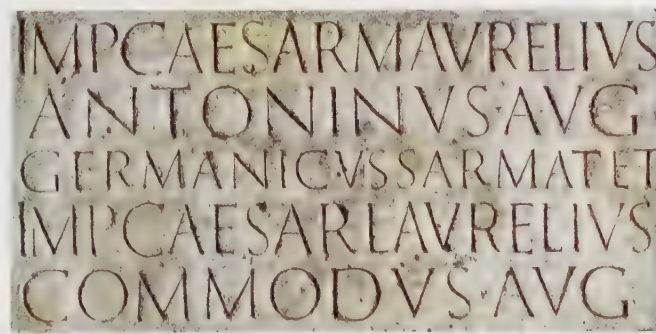
CHINESE CHARACTERS

30 Originally, Chinese writing was pictographic—that is, a script in which each symbol was a visual representation of a single word. For words that could not easily be shown in this way, the Chinese used the symbols of words that sounded similar, and expected readers to extrapolate the intended meaning from the context. Then, to minimize the ambiguities thus arising, Chinese words were written in two parts: one to give the sound, the other to suggest the meaning. In conversation, the Chinese often use gestures to distinguish between their language's many homophones.

c. 1100 BCE

ALPHABET

31 The alphabets used in the Western world today—everything from English to Russian—are developments of the Greek alphabet, which was itself derived from Semitic writings of the ancient Syrians. Each letter (or, sometimes, a combination of letters) represents a different sound. Among the many things we do not know about the development of the alphabet is why it is in the order it is or why every alphabet starts with A.



c. 1100 BCE

FLAG

32 Flags have been used since the earliest times to display allegiances and to distinguish friend from foe. The ancient Egyptians carried cloth streamers; the Aztecs waved fans made of green quetzal feathers; the Assyrians paraded with long poles topped by disks bearing images of a running bull. When nations began to adopt flags, many of them first took their designs from the coats of arms of their patron saints.

c. 1000 BCE

ANAGRAM

33 An anagram is the letters of one or more words transposed with another word or words. Anagrams are a staple ingredient of word games, but they can also be used to hide real meaning. "I know M. Hill" might be a simple statement, but it is also an anagram of "Kill him now."

c. 1000 BCE

ZODIAC SIGNS

34 The sky around Earth is divided into 12 segments (one per month), each of which is named for a constellation within it. Each constellation relates to an ancient Greek myth.

CHINESE DRAGON

35 In Western mythology, dragons are usually bad, but in China they are auspicious symbols of power, health, and good luck.

FLEUR-DE-LIS

36 These flowers first appeared on the shield of Clovis, king of the Franks, and have since been symbolic of France.

PHOENIX

38 The phoenix is a bird that ends its life by bursting into flames but is reborn immediately out of the ashes.

EVIL EYE

39 The idea that a malevolent look can cause harm is older than recorded time. People of all cultures have carried or worn talismans to ward off the evil eye.

שיר גי'ת ע"ל נגמ'ל רח"ע אלו שפות טובות לכן ויחזקו פן חסדו כו פרת וראוה לרבר ע"ל נגמ'ל עין
גם נגמ'ל רח"ע בנימין עין הרע ווא"ל שבעים שפות מלאכים הנה טוב מאור לכל השמיות כידוע ואחר כך
השמות וצויהם כאשר ראה וחקק אדם הראשון את צויהם ופסב מאור לשמיות היולדת עין חולד :



RAINBOW

37 Rainbows symbolize many things. In the Bible, God sends one at the end of Noah's flood. In Norse mythology a rainbow bridges the gap between the world of mortals and the world of gods. The Irish leprechaun hides his pot of gold at the end of the rainbow. In the real world the rainbow has become a symbol of LGBT pride. Most recently, post-apartheid South Africa has been widely termed "the rainbow nation."



MAGIC SQUARE

40 In the top right-hand corner of Albrecht Dürer's engraving *Melencolia I* is a grid featuring four rows of four numbers. The sums of any of the four quadrants, as well as the sum of the middle four numbers, are all 34. And the sum of any two numbers around the center of the square is 17. The two middle numbers on the bottom row are the year of composition, but what, if anything, do the other numbers symbolize? It is an abiding mystery.

OM

41 Om (alternatively, aum) is a sacred sound and spiritual icon in many eastern religions and a mantra in Hinduism, Buddhism, and Jainism.

VESICA PISCIS

42 Aka the fish bladder, this is two intersecting circles of equal radius. Symbols of this shape are used in freemasonry.

STAR OF DAVID

43 Two equilateral triangles, one superimposed upside down upon the other in order to form a six-pointed shape, have become almost exclusively associated with Judaism. Although there is no evidence to connect the shape with the second king of Israel, the Star of David was adopted on the flag of Israel shortly after the formation of the state in 1948. Historically, however, it was used in magic and in Christian churches long before it acquired its current symbolism and is therefore not universally approved by orthodox Jews.

GOLDEN RATIO

44 Take a sequence of numbers, each of which is the sum of the previous two. If you divide any of them by the one that precedes it, you get roughly 1.6. The higher you go, the more decimal places you get. When applied to architecture and music, this ratio creates beautiful proportions.

OLIVE BRANCH

45 A symbol of peace. The eagle on the Great Seal of the United States has an olive branch in its right claw. The flag of Cyprus features an olive branch as a symbol both of peace and of the island's Greek heritage: in mythology the goddess Athena planted the first olive tree in what became the national capital.

c. 500 BCE

BUTTERFLY

46 Butterflies often symbolize the human soul, and in some cultures they are thought to be the spirits of dead warriors. In certain places, however, they are bad omens, and in the Philippines they are portents of evil.

c. 500 BCE

GRAFFITI

47 Much graffiti may be indecipherable to the uninitiated, but to those in the know—arrows, for example—they often mark the turf of gangs.

c. 200 BCE

YIN & YANG

51 This is probably the most famous icon of the ancient Chinese philosophy of feng shui. It symbolizes not only how everything has an opposite—triumph is balanced by failure; man by woman; east by west; youth by age; and so on—but also the way in which the microcosmic dissonance of all these things is a source of macrocosmic harmony. Note in the drawing here how darkness and light embrace each other and how each contains an eye-like seed of the other.



c. 700 BCE

TEFILLIN

53 Tefillins, aka phylacteries, are small, cube-shaped leather cases containing Torah texts written on parchment, two of which are to be worn by observant male Jews above the age of 13 years as reminders of God and of the obligation to keep the law during their daily lives. (The strictest branches of Judaism wear four tefillins.) During services, one tefillin should be worn on the left arm, facing the heart, the other on the forehead.

c. 1200 BCE

BAR SOM

48 This is an artifact used in Zoroastrian religious ceremonies to represent a bundle of sacred twigs. Carried by the priest, the barsom is usually made of several loosely linked metal rods, all around 1 foot (30cm) in length.

c. 1000 CE

HALO

49 In Christian art, a halo is a radiant circle or disk surrounding the head of a holy person to convey his or her spirituality through the symbolism of light. It may be derived from the Buddhist mandorla.

c. 1000 CE

SHORTHAND

50 This can be a form of speedwriting, but it can also be a code. Samuel Pepys wrote his diaries thus out of embarrassment about his sexual exploits.

SMOKE SIGNALS

52 This ancient method of communication is naturally no use if you are trying to keep your own location secret, but secrecy can be maintained in the messages themselves through the use of an agreed code. Smoke signals are used today by the conclave of Roman Catholic cardinals in the election of a new pope. From time to time during their deliberations, they send up smoke from the Vatican chimney: black smoke means they have yet to decide; white smoke means they have chosen.

c. 1000 BCE

FIBONACCI NUMBERS

54 The sequence of Fibonacci numbers (1, 1, 2, 3, 5, 8, 13, 21, 34, etc.) and the result of dividing each of them by its predecessor gets us ever closer to the golden ratio.

ROSETTA STONE

55 Deciphering the inscriptions on this ancient Egyptian stone, dating from the second century BCE, was the great breakthrough in understanding hieroglyphics.

c. 1000 CE

CROSS OF CHRISTIANITY

56 This is the most fundamental symbol of the Christian faith, its shape recalling that of the cross on which Jesus was crucified. It is usually a Latin cross—that is, one in which the base stem is longer than the other three arms. It was a secret symbol until the fourth century CE, when the Roman emperor Constantine, having been converted to Christianity, brought it out into the open.

NAZCA LINES

57 These geoglyphs are vast line drawings of animals and plants made on the ground in Peru. They are invisible at ground level and can be seen only from high above. There are various theories about why they were made, but no firm evidence.

RUNESTONE

58 These resemble headstones in graveyards and are often intricately carved. They were left by Vikings all over their empire.

HAND OF FATIMA

59 This is an amulet shaped like the open palm of a right hand. It is displayed in many countries of the Arab world as a defense against the evil eye. It is alternatively known as a "hamsa," from the Arabic for "five," as in fingers.

TIBETAN WHEEL OF LIFE

60 Displayed on the walls of Buddhist temples, the wheel depicts, inward from the rim, the three "poisons" (ignorance, aversion, attachment); karma; the six realms of samsara; and the 12 links of dependent origination. The figure holding the wheel is impermanence. The moon above the wheel represents liberation from samsara.



COAT OF ARMS

61 Coats of arms were originally painted on shields so that warriors in battle could tell who was on whose side. The motifs shown traditionally represented aspects of a lord's family, or matters that were of particular concern to him (his business, for example, or his place of birth). Sometimes the son of two noble parents would have a heraldic device that incorporated both his parents' coats of arms. More recently, cities, organizations, and sports clubs have increasingly adopted such devices.

SKULL & CROSSBONES

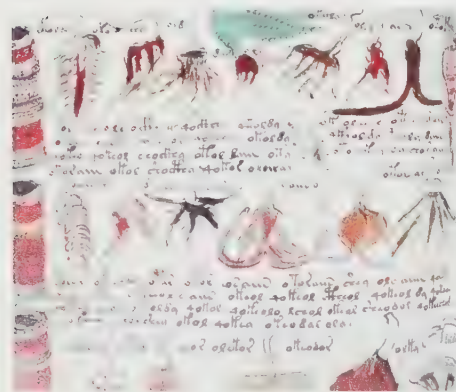
62 This motif is commonly used as a warning on containers of poisonous substances and on fences around the perimeter of dangerous terrain.

SIGILLUM DEI

63 The seal of God was a magical diagram, composed of two circles, a pentagram, and three heptagons, and labeled with the name of God and his angels. Incorporated onto an amulet, it gave the wearer power over any spirit below the rank of archangel.

BARBER'S POLE

64 This is a staff with a helix of colored stripes, which often revolves. Barbers' poles are red, white, and blue in the United States, but in most other countries they are red and white. The red represents blood and is a reminder that barbers once performed surgery.



VOYNIICH MANUSCRIPT

65 Named after the Polish book dealer who acquired it in 1912, this early fifteenth-century book, handwritten on vellum, is in a language that no one has thus far been able to decipher. Theories about it are myriad, but facts very scarce. It is housed in Yale University's rare book and manuscript library.

TAROT

66 Originating in Italy and used for fortune-telling, the tarot is a pack of 78 playing cards with the same 52 cards as a normal deck, plus four knights and a separate 21-card trump suit, plus a single card known as the Fool.

AZTEC CALENDAR/SUN STONE

67 This great circular sculpture is 11 feet 9 inches (3.6m) in diameter and weighs around 24 tons. Modern historians believe it was used not for date measurement but as a ritual altar for human sacrifices.



STAR & CRESCENT OF ISLAM

68 In the same way as the Star of David was not always associated with Judaism, this emblem did not become almost exclusively Muslim until the Crusades. Before the birth of Islam, it was used by the people of Moab (an area roughly corresponding to modern Jordan). The star (usually taken to be Venus) symbolized the goddess Ishtar; the crescent was associated with the moon god, Sin. Today, it features on the flags of Pakistan, Turkey, and several other nations.

TOTEM POLE

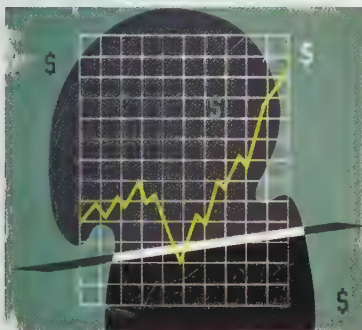
69 These great logs, carved and lodged upright by Native Americans, were mainly memorials or heraldic devices.

ICONOGRAPHY

70 Symbols became so widespread in visual art that they became a subject for academic research and study. Iconography was at first a subset of archaeology; later, it became part of theology; today, it features in history of art courses.

GRAPH

71 A graph is a pictorial depiction of the relation between variables. Most graphs appear as a line plotted along two axes—one vertical, the other horizontal—but they can also take other forms such as a bar graph.



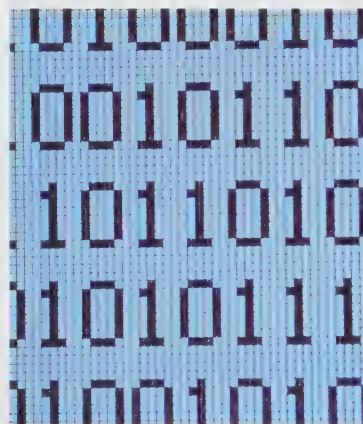
1657

INFINITY SYMBOL

72 The symbol for something endless and immeasurable, ∞ , was invented by the English mathematician John Wallis.

BINARY CODE

73 Featuring in digital computers that can only be off or on, binary codes use only two numerals, usually 0 and 1. Whereas the conventional decimal system uses 10 digits, with each digit position representing a power of 10, in a binary system, each digit position represents a power of two. Thus, the "normal" numbers 1–10 in binary are: 1, 10, 11, 100, 101, 110, 111, 1000, 1001, and 1010.



SECRET HANDSHAKE

74 This is a method by which people can reveal membership of a society to each other without giving the game away to onlookers. Although the grip differs from that used in a normal greeting, it is subtle enough to be unnoticed by the uninitiated.

JOLLY ROGER

75 The skull and crossbones, a warning of imminent death, was adopted by pirates on their flags to strike fear into the hearts of those they were about to attack.

c. 1700

SQUARE & COMPASS

76 These two architects' tools are the most widely recognized symbols of freemasonry.

SIGN LANGUAGE

77 This can take a wide range of forms—from shrugs or grimaces that express sentiments or convey information more economically than words, to a complex series of gestures, such as those used by deaf people. In Chinese, signs are sometimes used to distinguish between homophones.

SEMAPHORE

78 Before the invention of the telegraph, this system was used for communicating over long distances. Flags would be waved or lights shone in patterns that were decipherable by friends but incomprehensible to foes. The first fixed railway signals were semaphore arms.

NIGHT WRITING

79 Night writing, aka sonography, was designed by army officer Charles Barbier in response to Napoléon's demand that French troops should be able to communicate soundlessly and without producing any light. In Barbier's system, the letters of the alphabet took the form of various arrangements of raised dots embossed on sheets of cardboard. Night writing proved too complicated, but it paved the way for braille.

BRAILLE

80 This writing for blind persons consists of 63 characters, each made up of between one and six raised dots arranged in a six-point matrix.

HEX SIGNS

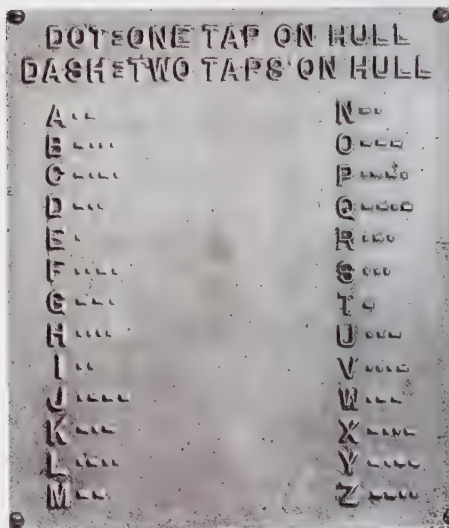
82 There are two schools of thought about these: one states that they're hexagonal signs used by the Pennsylvania Dutch on their barns; the other theory is that they are occult symbols.

DORABELLA CIPHER

83 English composer Edward Elgar wrote a letter to his friend Dora Penny in a code that has never been deciphered.

MORSE CODE

81 Samuel Morse's great invention uses dots, dashes, and spaces to represent letters, punctuation, and numbers. Telegraph operators convert written messages into the code, and tap it into their machines, which then send a series of impulses along an electrical wire to their destination. The signals are then converted back into the original message by the telegrapher who receives them.



ALDIS LAMP

84 Named for Arthur Aldis, designer of the most popular version, this is a signal lamp with a fast-moving shutter that enables encrypted messages, usually in Morse code, to be flashed out at high speed. Early versions were manually operated; later models were automatic. They were widely used on ships and at airports.

UNICURSAL HEXAGRAM

85 This six-pointed star, drawn without taking the pen off the paper, was adopted by satanist Aleister Crowley.

HAMMER & SICKLE

86 In this symbol of the Russian Revolution, the hammer represents the industrial workers; the sickle the peasantry.

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | A |
| B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | A | B |
| C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | A | B | C |
| D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | A | B | C | D |
| E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | A | B | C | D | E |
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| M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | A | B | C | D | E | F | G | H | I | J | K | L | M |
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| Q | R | S | T | U | V | W | X | Y | Z | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q |
| R | S | T | U | V | W | X | Y | Z | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R |
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| T | U | V | W | X | Y | Z | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T |
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| V | W | X | Y | Z | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V |
| W | X | Y | Z | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W |
| X | Y | Z | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X |
| Y | Z | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y |
| Z | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |

| | |
|-----------|---------------|
| cipher | VVVVBACP |
| key | COVERCOVER... |
| plaintext | THANKYOU |

VERNAM-VIGENÈRE CIPHER

87 The Vigenère cipher, named for a French alchemist, was a simple, and therefore easily cracked, code in which all the letters of the alphabet were moved along a certain number of places. Thus, for example, if A became M, B would be N, C would be O, and so on. Gilbert Vernam was a British engineer who developed this basic code and made it unbreakable.

CHAOCIPHER

88 This cipher, developed by Irishman J. F. Byrne, was unbroken until 2010, when the code machine was donated to the US National Cryptologic Museum in Fort Meade, Maryland. The machine was like a daisy wheel typewriter, but with two revolving disks, not one.

CODE TALKING

89 Some Native Americans spoke languages so little known that they could communicate openly with each other in times of war with little fear that the enemy would understand them. The Cherokee and Choctaw pioneered this at the end of World War I. In World War II, Navajo code talkers helped US forces in the Pacific.



NATIVE AMERICAN
HOW COYOTE STOLE FIRE

1 Coyote pitied humans because they had no fur. So that they could keep warm in winter, he stole fire from the Fire Beings on a mountaintop.

NATIVE AMERICAN
RAVEN STEALS THE LIGHT

2 There was no light in the world other than that kept in a box by an old man. The raven stole it, and released it for all to see.

NATIVE AMERICAN
MAID OF THE MIST

3 Lelawala, daughter of Chief Eagle Eye, was sacrificed to the Thunder God Hinum to save her people. She now dwells behind the falls at Niagara.

CANADIAN
OGOPOGO

4 This is a monster that some people believe lives in Okanagan Lake, British Columbia. It is supposedly 40 to 50 feet (12–15m) long, and is thought to resemble the *Basilosaurus* (a genus of early whale). Of course, there is no firm proof of the creature's existence.

100 MYTHS & LEGENDS

USA
THE LEGEND OF SLEEPY HOLLOW

5 In this story by Washington Irving, Ichabod Crane disappears forever from Tarrytown after encountering a headless horseman. This may have been a supernatural being—the area was said to be haunted—but the author leaves open the possibility that Crane was tricked by his rival for the hand in marriage of the most beautiful girl in the village.

USA
BLOODY MARY

6 If you look in a mirror by candlelight, and call out "Bloody Mary" three times, she may appear to you. Her identity is unknown, although in some versions of the tale she is a victim of the Salem witch trials.

USA
BIGFOOT

7 This huge, hairy apelike creature walks upright and hangs out in remote woodlands. He is not generally harmful, but children may be warned not to say his name.

USA
PAUL BUNYAN

8 Bunyan is a superhuman lumberjack to whom prodigious feats are attributed in a host of tales. He is usually accompanied by Babe the Blue Ox.

MAYAN
THE HERO TWINS

11 The twins Xbalanque and Hunahpu avenged the murder of their father by beating the Lords of the Underworld at the celebrated Mayan ballgame. They were then transformed into the Sun and the Moon.

USA
THE BELL WITCH

9 This is a poltergeist, possibly a woman named Kate Batts, who made a misery of the lives of John Bell and his family in Adams, Tennessee. The Bell Witch made eerie noises and threw objects around.

USA
JERSEY DEVIL

10 When a mother of 12 children fell pregnant again, she said her 13th would be the devil. She duly gave birth to a hoofed biped with wings. It flew off into the New Jersey woodlands, which it has haunted ever since.

MAYAN
COATLICUE

12 This goddess was the mother of more than 400 children, one of whom, Coyolxauhqui, incited her siblings to behead their mother. As Coatlicue died, she gave birth to Huitzilopochtli, fully grown, who at once cut off Coyolxauhqui's head and threw it into the air, where it became the Moon.

TATA & NENA

13 The people were wicked, so the rain god Tlaloc sent a flood to punish them all except these two good people, who, forewarned, carved a boat out of a tree trunk.

LA LLORONA

14 Deserted by her husband, a wife drowns their children and then herself. Barred from heaven until she finds her victims, she wanders the water's edge, weeping.

ZOMBIES

15 In voodoo (or vodou), a zombie is any dead person who is revived after burial, and compelled to do the bidding of the reviver. Zombies usually get dirty work—heavy manual labor or criminal activity. Their effectiveness is limited, however, by their sluggish movement, which may be attributed to the fact that they are not really dead, but living persons under the influence of powerful drugs.

CHUPACABRA

16 This creature is reputedly the size of a small bear, has a row of spines along its back, and walks on its hind legs. Its name, meaning "goat sucker," comes from its propensity for attacking farm animals and household pets in the night, and draining them of all their blood, while leaving their carcasses largely intact apart from the puncture wound.



EL DORADO

17 This was originally the legendary ruler of an Indian town near Bogotá, whose body was said to be plastered during rituals with gold dust that he washed off in a lake. From this myth, Spanish conquistadors, along with many others, got the idea that somewhere in South America there was a land full of gold; they spent years searching for it in vain.

EL SILBÓN

18 A boy kills his father, and is then cast out by his grandfather. He wanders the Earth whistling, and augurs death to all who see him.

BERMUDA TRIANGLE

20 This expanse of sea, bounded by the southern tip of Florida, Bermuda, and Puerto Rico, has a common, but completely unfounded, reputation as the site of a disproportionate number of shipwrecks and airplane crashes.

VIRACOCHA & THE COMING OF THE INCAS

19 The supreme god Viracocha gave his human creations rules to live by, but when they disobeyed him he washed them all away in a great flood and started over with a new race of people,

HOLY GRAIL

22 The Holy Grail is the cup from which Jesus drank at the Last Supper, and in which Joseph of Arimathea caught the blood flowing from Christ's wounds as he hung upon the cross. It disappeared after the Crucifixion, and has since been sought by a host of legendary characters, most notably King Arthur and his Knights of the Round Table.

KRAKEN

21 Originating in Scandinavian mythology, the Kraken is a sea monster resembling a giant crab or (more commonly) a squid that attacks ships in the North Atlantic Ocean between Norway and Greenland.

SANTA CLAUS

23 Santa Claus (aka St. Nicholas) lives at the North Pole, where he spends all but one day of each year making toys with his wife and elves. On Christmas Eve, he flies around the world on a sleigh drawn by eight reindeer, magically enters the home (often down the chimney) of every good child who believes in him, and leaves gifts.





EUROPE

RELIC OF THE TRUE CROSS

24 So many Christians wanted a piece of the cross on which Jesus was crucified that a lucrative market emerged in pieces of wood that were sold as authentic fragments of the original. When reformers objected that if all these relics were joined together they would be bigger than a ship, the church responded that the true cross was infinitely divisible without diminution.

EUROPE

THE DEVIL'S BRIDGE

25 The devil builds a bridge across a river and demands as payment the first living creature that crosses it. Such bridges were those that were deemed beyond human capability, and hence had to have been built by the devil.

EUROPE

THE CHANGELING

26 To replenish their own bloodline, fairies or elves sometimes steal human infants and replace them with their own deformed or imbecilic offspring.

ST. GEORGE & THE DRAGON

27 This early Christian martyr, who reputedly slew a dragon, became the patron saint of England and Georgia.

EUROPE

THE UNICORN & THE MAIDEN

28 The unicorn is a mythical creature resembling a horse with a straight horn protruding from its forehead. It is wild, and untameable by anyone other than a virtuous maiden. In Christian iconography, that woman was the Virgin Mary.

EUROPE

SPEAR OF DESTINY

29 This is the lance with which a Roman centurion, subsequently named as Longinus, pierced the side of Jesus as he hung on the cross. The wound released two fluids: blood, to symbolize Christ's humanity, and water, which represented his divinity.

EUROPE

MÉLUSINE

30 Pressyne, a fairy, made her mortal husband, Elynas, promise never to watch her with their children. When he broke his word, she ran away and brought them up alone. The eldest daughter, Mélusine, learned what had happened, found Elynas, and locked him up. Pressyne angrily condemned Mélusine to be a serpent (or mermaid) from the waist down every Saturday for eternity.



EUROPE

BEOWULF

31 Beowulf slays Grendel, a monster that has been terrorizing the Danish court. He then kills Grendel's mother, who has come after him seeking revenge. He later slays a dragon, but is himself mortally wounded.

EUROPE

VÖLSUNGA

32 Highlights of this Icelandic prose epic about the Völsung clan include Sigurd killing the dragon Fafnir, and the myth of Andvaranaut, a magical ring.

EUROPE

VÖLUSPÁ

33 This Old Norse poem describes the story of the world from its creation until Ragnarök—the final battle.

EUROPE

RAGNARÖK

34 This is the end of the world, when the gods will die like heroes as they are overrun by monsters.

UP PER GYNT

35 Per Gynt is a hunter who rescues three dairymaids from trolls and shoots the Bøyg, a giant, worm-shaped monster.

UP LEPRECHAUN

36 This tiny man has a secret crock of gold. If you capture him, he might tell you where it is, but don't take your eyes off him, or he'll get away.

UP KISSING THE BLARNEY STONE

37 According to legend, anyone who does this to a part of a castle wall in County Cork will be given the gift of eloquence.

UP GIANT'S CAUSEWAY

38 These basalt columns were installed by the giant Finn MacCool as part of a causeway to the Scottish island of Staffa, which has similar rock formations.

UP SIR GAWAIN & THE GREEN KNIGHT

42 Gawain, a knight of King Arthur's Round Table, is tested for his honesty, and proves that he is almost without blemish. His only shortcoming is the thoroughly forgivable human one of fearing death.

UP LADY GODIVA

43 In a bid to make her husband, the Earl of Mercia, reduce oppressive taxation, Godiva rode naked through the streets of Coventry. The townsfolk agreed to look at her apart from one: Peeping Tom.

UP KING ARTHUR & EXCALIBUR

39 Excalibur was a sword that was magically lodged in a stone, and which could be dislodged only by whoever would be the rightful king. That claimant turned out to be the young Arthur. After his coronation, Arthur gathered around him the Knights of the Round Table, who went in search of the Holy Grail. When Arthur knew that he was dying, he sent the faithful Sir Bedivere to throw Excalibur into a lake. The knight did as he was commanded, and as the sword flew through the air a hand emerged from the water and grasped it. The hand then brandished the weapon three times before disappearing below the surface. The etymology of "Excalibur" is uncertain, but in the prose account *Le Morte d'Arthur*, author Sir Thomas Malory suggests that it means "cut-steel."



UP ROBIN HOOD

40 This heroic outlaw and his gang lived in Sherwood Forest, England. They loved good King Richard, who was away on the Crusades, and countered the extortionate policies of his regent, Prince John, by robbing from the rich and redistributing their wealth among the poor.

UP LOCH NESS MONSTER

41 Some visitors to this long, deep lake in northern Scotland have reported sightings of a mysterious creature. Grainy photographs seem to suggest that it resembles a prehistoric plesiosaur. There is no firm evidence of the Loch Ness Monster's existence, but there is no doubt that the legend is good for regional tourism.

UP TRISTAN & ISOLDE

44 Tristan goes to Ireland to fetch the princess Isolde as a bride for his uncle, King Mark of Cornwall. On the journey back, they mistakenly drink a love potion that unites them forever.

UP BLUEBEARD

45 Bluebeard is a French nobleman who has been married several times. No one knows what happened to any of his previous wives. When he marries the daughter of a neighbor, he gives her the run of his whole castle except for one room, which he forbids her to enter. This is, of course, the room that interests his new wife the most, and while Bluebeard is away she enters it to find the bodies of all his former women hanging from the ceiling. And then her husband returns.

FRANCE

LITTLE RED RIDING HOOD

46 On her way through the forest, a girl in a red cape meets a wolf, who asks her where she is going, and she says to visit her sick grandmother. The wolf suggests that the old lady would like some flowers, and while the girl is picking them he races on ahead, eats (or in some versions, locks up) the grandmother, then gets into her bed and pretends to be her when the little girl arrives. He eats her too, and in some versions that's the end of the story, but in others a woodcutter slices open the wolf, and the two emerge unscathed.



ANCIENT GREECE

THE AENEID

54 Virgil's epic poem tells the mythical tale of how Aeneas led a group of escapees from the city of Troy when it was overrun by the Greeks. After many adventures around the Mediterranean, they settled in Italy, where Aeneas became the progenitor of the Romans.

ARNOLD PAOLE

55 In the 1720s, witnesses claimed that this Serb returned from the grave and drank the blood of four people, who subsequently died. When the authorities opened Paole's grave, they found that he was still alive, so they drove a stake through his heart to end his vampirism.



THE GREEKS

DIEUDONNÉ DE GOZON THE DRAGON SLAYER

47 This Grand Master of the Knights of Rhodes slew a dragon that was terrorizing the Greek island.

DON JUAN

48 During one of his many seductions, this libertine kills the girl's father. Later, he sees an effigy of the dead man on a memorial, and invites it to dinner. It accepts, but this augurs Juan's own demise.

FAUST

49 This is the tragedy of a learned man who sells his soul to the Devil in return for knowledge and earthly power. It is a bargain he comes to regret.

ILLUMINARI

THE PIED PIPER OF HAMELIN

50 When the citizens refuse to pay the man who has rid them of a plague of rats, he takes away all their children.

GERMANY

THE WEREWOLF OF BEDBURG

51 After admitting 18 murders, the supposed werewolf farmer Peter Stumpp was executed in 1589. But his confessions were obtained under torture.

ANCIENT ROME

ROMULUS & REMUS

52 Abandoned as babies, and suckled by a she-wolf, these twins founded a city beside the Tiber River. Then Romulus killed Remus, and named the city Rome after himself.

ANCIENT ROME

THEFT OF THE SABINE WOMEN

53 The first generation of Roman men greatly outnumbered the women. They needed wives, so they crossed the Apennine mountains and carried off the women of the Sabine people.

ANCIENT GREECE

FOUNTAIN OF YOUTH

56 The earliest account of a natural wellspring with rejuvenating waters features in the work of Herodotus. According to this Greek historian of the fifth century BCE, some of the peoples of Africa bathed in such flows, and as a result lived for more than 120 years. The same notion often recurs elsewhere throughout world literature.

THE ODYSSEY

57 This Greek epic, traditionally attributed to the poet Homer, tells of the ten-year wanderings of Odysseus after the Trojan War before he returns home to Ithaca and reclaims his throne.

CREATION OF THE TITANS

58 The 12 Titans were the children of Gaia (Earth goddess) and Uranus (sky god). They were giants with immense strength.

THE REVOLT OF THE OLYMPIANS

60 Cronus, the youngest Titan, ate all his own children until his mother saved one of them, Zeus, who grew up to overthrow his father.

ORACLE AT DELPHI

59 The ancient Greeks believed that they could communicate directly with their gods and goddesses through oracles (priests and priestesses with special powers). The supreme deity was Apollo, and therefore his utterances and directives were more important than those of any other divinity. His oracle was a priestess, or sibyl, specially chosen for her blameless life, who lived at a shrine in Delphi, a town 75 miles (120km) west of Athens.

KING MIDAS

61 Granted his wish that everything he touched should turn to gold, Midas realized his mistake when his food became precious metal.

THE FLIGHT OF ICARUS

62 Icarus flew from prison on wings made of wax and feathers. He went too near the Sun; the wax melted; he drowned in the sea.



PROMETHEUS

63 Best known as the Titan who gave fire to human beings, Prometheus also introduced them to all the arts and sciences.

THE GOLDEN FLEECE

64 Pelias usurped Aeson's throne, and would give it back only if Aeson's son, Jason, went to fetch this magical wool from the Colchis region.

THE SIEGE OF TROY

65 Paris, prince of Troy, eloped with Helen, wife of the king of Sparta, one of the city-states of ancient Greece. The Greeks angrily laid siege to Troy. The Trojans resisted for ten years, at the end of which the Greeks sailed away, leaving behind only a great wooden horse. As soon as the Trojans took the horse in, Greek troops poured out of it, and laid waste to the city.



THE TORTOISE & THE HARE

66 The tortoise challenges the hare to a race. The hare shoots into an early lead, then stops for a nap. When he wakes up, he finds that the reptile has reached the finishing line before him. The story first appears in Aesop's Fables.

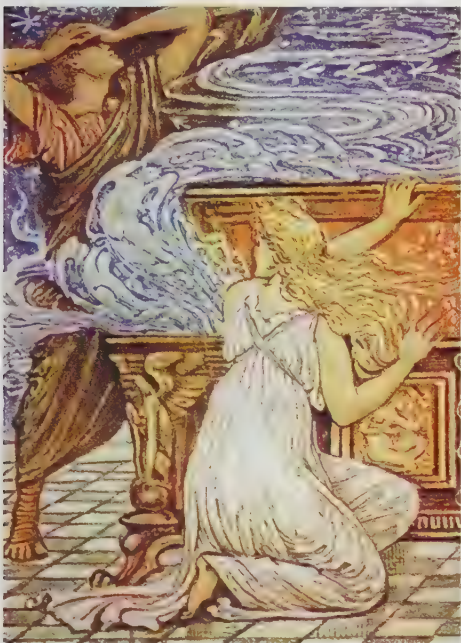
ATLANTIS

67 This island in the Atlantic Ocean, a little to the west of the entrance to the Mediterranean Sea, was said to have been a great center of commerce and learning until the Atlantians became arrogant and evil, whereupon a series of earthquakes caused the island to sink forever beneath the waves. Although Atlantis is a figment of the imagination (possibly Plato's), seismic tremors do affect the Earth's topography, and the story may be based on cataclysmic events on ancient Crete.

ANCIENT GREECE

RING OF CYGES

68 Gyges, king of Lydia, had a gold ring that rendered the wearer invisible. Plato used this legend to speculate on whether we would act differently if no one could see what we were doing. He decided that we would.



ANCIENT GREECE

PANDORA'S BOX

69 Pandora, the first woman, was endowed with every conceivable natural gift. She had a jar in which all evils were contained. One day, she opened it, and they all flew out, leaving behind only hope. The jar later became a box through a mistranslation.

ANCIENT GREECE

PHILOSOPHER'S STONE

70 This was the name given to the unknown substance that would change base metals into gold or silver. Alchemists knew it existed, but didn't know where to find it.

ANCIENT GREECE

THE BOY WHO CRIED, "WOLF!"

71 In Aesop's Fables, a young herdsman thinks it is amusing to get all the villagers to come rushing out to him. But he does it so often that, when a real wolf appears, everyone ignores his cries for help, and all the sheep are eaten.

ANCIENT GREECE

RIDDLE OF THE SPHINX

73 The Sphinx had a lion's body and a human head. If passers-by failed to answer its riddle, it killed them. When Oedipus became the first to give the right answer, the Sphinx killed itself.

ANCIENT GREECE

PERSEUS & MEDUSA

75 The she-monster Medusa had snakes for hair, and could turn her enemies to stone with a glance. Sent to kill her, the hero Perseus was careful not to look on her directly, but only through the reflection in his polished shield. After he beheaded her, he put her head in a sack so that he did not have to look at it.

ANCIENT GREECE

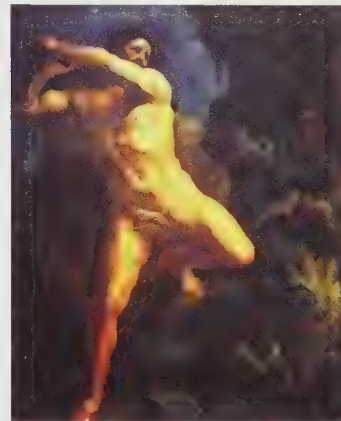
ANDROCLES & THE LION

76 A runaway slave meets a limping lion, and takes a thorn out of its paw. He is later recaptured and thrown to a lion, who turns out to be the one he helped, and so does not eat him.

ANCIENT GREECE

THE TWELVE LABORS OF HERCULES

72 To atone for killing his wife and their children, Hercules had to become the servant of the king of Argos. Among his dozen tasks were to kill the hydra, a lion, and some birds of prey; to capture a stag and a mad bull; to clean some filthy stables; and to pick the golden apples of the Hesperides.



THESEUS & THE MINOTAUR

74 The Minotaur—half man, half bull—was kept in the Labyrinth in Crete. It lived off human sacrifices until the Athenian hero Theseus sailed to the island and killed it.



ANCIENT GREECE

ORPHEUS & EURYDICE

77 Eurydice dies, and Orpheus is grief-stricken. The gods allow him to retrieve her from Hades on condition he doesn't look back at her on the way out. He does, and loses her forever.

SCANDINAVIAN

THE SNOW MAIDEN

78 A young girl made of snow makes friends with other children. One day they play a game that involves jumping over a campfire. The snow maiden melts, and turns into a cloud.

ZIN

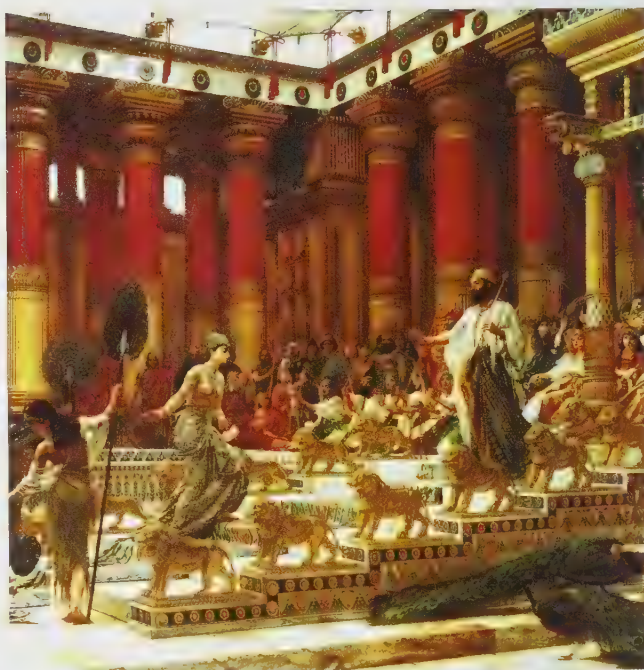
79 In the folklore of the Songhai people of Mali, Zin is a blind spirit who controls all the fish in the rivers by enchanting them with his magical guitar. When the fish ate all the crops, the hero Faran Maka was so incensed that he stole Zin's instrument, and subsequently governed the fish himself.

ARK OF THE COVENANT

80 This was a wooden box containing the two stone tablets on which were inscribed the Ten Commandments given by God to Moses in the Bible.

QUEEN OF SHEBA

81 According to the Old Testament of the Bible, the Queen of Sheba (Saba, part of modern Yemen) led a camel train laden with gold, jewels, and spices to the court of Solomon, and then tested the king's famous wisdom with a series of riddles, all of which he answered to her satisfaction. In Arabic versions of the tale, she is named Bilqis. Solomon is at first attracted to her, but then deterred by her hairy legs. However, he solves the problem by ordering his demons to bring her depilatory cream.



THE FLYING DUTCHMAN

82 This is a ghost ship doomed to sail the seas forever. Sightings are most often reported around Cape Horn.

EPIC OF GILGAMESH

83 Gilgamesh is a demigod with superhuman strength who overcomes every adversary except death, but he finally reconciles himself to his fate.

ERIDU GENESIS

84 In this Sumerian myth, the universe is created by four gods—An, Enlil, Enki, and Ninursag. Later, a great flood covers the Earth; most creatures die, but the gods intervene to save Atra-Hasis, ordering him to build an ark.

ALI BABA & THE 40 THIEVES

85 A poor woodcutter fortuitously gains access to a cave in which robbers have hidden a hoard of gold.

ALADDIN & THE LAMP

86 The impoverished young hero acquires a magic lamp from which, when rubbed, a genie appears, and does whatever is demanded of him. With this supernatural helper, Aladdin becomes rich, and marries the emperor's daughter. A wicked sorcerer makes repeated efforts to get hold of the magic lamp, but Aladdin thwarts them all, and eventually kills his adversary. He and his wife then live happily ever after.

THE VOYAGES OF SINBAD

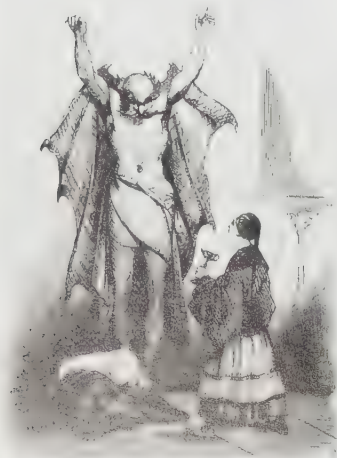
87 Having frittered away his inheritance, Sinbad embarks on seven voyages to rebuild his fortune.

THE FISHERMAN & THE JINNI

88 This tale begins when a fisherman catches a bottle, inside which he finds a genie who asks him to choose how he wants to die.

YETI

89 Also known as the Abominable Snowman, the yeti is an apelike creature, larger than a human, that is said to live in the Himalayas. It has become famous throughout the world since the first conquest of Mount Everest in 1953, but there are ancient Nepalese and Tibetan legends of a wild, hairy man of the mountains who carries a great stone weapon.



HIMALAYAS

SHANGRI-LA

90 In British author James Hilton's *Lost Horizon* (1933), Shangri-La is an idyllic valley in the Himalayas, cut off from the rest of the world, where all is harmonious, and the people have a much greater than normal lifespan and visibly age at a much lower rate than elsewhere. The hero of the novel, Hugh Conway, is a diplomat who finds peace there in retirement.

CHINA

TEN BROTHERS

92 These superheroes can overcome any obstacle or adversary. Their sole weakness is limestone, any contact with which renders them helpless.

NIAN MONSTER

94 The Nian is a predatory creature that lives in the sea or in the mountains, and comes out once a year in spring to feed on children. It is sometimes depicted as a cross between a lion, a unicorn, and an ox. Its only weaknesses are sensitivity to noise and commotion, and an aversion to the color red. For that reason, the Chinese set off firecrackers, dress up in red robes, and dance around during their New Year celebrations.

JAPAN

THE TALE OF THE BAMBOO CUTTER

97 A childless couple find a baby girl in a stalk of bamboo. They raise her as their own. When five princes come to court her, she rejects them all so that she can look after her adoptive parents.

SUI & FIRE

91 Fuxi created humanity. At first, his people had no heat, but Fuxi entered one young man's dreams and advised him that there was a faraway land in which he could find fire. The young man set off, and after many tribulations he brought it home. The people called him Sui, which means "firebringer."

CHINA

THE FOUR DRAGONS

93 Long, Yellow, Eastern, and Pearl served the Jade Emperor, and watered the Earth at his command. When he forgot, they took it upon themselves to do so.

JAPAN

ŌKUNINUSHI & THE WHITE RABBIT

95 Ōkuninushi and his brothers compete for the love of a princess. On their way to court her, they see a rabbit that has been hurt by a crocodile. The brothers cruelly trick the rabbit into cleaning its wounds in stinging seawater, but Ōkuninushi treats it kindly, and wins the princess's heart as his reward.

JAPANESE

THE RAINBOW SERPENT

98 The Rainbow Serpent is the ultimate creator of everything in the world. It protects its people and punishes wrongdoers. The appearance of a rainbow in the sky is held to indicate that the snake is moving from one watering hole to another.



JAPAN

KINTARŌ

96 This golden child was raised on a mountainside by a witch. From birth, he had superhuman strength and a natural rapport with animals—he spoke all their languages and wrestled sportingly with bears. He ended the reign of terror of the powerful tyrant Shutendouji. As an adult, he changed his name to Sakata no Kintoki and became a retainer to a samurai warrior.

MAORI

RANGI & PAPA

99 The children of these gods want to be free, so they drive their parents apart: Rangi becomes the sky god, Papa the Earth mother.

HAWAIIAN

MAUI

100 Among this hero's many feats was the creation of the Hawaiian islands by fishing them up from the ocean floor.



ARCHETYPES

THE CARER

1 Dreaming about caring for another person or a thing reflects a general concern for others, and sometimes betokens motherhood. Dreaming about being cared for symbolizes a deep contentment with one's existence.

ARCHETYPES

THE CHILD

2 The meaning depends on the child's identity: if it's the dreamer, who is happy, it suggests a need to be positive; if it's the dreamer in trouble, there's a need to acknowledge the cynicism of the world. If it's another child, the dreamer is content.

ARCHETYPES

THE HERO

3 A dream about a hero—any fictional creation from Hercules to Superman—is thought to symbolize an inwardly directed psychological quest, in which the dreamer seeks to confront hidden parts of his or her own mind. If a man dreams of a heroine, this is often taken to indicate subconscious contact with his own feminine side. By the same token, if a woman dreams of a hero, the fantasy tends to have been inspired by her masculine side.

ARCHETYPES

THE MAGICIAN

4 The significance of a dream about such a figure depends less on whether the dreamer recognizes the sorcerer, but on what he or she is doing. White magic indicates psychological contentment; black magic suggests pressing fears, notably of being bullied.

100 DREAMS

ARCHETYPES

THE MENTOR

5 The appearance of a teacher in a dream is often inspired by concern about a real or imagined disregard of good advice offered in childhood. Some people believe a mentor dream is a good omen.

ARCHETYPES

THE TRICKSTER

6 This Jungian archetype tries to communicate with the dreamer, but seldom does so straightforwardly. More often, the trickster's advice is imparted in the form of a riddle. He appears in dreams that the dreamer knows are dreams.

COMMON MOTIFS

ACCIDENT

7 Some people believe that dreams are prophetic: if they dream of a road smash at a certain junction, they will avoid that place. Most people, however, interpret dreams about accidents as manifestations of concerns that are so deep-rooted that they surface only in the sleeping mind, albeit in disguised form: in dreams, little is as it superficially appears; most things symbolize something else.

COMMON MOTIFS

BIRTH

10 Dreams of giving birth to a single child symbolize new departures. Twins may reflect some waking dilemma. Giving birth to a monster suggests a subconscious concern that is striving to come to the surface.

COMMON MOTIFS

ATTACK

8 Regardless of whether the dreamer is attacking or being attacked, such dreams symbolize unresolved personal conflicts, frequently about control—concern about the total lack of it, or desire for more of it. Attack dreams are seldom about an actual assault on the person or thing that appears. If weapons are involved, they might be psychologically significant: Freudians would point to the phallic symbolism of a sword or a knife; a firearm that can cause damage from a distance might indicate aesthetic revulsion.

COMMON MOTIFS

BLOOD

11 This is not as scary in dreams as it maybe is in real life. A dream of drinking blood does not mean the dreamer is a vampire; merely that he or she has an excess of vitality. A dream of coughing blood may indicate the dreamer is wasting—or afraid of wasting—energy.

COMMON MOTIFS

BIRD

9 In the waking world, black birds such as ravens often symbolize death, but in dreams they represent hope or happiness. A dream of being attacked by a bird means the dreamer is afraid of crossing boundaries. A dream of being a bird indicates a poetic imagination.

COMMON MOTIFS

BODY PARTS

12 The significance of body parts in dreams is linked to their metaphorical applications. For example, dreams about legs reflect concerns about support.

COMMON MOTIFS

BRIDGE

13 Indicates the dreamer is thinking about a change in his or her life. If it's a well-maintained bridge, the dreamer is probably happy with his or her prospects. If the bridge is rickety, or there are bad things under it, the dreamer may be scared of the future.

COMMON MOTIFS

CHASE

14 A dream about being chased is taken to mean that the dreamer is avoiding some subconscious issue that needs to be confronted because it's bugging them. A dream about chasing someone else or some thing is generally interpreted as a desire to acquire the quarry.

COMMON MOTIFS

CRYING

15 If the dreamer is in tears, he or she has an emotional difficulty; if they stop crying before the end of the dream, they're in control of the problem; otherwise, they're not. A dream of other people crying may be taken as an expression of the dreamer's psychological desire to care for the weak and poorly.



COMMON MOTIFS

DEATH

16 Dreams about death generally indicate a psychological worry that something will end imminently, but the person or creature that appears in the dream is almost never the object of the concern. Such dreams are commonly experienced by people entering uncharted waters—marriage or a new job, for example—because the unknown future is a mystery, just like death.

COMMON MOTIFS

DESERT

17 People tend to dream about deserts when they subconsciously recall a disappointment, particularly one that relates to their personal relationships.

COMMON MOTIFS

FALLING

18 It's easy to attach symbolic meanings to falling dreams—insecurity about the future, for example—but at least some such experiences have an identifiable physiological cause: the hypnic jerk, which most commonly occurs just as one is dropping off to sleep, is caused when the brain misinterprets the slackening of the muscles that accompanies slumber, and sends out alarm signals that make the body stiffen up, as it would to regain its balance and prevent a fall.



COMMON MOTIFS

FLYING

19 Although such dreams generally suggest that one is in control of one's life, and on top of whatever situation one happens to be in, much depends on what one can see from the air: problems below the flight path might indicate anxiety and a feeling of helplessness. Remarkably, the vast majority of flying dreams begin and end in the air: they feature neither takeoffs nor landings.

COMMON MOTIFS

FOOD

20 Is the dreamer dining alone in the dream, or in company? The former suggests anxiety, the latter contentment. Each food item has its own symbolic significance.

COMMON MOTIFS

FOREST

21 Forests are dark and forbidding, and may therefore symbolize fear of the unknown. But they are also verdant and fertile, and may represent keen anticipation.

COMMON MOTIFS

HOME

22 The significance depends on whose home it is. If it's the dreamer's current residence, it may reflect insecurity; if it's a childhood home, it is probably a manifestation of contentment. Deserted or derelict houses represent shattered dreams, thwarted ambitions, and lost loves. Dreams of other people's houses reflect personal ambition.

COMMON MOTIFS

HOSPITAL

23 If the dreamer is the patient, he or she is concerned about their health. If the dreamer is visiting someone, the dream may reflect a desire to care for people in general, not just the patient who appears.

COMMON MOTIFS

ILLNESS

24 Dreams about sickness are notoriously ambivalent. They could be sparked by health concerns; they could alternatively represent a perverse manifestation of some uplifting and healthy new interest.

COMMON MOTIFS

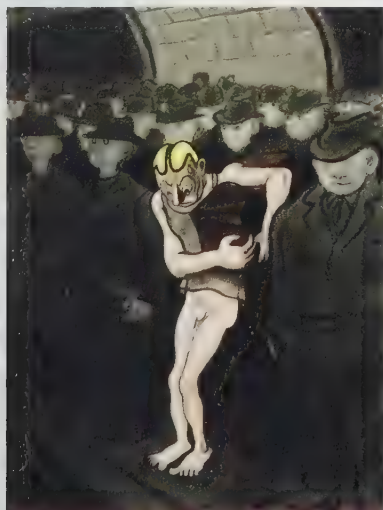
IMPOSSIBLE

25 The events and beings that appear in almost all dreams are impossible. Sometimes people realize this only after they have woken up, but at others they somehow know that they are dreaming even while they are doing it. The latter kind of dreams—known as lucid dreams—are most often experienced by rational, skeptical people.

COMMON MOTIFS

LATE

27 At the entry level, dreams about lateness may be what they seem to be: fear of missing appointments. Underlying that, however, may be resentments that the dreamer is being held back or inhibited by a person or an external force.



COMMON MOTIFS

LOST

28 If the dreamer is lost, he or she is probably anxious about something current or in the distant past. If the dream is about losing or having lost a valuable possession, it may indicate the dreamer's deep-seated fear of losing his or her identity by trying to conform to outside expectations.

COMMON MOTIFS

NAKED

31 The typical scenario is along the lines shown in the illustration: the dreamer is naked in a crowd of fully dressed people. It's easy to interpret this as a fear of being seen for what one really is, for being exposed metaphorically as well as literally. When the dream shows another person in the nude, it may be sexual; alternatively, it may denote the same kind of figurative exposure. In the case of certain types of exhibitionism, dreams of being naked may be wish fulfillment.

COMMON MOTIFS

INVINCIBLE

26 Many of the dreams that make people feel this way involve flying or walking on air. Their significance depends on the broader context of the dreamer's psyche and circumstances. A dream of invincibility may be experienced by someone who feels in control of his or her life. Alternatively, it may be the product of wish fulfillment (by, for example, a victim of bullying) or a deluded self-image. Some people dream of being able to bend the air: psychologists believe that in such cases the air may symbolize the power of speech, and the dreamer's control or lack of control of it.



COMMON MOTIFS

MAZE

29 This labyrinthine image symbolizes a straightforward psychological problem: that of asserting one's own identity and personality when they seem to diverge from perceived cultural norms.

COMMON MOTIFS

MOUNTAIN

30 Mountains that the dreamer cannot scale may represent intractable difficulties or unreachable goals. Dreamers who reach the summits of their mountains, on the other hand, are in a content frame of mind.

COMMON MOTIFS

SEASHORE

32 A dream of the seashore may denote a blockage of the imagination: that one can see one's imaginings, but not immerse oneself in them.

COMMON MOTIFS

SNAKE

33 Snakes signify hidden danger, even when they are dreamed of by herpetologists. Freudians see snakes as phallic symbols.

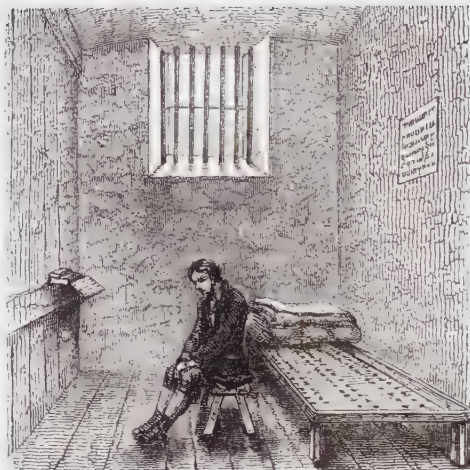
COMMON MOTIFS

SPIDER

34 Conventionally, spiders and their webs symbolize entanglements, but they may also represent structures of strength and symmetry.

STRANGER

35 Research indicates that between 50 percent and 80 percent of the human figures that appear in dreams are unknown to the dreamer. Most of these strangers are male and hostile. Their significance is unclear, but some psychologists have suggested that they purge aggression.



TRAPPED

36 Dreams of this nature typically involve being immured, possibly but not necessarily in jail, or being buried alive. They may be expressions of subconscious feelings of constraint, but they may also be caused by ambient physical conditions—an uncomfortable mattress, sleeping in a bad position, or becoming entangled in the blankets or bedsheets. A dream of someone or something else being trapped may mean that the dreamer has feelings of compassion and concern for others, but it may also indicate that he or she is projecting anxieties about their welfare onto other beings.

COMMON MOTIF

UNHEARD

37 The dreamer is drowning; he or she calls for help, but no one can hear them. This is a commonplace anxiety dream that usually makes the dreamer wake up.

COMMON MOTIF

WATER

38 The significance of water in a dream varies, and often corresponds with its nature: hot water is passionate; smooth is calm; cold is detached; turbulent denotes anxiety.

COMMON MOTIF

UNPREPARED

39 The usual scenario is that the dreamer is in an examination for which he or she has done no work. Research suggests that the people most likely to have such sleeping visions are those who are least likely to have such difficulties in reality: they are so meticulous in their preparations that they are seldom caught short; nevertheless, the fear of being unprepared is so deeply rooted in their psyches that it surfaces from time to time while they're asleep.

COMMON MOTIF

WEATHER

40 As with water, weather dreams have a host of possible meanings, but there is general consensus that thunder and lightning denote some kind of epiphany. It's a matter of chance whether the dreamer remembers it on waking.



FICTITIOUS

ILIAD

41 In Homer's poem, Greek leader Agamemnon dreams that he can capture Troy by a frontal assault on the city walls. But the idea has been planted in his mind by the god Zeus, who has promised to help the Trojans. Moral: beware of dreams as prophecies.

FICTITIOUS

JANE EYRE

42 The heroine of Charlotte Brontë's novel pooh-poohs the significance of dreams, but she has plenty of them herself, undoubtedly because she's an imaginative woman who's learned to keep her feelings on a tight rein.

FICTITIOUS

ALICE IN WONDERLAND

43 Lewis Carroll framed his children's story within the heroine's dream. He chose this structure in order to make plausible an imagined world in which incredible things happen as matters of routine.

FICTITIOUS

SPELLBOUND

44 The 4½-minute dream sequence in Alfred Hitchcock's 1945 movie was created by Spanish Surrealist painter Salvador Dalí. It illustrates Gregory Peck's description to a psychiatrist of a phantasmagoric gambling den.

FICTITIOUS

BOOK OF DREAMS

45 In this novel of 1960, Beat Movement author Jack Kerouac describes many of his reveries over the previous decade. The style is wild, and full of sudden dreamlike switches of topic and location.

FICTIONAL

A NIGHTMARE ON ELM STREET

46 At the start of this 1984 horror movie directed by Wes Craven, a high-school student dreams that she is being stalked by a killer with a disfigured face, then wakes up to find that it was not a fantasy.

FICTIONAL

TOTAL RECALL

47 In the penultimate line of Paul Verhoeven's 1990 movie, Sharon Stone wonders whether the preceding action was all a dream, and thus provides science-fiction fans with a rich vein of speculation.

FICTIONAL

THE MATRIX

48 In the first of this series of films, directed by the Wachowskis and starring Keanu Reeves, the dystopian future in which the characters live turns out to be a computer-animated dreamworld.

FICTIONAL

INCEPTION

49 In this 2010 science-fiction movie, written and directed by Christopher Nolan, a professional criminal infiltrates the subconscious of a target, extracts information from him, and inserts new data in a process known as "shared dreaming."

FICTIONAL

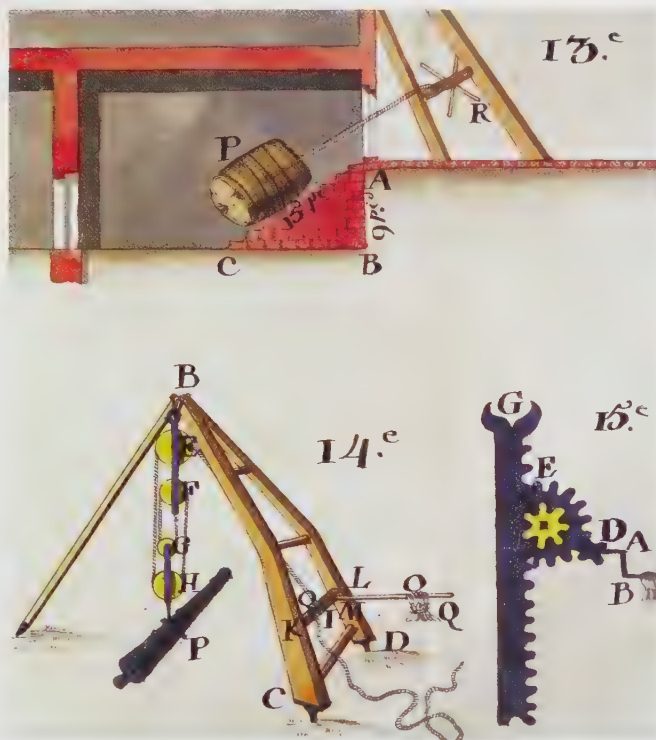
BATTLE STRATEGY

50 Carthaginian general Hannibal had many dreams. One told him that he would defeat the Romans. Others gave him detailed methods of doing so. There was nothing false about any of them.

INSPIRATIONAL

THE SCIENTIFIC METHOD

51 French philosopher René Descartes dreamed of being spun around in a fierce wind, and of falling while being pursued by ghosts. He woke up, then went back to sleep and dreamed of a thunderstorm, and sparks flying around his room. In the third dream, all was quiet. He opened a book of Latin verse, in which he found a line that, he later claimed, led him to the conclusion that formed the bedrock of his life's work: that the whole of science, even the whole of knowledge, could be elucidated only through reason. This formed the basis of his *Discourse on the Method*.



INSPIRATIONAL

KUBLA KHAN

52 Samuel Taylor Coleridge claimed that he dreamed this poem, and then wrote it down exactly as it came to him. But the surviving manuscripts show alterations, so it cannot have gone straight from brain to paper.

INSPIRATIONAL

THE DEVIL'S TRILL

53 Giuseppe Tartini gave his Violin Sonata in G Minor this byname because, he claimed, he had written it after waking from a dream of the Devil playing a violin. He later stated that his sonata was not as passionate as what he had witnessed in his sleep.

INSPIRATIONAL

FRANKENSTEIN

54 Mary Shelley dreamed about a scientist who created life and is then repulsed by what he has made. Her dream formed the basis of her novel about a scientist, Victor Frankenstein, and the monster he creates and then wants to destroy.

INSPIRATIONAL

THE SEWING MACHINE

55 In 1845, US inventor Elias Howe, stuck for ideas, had an anxiety dream that cannibals were preparing to cook him alive. As they danced around their campfire waving spears, he noticed a small hole through the shaft near the head of each weapon. When he awoke, the hole and the up-and-down motion of the spears inspired him to create a mechanical sewing machine.

INSPIRATIONAL

TRISTAN UND ISOLDE

56 In a letter to Franz Liszt, his future father-in-law, Richard Wagner claimed that the conception for this opera came to him in a dream of beauty.

INSPIRATIONAL: OUROBOROS DREAM COMPOUND

57 German chemist August Kekulé claimed that the ring structure of the benzene molecule came to him in a dream of a snake seizing its own tail—an ancient symbol known as the ouroboros.

INSPIRATIONAL: PERIODIC TABLE

58 The familiar modern arrangement of the periodic table, with the chemical elements in groups, came to Russian scientist Dmitry Mendeleev in a dream.

INSPIRATIONAL: SOLVING EQUATIONS

59 French mathematician Henri Poincaré believed in the importance of unconscious incubation in the creative process. He wrote the answer to an equation he had been trying to solve in a dream.

INSPIRATIONAL: DR. JEKYLL AND MR. HYDE

60 According to Robert Louis Stevenson's widow, the first transformation scene in this novella came to him in a dream.

INSPIRATIONAL: HAIR TREATMENT

61 Madam C. J. Walker became rich after a dream showed her how to make haircare products for African Americans.

INSPIRATIONAL: MATHEMATICAL FUNCTION

62 On his deathbed in 1920, Indian mathematician Srinivasa Ramanujan wrote a letter in which he described several new geometrical functions that had come to him in a dream. His theories were verified in 2002 and help explain the behavior of black holes.

Über die spezielle und die allgemeine Relativitätstheorie

(Gemeinverständlich)

Von

A. EINSTEIN

Mit 3 Figuren

*Die Vorlesung ist
zu weit abgelehnt.
Analogie zwischen
in Wirklichkeit
Herrn Prof. Einstein persönlich
an die Vorlesungen in der
Königlichen Universität
Frankfurt am Main.
Herrn Prof. Einstein
Berlin 12. April 1917.*

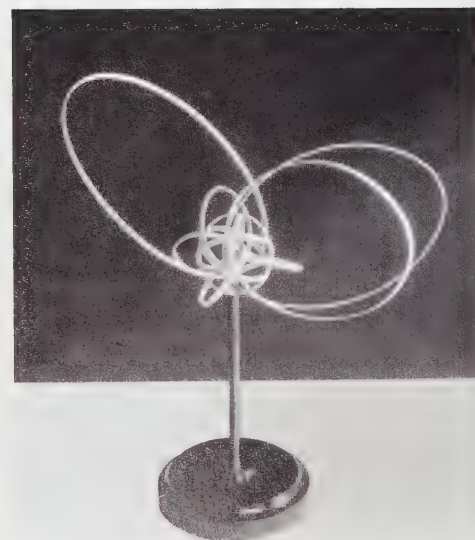


Braunschweig

Druck und Verlag von Friedr. Vieweg & Sohn
1917

INSPIRATIONAL: THEORY OF RELATIVITY

63 According to legend, Albert Einstein got this notion from a dream in which he saw a herd of cows jump back from an electric fence all at once. Still dreaming, he then recounted his observation to a farmer, who told him that he had witnessed the same event, but that he had seen the cows jump one after the other. Einstein realized that his impression differed from the farmer's because they had seen the event from different distances.



INSPIRATIONAL: STRUCTURE OF THE ATOM

64 Danish physicist Niels Bohr is reported to have developed the model of the atom, with electrons spinning around a central nucleus, after being inspired by a dream. It is said that he dreamed of a sun composed of burning gases with planets orbiting it attached by fine cords. In 1922 Bohr was awarded a Nobel Prize for Physics for his discovery.

INSPIRATIONAL: THEORY OF CHEMICAL TRANSMISSION OF THE NERVOUS IMPULSE

65 German physiologist Otto Loewi believed that nerve impulses might be transmitted chemically rather than electrically, but failed to prove it until 1903, when a way of demonstrating it came to him in a dream. He won the Nobel Prize in 1936.

INSPIRATIONAL: NECRONOMICON

66 This fictional book of magic is referred to, and quoted, in the works of US horror author H. P. Lovecraft, who said the title came to him in a dream.

INSPIRATIONAL: THE PERSISTENCE OF MEMORY

67 Salvador Dalí described this work of 1931 as one of his "hand-painted dream photographs."

INSPIRATIONAL

GOLF SWING

68 Golfer Jack Nicklaus was in a slump until he dreamed of a new way of addressing the ball. He went straight back to winning ways.

INSPIRATIONAL

TERMINATOR

70 While in bed with a fever, aspiring director James Cameron dreamed about an explosion from which emerged a robot, armed with knives. When he recovered, he turned it into the blockbusting film starring Arnold Schwarzenegger.



INSPIRATIONAL

GOOGLE

71 When US computer scientist Larry Page was in college he had a dream that he could download the entire worldwide web on to some old computers he had lying around. He then sat up for a few hours in the middle of the night doing some math and realized that the idea was pretty plausible. Eventually, he found a way to rank web pages and his dream had inspired him to create what became the Google search engine.

INSPIRATIONAL

YESTERDAY

69 Beatle Paul McCartney recalled that the melody of this song came to him in a dream in 1964, while he was staying at the home of his then girlfriend, Jane Asher.

INSPIRATIONAL

DREAMCATCHER

72 First used by the Ojibwe of North America, a dreamcatcher is a willow hoop with a loose net or web inside it. Dreamcatchers are set up near beds to protect against nightmares, and to capture sweet dreams.

INSPIRATIONAL

WAKING LIFE

73 This animated film of 2001 depicts a hero in an existentialist haze, in whose life there is no clear distinction between waking and sleeping.

INSPIRATIONAL

TWILIGHT

74 A young mother dreamed about an ordinary girl chatting to a vampire, then woke up and wrote a book about it. The mother was Stephenie Meyer; the book was the first in the *Twilight Saga*.

PROPHETIC

AUGUSTUS'S WARNING OF DANGER

75 A friend dreamed that the emperor was in danger and needed to leave his tent. Augustus left. Soon after, the enemy captured his tent, and stabbed what was an empty bed.

PROPHETIC

CALIGULA'S REJECTION BY JUPITER

76 This Roman emperor dreamed that he came before the chief god, who refused to allow him into heaven. The next day, Caligula was assassinated.

PROPHETIC

MARCIAN FORESEES THE DEATH OF ATILA THE HUN

77 Marcian was the emperor of Byzantium. During his reign, his Eastern Roman Empire came under concerted attack by the marauding Huns. According to many accounts of the period, Marcian dreamed one night that he saw Attila's bow broken before him. A few days later, word reached Byzantium that the city's most powerful enemy was dead.

PROPHETIC

CONSTANTINE'S DREAM OF THE CROSS

78 According to legend, in 312 CE, on the eve of the Battle of the Milvian Bridge, an important crossing over the Tiber River in Italy, the Roman emperor Constantine I dreamed that he should mark his soldiers' shields with crosses that denoted Jesus Christ. On waking, he followed this instruction and then won the day against his imperial rival, Maxentius. As a consequence, Constantine converted to Christianity, and encouraged his subjects to do likewise.



LOCATION OF THE DIVINE COMEDY

79 Dante's epic is the leading example in literature of the dream vision. This is perhaps no more than a framing device, however, because the text features several dreams-within-dreams.

OLIVER CROMWELL'S DREAM OF BEING KING

80 Cromwell recalled a dream of a female who told him that he would be the "greatest man in England." Failing to foresee his future as Lord Protector, he assumed this meant he'd be king.

HARRIET TUBMAN'S ESCAPE FROM SLAVERY

81 Tubman was born a slave in Maryland. After suffering a head injury, she had visions and foresaw her escape from slavery. This later came true for her and those she helped as an abolitionist.

DEATH OF MARK TWAIN'S BROTHER

82 Twain (the pen name of Samuel Clemens) dreamed that his brother had died. Soon after, his young sibling Henry Clemens was killed in a boiler explosion on a Mississippi riverboat.

MISS NAPIER

83 Charles Dickens said that almost immediately after dreaming of a woman named Miss Napier, he awoke to be introduced to a woman of that name.

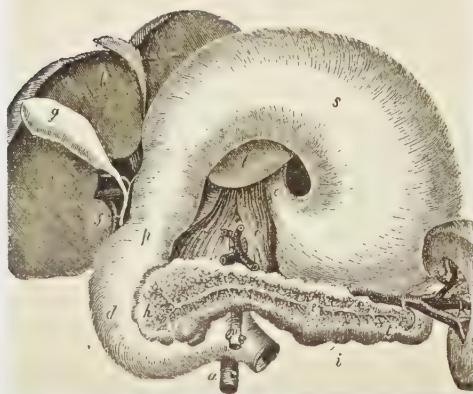
ABRAHAM LINCOLN FORESEES HIS DEATH

84 Lincoln dreamed of a corpse surrounded by mourners in the White House. When he asked who had died, he was told, "The president. He was killed by an assassin." A few days after Lincoln reported this dream to his wife, he was shot dead.

A MONSTROUS FLOOD

85 At the end of 1913, Carl Jung dreamed of such an inundation "covering all the northern and low-lying lands between the North Sea and the Alps. When it came up to Switzerland... the mountains grew higher... to protect [the] country." The following year, World War I broke out; the Swiss stayed out of the conflict.

Fig. 282.



INSULIN AS A TREATMENT FOR DIABETES

86 In 1921, Canadian physician Frederick Banting dreamed of a method of extracting the hormone insulin from the pancreas. When he awoke, he found it worked, and thus developed the first effective treatment for diabetes, an excess accumulation of glucose in the blood. In 1923, he shared the Nobel Prize in Physiology or Medicine.

ABRAHAMIC COVENANT

87 In the Old Testament of the Bible (Genesis 17), God appears to Abraham in a dream and promises him "an everlasting possession"—an unending line of descendants. In return, the Lord demands that all male children should be circumcised when they are eight days old. This tradition has been maintained in Jewish culture ever since.

JACOB'S LADDER TO HEAVEN

88 In Genesis 28, Jacob, the grandson of Abraham, sleeping in the open air, dreams of a ladder with angels climbing up and down it. Standing at the top of it is God, who gives Jacob a message whose meaning has been much debated.

JOSEPH BECOMING RULER

89 In Genesis 37, Joseph was the eleventh son of Jacob, and his father's favorite. Jacob told his already jealous brothers of his dream in which he had seen their sheaves of corn bow down before his sheaf, which rose above them all. On hearing this, the brothers sold him into slavery. Nevertheless, Joseph went on to become the powerful vizier of Egypt.



RELIGIOUS

PHARAOH DREAMS OF FAMINE

90 In Genesis 37, the ruler of Egypt had two dreams that no one in his court could interpret. But then Joseph explained that they signified the need to make savings in times of prosperity so that there was something in reserve in times of hardship.

RELIGIOUS

SOLOMON'S WISH FOR WISDOM

91 In the biblical Book of Kings, God appears to Solomon in a dream and invites him to ask for whatever he wants. When Solomon asks only for wisdom, God, having expected a selfish request, is well pleased.

ZACHARIAS FORESEES BIRTH OF A SON

92 In the New Testament and the Koran, Zacharias is a priest in a childless marriage. He wants children, but will not leave his wife, Elizabeth. He prays to God, who sends an angel to him in a vision to announce that his wife will soon give birth to a son, who must be named John.



JOSEPH TOLD TO PLACE TRUST IN MARY

93 In St. Matthew's Gospel in the New Testament, Joseph is unhappy when he discovers that his wife, Mary, is pregnant by someone other than him. But an angel appears to him in a dream and reassures him that the child is the son of God.

INNOCENCE OF JESUS

94 In St. Matthew's Gospel, Pontius Pilate's wife warns him not to put Jesus to death, because she has had a terrible dream about the consequences of so doing. So Pilate leaves the decision to the people.

RELIGIOUS

SHEET OF UNCLEAN ANIMALS

95 In the Acts of the Apostles, the apostle Peter was hungry. He dreamed of a sheet lowered from heaven containing all kinds of animals, and he heard a voice telling him to kill and eat any or all of them.



PAUL'S CALL TO MACEDONIA

96 The apostle Paul had a dream in which a man whom he could not identify begged him to go to Macedonia and help the people there. Paul concluded that God had called him to preach the gospel there. He traveled to Philippi, a Roman colony and the leading city of that part of Macedonia (the northern and central parts of modern Greece.) This was the second of his missionary journeys and Philippi is a gateway to modern Europe. Had Paul followed his original plans, his work would have been confined to Asia Minor (modern-day Turkey.)

RELIGIOUS

JOHN'S REVELATION

97 Almost the whole Book of Revelation is a dream St. John had while exiled on the island of Patmos, Greece. His vision explains some of the things that happened in the Old Testament.

TRIBUNAL OF THE LORD

98 St. Jerome had a dream in which he appeared before a tribunal of the Lord and was accused of being a follower of the Roman philosopher Cicero rather than a Christian. He vowed not to read pagan literature again.

SACRED MOSQUE

99 In the Koran, Muhammad dreams of entering this holy place in Mecca with other Muslims "secure, [some] having your heads shaved, and [some] having your head hair cut short, having no fear." He awoke, went to Mecca, and negotiated a treaty allowing Muslims to make the pilgrimage there.

BUTTERFLY DREAM

100 Chinese thinker Zhuangzi dreamed that he was a butterfly. But being a philosopher, he wondered if it was the butterfly that dreamed of being him. . . .





DESIGN & TECHNOLOGY

What every one of the 1,000 entries in this section share in common is a remarkable synthesis of style and substance. The featured epochal designs here don't just look different—they all offer something that none of their predecessors in the same field ever had. See how technological advances from the invention of the wheel and the steam engine to the Gatling gun and cell phone have changed people's lives, mostly for the better, whereas a succession of automobiles, bicycles, motorcycles, planes, and locomotives have helped make the world seem smaller by making travel increasingly faster and easier. Finally, check out how smart designers have changed what we wear, how we sit, and what we read.

◀ The second Anglo-French supersonic airliner, Concorde 002, makes its debut in 1971.



STONE TOOLS

1 The oldest-known stone tools, found around Lake Turkana, Kenya, date from before the dawn of the *Homo* genus to which humans belong. The inventors were hominids (great apes, the family that includes *Homo*). Their stone tools included axes, blades, and scrapers, and weapons, such as arrowheads and spear points. Humans relied on stone until they began making tools and weapons from metals.

BUILT SHELTER

2 Caves and trees provided our hunter-gatherer ancestors with shelter from predators and the elements. The earliest purpose-built shelter, constructed with stones and tree branches, was discovered at Terra Amata, France.

AGRICULTURE

3 It might seem odd to think of agriculture as an invention. But someone (or some people) first had the idea of purposely planting plants for food. The earliest farmers lived in the Fertile Crescent—a region of the Middle East, irrigated by the Tigris, Euphrates, and Nile rivers. First came the selection and cultivation of two types of grain, and soon, six other “founder crops”: barley, peas, lentils, bitter vetch, chickpeas, and flax. With agriculture came the domestication of animals, and the necessity of settlement. Gradually, the first human civilizations emerged in Mesopotamia.

100 INVENTIONS

POTTERY

4 Pots made of clay are more sturdy than baskets woven from grasses, and can be made waterproof. Pottery arose at roughly the same time in several unconnected, settled agricultural communities across the Middle East.

IRRIGATION

6 Farmers in the Fertile Crescent built embankments around fields in order to retain seasonal floodwaters.

PLOW

7 Ancient farmers used digging sticks and hoes to turn the soil. The domestication of oxen led to the invention of the plow, which turned the soil faster, and more effectively, than any previous tilling method.

SAILING BOAT

8 The earliest such vessels came from Mesopotamia and were made from reed bundles coated with bitumen.

WHEEL

9 Potters had been using spinning disks for making coiled pots for hundreds of years before people worked out how to fit them onto axles, and to use them to make wheeled vehicles. Wheels appeared around the same time, quite independently, in Mesopotamia and in eastern Europe; this key invention appeared elsewhere, including in what is now Central America, not long afterward.

GLASS

11 The oldest-known human-made glass is more than 4,000 years old, but the real breakthrough came a millennium and a half later, when the ancient Egyptians started making the earliest-known glass beads and jars. Glassblowing first emerged in Syria around 500 years later.

WRITTEN LANGUAGE

10 Like many ancient inventions, writing arose independently in several places—and, like many ancient inventions, it did not happen all at once. The earliest system of writing, which evolved from pictorial symbols, is the cuneiform script developed in the Sumer region of ancient Mesopotamia.

ARCH BRIDGE

12 The ancient Romans built the first arch bridges during their military campaigns. They famously invented the form: a temporary wooden structure upon which the stones of the bridge were placed.

MAP

5 The earliest map was probably a picture on the wall of a dwelling in Çatalhöyük, Turkey. It seems to represent a rough plan of the village. Surveying techniques developed around 2000 BCE in Babylonia.

CONCRETE

13 The key ingredient in concrete is cement, which binds together the constituent sand and gravel. Cement, pioneered by the ancient Greeks, was first made with lime (produced by heating limestone) and pozzolan (volcanic ash). The ancient Romans used the technology to build impressive domes and bridges.

CRANE

14 The stones of early Greek temples were lifted using simple cranes with winches. Engineers later used compound pulleys to lift much greater weights.

MAGNETIC COMPASS

15 The exact origins of the magnetic compass are unclear. The ancient Chinese used magnetite (magnetic iron ore) to make devices that aligned north-south. They first used them for feng shui, and later for navigation.

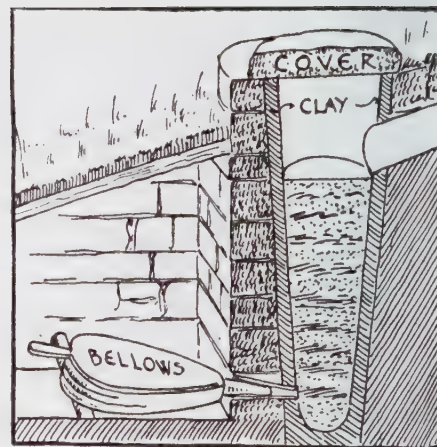
SIMPLE MACHINES

19 No one knows who invented any of the six classic simple machines—lever, pulley, screw, inclined plane, wheel-and-axle, and wedge. Greek scientist Archimedes' study of the first three established the principle of mechanical advantage, whereby machines increase or reduce force.



BLAST FURNACE

15 The Iron Age began in different places at different times, from around 2500 BCE onward. For centuries, iron was smelted in bloomeries, which produced the metal in solid form, with impurities. In blast furnaces (invented in China, but not common in Europe until the Middle Ages) hot air generated sufficient heat to produce better-quality, molten iron.



GEARS

17 There is evidence of gears being made in ancient China in the fourth century BCE. Archimedes studied them in the third century BCE, and Roman engineers used them to change the direction and strength of the force generated by waterwheels in order to grind corn.

STIRRUP

18 The first stirrups, in India, were simple toe loops. Later versions allowed horse riders of the Eurasian Steppe to invade China and Europe.

ASTROLABE

20 Traditionally attributed to Greek astronomer Hipparchus, this array of movable disks told the time, and predicted the positions of the Sun, the Moon, the planets, and the stars.

PAPER

21 Before Cai Lun invented paper, people in China wrote on silk, bamboo, or bone. In other parts of the world, writers used parchment (animal skin), papyrus, or clay tablets. Chinese rulers kept papermaking a secret for hundreds of years—but knowledge of paper spread widely from the eighth century onward.

GUNPOWDER

22 Gunpowder is a mixture of charcoal, sulfur, and saltpeter (potassium nitrate), first formulated by Chinese alchemists early in the ninth century during their search for an elixir of immortality. By the tenth century, it was being used in fireworks, designed to ward off evil spirits, and in warfare, in fire lances. Mongol armies spread knowledge of gunpowder across Asia, and probably into Europe. Gunpowder was introduced into rock blasting in the fifteenth century.

CANNON

23 In China, fire lances with iron barrels were being made by the eleventh century, and by the early twelfth century, soldiers were using fire lances to launch balls of lead or iron. These powerful weapons spread across the Islamic world, and into Europe.

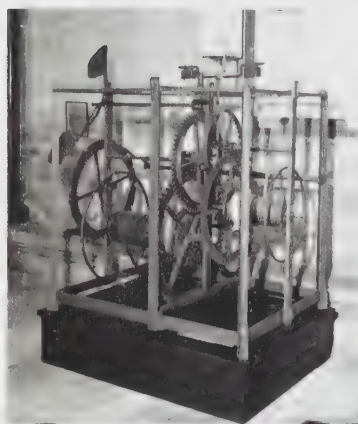
c. 1270

SPECTACLES

24 Although lenses made of polished quartz and, later, glass, had been studied in ancient civilizations, and by scholars in the Arab world, it was an unknown inventor in Italy who first used them to correct vision defects. Monks and scholars were the first to make regular use of them.

MECHANICAL CLOCK

25 The first mechanical clocks were built into the towers of cathedrals and monasteries across Europe. The key enabling technology was the escapement—a device that allows a weight to fall very slowly, in regular steps. Mechanical clocks were fairly inaccurate until the introduction of pendulums in the seventeenth century.



FIREARMS

26 The first firearms were miniature versions of the hand cannon. A key advance, made in fifteenth century Europe, was the matchlock—a lever that brought a lighted wick onto the gunpowder. This enabled the gun's user to hold the weapon with both hands, maintaining a good aim. Early firearms included the arquebus, and the musket.

PRINTING PRESS

27 Woodblock printing originated in China in the third century. Movable type—setting individual characters in place in a block before printing—began in the eleventh century. During the 1440s, German goldsmith Johannes Gutenberg invented a way of using movable type in an adapted olive press to create a system for printing large numbers of identical pages quickly. One of his key innovations was a handheld mold that made the process of typesetting quick and easy.

GREGORIAN CALENDAR

28 Named for Pope Gregory XIII, this new system introduced leap years to correct the incremental inaccuracies of the Julian Calendar that it replaced.

MICROSCOPE

29 A simple microscope is a single hand lens; a compound microscope involves two or more lenses. Dutch spectacle makers Zacharias and Hans Jansen invented the compound microscope while experimenting with lenses mounted in tubes.

TELESCOPE

30 German-Dutch spectacle maker Hans Lippershey was the first to patent a practical telescope, in 1608. He had been experimenting for years with arrangements of lenses that would make objects appear closer. The first reflecting telescope (with a mirror, instead of a lens) was built by Isaac Newton in 1668.

VACUUM PUMP

31 German Otto von Guericke adapted the water pump to make and study vacuums. Vacuum pumps were crucial to subsequent scientific advances.



STEAM ENGINE

32 Designed and built by English engineer Thomas Newcomen, the first working steam engine comprised a huge piston that was pushed down by atmospheric pressure as steam condensed beneath it inside a cylinder after cold water had been sprayed into it. An improved design, with a cylinder that was kept hot, was invented in 1765 by Scottish engineer James Watt. Watt was also one of the first to make steam engines that produced circular motion to drive factory machines.

THERMOMETER

33 The first accurate thermometer, with a scale, using mercury in a thin glass tube, was invented by German scientist and engineer Gabriel Fahrenheit.

FLUSH TOILET

34 Invented by Scottish watchmaker Alexander Cumming, the modern flush toilet depends on the S-bend, which traps water, and thereby prevents sewer gases rising up.

1791 SPINNING MULE

35 Samuel Crompton's industrial cotton-spinning machine played a crucial role in the Industrial Revolution. It was a hybrid (hence "mule") of two other machines: James Hargreaves's spinning jenny, and Richard Arkwright's water frame.

1800 SUBMARINE

38 The first practical submarine was the copper- and-iron *Nautilus*, designed by Robert Fulton to attach explosive mines to the hulls of enemy vessels.

1813 MASS PRODUCTION

39 Often attributed to American industrialist Henry Ford (whose innovation was actually the assembly line), mass production was first introduced in Portsmouth, England, to make pulley blocks for ships.

1820 ELECTRIC MOTOR

41 Designed by English scientist Michael Faraday, the first electric motor was just a single wire rotating slowly around a magnet, its free end dragging around in a bowl of mercury.

1826 PHOTOGRAPHY

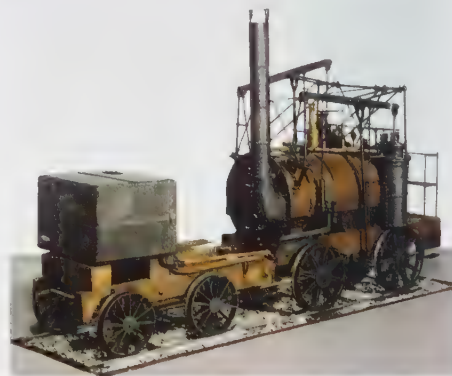
42 Nicéphore Niépce adapted the camera obscura—a closed box with a pinhole or lens at the front that produced an image on a screen at the back, that artists used to produce realistic drawings. Niépce preserved the images on a plate covered with bitumen. In the 1830s, he worked with Louis Daguerre, experimenting with silver compounds, which are sensitive to light. Silver compounds formed the basis of photography until the advent of the digital camera in the 1990s.

1783 HOT AIR BALLOON

36 French brothers Joseph-Michel and Jacques-Étienne Montgolfier tested their invention, first with a sheep and a cow, then with human passengers.

1825 STEAM LOCOMOTIVE

40 Experiments with high-pressure steam led English engineer Richard Trevithick to build the first working rail locomotive. Locomotives such as *Puffing Billy* (pictured) were soon regularly hauling trucks laden with coal. The first passenger railway opened in 1825.



1780 BATTERY

37 It is hard to overestimate the importance of the electric battery in scientific and technological progress. The first battery, invented by Italian scientist Alessandro Volta, was a pile of copper and zinc disks separated by layers of cardboard soaked in brine.

1831 ELECTRIC GENERATOR

43 After discovering the principle of electromagnetic induction—that moving a wire in a magnetic field can cause a current to flow—Michael Faraday made a primitive generator with a rotating disk.



1790 SEWING MACHINE

44 American Walter Hunt invented this contraption, which has a needle and a shuttle moving to and fro beneath the fabric to produce lockstitches.

1800 ELECTRIC LIGHT

45 In this year, Scottish inventor James Bowman Lindsay demonstrated the incandescent lamp—a glass bulb in which a current heated a thin filament and made it glow, but not for long enough to be useful. In 1879, Englishman Joseph Swan and American Thomas Edison both used carbonized bamboo filaments and evacuated bulbs. By the early twentieth century, bulbs had tungsten filaments, and were filled with inert gases. Fluorescent lamps were popular from the 1930s.

1837

TELEGRAPH

46 Englishmen William Cooke and Charles Wheatstone designed the first commercial electric telegraph. American inventor Samuel Morse's system—a code of long and short pulses of current—was invented in the same year, and came to predominate.

1852

SAFETY ELEVATOR

50 Elisha Otis invented an elevator with a safety mechanism that would stop the cab crashing to the ground if the cable broke. The successful introduction of this device encouraged the development of the skyscraper.

1853

HYPODERMIC NEEDLE

51 Medicines had been administered hypodermically before, but Scottish physician Alexander Wood introduced a hollow glass needle with a syringe attached.

1856

OIL REFINING

52 Within ten years of scientists successfully extracting several varieties of oil from petroleum, Polish pharmacist Ignacy Łukasiewicz opened the world's first industrial oil refinery, near Jasto, Poland. Oils produced by Łukasiewicz's refinery included asphalt, lubricating oil, and kerosene for lamps.

1861

STEAM HAMMER

47 Invented in France and England independently, this tool made it possible to drive great piles of metal into the earth, and to press and shape vast pieces of metal.

1866

SYNTHETIC DYE

53 English chemist William Perkin discovered mauveine by chance while trying to synthesize quinine, the medicine for malaria extracted from *cinchona*.

1868

REFRIGERATION

48 American doctor and scientist John Gorrie developed a device that made artificial ice for use in a basic air-conditioning unit. Gorrie's invention depended on compression and expansion of air to absorb heat. Commercial refrigerators appeared in the 1850s, but domestic refrigerators were available only from the 1910s.

1868

PLASTICS

54 Parkesine, an early plastic invented by English metallurgist Alexander Parkes, was adapted from nitrocellulose. The first truly all-synthetic plastic was Bakelite, invented by Belgian-born chemist Leo Baekeland.

1868

SAFETY MATCHES

49 Until 1844, matches contained highly toxic and explosive white phosphorus. Swede Gustaf Pasch invented a striking surface that contained red phosphorus, which was less toxic.

1862

PASTEURIZATION

55 From his investigations into the role of microorganisms in spoiling food and drink, Louis Pasteur developed a process for increasing the shelf life of beer and wine. Pasteurization involves heating and cooling the drink, but does not affect the flavor. It was first used on milk in Germany in the 1880s.

1876

FOUR-STROKE INTERNAL COMBUSTION ENGINE

56 Internal combustion engines are quieter, cleaner, and cheaper than their external equivalents, such as steam locomotives. In 1860, Belgian engineer Étienne Lenoir's internal combustion engine, which ran on coal gas, was used to power factory machines. German inventor Nikolaus Otto's four-stroke engine of 1876 was more efficient, mainly because the fuel/air mixture was compressed before a spark ignited it. These early efforts were followed in 1892 by the first engine of the type that now bears the surname of its inventor, Rudolf Diesel.





TELEPHONE

57 The US patent for the telephone was one of the most lucrative in history. It was awarded to Scottish-born Canadian inventor Alexander Graham Bell. Arriving at the US patent office on the same day as Bell, with a very similar invention, was American Elisha Gray. And there were several other inventors who had realized the promise of transmitting sound over the existing telegraph network. The first long-distance line, opened in 1877, stretched 60 miles (97 km) across California. Early telephones were "candlestick" designs, with fixed mouthpieces, and handheld earpieces. Later, the two parts were combined in handsets (pictured).

LOUDSPEAKER

58 Alexander Graham Bell invented a loudspeaker for his telephone. The modern "moving coil" design was introduced in 1915 by Danish engineer Peter Jensen.

SOUND RECORDING

59 The phonograph, developed by American inventor Thomas Edison, recorded sound as waves scratched into a rotating tinfoil drum. In the 1890s, German inventor Emile Berliner pioneered the use of flat disks, which, from the 1930s, were made of polyvinyl chloride (PVC, or "vinyl"). Tape was introduced in the 1930s.

POWER STATION

60 The world's first, in London, England, housed a steam engine that turned a generator, which provided electric light for businesses.

INDUCTION MOTOR

61 Nikola Tesla's invention generated alternating current electricity that ran industrial machines and domestic appliances.

STEAM TURBINE

62 Developed by Anglo-Irishman Charles Parsons, engines of this type are used to turn generators in most of the world's power stations.

SKYSCRAPER

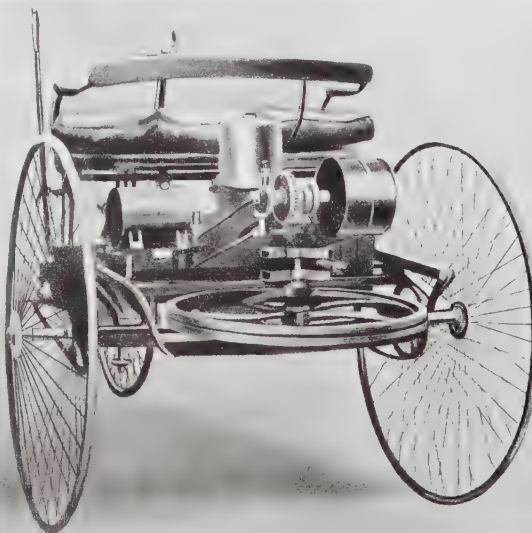
63 Built around a metal frame, the ten-story Home Insurance Building in Chicago weighed only one-third of an equivalent in stone.

BICYCLE

64 Penny-farthings had been around since the 1830s, but this year saw the introduction of the "safety bicycle"—the modern two-wheeler.

MOTORCAR

65 Siegfried Marcus built a powered handcart in 1870; Gottlieb Daimler and Wilhelm Maybach produced a motorcycle in 1885, and a motorboat in 1886. But it was the development of the motorcar that epitomized the profound influence of the internal combustion engine on modern life. Another German engineer, Karl Benz, built his Patent Motorwagen (pictured) in 1886. The dream of convenient personal transportation caught on: the first million cars had been bought by the start of the twentieth century. One hundred years after Benz's first car, in the mid-1980s, there were 320 million cars on the roads.



1888

MOVING PICTURES

66 Louis Le Prince was the first to capture moving pictures on photographic film. Cinema—public projection of moving pictures—was pioneered by Auguste and Louis Lumière.

1892

TRACTOR

67 The genius of this agricultural vehicle, developed by American inventor John Froelich, was that it could go backward as well as forward.

1901

VACUUM CLEANER

68 Hubert Booth saw a demonstration of a machine that blew dust, and realized that suction was preferable.

1907

WASHING MACHINE

70 American inventor Alva Fisher's "Thor" is widely accepted as the first automatic electric washing machine. It had a perforated zinc drum.

1910

NITROGEN FIXATION

71 Naturally occurring nitrogen-rich compounds for fertilizers and explosives were scarce as a result of the rapidly increasing world population. Carl Bosch developed Fritz Haber's method of producing nitrogenous compounds from atmospheric nitrogen.



1926

TELEVISION

73 English inventor John Logie Baird transmitted moving pictures produced by a rotating disk with a series of holes. Baird also built the world's first television studio, and began regular broadcasts in 1929. By the mid-1930s, an all-electronic system had superseded the "mechanical" system used by Baird. Electronic television, which used a cathode-ray tube to capture and display images, was pioneered by Russian engineer Vladimir Zworykin with American engineer Philo Farnsworth.

1902

AIRPLANE

69 The invention of the hot air balloon encouraged as much as satisfied people's desire to take to the air. English physicist George Cayley was the first to outline the basic structure of the modern powered airplane, early in the nineteenth century. The first sustained powered flight was achieved by the Wright Flyer (pictured), designed and built by brothers Orville and Wilbur Wright. Inspired by gliders built and flown by German inventor Otto Lilienthal, the Wrights built a wind tunnel in their bicycle shop to test dozens of potential wing designs.



1928

JET ENGINE

74 English engineer Frank Whittle submitted designs for a jet engine in 1928. German engineer Hans von Ohain came up with the same idea independently in 1935.

1930

PARTICLE ACCELERATOR

75 This device, developed by John Cockcroft and Ernest Walton, split the atom by accelerating beams of protons to high speed.

1931

ELECTRON MICROSCOPE

76 This instrument—developed by Ernst Ruska and Max Knoll—used electrons to produce images magnified up to 400 times.

1926

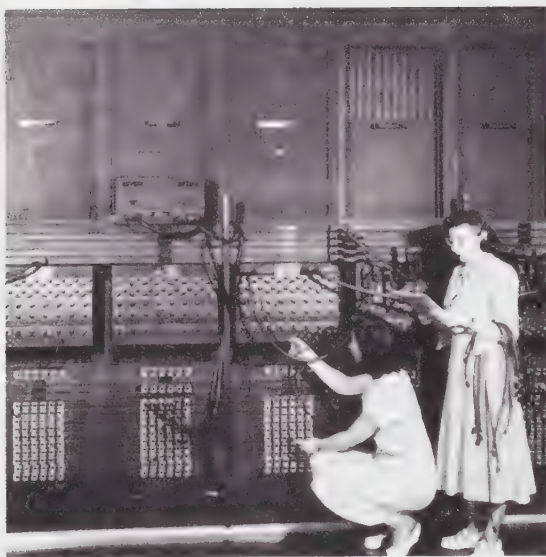
SPACE ROCKET

77 American physicist Robert Goddard and German engineer Wernher von Braun pioneered liquid fuel rockets in the 1920s and 1930s. Von Braun's V-2 rocket came close to crossing the Karman line, the edge of space.

1942

NUCLEAR REACTOR

78 Italian physicist Enrico Fermi built the first nuclear reactor under a sports stand at the University of Chicago.



ELECTRONIC COMPUTER

1917 Colossus—designed by English engineer Tommy Flowers, to break encryption on wartime radio transmissions—was the first programmable, all-electronic, digital computer. It was preceded by several important machines, which were either not programmable, or were electromechanical, or used analog, rather than digital, signals. Colossus's programmability was limited, and it was built for a specific purpose. The first general purpose electronic computer was ENIAC (Electronic Numerical Integrator And Computer, 1946, pictured).

TRANSISTOR

1947 Invented by physicists John Bardeen, Walter Brattain, and William Shockley, the transistor replaced large, power-hungry vacuum tubes ("valves") in electrical equipment, thus revolutionizing the electronics industry.

ROBOT

1948 William Grey Walter built the first working robots—small-wheeled vehicles nicknamed "turtles," autonomously controlled by a simple onboard computer.

ATOMIC CLOCK

1949 The first was installed at the US National Bureau of Standards. It kept time by measuring radio waves produced by atoms.

ULTRASOUND SCAN

1952 American doctor John Wild pioneered ultrasound scanning in the late 1940s. It was first used to image fetuses in 1956.

SOLAR CELL

1954 Bell Labs produced the first practical silicon solar cells, which generate electricity when light falls on them. They were used on the Vanguard I satellite in 1958.

BIRTH CONTROL PILL

1956 Enovid, the first oral contraceptive pill, was developed by American biologist Gregory Pincus, and first trialed in 1956. The following year, it went on sale in the United States.

ARTIFICIAL SATELLITE

1957 The Space Age began on October 4, 1957, when Soviet satellite Sputnik 1 was launched into low Earth orbit. It transmitted radio pulses for 21 days, before its batteries ran down. The first weather satellite, TIROS I, was launched in 1960. The first communications satellite, Telstar, went up in 1962.

ENDOSCOPE

1967 Basil Hirschowitz developed new, improved optical fibers, and the first flexible endoscope for viewing human digestive, respiratory, and reproductive tracts.

LASER

1960 The first laser was built by American Theodore Maiman. Its name is an acronym of "light amplification by stimulated emission of radiation."



INTEGRATED CIRCUIT

1958 After transistors, the next major step in the development of electronics was the integrated circuit (IC), a chip of silicon or other semiconductor on which circuits consisting of many tiny transistors and other electronic components could be installed at the same time. It was invented by American engineer Jack Kilby, in collaboration with Robert Noyce.

LIGHT-EMITTING DIODE (LED)

90 After years of research into electroluminescence, Bell Labs produced the first practical LEDs. These instruments were soon adopted in displays for electronic devices, and eventually in lighting.

SATELLITE NAVIGATION

91 The first satellite navigation system was the US Navy's TRANSIT, fully operational by 1964. The United States was first to make satellite navigation available to the public, with its GPS (Global Positioning System).

SPACE TELESCOPE

92 Launched 22 years before the Hubble Space Telescope, NASA's Orbiting Astronomical Observatory 2 carried seven different telescopes, and helped astronomers to make many important discoveries.

INTERNET

93 The technology of inter-networking, using a set of rules for computer interaction called TCP/IP (transfer control protocol/internet protocol), was first adopted by the US military's Advanced Research Projects Agency Network (ARPANET). Other networks around the world connected to ARPANET, and the Internet grew rapidly during the 1970s and 1980s. Its appeal was greatly enhanced by the invention of the World Wide Web.

FIBER-OPTIC COMMUNICATION

94 US company Corning Glass Works developed the first practical system for transmitting telephone and computer signals in the form of pulses of light passing along optical fibers.

SPACE STATION

95 Three astronauts stayed for 23 days aboard the Soviet Salyut 1, the world's first space station. It was the first part of the permanently crewed International Space Station, launched in 1998.

MRI SCANNER

96 Paul Lauterbur found a way to produce images using magnetic resonance. His first effort was a cross section of a living mouse.



CELL PHONE

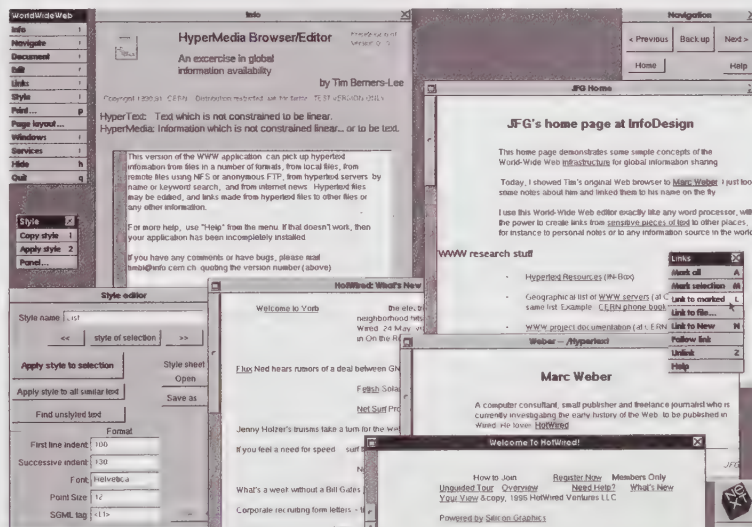
97 US engineer Martin Cooper made the first call on a cellular network, using a prototype Motorola DynaTAC portable phone. The first call on a commercial cellular network was made on the same model of phone in 1983.

ANTIVIRAL DRUGS

98 Compounds with antiviral properties were developed from the 1950s. The first such drug on sale was acyclovir.

3D PRINTING

99 US engineer Chuck Hull invented a computer-controlled process in which shapes are built up layer by layer—stereolithography. The process was originally known as rapid prototyping.



WORLD WIDE WEB

100 While working at CERN, the European nuclear research center, English computer scientist Tim Berners-Lee came up with the idea of a global system of interlinked information, made up of documents residing on computers called servers on the Internet. By 1990, he and his colleague Robert Cailliau had made a formal proposal for what they called the "World Wide Web." Berners-Lee made the first browser software, which is needed to interpret the links embedded in documents.



GERMANY 400,000 BCE SCHÖNINGEN SPEARS

1 Eight wooden throwing spears found in the 1990s in a mine in Lower Saxony are believed to be about 400,000 years old—making them the oldest hunting weapons ever discovered. They seem to have been very effective: they were discovered among 10,000 discarded animal bones. Each of the javelins is around 6 feet (1.8m) long and had been carefully worked to a sharp point, with the center of gravity toward the front. Early humans of the genus *Homo heidelbergensis* possessed a lethal range of up to 230 feet (70m).

DENMARK ~10,000 BCE NEOLITHIC STONE OR BONE DAGGER

2 The first bladed weapons that appeared around 7,000 years ago were not swords; they were short stabbing knives made of carved flint, ivory, or bone. These Neolithic daggers were skillfully carved so the blades were less than 0.4 inches (1cm) thick, with sharp sides and a shaped hilt. Daggers were not used for everyday jobs like cutting meat; indeed, they were not used for anything much; they were worn as a sign of status.

IRAQ ~3000 BCE THE WALLS OF URUK

3 Probably the world's first city was Uruk in Mesopotamia, in modern Iraq. In around 3000 BCE, Uruk's 50,000 inhabitants lived in mud-brick houses. An impressive 5.5-mile-long (9km) stone wall was built around the city. It was about 50 feet (15m) high. This pioneering fortification acquired mythical status in the ancient world, and the idea quickly spread.

100 MILITARY INNOVATIONS

PERU 2500 BCE PERUVIAN SLING

4 Slings have been used to hurl stones since the Stone Age. Some of the earliest surviving examples are made of llama wool. The Incas were still using them in the fifteenth century CE in their doomed attempt to repel Spanish invaders.

MIDDLE EAST ~1800 BCE BATTLE CHARIOT

5 The invention of the wheel led quickly to the use of battle chariots in the ancient world. At its peak the chariot was the world's most powerful weapon, pulled by two horses with one or two archers on board. When Egyptians and Hittites fought each other at the Battle of Kadesh in 1274 BCE, more than 5,000 chariots were used.

CRETE 1700 BCE BRONZE SWORD

6 Once metalworkers mastered bronze, daggers grew into swords. The extra strength of this alloy of copper and tin enabled blades to become more than 3 feet (1m) long. The finest bronze blades of the ancient world were those used by the Minoan warriors of Crete around 1700 BCE.

GREECE ~1500 BCE DENDRA ARMOR

7 As metallurgy developed, the first suit of armor made from beaten bronze panels appeared in Greece.

MIDDLE EAST ~1200 BCE ASSYRIAN BATTERING RAM

8 First came walls; then came battering rams to breach them. Assyrian ram crews were protected from flaming missiles by canopies of wet hides.

MIDDLE EAST 865 BCE ASSYRIAN CAVALRY

9 Fighting on horseback was tricky until stirrups, spurs, and saddles were invented in around 200 BCE. Before that, the Assyrians managed to organize the first effective cavalry force armed with swords and shields, but a neighboring rider had to hold your reins if you wanted to fire an arrow from your bow.

GREECE 7TH CENTURY BCE PHALANX

10 Organizing battle formations became a fine art in the ancient world. The Greeks devised this system of forming infantry into close ranks. Soldiers in the front row locked their shields together and advanced slowly with spears sticking out.

PHOENICIA 3RD CENTURY BCE TRIEMES

11 For 300 years this warship was the most feared weapon of the ancient world's navies. Propelled by sails and three banks of oars, triremes were used in battle to ram rival ships.

CHINA 7TH CENTURY BCE GREAT WALL OF CHINA

12 The greatest defensive wall of all time today stretches for 5,500 miles (8,850km) across the northern borders of China. The wall has been maintained and rebuilt periodically throughout history.

UK MAIDEN CASTLE

13 Fortified hilltops are difficult to attack. Maiden Castle in Dorset had one of the biggest and most complex Neolithic systems of walls and ramparts.

EAST ASIA CHINESE CROSSBOW

14 Traditional longbows required skill, strength, and training; anyone could use the crossbow, however. Ancient Chinese military engineers developed the concept further. The *chu-ko-nu* weapon had a magazine of up to ten bolts, so it could fire repeatedly like a machine gun. Other crossbows could fire three bolts at once.

GREECE MACEDONIAN HETAIROI

15 Alexander the Great's Macedonian armies were the first to use "shock cavalry"—a wedge-shaped formation of heavily armed horsemen that charged into the enemy from the side while a massed phalanx of infantry attacked from the front.



MACEDONIA SARISSA

16 Alexander the Great's equally warlike father Philip bequeathed him the simple idea of making spears much longer. The Macedonian phalanx wielded *sarissas* up to 21 feet (7m) long. A *sarissa* was a heavy wooden pole with a sharpened iron spearhead. It was awkward to carry and useless in close combat; however, a tight formation of infantry advancing with *sarissas* pointing forward was almost invincible.

LEBANON TYRIAN FIRE SHIP

17 One of the earliest fire ships was sent by defenders of the island fort of Tyre to destroy the wooden siege machines of the besieging Macedonians. Fire ships were also used successfully when England repelled the Spanish Armada in 1588.

GREECE ONAGER

18 The first artillery weapon was a field catapult that used twisted animal sinews or rope to provide the tension to fling a pivoted arm forward and smack into the frame, thus hurling a sling containing its payload. The onager was slow and inaccurate but versatile: missiles ranged from rocks and pots of flaming incendiaries to severed heads and diseased bodies to intimidate and demoralize the enemy.

GREECE c. 672 CE GREEK FIRE

19 The Byzantine army's secret weapon (a formula still unknown) was fired through tubes like flamethrowers.

FRANCE NORMAN BATTLE-AX

20 The Bayeux Tapestry shows soldiers wielding deadly cleaving axes in victorious hand-to-hand combat against spear wielders.

UK c. 12TH CENTURY ENGLISH LONGBOW

21 The giant 6-foot-long (1.8m) bow, crafted from yew with a hemp string needed strength and training to use but gave great power. Its range was up to 270 yards (250m), and skilled archers could let off 10 arrows a minute.

EURASIA MEDIEVAL CAVALRY LANCE

22 The adoption of saddles and stirrups made cavalry more effective. By the Middle Ages, a cavalry charge by knights wielding long lances was one of the most effective battlefield tactics.

SYRIA KRAK DES CHEVALIERS

23 One of the finest medieval castles, this crusader stronghold featured two concentric outer walls between round towers, and a fortified inner keep. Surrounded by hostile land, it was impregnable for 130 years but finally fell when its occupants surrendered after receiving a fake letter purportedly from their leader.



CHINA 13TH CENTURY HAND CANNON

24 The first portable firearms were bamboo or iron tubes stuffed with gunpowder and stone projectiles fired by lighting a hole in the barrel. At first they were hopelessly inaccurate and lacked power to injure enemies wearing armor. However, the noise and flash had an intimidating effect. Gradual developments like specially shaped bullets, wooden stocks, and covered flash pans improved the effectiveness of hand cannons, and within 200 years they had spread to Europe.

UK 1346 RIBALDIS CANNON

27 During the Battle of Crécy in the Hundred Years' War against the French, the English unveiled a new secret weapon: a wheel-less cannon that fired arrows and stone balls.



ITALY 15TH CENTURY STAR FORT

29 Tall medieval stone walls made easy artillery targets. New forts had low, thick walls and outer defensive rings in a pointed star shape.

INDIA 15TH CENTURY KUMBHALGARH FORT

30 These ultimate medieval castle walls were 15 feet (4.5m) thick and ran for 24 miles (38km) around the fort.

TURKEY OTTOMAN MORTAR

31 The Turks' new weapon at the Siege of Constantinople was a simple short cannon that fired heavy stone balls over defensive walls. Defenders claimed the Ottoman mortars fired "a mile high," but their projectiles fell so slowly that intended targets could easily move out of the way.

TURKEY DARDANELLES GUN

32 Medieval Turks developed enormous cannons like this 17-ton weapon, which was used 350 years later against British ships.

GERMANY 15TH CENTURY ZWEIHÄNDER SWORDS

33 These two-handed weapons were up to 6 feet (1.8m) long and weighed up to 7 pounds (3kg). Too big for sheaths, they were carried on the shoulder.

EURASIA 13TH CENTURY MONGOL COMPOSITE BOW

25 Genghis Khan's most effective weapon could fire lighter arrows much farther than Western bows of the period. The Mongol weapon was compact enough to be used by the Khan's fast-moving horsemen harrying enemies at a distance.

CHINA 7TH CENTURY LAND MINE

26 Devised by Chinese military engineers, the first effective land mines were metal spheres of gunpowder with long fuses ignited by hand. Soon more sophisticated triggering systems evolved. Enemies stepped on hidden boards operating weights, wheels, and flints to create a spark to ignite the mine.

EUROPE 15TH CENTURY ARQUEBUS

28 The first effective military firearms transformed Europe's battlefields. The matchlock firing system was a leap forward from hand cannons. Now, a lever or trigger flicked a burning "match" into powder to fire the weapon while the user held it steady with both hands. It was slow and cumbersome, but at close range it could pierce armor. Once the Dutch invented volley firing, warfare changed forever.

UK REVENGE

34 *Revenge* was the first of Royal Navy Chief Richard Hawkins's new breed of fast, maneuverable warships. Francis Drake chose the sleek 46-gun galleon as his flagship against the Spanish Armada in 1588. It was a formidable combatant, even when up against enemy vessels twice its size.

RUSSIA TSAR CANNON

35 This enormous bronze bombard had the largest-ever caliber barrel and hurled stone cannonballs up to a mile.

FRANCE BAYONET

37 The simple idea of fitting a knife or spike to the end of a musket barrel created a dual weapon: a firearm that was also a pike. Early plug-in bayonets were soon dumped for ring versions that allowed the gun to continue to fire.



SWEDEN THREE-POUNDER CANISTER FIELD GUN

36 King Gustavus Adolphus pioneered the use of mobile field artillery units during the Thirty Years' War.

UK SANDBAG

39 Sacks filled with sand have been widely used by armies all over the world since the American War of Independence. Sandbags absorb explosions and can be used to make defensive walls. They have even been hung on vehicles for additional protection.

INDIA MYSOREAN ROCKET

38 The wealthy rulers of Mysore made the first effective military rockets and used them effectively against British troops. The rockets shot iron missiles, loaded with sword blades and bamboo spikes, and had a range of 1.25 miles (2km).

SOUTHERN AFRICA ZULU IKLWA

40 Long spears were for throwing; short spears like this were used instead as deadly stabbing weapons in close fighting.

UK COLT REVOLVER

41 Samuel Colt's revolving mechanism invention allowed multiple firing before reloading. Employing the latest mass-production techniques, Colt's pistols became renowned as the world's best-known handguns.

NEW ZEALAND MAORI TRENCHES

42 The British had cannons, mortars, and muskets, but they still struggled to defeat the New Zealand Maoris, who had evolved sophisticated defensive systems of earthworks and trenches in fortifications known as pa. The Maoris were able to shelter unharmed in their pa trenches during artillery bombardments and then inflict heavy casualties when the British infantry launched frontal assaults. Trenches appeared in other conflicts, too, notably the American Civil War and the Boer War, but reached a peak in the stalemate of World War I.

UK ARMSTRONG GUN

43 William Armstrong's light and mobile field gun was a breakthrough in the quality of long-range artillery. It was breech-loaded and had a rifled barrel made of several tight layers, originally of cast iron, and later of mild steel.

FRANCE GLOIRE

44 The first iron-clad warship was powered by steam and sails and had a 17-inch-thick (43cm) wooden hull mounted with 4.7-inch (12cm) iron plates. *Gloire* was slow, but even the most powerful naval guns of the day could not penetrate her armor.

USA SPENCER REPEATING RIFLE

45 Spencer's gun was revolutionary. It was a seven-shot repeater in which cartridges were spring-loaded more rapidly than any other gun, even a Colt revolver. The rifle was accurate, too, and its metal cartridges were not affected by moisture.

USA UNION ARMY BALLOON CORPS

45 In gas-lifted dirigibles, the corps were battlefield observers during the American Civil War.



USA GATLING GUN

47 The Gatling gun's 200 rounds a minute revolutionized warfare. An operator cranked the multiple barrels, each of which fired once as it rotated into position and was then reloaded by a gravity-powered magazine.

AUSTRIA WHITEHEAD TORPEDO

48 The first self-propelled torpedo used a tiny engine and internal gyroscope to help transform submarines from novelties into deadly warships.

FRANCE SÉRÉ DE RIVIÈRES SYSTEM

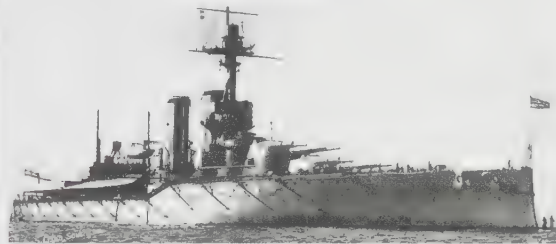
49 France created one of the most sophisticated defensive lines ever seen: mutually supporting strong points along its entire eastern frontier built of reinforced concrete and iron.

UK MAXIM MACHINE GUN

50 Sir Hiram Maxim's invention was a weapon that could reload itself simply using the force of its own recoil. It was a major step forward from the hand-cranked Gatling gun, and could fire 600 rounds a minute for long periods. In its first engagement, British troops with four Maxims defeated 3,000 native warriors in Rhodesia. After that, the devastating weapon played a major part in the European colonization of Africa, easily defeating massed charges by native tribes.

UK ARMSTRONG SUPERGUN

51 The first "monster guns" were enormous artillery pieces up to 40 feet (12m) long, firing 1,800-pound (816kg) shells capable of penetrating iron plating 30 inches (76cm) thick, 8 miles (13km) away.



UK 1906 HMS DREADNOUGHT

52 The first modern battleship pioneered the use of steam turbine engines and an internal electrical communication system. It had ten 12-inch-long (30cm) guns with a range of 11.6 miles (18.6km), five underwater torpedo tubes, and armor 11 inches (28cm) thick.

MULTINATIONAL BARBED WIRE

53 A fencing system for cattle became a major defensive weapon during World War I.

JAPAN WAKAMIYA

54 The first effective aircraft carrier used four seaplanes that were lowered into the water on cranes.

GERMANY CHLORINE GAS

55 The German army first fired poisonous chlorine gas at Allied trenches in World War I, heralding the dawn of the modern era of chemical and biological weaponry. The Allies soon developed their own gas weapons. Gas masks were issued, but 100,000 soldiers on all sides died from chemical weapons.



UK MARK I TANK

56 The first operational tank was designed to break the stalemate of trench warfare. Tracks surrounded the entire rhomboid hull, which had guns mounted on the sides. It was slow, unreliable, and as dangerous to the crew as to the enemy, but it presaged things to come.

UK 1916 HANDLEY PAGE BOMBER

57 Sir Frederick Handley Page built the first aircraft designed to drop bombs during World War I. Its mission was to attack German cities in retaliation for Zeppelin raids on London. By the end of the conflict, Handley Page twin-engined biplane bombers were capable of targeting the heart of Germany, as far as Berlin.

UK 1916 DEPTH CHARGE

58 Underwater bombs detonating at preset depths were developed by the Royal Navy to counter German submarines. The new weapon sank 38 U-boats.

FRANCE 1915 MAGINOT LINE

62 The shell-proof fortifications along France's eastern border were thought to be impregnable, so Germany invaded through Belgium.

CZECHOSLOVAKIA 1918 CZECH HEDGEHOGS

63 The all-conquering tanks were stopped in their tracks by these simple mass-produced geometric obstacles made of iron or timber.

UK 1918 SOPWITH CAMEL

59 Introduced in the final year of World War I, this British single-seat biplane became a decisive aerial weapon. The Camel's two machine guns fired straight ahead, safely passing through the spinning propeller thanks to an ingenious synchronization system. The guns were covered by a metal cowl to prevent freezing at altitude. Top speed was 115 miles per hour (185kph), and it was faster banking right than left, but the Sopwith was credited with 76 enemy "kills" a month.



GERMANY 1918 PARIS GUN

60 The largest artillery gun of World War I was hard to aim, but it enabled Germans to shell Paris from a distance of 75 miles (120km) away.

GERMANY 1918 BERGMANN MP18 SUBMACHINE GUN

61 Select German stormtroopers were armed with this powerful 9mm automatic, the world's first practical submachine gun. It had a 32-round magazine and a seven-rounds-a-second rate of fire, but it was issued too late to turn the tide of World War I.

USA 1918 M1 GARAND

64 This semiautomatic rifle gave US World War II infantry an advantage over enemies equipped with slower, bolt-action rifles. It used expanding gas from the previous round to cock and load the next one.

UK 1916 SUPERMARINE SPITFIRE

65 This single-seat fighter spearheaded the RAF's victory in the Battle of Britain. Its Rolls-Royce engine powered it to 360 miles per hour (580kph). Most Spitfires had eight .303 caliber machine guns in the wings.

GERMANY 1940 PARATROOPERS

66 First used as a means of escape from observation balloons, parachuting was being tried by most armies before World War II. German paratroopers launched the first airborne invasion in the 1940 assaults on Scandinavia as part of their blitzkrieg strategy.

MULTINATIONAL 1941 INCENDIARY BOMB

67 Incendiary bombs became widely used by all sides in World War II, mainly as a means of attacking and destroying buildings from the air.

UK 1940 HOME RADAR NETWORK

68 The British installed the first radar defenses before World War II—a network of coastal stations. This system of cables hung between towers was primitive but decisive in the Battle of Britain.

UK 1943 HMS ILLUSTRIOUS

69 The first of a new type of aircraft carrier, *Illustrious* was smaller than its predecessors but had heavier armor, and the added protection enabled it to survive a sustained enemy dive-bomb attack.

GERMANY 1940 U-BOAT

70 Germany's World War I submarines had been a small but surprisingly effective force. By World War II, the Germans had created the world's largest submarine fleet. During the Battle of the Atlantic, these U-boats almost brought Britain to the point of surrender by devastating the island nation's maritime supply routes.

GERMANY 1940 SCHWERER GUSTAV & DORA

71 Heavy artillery reached its peak with the two largest cannons used in World War II. These monster 1,350-ton German super-superguns traveled by rail to battle zones, where they fired 7-ton shells capable of blasting through 3-foot-thick (1m) steel up to 29 miles (47km) away.

USSR 1940 KATYUSHA ROCKET ARTILLERY

72 "Stalin's organ pipes"—self-propelled multiple rocket launchers—were slow to load and inaccurate but devastated wide areas.



GERMANY 1944 V-2 ROCKET

74 The first long-range ballistic missile was designed to hit Allied cities. Because of its steep trajectory, this supersonic German rocket bomb was the first human-made object in space. The V-2 was inaccurate but potentially extremely deadly and almost impossible to defend against. The thousands of victims were mainly civilians. A single V-2 killed 567 people in Antwerp, Belgium, in 1944. The other main target was London, England.

GERMANY 1944 V-1 FLYING BOMB

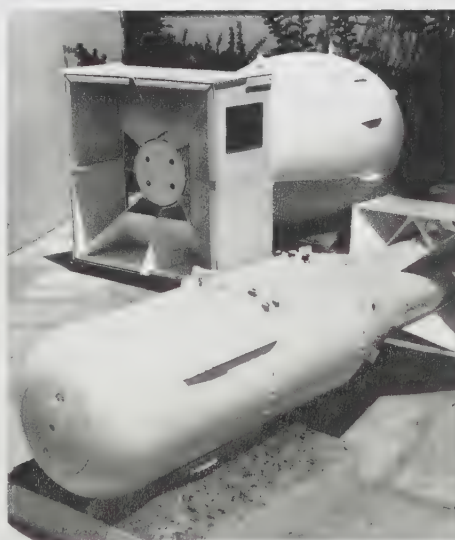
75 This pioneering, jet-powered, guided flying bomb was designed to terrorize Allied urban targets. The V-1 was a forerunner of modern cruise missiles, launched from ground sites or aircraft, with a range of about 160 miles (250km) and speed of 400 miles per hour (640kph). Despite its inaccuracy, the V-1, or "doodlebug," caused thousands of casualties and created widespread alarm.

JAPAN 1944 KAMIKAZE SQUADRONS

76 As Japan was losing the war in the Pacific, thousands of its airmen embraced the concept of "death rather than defeat." They formed squadrons to fly suicide missions, attempting to crash into Allied warships in planes loaded with explosives. Losses were high, but many ships were sunk by the tactic.

USA 1945 LITTLE BOY & FAT MAN

77 On August 6, 1945, a US B-29 bomber dropped the first atomic bomb, codenamed Little Boy, over Hiroshima. Less than a minute later, the city was flattened. Japan's leaders hesitated to surrender, so three days later, a second bomb, Fat Man, was dropped on Nagasaki. Japan surrendered and the war ended, but thousands of civilians continued to die from radiation poisoning.



ISRAEL 1948 UZI

78 More than ten million Uzis have been made in Israel since Major Uziel Gal designed a groundbreaking small, light, and rugged submachine gun in the late 1940s. Accuracy and range are limited, but the weapon provides overwhelming short-range firepower of up to 1,200 rounds per minute.



USSR AK-47

70 Over the last 50 years, Russia's Kalashnikov assault rifle has become the world's most widely used firearm. It's rugged, reliable, easy to use, and cheap to make, a perfect synthesis of the US's M1 and the German StG-44. Around 100 million AK-47s have been built since it was designed by Mikhail Kalashnikov, a Russian general who was also a published poet. This versatile and practical semiautomatic weapon is 35 inches (90cm) long and has a range of 440 yards (400m). Its maximum rate of fire is 100 rounds a minute.

USA USS NAUTILUS

60 The first nuclear-powered submarine could remain underwater for weeks at a time.

USA NIKE AJAX

81 The threat of high-altitude Soviet bombers inspired the first surface-to-air missile system.

USA SIDEWINDER MISSILE

62 This supersonic, heat-seeking, air-to-air missile with a solid-fuel rocket motor had an infrared system that honed in on enemy aircraft engines exhaust up to 18 miles (29km) away. Its high-explosive warhead was wired to detonate on impact.

USA POLARIS MISSILE

63 The deadliest "ultimate deterrent" of the Cold War was a nuclear missile system fired from an underwater launcher to hit any part of the rival country. US and British submarines could stay in submerged hiding places and launch this 31-foot-long (9.4m) triple-warhead missile that had a range of 2,800 miles (4,500km).

USA MCDONNELL DOUGLAS F-4 PHANTOM

84 This supersonic fighter jet climbed higher and flew faster than any rival. With air-to-air and air-to-ground missiles, bombs, and rotary cannons, the F-4 was the most powerful aerial weapon of its time.

USA DISCOVERER SPY SATELLITE

85 The Discoverer space program was really a spy in the sky above the Soviet Union and China. The photographs it took were recovered when the capsule landed.

USA USS ENTERPRISE

86 Installing nuclear power on an aircraft carrier created a formidable mobile strike force with an indefinite operating range. The USS *Enterprise*'s first action was in the Cuban missile crisis. It proved to be such a successful and powerful naval vessel that it served for another 51 years.



RUSSIA RPG

87 Rocket-propelled grenades (RPGs) are shoulder-fired tubes launching explosive rockets over short ranges.

USA CHEYENNE MOUNTAIN BUNKER

88 Deep inside a Colorado mountain, a steel-lined tunnel system leads to the US Cold War command center. The bunker has air filters and blast doors to withstand nuclear attack.

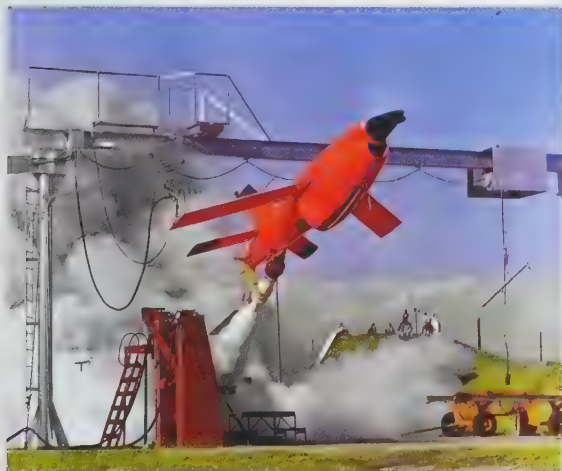
USA LOCKHEED SR-71 BLACKBIRD

89 This ultra-high-altitude spy plane pioneered early stealth technology to evade enemy radar. It was so fast that it could accelerate away from any incoming missiles. During 33 years in service and despite 17,000 sorties, not one of the Blackbirds was ever shot down.

CHINA 1974

TYPE 025-CLASS TORPEDO BOAT

90 Fast hydrofoil torpedo boats emerging from coastal hiding places made a doughty defense system. Once the backbone of the Republic of China's navy, it is still active today.



ISRAEL/USA 1971

RYAN FIREBEE DRONE

92 This jet-propelled drone could be launched from aircraft or ground sites for military target practice. It had the control and maneuverability of a fighter jet and was equipped with missile avoidance technologies. The Firebee was so successful that reconnaissance versions were created, which eventually led to a new category of unmanned aerial warfare.

INDIA/RUSSIA 21

BRAHMOS MISSILE

96 Flying at supersonic speed, this cruise missile can be launched from ships, planes, ground sites, and submarines.

USSR 1948

FRACTIONAL ORBITAL BOMBARDMENT SYSTEM (FOBS)

91 Nuclear weapons could be launched into orbit using this system developed by the Soviet Union and then fired back down to hit targets on Earth.

USSR

SALYUT 3

93 The first weaponry in space was the 23mm rapid-fire cannon mounted on this secret military space station designed for spying. Salyut 3 was the first successfully launched space station.

USA

AH-64 APACHE

94 The Apache attack helicopter has become one of the world's most complete and deadly weapons. Its job is to fly rapidly at up to 182 miles per hour (293kph) to attack ground targets from the air using a high-tech onboard arsenal that can include guided missiles, laser-guided rockets, a heavy machine gun, and rockets packed with flechette steel darts. With night vision and radar systems, it can operate at any time of day, in any condition, and can withstand attack from small-arms fire.

USA 199

B-2 STEALTH BOMBER

95 "Stealth" refers to the ability to slip undetected through enemy radar. The technologies aboard the B-2 enable it to deliver guided conventional or nuclear weapons, regardless of any anti-aircraft measures. The unique design is reminiscent of a boomerang; it's a flying wing with no tail or fuselage. It can fly 6,900 miles (11,000km) without refueling, so it can attack anywhere on Earth at short notice.



USA 2008

MAARS ROBOT

98 Maars is a remote controlled, electric, track-driven "killer robot" with a machine gun and grenade launchers.

USA

XM2010 SNIPER RIFLE

99 With a highly accurate 1,300-yard-long (1.2km) range, the XM2010 is the ultimate sniper's weapon.

USA 2014

THE ACTIVE DENIAL PAIN RAY

100 A vehicle-mounted microwave heat beam is fired at targets up to 0.5 miles (0.8km) away, forcing them to flee.



1893

BENZ VIKTORIA

1 German inventor Karl Benz—designer of the first practical automobile—conjured up this motorized contraption in his shed. Intended to carry two people at up to 11 miles per hour (18kph), Viktoria had a steering tiller and a two-stroke combustion engine. One morning, as Benz slept, his wife Bertha went for what is considered the first car journey (66 miles/106km).

1901

FORD 999

2 Engineers like Henry Ford tried to make cars go faster. The 999 was a 1,147-cubic-inch (18,800cc) engine on a bare chassis that Ford drove at 91 miles per hour (147kph) to break the land speed record set by William K. Vanderbilt's Mors in 1902.

1901

FORD MODEL A

3 Henry Ford knew what buyers wanted. His first commercial vehicle was easy to drive, painted red, capable of 30 miles per hour (48kph), and sold as "the most reliable machine in the world."

1901

ROLLS-ROYCE SILVER GHOST

4 The first reliable luxury car, the Silver Ghost was tested by driving from London to Glasgow and back 27 times covering 15,000 miles (24,140km). Reviewers called it "the best car in the world."

100 CARS

1908

FORD MODEL T

5 The first mass-produced, affordable car was a success. Sales of 16.5 million in 19 years were aided by its availability as a roadster, coupe, sedan, wagon, or pickup. All had 177-cubic-inch (2,900cc) engines and two-speed gearboxes—and, despite Ford's "any color so long as it is black" axiom, early models came in gray, green, blue, and red.

1910

CADILLAC MODEL 30

6 This Cadillac was launched as an open car, just like every other vehicle at the time. But in 1910 the Model 30 was made available with an imposing roof, doors, and windows, making it the world's first enclosed sedan. It was 7 feet 5 inches (2.26m) tall and—at \$1,600—twice the price of an ordinary car, but the sturdy weatherproof cabin transformed the driving experience. Its electric starter and ignition were emulated for decades to follow.

1909

BUGATTI TYPE 43

10 The first ton-up production car, on its way to 100 miles per hour (160kph), this beauty did 0 to 60 miles per hour (97kph) in less than 12 seconds. Only 160 were made.

1908

FORD MODEL A

11 How do you follow the Model T? With the Model A, Henry Ford and his son, Edsel, updated its predecessor's mix of versatility, reliability, and cost-effectiveness.

1911

FIAT S76

7 Drivers of this madcap Italian racer had to lean out to see round a huge, 1,709-cubic-inch (28,000cc) engine, capable of about 180 miles per hour (290kph).

1905

AUSTIN SEVEN

8 The "Baby Austin" was Britain's answer to the Model T: a budget car for the masses. Austin's simple design was licensed and copied all over the world, launching both Nissan and BMW as car manufacturers.

1911

LANCIA LAMBDA

9 Vincenzo Lancia created the first car to use a monocoque stress-bearing body instead of the traditional heavy chassis frame with fitted panels. The elegant Lambda was powered by a V4 engine. It also pioneered independent suspension and shock absorbers.

1930

CADILLAC V16

12 This was the status symbol of the Depression era. Marlene Dietrich and Al Capone were just a few of the famous owners of this supersmooth luxury roadster.

FORD V8

A "mark of progress," Ford moved upmarket with the first V8-powered, mass-produced car.

MERCEDES-BENZ 500K

The luxurious two-door Mercedes convertible offered independent suspension, coil springs, and damping.

CITROËN TRACTION AVANT

The first popular front-wheel-drive car's monocoque body was the harbinger of obsolescence for the heavy chassis.

WILLYS JEEP

When the United States turned its industrial might on the war effort, the first mass-production off-roader was quickly devised. With its 128-cubic-inch (2,100cc) engine and four-wheel drive, it was a rugged and versatile vehicle.

BUGATTI TYPE 57S ATLANTIC

Only four of these 124-miles-per-hour (200kph) French sports cars were ever built, but their graceful, Art Deco curves make the model one of the most desired classics of all time. Of the two remaining, one sold in 2010 for \$40 million (£23 million) while the other reportedly belongs to US fashion designer Ralph Lauren.

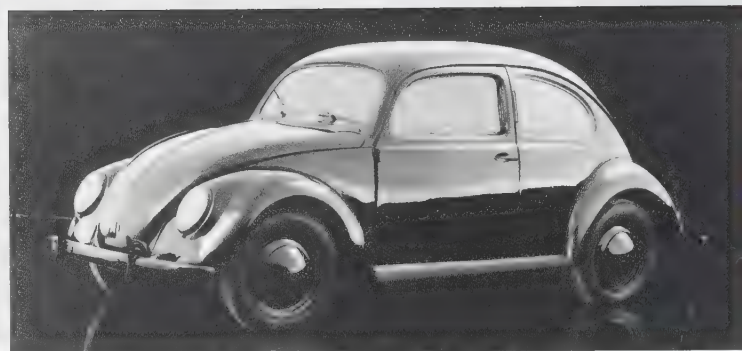
CORD 810

The first US car with front-wheel drive and independent suspension, the Cord also offered hidden headlamps.



CITROËN 2CV

In the era of "people's cars," the 2CV was devised in France as "an umbrella on four wheels." It had a simple 23 cubic inch (375cc) engine, full-length rollback sunroof, and high ground clearance to negotiate the deepest rutted tracks.



VW BEETLE

More than 21.5 million models of Germany's "people's car" were built between 1938 and 2003—the longest-ever production run for a single model. The Nazi government had decreed that the nation's new vehicle should be able to travel at 62 miles per hour (100kph), carry a family of five, and cost 30 weeks' average pay. Dr. Ferdinand Porsche—influenced by the layout of the prewar Czech car, the Tatra—designed the timeless curves and put the unusual flat-four air-cooled engine in the back, powering the rear wheels. The simple, reliable design worked, and the likable shape meant this budget two-door sedan became one of the century's best-known and biggest-selling cars.

LAND ROVER SERIES 1

The first Land Rover was a postwar attempt by the British to improve on the US Willys Jeep. The result was a durable and reliable utility vehicle with a spartan interior that had the power of a tractor and the capacity of a truck.

JAGUAR XK120

The sporty Jaguar was claimed to be the world's fastest production car and capable of over 100 miles per hour (160kph) for 24 hours.

VW TYPE 2

Volkswagen's campervan was the precursor of the modern passenger van. The first car that could carry eight adults and their luggage, the German manufacturer's second model used the Beetle's rear engine but added side doors and an adaptable interior. It was available as a van, pickup, flatbed truck, minibus, or passenger vehicle. Later, the Type 2 became a cult classic as the hippie van of the 1960s. It was produced in Brazil until 2013 and is still fashionable with campers and surfers.

FORD F-100

24 The new Ford broadened the appeal of humble trucks. It was a tough and practical workhorse but had modern looks and a comfortable cab.

PORSCHE SPYDER

25 A 137-miles-per-hour (220kph) lightweight aluminum track racer with few concessions for road use, the Spyder is forever remembered as the car in which movie star James Dean was killed just nine days after buying it.

MERCEDES 300SL

26 The SL was perhaps the first supercar. It grabbed headlines with new gull-wing doors that opened upward but featured sophisticated technology too, like the first direct fuel injection. This helped make it the fastest production car in 1954 at 160 miles per hour (257kph).

1955 CITROËN DS

27 This cult classic was ambitiously futuristic, with space-age styling, power steering, pioneering hydraulic suspension, and front disk brakes.

CHEVROLET BEL AIR

28 Tail fins trailing into the distance, a powered roof, and chrome everywhere made this the dream car of the late 1950s. Fans included Bruce Springsteen.

FIAT 500

29 The tiny size of this chic, rear-engined people's car suited Italy's cramped city streets. It sold in the millions and is immortalized as Luigi in the Pixar movie *Cars*.

AUSTIN A40

30 This award-winning angular design was ahead of its time, and the Countryman version featured the world's first hatchback tailgate.

CADILLAC ELDORADO

31 The ultimate in 1950s automotive opulence, the 390-cubic-inch (6,400cc) Eldorado had chrome galore and the tallest tail fins ever, sporting prominent bullet taillights.

1959 AUSTIN MINI

32 Why not turn the engine sideways to make more space? That simple step was a design breakthrough. Previously, engines made hoods long and cabins cramped. But with its side-on 848cc engine powering the front wheels, the Mini had no overhangs at the corners. It was small but had more space than bigger cars and handled with the precision of a go-kart. The Mini's slow-burning success began when celebrities—notably Queen Elizabeth II's sister Princess Margaret—were seen in it, making it an icon of the Swinging Sixties. It became the most popular British car ever made. Such is its popularity that it featured on a stamp in the UK as a British design classic.



DATSUN FAIRLADY

33 A Japanese sports car seemed a crazy idea. Naming it after the musical version of George Bernard Shaw's *Pygmalion* was even more ludicrous. Suddenly, however, a shiver ran through British sports car makers: this two-seater roadster was pretty good.

JAGUAR MARK 2

34 The most elegant sports sedan of its era, the classy Mark 2 was favored by British police officers and criminals alike.

SAAB 96

35 The strangely bulbous 96 was Saab's breakthrough model. Its little two-stroke engine was not fast, but rally victories in the hands of drivers Erik Carlsson and Pat Moss helped boost sales.

JAGUAR E-TYPE

36 The E-Type boasted one of the longest, sexiest hoods ever. As a roadster or coupe, its sleek lines hinted at a sizzling top speed of 153 miles per hour (246kph).

MCB

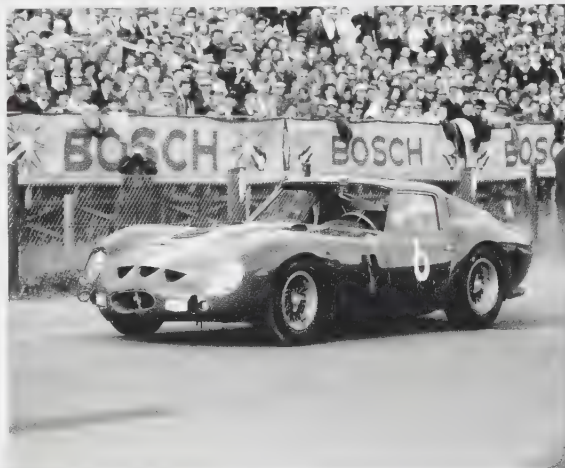
37 In the age of the British roadster, MGB was king, with more than 500,000 sales in its 18-year lifespan. The 106-miles-per-hour (170kph) performance was indifferent but its style was an instant classic.

SHELBY COBRA

38 British country-lane cruiser the AC Ace was transformed into a fire-breathing US hot rod by Texan chicken farmer Carroll Shelby.

FERRARI GTO

39 The GTO first gave Ferrari its glamorous aura. It was a stunning racer loosely adapted to road use, and Enzo Ferrari himself insisted on personally approving all buyers. The performance is still stunning: 0 to 60 miles per hour (97kph) in 4.9 seconds, and a top speed of 176 miles per hour (283kph). The GTO has become one of the most valuable classic cars.



FORD MUSTANG MACH I

43 As a cross between a sports sedan and a hot-rod coupe, the first Mustang launched a class of desirable vehicles: sporty yet affordable pony cars.

PONTIAC GTO

44 One of the first US muscle cars, the GTO started as a sporty option on Pontiac's Tempest range. The 325 bhp (242kW) V8 used a four-barrel carburetor but had drum brakes and no powered steering. It boasted chromed engine components, stiffer suspension, and wider wheels.

PORSCHE 911

40 This distinctive German sports car was launched in 1963 as a medium-rapid 122-cubic-inch (2,000cc) that did 0 to 60 miles per hour (97kph) in 8.5 seconds and has been refined ever since. The 1999 GT1 version, for example, did the 0 to 60 sprint in just 3.3 seconds. The 911 has been offered as a coupe, cabrio, and targa top, and with rear-wheel drive and four-wheel drive, but always with its engine at the back.



CHEVROLET CORVETTE C2

41 The sleek lines of the Corvette Stingray were inspired by a shark the designer caught while deep-sea fishing. Its performance matched its looks: the 323-cubic-inch (5,300cc) V8 powered it up to 141 miles per hour (227kph).

ASTON MARTIN DB5

42 Hand-finished coachwork evoked British tradition. Iconic status was assured when Sean Connery's James Bond drove a gadget-laden DB5 in *Goldfinger*.

FORD GT40

45 Developed specifically to beat the dominant Ferraris at Le Mans, this ground-hugging, high-performance sports car won the iconic 24-hour race with Henry Ford watching. The GT40 went on to win four times in a row and remains the only US-built car to win at Le Mans.

ALFA ROMEO SPIDER

46 It wasn't especially fast or innovative, but this little Italian open-top sports car had charm and a lovely, chortling, twin-cam engine. And when the young Dustin Hoffman drove one in the hit 1967 movie *The Graduate*, the Spider's place in history was assured, even though, like many more recent Alfas, more people admired it than wanted to own it.

1969 DATSUN 240Z

50 The sporty fastback with a 146-cubic-inch (2,400cc) engine and a 125-miles-per-hour (200kph) top speed changed the image of Japanese cars. The 240Z had good handling and sexy looks.

1970 RANGE ROVER

51 Sporting a utilitarian yet innovative design, this hybrid combined the go-anywhere capability of the Land Rover with the opulence of Rover cars.

1970 PLYMOUTH SUPERBIRD

52 Chrysler converted an unremarkable sedan into a 160-miles-per-hour (257kph) NASCAR winner, the Superbird—so-called because of its beaky nose and its wings.

TOYOTA COROLLA

47 Despite being damned by *Time* as "boring as hell," the reliable Corolla is the best-selling car ever, with 40 million combined sales of its 11 generations.

1966 VOLVO 144

48 Ungainly and boxy, this Swedish tank scored on spacious practicality and rugged safety, becoming an icon across Europe.

BMW 2002

49 BMW squeezed a 122-cubic-inch (2,000cc) engine into a two-door sedan to create one of the first small performance cars and propel the company toward commercial domination.

1971 FERRARI BOXER

53 Ferrari's first mid-engine design failed on the track, but looks cool. Its 186-miles-per-hour (299kph) top speed is still impressive.

FORD GRAN TORINO

54 This big V8 muscle coupe has carved a niche on screens big and small: it was driven by Starsky and Hutch, by John Goodman in *The Big Lebowski*, and gave Clint Eastwood a movie title.

LAMBORGHINI COUNTACH

55 This sexy supercar has scissor-action doors, a rear-mounted V12 engine, and huge air scoops. When Lambo's boss first saw the design he cried, "*Countach!*"—an exclamation of surprise in the local Italian dialect.



VW GOLF

56 The Golf was designed as the mass-market car to replace Volkswagen's then-faltering Beetle. It embraced all the latest ideas in European car design: it was a small, front-engined, front-wheel-drive, two-box compact with a hatchback. The crisp lines and good reputation of the Golf helped it gain a foothold, and it became one of the first successful front-driving hatches. Subsequent generations have sold more than 29 million, making the Golf the second-biggest seller of all time, behind the Toyota Corolla. It is now built in factories all over the world. Since the first generation launched, there have been three- and five-door versions, convertibles, station wagons, vans, and pickups. The sporty GTI versions and turbodiesel models became icons too, while the basic Golf underpinnings have been adapted to create VW sedans and sports coupes. The seventh-generation Golf, which made its debut in 2012, became the first imported car to win Japan's Car of the Year award.

SAAB 99 TURBO

57 One of the first mass-market cars with a turbocharger (a final attempt to restore the 99 line's fortunes), this four-cylinder family model outpaced many dedicated sports cars. The turbo boosted the front-wheel drive's power by 40 percent and paved the way for future engine developments.

DELOREAN DMC-12

59 John DeLorean's supercar scored with its stainless-steel body and gull-wing doors, but was brought down by build and logistic problems. Its iconic status was nonetheless assured by its role in the *Back to the Future* movies.



PEUGEOT 205 GTI

61 There were fast small cars before the 205, and there have been fast small cars since, but, launched at the height of the hot-hatch era, this French pocket rocket was the all-time best. It came with a relatively humble 98-cubic-inch (1,600cc) or, from 1986, 116-cubic-inch (1,900cc) engine that enabled the lightweight hatchback to deliver a lively performance. However, it was razor-sharp handling that set the Peugeot apart. This was due to lowered, stiffened, and tweaked suspension that made rival hot hatches seem bloated. Five million had been built and sold by the time used production in 1998.

FIAT PANDA

50 Forget luxuries like interior trim and bolstered seats: this boxy Italian hatchback had no frills but offered versatile utility that was equally at home on the streets and in the mountains. Multimillion global sales duly ensued.



AUDI QUATTRO

60 The first high-performance four-wheel-drive production car ranked highly in rallies and became one of the 1980s' most desired models, thanks to its 143-miles-per-hour (230kph) performance and all-wheel traction. The Quattro helped establish Audi as a technologically advanced brand and was such a period icon that it featured in BBC TV's retro drama *Ashes to Ashes*.

FERRARI TESTAROSSA

62 As featured in TV cop show *Miami Vice*, the 180-miles-per-hour (288kph) Testarossa was the world's fastest production car. With a 12-cylinder engine and dart-shaped body, it was eye-wateringly expensive.

TOYOTA MR2 MK1

63 Changing the world's views of Japanese cars, Toyota made a mid-engined two-seater that handled better than supercars: the cute, angular Mk1, then the bigger, curvier, and faster Mk2.

CHRYSLER MINIVAN

64 The boxy minivans introduced the concept of the people carrier. Underneath it was an A-Series van with the added luxuries of carpet, air conditioning, and eight-track stereo.

BMW M3

65 The first M3 set the bar high for this hot sport sedan series. It looked like a compact executive car but was a road-going version of a Touring Car racer.

PORSCHE 959

66 When Porsche's rally-competition version of its 911 was unleashed for road users too, the 197-miles-per-hour (317kph) four-wheel-drive supercar was the fastest production car.

ACURA LEGEND

67 Honda badged its luxury cars as Acura for the United States. The marketing tactic succeeded so well, Toyota's Lexus followed. The Legend featured Honda's first V6 and could sprint to 60 miles per hour (97kph) in less than eight seconds.

HONDA CIVIC CR-X

68 The little three-door, front-wheel-drive coupe was a worldwide success, thanks to its performance, economy, handling, and practicality.

FERRARI F40

69 Designed as a race car for the road, the most powerful—and expensive—Ferrari yet could do 201 miles per hour (322kph). It was available only in red.

MAZDA MX-5

70 This lightweight, rear-drive, two-seater has become the world's best-selling sports car. The cute styling was based on 1960s British roadsters. Mazda added a 1.6 (or 1.8) engine, reliable mechanicals, pin-sharp handling, and a soft-top that didn't leak.

LEXUS LS400

71 The car-making world was shocked by the first Lexus. Japan had produced a luxury model more sophisticated than its rivals.



LAMBORGHINI DIABLO

72 One of the most famous supercars of all time owes its prominence in schoolboys' dreams to outrageous, futuristic styling that reeked of glamour. This included vertical scissor-action doors, a space-age tail wing, pop-up headlamps, exotic alloy wheels, and air scoops big enough to hide R2-D2. Costing around \$150,000 (£98,000), the hand-built Italian "devil" was powered by a 48-valve V12 and became the greatest head-turner on the road. Its 202-miles-per-hour (325kph) maximum was just faster than its main rival, Ferrari's F40, making it the world's fastest production car. Almost 3,000 of them were built.

HUMMER H1

76 The road-going version of the US Army's Humvee off-roader was as unstoppable as its biggest fan, bodybuilder-turned-actor and politician, Arnold Schwarzenegger, who campaigned for a civilian version.

MCLAREN F1

77 When a Formula One team makes a road car it's sure to be fast—even one with a unique three-seat cabin. The 241-miles-per-hour (388kph) F1 used advanced lightweight materials and a BMW V12.

ACURA NSX

73 This first all-aluminum production car was Honda's attempt to rival Ferrari. The pioneering Japanese supercar was powered by a mid-mounted 195-cubic-inch (3,200cc) V6 that provided 168-miles-per-hour (270kph) pace and 0 to 60-miles per hour (0-97kph) acceleration in 4.4 seconds. The car boasted impeccable handling and everyday practicality.

DODGE VIPER

74 The US muscle car was reborn in the shape of this hairy-chested, stripped-out, two-seater roadster. A thuggish V10 engine shot the Viper to 180 miles per hour (290kph) and made for a truly thrilling ride.

JAGUAR XJ220

75 This mid-engined, twin-turbo supercar put Jaguar back in the spotlight. At 213 miles per hour (343kph), it broke the road car speed record.

AUDI A4

78 Germany's Audis had been boxy and boring until the arrival of the sleek, rounded A4. The parent company VW had moved the brand upmarket to compete with BMW and Mercedes. Despite all the marketing, there wasn't a lot new. The A4 used many parts from the old A80 and shared a platform with other Volkswagen vehicles. Gradually, however, the range got extra pizzazz, including an engine with five valves per cylinder, tiptronic semiautomatic transmission, and a four-wheel-drive turbodiesel.



1997

THRUST SSC

79 Powered by twin turbojets, the SSC (SuperSonic Car) set the land speed record in October 1997. In a Nevada desert, driven by RAF pilot Andy Green, it hit 763 miles per hour (1,228kph). Thrust was 54 feet (16.5m) long and weighed 10.5 tons but, thanks to two Phantom jet engines, still broke the speed of sound. As this volume went to press, the record stood, although the same British team, led by Richard Noble, was planning another attempt at it.

TOYOTA PRIUS

60 The first mass-produced hybrid marked a turning point for those concerned about cars' environmental impact. The five-door hatchback's power came from a combination of an electric battery and a 92-cubic-inch (1,500cc) gas engine. This meant the Prius had ultra-low emissions and fuel consumption. The car quickly attained a cult following, with Hollywood stars rushing to demonstrate their environmentalism. In 2003 five Priuses were even used as limousines for the Academy Awards. Worldwide sales of the Prius family of vehicles have topped five million.



SMART FORTWO

61 Quirky, tiny, and stylish, the Smart ForTwo turned the Japanese idea of micro city cars into a global phenomenon. The ForTwo had a tricky semiauto gearbox but was easy to park.

MINI COOPER

82 BMW supervised the rebirth of the iconic Mini brand, with the Cooper version of the bigger replacement winning most acclaim.

BUGATTI VEYRON EB 16.4

87 Using active aerodynamics to lower the body and retract its spoilers at speed, the 254-miles-per-hour (408kph) Veyron was a million-dollar supercar.

SUBARU IMPREZA WRX

83 The turbo-powered sedan was built as a competition car for World Rally Championship specialist Subaru and was a success on its introduction to the United States.

DODGE RAM SRT10

84 This iconic truck was transformed with the addition of the Viper's 506-cubic-inch (8,300cc) V10 engine. The twin-cab Dodge then did 154 miles per hour (248kph), making it the world's fastest pickup.

PORSCHE CAYENNE TURBO

85 The Cayenne's mix of 165-miles-per-hour (266kph) high performance and off-road abilities heralded a new motoring breed: the sports crossover.

LAMBORGHINI GALLARDO

86 Introduced by new owner VW, the Gallardo was powered by a V10 engine, which ran through a four-wheel-drive system that adjusts the amount of power going to the front and back wheels depending on load and grip. The new car was more driveable than previous Lambos while losing none of the marque's supercar status.

MAYBACH EXELERO

88 The Maybach was a unique German supercar: a huge limousine with retro styling, capable of 218 miles per hour (351kph), and costing \$8 million (£5 million).

FERRARI 599 GTB FIORANO

89 Don't be fooled by the beautiful retro styling and the V12 engine up front; the Fiorano was a stunning, state-of-the-art, F1-inspired, 205-miles-per-hour (330kph) supercar.

FIAT 500

90 Retro style became cool thanks to Fiat's chic, fiftieth-anniversary re-creation of the iconic Cinquecento. The new version had a bigger engine (875cc) and a top speed of 108 miles per hour (174kph).

AUDI R8

91 The company that built the A3 hatchback created a world-beating supercar. It was a purposeful-looking, mid-engined two-seater featuring an all-aluminum body, the Quattro four-wheel-drive system, and a 188-miles-per-hour (302kph) top speed. The R8 became the choice of movie superhero Iron Man.

KOENIGSEGG CCXR

92 An environmentally friendly supercar, the Swedish two-seater's V8 runs on gas or ethanol, which can come from potatoes. But there is nothing agricultural about its 250-miles-per-hour (400kph) performance.

CHEVROLET CORVETTE ZR1

93 The ZR1 was the C4 Corvette's high-performance version. It had a 378-cubic-inch (6,200cc) engine and 192-miles-per-hour (309kph) top speed.

TATA NANO

94 India's Tata Motors produced a usable modern car as cheaply as possible. The engine was a tiny two-stroke, there were no powered extras, and the trunk didn't have a door, but it cost buyers just 100,000 rupees (\$1,500/£1,000).

FERRARI 458 ITALIA

95 A lightweight, aerodynamic aluminum body was teamed with Ferrari's highest-revving engine—a non-turbo V8—to create a race car for the road. It was tested by racing driver Michael Schumacher and purchased by stars like musician Eric Clapton.



NISSAN LEAF

96 As the world's first mass-market electric car, the Leaf was another step toward cleaning up motoring's act. It was a standard five-door family hatchback in every particular other than the electric motor that drove the front wheels, and the batteries hidden beneath the seats. The Leaf had a range of about 73 miles (117km) and took eight hours to recharge from an ordinary household socket. Later versions—built in Japan, the United States, and the UK—have longer ranges and faster recharging times.

BENTLEY CONTINENTAL GT W12

97 In VW's hands, the traditional gentleman's express was transformed into a 567 bhp (423kW) twin-turbo supercar.

TESLA MODEL S

98 The Model S changed the image of electric vehicles from plug-in car with slow performance to emission-free, rear-wheel-drive supercar.

BMW i8

99 Gas drives the back wheels; electrics the front. The i8's sophisticated system delivers 155 miles per hour (250kph) with fuel economy of 135 mpg (2.1l/100km).

VW GOLF GTI

100 The seventh generation of this hot hatchback retained its virtues of solid, sensible engineering with a dash of performance and handling. It was the definitive fast family hatch: selling on its safe, economical, and desirable image. But the GTI also features sophisticated mechanicals like turbochargers and adaptive chassis control.



1820 SWIFTWALKER VELOCIPEDE

1 Bicycling started in nineteenth-century France and England. Riders balanced on two-wheeled wooden "running machines," scooting along with their legs on either side.

1857 MICHAUDINE

2 French blacksmith Pierre Michaux fixed pedals to the larger front wheel of the era's fashionable toy "dandy-horse," a scoot-along two-wheeler. His machine featured a cast-iron frame, handlebars, and a primitive "spoon" brake. Wheels were made from wood and had iron tires.

1870 STARLEY ARIEL

3 English farmer's son James Starley introduced the penny-farthing-style bike, known as an "ordinary." It was the first to have wire-spoked wheels. The Ariel's precariously high seating position was due to the ordinary's huge front wheel. Starley used a center-pivot steering system, but the main breakthrough was its wheels, which were lighter and created a more comfortable ride.

OTTO DICICLE

4 Worried about tumbling off your penny-farthing? The ingenious dicycle was a safer alternative, because riders sat between two huge wheels on either side of a saddle that hung from the axle.

SWIFT SAFETY BICYCLE

5 The Starleys' revolutionary "safety" bike design was a big commercial success. They changed their name to the Swift Cycle Company and began mass production. Swift's ads boasted of: "The most popular cycle ever made."

100 BICYCLES

1890 ROVER SAFETY

6 In their Coventry workshop, James Starley and his nephew, John, improved the penny-farthing by making the most of the vital engineering breakthroughs still used in bike design today. The Rover Safety featured pedals below the saddle to power the back wheel via a sprocket-and-chain system, while the front wheel was controlled by handlebars, thanks to a set of forks. Both wheels were the same size.

PHILLIPS DUPLEX TRIKE

7 Designed by English engineer Ephraim Phillips, this tandem trike allowed two riders to be seated side by side. They could both pedal the bicycle and jointly steer the single front wheel using a set of enormous handlebars.

TRIBUNE BLUE STREAK

8 US daredevil Mile-a-Minute Murphy used a custom "fixie" with this single gear to follow in a speeding locomotive's slipstream as huge crowds cheered him on.

BSA NO. 15 STANDARD

9 The simple British Army-issue No. 15 had no suspension, a sole front brake, and a handlebar bell. It also had front and rear carriers and rifle clips.

HUMBER STANDARD SPECIAL

10 This Coventry-built machine was one of the first upscale bikes, beautifully built and used by European royalty. The slogan was: "The Hallmark of Perfection."

DUNLOP PNEUMATIC

11 Solid tires began to disappear after 1888 when Scottish vet John Dunlop fitted an air-filled rubber tire to his son's bike to soften his ride over cobbles. Cycling would never be the same again.

ROYAL SUNBEAM ROADSTER

12 This 13-guinea [\$20] bike came with front and rear mudguards, a chain guard, and a sprung saddle. Three-speed gears could also be supplied for an extra cost.

BIANCHI ARMY ISSUE

13 The elite Italian bike infantry was renowned for its state-of-the-art folding bicycle with front and rear suspension, and shoulder straps with which to carry it.

BSA MARK IV GENERAL SERVICE

14 The definitive bicycle of the British Army in World War I was this rugged one-size-fits-all machine. It featured a single rear brake, and clamps to secure a rifle to the frame.

SELBACH PATH RACER

15 Maurice Selbach's winning track bikes pioneered the use of tapered tubes and headset roller bearings.

GNOME-RHÔNE ALLOY

16 A French aircraft builder created a beautiful all-aluminum bike. The alloy frame was left unpainted.



RALEIGH RECORD ACE

17 The British Raleigh Record Ace was a state-of-the-art road bicycle that featured elegantly curved drop handlebars, and forks manufactured from "extra resilient high manganese" with solid forged ends. The front wheel used distinctive radial spokes, whereas the rear wheel had more conventional tangential spokes. Both wheels featured quick-release wing nuts.

COVENTRY-EAGLE ROYAL PRINCE

18 This British "all-weather roadster" had primitive rust proofing, mudguards, and a chain guard. Buyers were also able to opt for a 6-volt, weatherproof dynamo system, which powered the light units.

SCHULZ FUNICULO

19 Jacques Schulz's bike used a "Funiculo"—a pioneering type of derailleur to shift between the four gears—and a staggered seat tube for shock absorption.



HETCHINS LIGHTWEIGHT

21 These elegant London-built bikes featured chain stays with a discreet curl to them. Hetchins believed the bent stays would absorb road imperfections and marketed them as "vibrant" stays. Amateur status was protected so strictly in the 1930s that bikes were forbidden to carry the makers' names, but curly stays made Hetchins's bikes instantly recognizable. When World and Olympic sprint champion Toni Merkens was photographed winning the British Championship, cycle fans could easily see he was riding a Hetchins Lightweight.

HOBBS OF BARBICAN CONTINENTAL

22 The continental-style racing frame had arrived in Britain. Hobbs used butted, 531 steel tubing for lightweight strength.

SCHWINN PARAMOUNT

23 The Paramount was made from the finest components, such as imported, aircraft-grade, chrome-molybdenum tubing.

CAMINADE CAMINARGENT

20 Although the use of aluminum in the design of road bikes was not new at this time, French frame builder Pierre Caminade's Art Deco bicycle was the first commercially successful aluminum bike. Lightweight and rustproof, the Caminargent was available in a variety of models, and it was so popular that it remained in continuous production for 20 years.

BSA AIRBORNE

24 During World War II 70,000 of these lightweight folding bikes were issued to Allied paratroopers. Two wing nuts allowed the frame to collapse.

BARRA RANDONNEUSE

25 The ultimate hand-built bikes came from master aluminum frame constructor Nicola Barra.

CLAUD BUTLER AVANT COUREUR

26 This trendsetting lightweight favorite for British cycling clubs featured a new stronger system of frame construction known as "bilaminated." The Avant Coureur was advertised as "the inevitable choice of the connoisseur."

BIANCHI URSUS 40

27 Italian racer Fausto Coppi twice won the Giro in the URSUS 40.

FLYING PIGEON

28 The Chinese state-approved bicycle was launched in 1950 and has since become the world's most produced vehicle.

ELSWICK HOPPER MODEL W TRADESMAN

29 The iconic British tradesman's bike, this Model W had a front steel cage holding a wicker basket. A metal sheet in the middle of the frame could display a business's name.

HERCULES EILEEN SHERIDAN

30 This was a tough, speedy, long-distance, steel-framed tourer, based on the bikes that Sheridan used while setting cycling records, some of which still stand.

1953

PEUGEOT PX-10

31 These "inoxidable" French race bikes came with a pioneering two-year guarantee against corrosion.

1954

SCHWINN VARSITY

35 Schwinn's budget road bike single-handedly reversed the decline in US cycling. Although it was one of the heavier lightweight bikes, its simple formula and clever advertising made it a best seller. The Varsity 8-Speed was introduced in 1960, and this was followed a year later by the Varsity 10-Speed model.

1960

ROADMASTER 16

36 Like several models of US motorcars of the era, the Roadmaster was all chrome and red enamel, with showy whitewall tires. Other features included an exclusive 100 percent stronger electronically welded frame, a bullet-shaped headlight, and a brake light that flashed on when the brakes were applied.

1971

DAWES GALAXY

41 This British classic was one of the first off-the-shelf touring bikes; previously, buyers had to order touring components or even have a bike custom-made. The Galaxy used a relaxed geometry and long wheelbase, marking it out as a machine designed for long, comfortable rides, not short bursts of speed.

CINELLI CORSA

32 A dominant race bike of the era, the Milan-made Cinelli had an elegantly styled Reynolds 531 frame. State-of-the-art components were from Campagnolo.

HARRY QUINN MILK RACE SPECIAL

33 Built with ten gears and a Reynolds 531 steel frame, this British Milk Race-winning bicycle was as good as it got in 1959.

GITANE ANQUETIL

34 Jacques Anquetil won the Tour twice on a Gitane bike equipped with Campagnolo parts.

1962

MOULTON F FRAME

37 One of the most radical new bicycle designs of the last century, the Moulton featured small 16-inch (41cm) wheels shod with high-pressure tires, an unconventional step through "F frame" with an integral luggage rack, and unique front-and-rear rubber suspension. The bike was developed and produced at a small factory in rural Wiltshire, under the direction of Dr. Alex Moulton. His revolutionary machine broke numerous speed records, was a big sales success, and became an icon of 1960s Britain.



RALEIGH CHOPPER

38 An iconic kids' bike, the Raleigh Chopper, created by Alan Oakley, was loosely based on custom motorbike designs. It featured a high-backed seat, high "ape-hanger" handlebars, a frame-mounted console gear lever, and a kickstand: cool.

CARLTON CARBON

39 Raleigh's inventive special products division produced only 20 of this pioneering lightweight racer, believed to be the world's first carbon bike.

HOLDSWORTH PROFESSIONAL

40 This racing bike helped the British Holdsworth team to 23 wins in a season. It used the latest Campagnolo Record kit on a Reynolds 531 frame.

SPEEDWELL TITALITE

42 The world's first production titanium bike frame was fabulously expensive. The Speedwell Titalite was ridden by Spanish road racer Luis Ocaña during his Tour de France victory with French team Bic in 1973.

RON KITCHING CUSTOM

43 Legendary racer Beryl Burton dominated British cycling for 20 years, riding a bicycle built from component parts imported and supplied by Yorkshire bike dealer Ron Kitching.

BREEZER MTB

44 After years of experimenting on rocky trails, framebuilder Joe Breeze used fat tires; lightweight tubing; and carefully chosen, imported parts to hand-build the first Breezer.

RALEIGH 531 TEAM

45 With its high-quality, handmade steel frame and the latest Campagnolo components, Raleigh's 531 was a classic race bike chosen by international teams.

PASHLEY PICKLE

47 The Pickle was a beautifully made retro children's tricycle that allowed grown-ups to rediscover their first bike, and pass it on to their own children.

HARO FREESTYLER

49 US enthusiast Bob Haro introduced the first freestyle BMX bike featuring a frame-and-fork combination dedicated to performing stunts. The new Haro had a reinforced double top-tube design, a coaster brake, and heavy-duty tires.

LOOK BERNARD HINAULT

54 A limited-edition replica of team La Vie Claire's machine was a signature bike for French racing hero Hinault, a five-time Tour winner. The 753 steel alloy frame wore a distinctive red, white, yellow, blue, and black paint job and had Campagnolo Record parts.

KESTREL NITRO

55 Way ahead of its time, the Nitro was a concept show bike designed by Paul Turner and Keith Bontrager, with a monocoque frame and the first full-suspension mountain bike. Only one was shown in a museum in California.

CINELLI LASER

46 This track pursuit and time-trial machine featured pioneering TIG welding and a tiny head tube, forcing riders into an aerodynamic position.

COLNAGO SARONNI

48 Beppe Saronni's distinctive wine-red bike was hand-built by Italian Ernesto Colnago. He rode it to victory in the World Road Race Championships.

SPECIALIZED ALLEZ

50 The Allez range began with 100 Japanese-built frames, designed by Tim Neenan, wearing this cool US brand name. It has evolved to become one of the world's most popular road bikes, and the range has expanded to include higher-end models.

TREK 850

51 No one was sure if the sport of mountain biking would become popular. Trek's first attempt was this 15-speed "rough terrain" bike.

GITANE LEMOND

52 On his blue-and-yellow Gitane, Greg LeMond became the first American rider to win the Professional Road Race Championships. He rode a French-made standard production bike fitted with parts from the best Gallic suppliers, including Simplex, Mavic, and Maillard. The French Olympic team opted to use the same bike.

KESTREL 4000

53 This innovative road bike caused a sensation. Kestrel was founded by former Trek employees, and experts from the aerospace materials industry, and its first product was built using carbon fiber, fiberglass, boron, and Kevlar. Carbon tubes had been used before, but the 4000's futuristic one-piece molded composite frame introduced aerodynamically shaped bike tubing that was both strong and light. Details like internal cable routing, flat-section handlebars, and aeromaximized rims demonstrated a level of technology that had never been seen on a bicycle before.



LOTUS 108

58 After being rejected by bike manufacturers, British designer Mike Burrows took his idea to Lotus, who were already expert at using carbon fiber and wind tunnels. The resulting ultra-aerodynamic composite monocoque frame sliced seconds off record times. Chris Boardman used a Lotus to grab Britain's first Olympic cycling medal in 72 years.

KIRK MAGNESIUM

57 British engineer Frank Kirk developed the first range of magnesium-framed road bikes, demonstrating the bike's strength by driving his car over one.

PINARELLO BANESTO

58 Miguel Indurain's Tour- and Giro-winning steel bike frame featured the new technique of TIG-welding and a special compact geometry for extra rigidity.

1994

EDDY MERCKX MOTOROLA

59 The red, white, and blue Motorola team bikes built by former champion Eddy Merckx in his Belgian workshops were some of the last classic steel-framed competition racers. They featured Shimano Dura Ace or Campagnolo groupsets.

1994

DE ROSA TITANIO

60 These new Italian titanium-framed racers transformed the fortunes of the Gewiss-Ballan professional team, which won 40 major races in 1994, including the Giro d'Italia. Titanium was light and hardwearing and was at the height of popularity in the 1990s.

PINARELLO PARIS

61 Pinarello led the sports cycling world into the age of alternative frame materials. Indeed, 1994 was the last time that the Tour de France was won on a steel-framed bike: Indurain's Pinarello Paris. The following year, Indurain won again, and again his bike was badged as a Paris. However, this time it was made of "metal matrix": round aluminum tubing impregnated with state-of-the-art ceramic material.

1996

CANNONDALE CAAD3 R4000

62 This aluminum-framed road racer was the first US bike used by a European professional team and the first oversized tubing seen on the Tour de France. Mario Cipollini, the world's fastest sprinter, rode one and was famously captured on television saying, "Cannondale makes the best bikes!"

1997

GT OLYMPIC

63 GT spent two years secretly developing 20 ultralight composite superbikes for the Atlanta Games Olympic team . . . but they only won two silver medals.

1996

INTENSE M1

64 Influential mountain biker Shaun Palmer raced this pioneering downhill bike to second place. It had an aluminum monocoque frame, hand-built by Jeff Steber, and featured a custom stars-and-stripes paint job by Troy Lee.

SUNN RADICAL PLUS

65 This rare downhill bike had innovative front and rear suspension designs. Anne-Caroline Chausson, François Gachet, and Nicolas Vouilloz were world champions on the Radical Plus.

**TREK 5500**

66 Ridden by the now discredited Lance Armstrong, this stiff carbon road frame won the Tour in 1999—the first US-made bike to do so. At 3.9 pounds (1.75kg), it was the world's lightest production bike frame.

DE ROSA KING

67 The legendary Italian bike-making family's first carbon offering was the King. It was a beautifully made but expensive machine.

LOOK KG 396

68 French brand Look's prominence in track cycling began with its carbon KG 396 sprint bike, which went on to become the most successful time-trial frame of all time. Highly desirable and very expensive, the KG 396 became the bike of choice for the Chinese, French, Russian, German, and Mexican teams.

2001

ORANGE 222

69 The 222 figure referred to the amount of travel available within the bike's rear shock absorber in millimeters (8.7in) and that made for a world-class downhill machine, able to handle even the biggest bumps with ease.

SURLY PUGSLEY

70 Here was the first off-the-peg mountain bike with fat tires. The Pugsley could wear low-pressure, high-volume rubber up to 4 inches (10cm) wide, making it a champion at crossing snow, sand, and boggy terrains.

DE ROSA CORUM

71 Ultralight oversized steel alloy tubing was welded and finished with a carbon fork, seat post, and bars.

TREK TOP FUEL 110

72 This was the top-of-the-range Trek off-road bike of its day, so light and fast it was named after a drag racing engine.

SPIN GÜNTER MAI SPECIAL

73 The world's lightest bike was this one-off road machine built by German enthusiast Günter Mai. It weighed only 6.4 pounds (2.85kg) in total. He used a custom-made carbon frame, forks, and wheels. Even the brake callipers and nuts were carbon. Everything was drilled, carved, or machined by Mai to shave fractions off the weight. He rode the bike for 15,000 miles (24,000km) over two years and then dismantled it in 2010 and sold the pieces individually all over the world.



DAMIEN HIRST BUTTERFLY TREK MADONE

74 Is this the world's most expensive bike? It is, to date. Lance Armstrong's Trek Madone, ridden in the final stages of the 2009 Tour de France, was later decorated, somewhat controversially, by British artist Damien Hirst, using hundreds of real butterfly wings lacquered to the bike frame and wheel rims. The Butterfly Trek Madone was then sold at a charity auction for \$500,000 (£300,000).

KENT ERIKSEN TITANIUM

75 Titanium-frame expert Eriksen built award-winning custom bikes in a small workshop in Colorado. This was his versatile cross bike with a curved seat post.

GENESIS CROIX DE FER

76 British cyclist Vin Cox set a new record for circumnavigation of the globe on a Croix de Fer, demonstrating the road durability and versatility of this steel-framed bike.

ORBEA ORCA

77 Spanish road racer Samuel Sánchez won an Olympic gold medal in the Men's Road Race in 2008 on the Orca. The race bike had a chunky ultralight monocoque frame, which featured a sophisticated system of long carbon strands stretched along it. These advanced production techniques and high-quality parts made the bike reassuringly expensive.

PINARELLO DOGMA

78 The award-winning Italian Team Sky road racing bike featured a new-style carbon frame with an aerodynamic arrowhead cross-section post and revolutionary asymmetrical weight distribution to even outspurt pedaling effects and improve the overall balance. Bradley Wiggins was unveiled as Team Sky's lead rider in 2010, and Pinarello was announced as the team's official bike supplier, but it was not until two years later that Wiggins rode the Dogma to become the first British rider to win the Tour de France.

UK SPORT OLYMPIC TRACK BIKE

79 Chris Hoy's gold medal-winning track bike at London's Olympic Games aroused suspicion from France. A British cycling chief joked that the secret was using "round wheels," which was reported in French newspapers.



GREENSPEED X5

80 The X5 trike from Australian specialists Greenspeed was one of the world's top sports recumbents, with a low-slung mesh seat, low center of gravity, and cambered front wheels.

GT XIZANG

81 This classic hard-tail titanium mountain bike was reintroduced sporting a retro style, but with 29er wheels, a tapered head tube, and disk brakes.

DA VINCI CARBON TANDEM

82 This state-of-the-art tandem featured a folding carbon frame and "independent" rotating drivetrain.

INSPIRED SKYE

83 Danny MacAskill's stunt videos were an Internet sensation. This is his signature bike with jump-proof frame.

BIKE FRIDAY POCKET LLAMA

84 This ingenious and high-speed small-wheeled, steel-framed, folding city bike fits into a suitcase.

FATBACK SNOWBIKE

85 This aluminum fatbike won many races thanks to its specifications, including carbon forks and bars.

BOARDMAN ELITE AIR/TT

86 Technology behind the Elite Air/TT included computer-aided design and analysis of metrological data.

2012

KISH TITANIUM

87 The Kish mountain bike has size 650b wheels, midway between the big trendy hardcore 29ers and the original lighter and more nimble 26-inchers.

2012

HOY SA CALOBRA

88 Chris Hoy's range-topper was a road bike that was named after a Mallorcan road climb. It has an aluminum frame, carbon forks, and Ultegra parts.

2014

BMC TEAMMACHINE SLR01

89 Australian Cadel Evans won the 2011 Tour de France on this BMC. The Swiss superbike was further refined for 2014 by detailed computer analysis. The finished machine used a Dura Ace Di2 groupset and wheels on an even lighter and stronger carbon frame, with optimized tubing down to the level of individual fibers.

2014

NAGASAWA CUSTOM

90 Japanese frame-maker Yoshiaki Nagasawa has produced bikes for Eddy Merckx and Koichi Nakano, who rode his machines to nine consecutive world track championships. A grand master of frame-making, Nagasawa works at night.

MAWIS CUSTOM

91 At Mawis, Mathias Scherer kept a very low profile, working in Germany to produce beautiful, high-end, handmade bikes to a customer's specifications. Frames were always made from titanium.

2014

PASSONI TOP FORCE WIRED

92 An Italian bike-building father and son turn out sumptuous titanium racing bikes, such as the Top Force, which include carbon forks and an electronic gear shifter.

2014

BIANCHI INFINITO CV

93 This Italian endurance road bike has been acclaimed as one of the world's best. The carbon frame was impregnated with vibration-dampening arrangements of fibers, thus creating a fast, smooth racer that could perform on rough road surfaces, too.

2012

ARGONAUT SPACEBIKE 2.0

94 Was this the ultimate custom bike? The Spacebike was launched as a high-end, handmade, carbon bike that can be customized to suit a client. Frames usually weighed less than 2 pounds (907g) but prices were around \$9,000 (£5,500).

2012

EVIL FOLLOWING

95 Cult brand Evil rewrote the rules for a short travel 29-inch wheeled mountain bike with this radical low slung ripper designed around Dave Weagle's DH dominating Delta Link suspension system. The 2016 Wreckoning added more suspension travel for even more speed and thrills.

2012

MONDRAKER CRAFTY R

96 Spanish brand Mondraker had already shaken up conventional notions of bike handling with their radical long top tube, super short stem "Forward Geometry" bikes. The Crafty confirmed their position as an influential trend setter by adding extra wide "Plus" tyres to the mix.

**TREK DOMANE SLR**

97 With legendary "Classics" racer Fabien Cancellara announcing his intention to race his last season in a blaze of glory, spring 2016 was the perfect time for Trek to reveal the latest generation of their unique cobble eating Domane bike, complete with IsoSpeed suspension.

SPECIALIZED ALLEZ SPRINT

98 US brand Specialized have always lived by their "Innovate or die" motto. The Allez Sprint teams their unique D'Alusio Smartweld tube shaping and joining technology with SRAM's ultralight Red 1x11 transmission to create a stunning specialist short course racer.

2012

CANNONDALE SLATE

99 Cannondale's Slate blurs the lines between road and off-road technology. The lithe frame and drop bars are road bred but the single chainring, disc brakes, wide ratio transmission, and radical single leg "Lefty" suspension fork are straight from their MTB range.

2011

SANTA CRUZ HIGHTOWER CARBON CC X01 EAGLE

100 With many riders torn between the advantages of large volume "Plus" tyres and large diameter 29-inch tyres, Santa Cruz covered both bases with their wheel versatile, high velocity Hightower trail bike, featuring SRAM's state-of-the-art X01 Eagle transmission.



1867

ROPER STEAM CYCLE

1 Possibly the first motorcycle, this did not have an internal combustion engine, but it did have a twist-grip throttle and a steam-powered motor under the saddle between the wheels. Creator Sylvester Roper died of a heart attack while riding it.

1868

MICHAUX-PERREAU STEAM VELOCIPEDE

2 The idea was simple: bolt a single-cylinder, alcohol-fueled steam engine to the frame of a velocipede to create a motorized two-wheeler. This prototype had no brake, suspension, or pneumatic tires, so the 15-mile-per-hour (24kph) ride was harsh.

DAIMLER MOTORBIKE

3 Gottlieb Daimler's "Reitwagen" was the first vehicle of any type fitted with an internal combustion engine. The 264cc, four-stroke, single-cylinder unit started with a crank but was air cooled. It reached a top speed of around 7 miles per hour (11kph), but you wouldn't have wanted to go faster on a frame that was carved from wood, with no suspension, and iron "tires" on wooden wheels.

HILDEBRAND & WOLFMÜLLER

4 The world's first production motorbike was this 1,489cc two-cylinder machine built in Munich. The design included pneumatic tires and a tubular steel, step-through frame. The back wheel was driven by rods. The top speed was 28 miles per hour (45kph).

METZ ORIENT ASTER

5 America's first production bike was this machine with a 138cc engine mounted high in the frame to allow the rider to adjust the carburetor while driving.

100 MOTORCYCLES

1900

NEW WERNER

6 Russian brothers Michel and Eugene Werner settled in France and began experimenting with various motorized bikes. Finally, they fitted their own 216cc engine at the bottom of the frame. They patented the design, and bike engines have been mounted there ever since.

1901

CURTISS V8

8 Pioneering US aviator Glenn Curtiss had an apparently crazy idea: why not attach a big airplane engine to a bike and see how fast it would go? So a 4,410cc V8 was fixed in the middle of an elongated frame driving the bike via a connecting rod. The driver perched above the rear wheel, hanging on to long, swept-back handlebars. Amazingly, this strange design worked; Curtiss's V8 set an unofficial land speed record of 136 miles per hour (219kph) that wasn't beaten by another motorbike for 24 years.

FN SHAFT DRIVE

9 While using a shaft drive system instead of a chain, this Belgian company created the world's first four-cylinder production bike. The in-line 498cc engine helped the FN to reach 40 miles per hour (64kph)—the fastest bike you could buy at the time.

HARLEY- DAVIDSON 11F

10 Bike technology was improving fast. By 1915 even this low-budget, early Harley featured engineering advances like a V-twin engine, chain drive, clutch-operated, three-speed transmission, and a step starter. To save money, the head- and taillights were still powered by burning acetylene, however. The 984cc engine only produced 11 horsepower, but featured a mechanical oil pump replacing the visual metering and hand pump that riders had previously used to maintain oil pressure. At \$275 (£170) it became Harley's top seller.

BROUGH SUPERIOR SS100

11 This handbuilt bike was sold as "the Rolls-Royce of Motorcycles." The 100 miles per hour (160 kph) SS100 used 998cc, V-twin engines with a three-speed hand-change gearbox. Lawrence of Arabia died riding one.

CLEVELAND TWO-STROKE

12 While most US bikes were bigger and more powerful, Cleveland produced a lightweight machine with a simple 230cc, two-stroke single-cylinder engine, two-speed transmission, and foot-operated brake and gears.

1901

INDIAN 1901 SINGLE

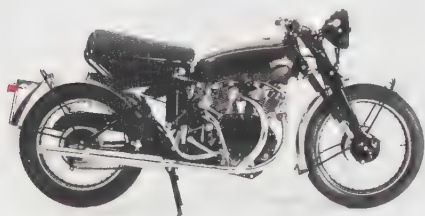
7 The US manufacturer branched out from pedal power to produce this diamond-frame bike with a single-cylinder engine, which looked like a moped.

BMW R32

13 The first motorcycle produced by the company under the BMW name, it set the style forever: outward pointing cylinder heads and shaft drive. It could reach a top speed of 59 miles per hour (95 kph). There are only three of these motorbikes thought to be still in existence.

BMW R7

14 This elegant and exclusive Art Deco-style prototype, designed by Alfred Böning, never made production, but it pioneered the use of telescopic forks. BMW shelved it for cost reasons.



VINCENT BLACK SHADOW

19 The black paint job and no-nonsense styling marked this hand-built postwar British machine as the world's first superbike. The 55 brake horsepower, 998cc, V-twin engine helped the lightweight Vincent reach 124 miles per hour (200 kph), while rivals struggled to reach three figures.

MOTOR MAJOR

21 Despite being a one-off concept, this Italian design gained a cult following. Its aerodynamic fairings and chunky wheels were pioneering

HARLEY-DAVIDSON EL

15 The EL's innovations gave birth to the Harley brand style. Switching from a flathead to prominent overhead valves created the renowned "knucklehead" engine. The sleeker fuel tanks incorporated instrument clusters.

TRIUMPH SPEED TWIN

16 The first commercially successful British twin-cylinder bike was Edward Turner's dark-red machine with gold pinstripping. The 500cc, overhead-valve, four-stroke engine had two cylinders side by side above the crankshaft. The Speed Twin's lightweight frame, chain drive, and four-speed transmission added sophistication that outclassed its single-cylinder rivals, but it was still moderately priced at \$125 (£75).

HARLEY-DAVIDSON HYDRA-GLIDE FL

20 The name "Hydra-Glide" referred to Harley's new feature: hydraulically damped telescopic front forks. This big, comfortable cruising bike also featured the more refined "Panhead" engine, with lighter and cooler aluminum cylinder heads and larger, more effective front brakes. The rear was still rigid, however, and the big Harley's ride would not get softer until 1958. The design looked modern, but Harley riders were still using a foot clutch and hand shifters.



BSA GOLD STAR

17 The fast, exclusive Gold Star had an all-alloy single-cylinder 500cc engine. Each model was hand-built and individually tested—buyers were told their bikes' exact performance figures when they collected them.

INDIAN CHIEF

18 This bike had an antiquated mechanical design, but the manufacturers compensated for its shortcomings with swaths of chrome and swooping lines that helped it become a design classic.

NORTON MANX

22 Norton celebrated its TT racing heritage by producing a 500cc racing bike with a groundbreaking "featherbed frame." The "twin-loop" chassis revolutionized sports bike handling, helped Norton dominate racing in 1951, and was copied by other builders.

MOTO GUZZI V8

23 Moto Guzzi unveiled a stunning new engine: a water-cooled V8 with twin overhead cams and eight carburetors that weighed only 99 pounds (45kg). This mini marvel powered the Grand Prix bike to an unprecedented 171 miles per hour (275kph). Yet the advanced racer never won a race—the Moto Guzzi was dangerous to ride and very unreliable.

TRIUMPH TROPHY TR6

24 The most famous bike stunt in movie history is Steve McQueen's jump to freedom in *The Great Escape* (1963), which he made on a TR6 (painted to look like a wartime BMW). The bike itself was a 649cc twin and the first successful road bike with off-road features and styling.

HONDA SUPER CUB

26 More Super Cubs have been made than any other powered road vehicle in motoring history. Since its debut, more than 60 million have been built in 15 countries. The secret of its success is its simplicity: a rugged, reliable step-through runabout with a single-cylinder, four-stroke engine and three gears. Engine sizes range from 50cc to 100cc, but top speeds never get above 40 miles per hour (64kph).



HARLEY-DAVIDSON DUO GLIDE

27 Finally, riders of big 1,200cc touring Harleys got rear suspension after years of relying on a sprung saddle to do the job. The new Duo Glide introduced a modern swing-arm system with "coil over" shock absorbers, and added to that old sprung seat and existing front suspension, created the ultimate cruising ride.

1959

TRIUMPH BONNEVILLE T120

28 The name T120 referred to the 120 miles per hour (193kph) top speed of this tuned-up hot rod machine, which was one of the fastest production bikes of the era. Power came from a 650cc, overhead-valve, parallel twin engine fed by twin carburetors. Oddly, at first, the only color available was a gray-and-orange two-tone scheme.

HARLEY-DAVIDSON XL SPORTSTER

25 Harley upped its game in the face of British sports bikes with the V-twin powered XL. The engine was an 883cc overhead valve unit that was good for 40 horsepower and 100 miles per hour (160 kph).

VELOCETTE VIPER

31 Playing violent biker King, actor Oliver Reed rode a Viper in cult 1963 movie *These Are the Damned*.

BSA B44 VICTOR

32 This motocross scrambler had a four-stroke single engine and did 90 miles per hour (145kph).

HONDA CT90

33 Honda targeted this single-cylinder step-through machine at off-road bikers. It was capable of 100 miles per gallon (2.4l/100km).

NORTON COMMANDO

34 Norton finally ditched the stiff featherbed frame for a more sophisticated chassis designed by a Rolls-Royce engineer. This drastically reduced vibration using rubber mounts and allowed more powerful engines to be used. The result was this superbike. The 746cc twin now provided impressive acceleration and could reach 115 miles per hour (185kph). The Commando was adopted by many police forces and became a British classic.

ROKON TRAILBREAKER

29 This rugged off-road bike from the United States featured an ingenious two-wheel drive system to tackle any terrain. Its hollow wheels stored gas.

TRITON

30 Independent enthusiasts built this hybrid using the two best components of the time: Norton's featherbed frame and the Triumph parallel twin engine.

YAMAHA DT-1

35 The DT-1 was one of the purpose-built trail bikes. Slim, light, and with high ground clearance and chunky tires, it was a hit with riders who'd previously had to build their own.

KAWASAKI H2 TRIPLE

36 This street racer had a habit of pulling unexpected wheelies, and thus helped to create Kawasaki's fast-and-wild reputation. The 748cc, three-cylinder, two-stroke engine powered it to 126 miles per hour (203kph). The Triple could outdrag muscle cars, completing the 0.25 mile (400m) sprint in 12 seconds.

HONDA CB750

37 This game changer from Japan was an affordable street bike with a configuration that would become the industry norm: four-cylinder engine, electric starter, and disk brake. Bikers loved the 125 miles per hour (200kph) top speed, and the five-speed gearbox. The transverse chromed engine and four-pipe exhaust looked cool, too.

TRIUMPH TRIDENT

38 Development and launch of this groundbreaking British 750cc triple were delayed for years, so it wasn't the pioneer it should have been—but it was still the fastest bike.

HARLEY-DAVIDSON XR-750

39 The XR-750 allowed Harley to dominate American dirt-track racing for decades. It was stunt rider Evel Knievel's bike of choice, too.

HARLEY-DAVIDSON SUPER GLIDE

40 The Super Glide was a mix of bits from other Harley bikes thrown together to mimic custom bikes being produced unofficially. It sold slowly until 1977, when a low-rider version with extended forks became a best seller.

DUCATI 750SS

41 Only 401 models of the 750SS were built to celebrate Ducati's one-two in the 1972 Imola 200-mile (320km) race—the first racing success for the manufacturer that went on to become synonymous with track wins. The V-twin engine produced a top speed of 155 miles per hour (249kph).

BMW R90S

43 The first US Superbike Championship was won by British rider Reg Pridmore on a 900cc R90S, but its smooth ride, tall gearing, and half fairing were suited to long-distance road cruising too. The bike's features included extra storage, a full tool kit, and even a hand towel.

KAWASAKI Z1/Z900

42 Honda's CB750 kicked open the door to high-performance road bikes, and Kawasaki's 130 miles per hour (210kph) Z1 then roared through it. With a bigger engine than its rival, the Z1 (or Z900 as it was sometimes called) had the same four-cylinder, transverse mount, disk-brake features as the CB750, but it pushed them further. The Z1's new air-cooled, in-line 903cc unit had an extra camshaft, making it the most powerful four-cylinder from Japan yet. The bike was a technological breakthrough—a great all-rounder, smooth to ride, with full instrumentation and both an electric and a kick-starter. The Z1 was voted Machine of the Year by *Motorcycle News* readers four years running.



1974

HONDA GOLD WING

44 Honda's heavyweight followed the big-is-better principle to create a large, smooth-riding bike with a 999cc, flat-four engine and shaft drive. It undercut US and European rivals and evolved over several years and generations into a classic long-distance touring bike.

MOTO GUZZI LE MANS

45 The Le Mans became a cult classic with its innovative angular styling, tiny fly screen, 844cc V-twin, and almost superbike performance. It was the archetypal "café racer"—1970s bikers' slang for a machine designed for speeding from one roadside café to another.

1977

MV AGUSTA MAGNI 860

46 This muscular beast was a one-off created by Arturo Magni by boring out an Agusta 750 and fitting it with racing parts and a black exhaust.

1979

HONDA CBX

49 An in-line, six-cylinder, 24-valve, twin-cam engine immediately set this big new Honda apart. The CBX was good for 136 miles per hour (219kph) and was among the first six-cylinder road-going superbikes. It had the fastest 0.25-mile (0.4km) sprint time of the day, even if fuel consumption was worse than that of many cars. Sales were sluggish, and production ended after five years. It later became regarded as a classic.



1981

KAWASAKI GPZ1100

54 Kawasaki's first 1,100cc superbike featured electronic fuel injection, and black engine and exhaust. This fine-tuned engine produced 108 horsepower at 8,500 rotations per minute.

YAMAHA TZ750

47 The TZ750 four-cylinder, six-speed race bike won Daytona nine times in a row. Around 600 road-going versions were sold to satisfy racing homologation rules.

LAVERDA 1000 JOTA

50 The Jota was the fastest production bike to date: a hardcore, three-cylinder, 1,000cc machine using technology from the track. It was the pinnacle of the café racer style. Top speed was over 140 miles per hour (225kph), and it was available only in bright orange. The triple engine featured the outer cylinders firing in sync, creating a distinctive imbalance—which meant serious vibration for the rider. In 1982 Laverda changed the engine configuration and fitted rubber mounts—the bike thus became more civilized but less characterful.

YAMAHA RD350LC

51 Everyone thought two-strokes had reached the end of the line until Yamaha's RD350. Lightweight, it had great handling and acceleration. At its heart was the best two-stroke engine to date: a liquid-cooled parallel twin that stayed in production until 2012.

KAWASAKI NINJA

55 With a 16-valve, liquid-cooled, four-cylinder engine, the Ninja, aka the GPZ900R, was the first stock bike capable of 150 miles per hour (240kph).

LAVERDA V6

48 The first V6-powered bike reached 175 miles per hour (282kph) but was heavy and unreliable, so the prototype never made it into production.



BMW R80GS

52 The 798cc R80GS was a "dual-sport" bike that could handle both on- and off-road. The first large multisport bike on the market, it won the Paris-Dakar rally in 1981.

YAMAHA XJ650 MAXIM

53 First introduced as the Maxim I, Yamaha's 650cc, twin-cam four-cylinder machine had cruising style and sizzling performance and remains a cult classic of the 1980s.

SUZUKI RG500

56 The RG500 was Suzuki's road-going version of the Gamma track bike that claimed seven consecutive 500cc world titles. The engine was one of the developments of the two-stroke: with four-cylinders, twin crankshaft, liquid cooling, and rotary valves.

SUZUKI CSX-R750

57 Suzuki created a race bike replica for the road. The track-style specs were awesome: more than 130 horsepower, magnesium parts to keep the dry weight down to 397 pounds (180kg), and a 55-degree leaning angle for cornering at speed.

SINCLAIR C5

58 This 15 mile-per-hour (24kph) battery-assisted trike was steered by handlebars under the rider's knees. It was ingenious, but it was a sales disaster that sent the makers into receivership.



HONDA NR750

65 This superbike was state-of-the-art in 1992. Features included oval pistons, programmed fuel injection, carbon-fiber bodywork, and a titanium-coated windshield. A works-tuned NR750 broke numerous speed records. Handling was excellent, but the \$60,000 (£36,500) price tag kept sales to only 700 worldwide.

HONDA CBR250

59 The CBR250 was the ultimate pretest bike in countries that had a 250cc limit for learner riders. For its 249cc size, Honda's lightweight sports bike had a four-stroke, 16-valve, four-cylinder engine with a top speed limited to 115 miles per hour (185kph). It didn't seem like a beginner's bike: there were six gears, twin front brake disks and elegant bikini fairings. Initially, it sold only in Japan, but later went global.

HONDA RC30

62 In 1990, Honda released the homologated road version of its World Superbike winner in the United Kingdom and the United States (known as the VFR750R elsewhere). The hand-built specialist race machine was powered by a 748cc V4 and featured few compromises for the road. Track technology was everywhere, from titanium con-rods in the engine to quick-release bodywork panels.

BRITTEN V1000

64 Only ten V1000s were hand-built by John Britten and his team in New Zealand. These superbikes—with Britten's own computer-controlled, quad-cam V-twins—were capable of 188 miles per hour (303kph). Carbon and Kevlar components kept the weight ultra-low. Innovative touches included an underseat radiator, double wishbone front suspension, and frameless chassis.

HONDA CBR900RR FIREBLADE

66 The Fireblade was a game changer thanks to its lightweight construction. It was more like a 600cc machine. At just 408 pounds (185kg) dry weight, Tadao Baba's design was smaller, lighter, and faster than all its 900cc rivals.

HONDA AFRICAN TWIN 750

60 The XRV750 was a big dual-sport machine marketed to celebrate and capitalize on Honda's numerous desert racing successes.

KAWASAKI KLR250

61 This rugged dual-sport design found a wide market, including the US military, which used it for reconnaissance missions.

YAMAHA FZR600

63 The engine was pushed forward and the fuel tank sat behind the cylinders. Yamaha's pioneering configuration used a "Deltabox" frame for even weight distribution.



DUCATI SUPERMONO

67 Built for Supermono single-cylinder races, this bike had a weight-saving carbon tank and magnesium wheels.



DUCATI 916

68 Ducati redefined the way modern motorbikes look. With its narrow-waisted body, underseat exhaust, squared dual headlights, and single-sided rear swing-arm suspension, the 916 mixed curves and angles to create an aggressive image. There was serious content beneath the skin too: the 916cc V-twin boasted a sophisticated springless valve system that generated a hefty 114 horsepower. On the track, 916s won four World Superbike titles, including three with Carl Fogarty. On the road, it was an instant classic.

1994 YAMAHA GTS1000

69 The first production bike with a forkless front end, the GTS1000 showcased other features, including electronic fuel injection, antilock brakes, and a catalytic converter. Sadly, it was heavy, expensive, and a flop.

1995 APRILIA RS250

70 As the last of the road-going two-stroke sports bikes, this Italian GP lookalike had sizzling performance and handling. Aprilia tuned up the final stocks of Suzuki's 250 V-twin engines for the RS250's production.

1998 YAMAHA YZ400F

71 The first four-stroke challenger to two-stroke's dominance in motocross. The YZ's wide power band and handling helped it become the first four-stroke to win the AMA dirt bike title.

1998 YAMAHA R7

72 This limited-edition machine was sold to the public only to enable Yamaha to race it in the World Superbike series. The spec includes five valves per cylinder, and plenty of titanium. The ultra-pricey road versions were surprisingly smooth.

SUZUKI HAYABUSA

73 With a top speed of 194 miles per hour (312kph), the Hayabusa became the twentieth century's fastest production bike. Its technology was fairly standard—a 16-valve, four-stroke, 1,299cc in-line four cylinder, but its power plant was the largest on any sports bike.

MTT TURBINE SUPERBIKE

75 What happens when you stick the engine from a jet aircraft between two wheels and sit on it? You go very fast, of course. In this case, the Rolls-Royce 249cc gas turbine motor powers the MTT to 230 miles per hour (370kph). The rear is conventionally chain driven, but the exhaust and rear tire are fatter than normal. Unsurprisingly, it broke the speed and price records for motorbikes.



HONDA VFR800

74 The sports tourer returned with Honda's beautifully built V4-powered machine (sometimes called "the Interceptor"). Fast, reliable, comfortable, and refined, it even sounded great.

DUCATI 999R

76 Ducati continued to dominate world superbike racing thanks to the 999. The even faster R version could sprint from 0 to 60 miles per hour (100kph) in under three seconds.

BIMOTA TESI 3D

77 This limited-edition showcase of new bike technologies from Italy featured a forkless hub steering system, a reworked 1,079cc Ducati engine, and a lightweight alloy trellis chassis.

HONDA CBR600RR

78 "RR" stood for "race replica," and Honda's sports bike was modeled on its MotoGP bike. GP technologies made the CBR dominant in supersport championships for six years.

HONDA RUNE

78 The Valkyrie Rune was an extreme touring bike with an immense 1,832cc, six-cylinder engine and 68.9-inch-long (175cm) wheelbase. Mechanical parts gleamed with chrome, bodywork curved from front tire to rear, and the rider sat low.

KTM 250EXC

80 Two-stroke technology hit back once more with this affordable, lightweight off-roader. The KTM's playful performance and handling persuaded many trail-riders to switch from heavier four-stroke machines.

SUZUKI GSX-R1000

81 The third generation of this superbike was the best, thanks to radical styling, fast performance, and lithe handling. The new chassis meant weight was low and centered; the four-cylinder engine was more powerful than its predecessors. The GSXR was the world's fastest production bike.

BMW R1200RT

82 BMW's new big bike was repeatedly voted "best tourer" by enthusiasts. The 1,170cc twin was smooth and muscular; its handling sharper than expected. But riders were seduced mainly by the luxurious, height-adjustable seat, effective front screen, and comprehensive instruments.

MV AGUSTA F4CC

83 This 195 miles per hour (315kph) superbike featured an engine that had more in common with F1 Ferrari cars than rival bikes. It was the only production bike with a radial valve system and variable intake geometry. The F4CC—the initials stood for managing director Claudio Castiglioni—was an exclusive limited edition of just 100, each boasting a tuned 200-horsepower four, titanium engine components, and carbon body parts. It cost around \$130,000 (£80,000), but that included a commemorative watch and leather jacket.



DUCATI 1098

84 Features like thin dual headlamps, twin underseat exhaust, and a single-sided swing-arm rear suspension created a classic lightweight racing superbike. The 1098cc inline-twin engine swapped top end speed for midrange torque that outgunned rivals. It had the highest torque-to-weight ratio of any production bike of its day. On the road, the "ten-nine-eight" was a head-turner with a genuine race pedigree.



TRIUMPH STREET TRIPLE

85 Reborn Triumph produced a best seller that was a mix of urban brawler and Daytona track bike; a 675cc, middleweight three cylinder with character.

DUCATI DESMOSEDICI RR

86 The first of Ducati's limited production race replicas of their dominant MotoGP bike was bought by Tom Cruise. The remaining 1,499 were snapped up too.

RSD CR500 CAFÉ RACER

87 Californian custom-bike builder Roland Sands's most extreme creation was based on a Honda CR500 and transformed into a bare metal dirt bike.

BMW S1000RR

88 BMW's race replica road version of its World Superbike Championship bike is only slightly detuned and just as sophisticated, powered by a 999cc, inline-four engine. BMW's first superbike featured high-tech equipment like antilock brakes, electronic traction control, and quick shift transmission.

BUELL XB12R

89 Known as the "Firebolt," this was the high point of Buell's production while under the wing of Harley-Davidson. Its 1,203cc, V-twin power, aggressive looks, and go-faster riding position were great, but the parent company pulled the plug after its launch.

2010

BMW R GS1200

90 The giant German dual-sport bike was upgraded into one of the ultimate mile eaters. The new twin-cam, two-cylinder engine was fed by a 400-mile (640km) tank. Ewan McGregor and Charley Boorman rode R GS1200s through Africa for the *Long Way Down* TV series.

ZERO XU

91 It looked like an old dirt bike, but the Zero XU was powered by electricity, not gasoline. The green machine offered a range of 42 miles (68km) between charges.

VICTORY JUDGE

92 This low-slung American retro cruiser made a splash in a conservative marketplace thanks to its custom-bike styling—blacked-out V-twin engine, pipes, and frame, with flashes of shine only from the five-spoke alloy wheels.

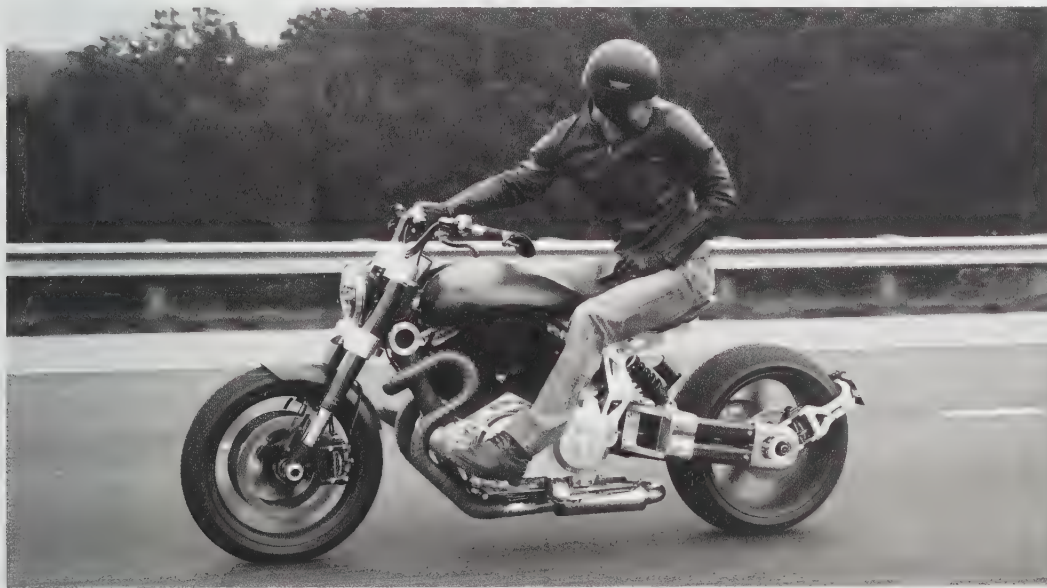
DUCATI HYPERMOTARD 821

93 The Supersport bike came of age with switchable ABS/traction/throttle modes, water-cooling, and ride-by-wire systems.

2014

CONFEDERATE HELLCAT SPEEDSTER

94 The third generation of this hand-built American cruiser featured a 2,163cc V-twin engine and a huge price tag of \$65,000 (£39,000). Former Ducati designer Pierre Terblanche ensured the Hellcat led the new wave of small volume, high-end, custom bikes. His styling was a mix of retro, high-tech, and steampunk hot rod. Materials used included carbon fiber for the wheels and tank, and a machined aluminum engine case. Exotic details included a fat 9.5-inch (24cm) section rear tire, leather-bound tractor-style seat, a single big round headlamp, and a looping exhaust.



2012

DUCATI SUPERLEGGERA

97 They built only 500 of this exclusive Ducati. The \$88,000 (£54,000) bike used lightweight magnesium, carbon fiber, and titanium to create the highest power-to-weight ratio of any production bike. It weighed only 342 pounds (155kg) but produced 200 horsepower.

KAWASAKI NINJA H2

98 Named after Kawasaki's H2 Mach IV—a 750cc two-stroke triple that was the world's quickest streetbike in 1972—the supercharged Ninja offered an unforgettable, exhilarating ride.

INDIAN SCOUT

99 Featuring the first liquid-cooled engine ever made by Indian, the beautiful, retro-styled Scout more than upheld the reputation of its iconic namesake.

2014

HONDA VALKYRIE

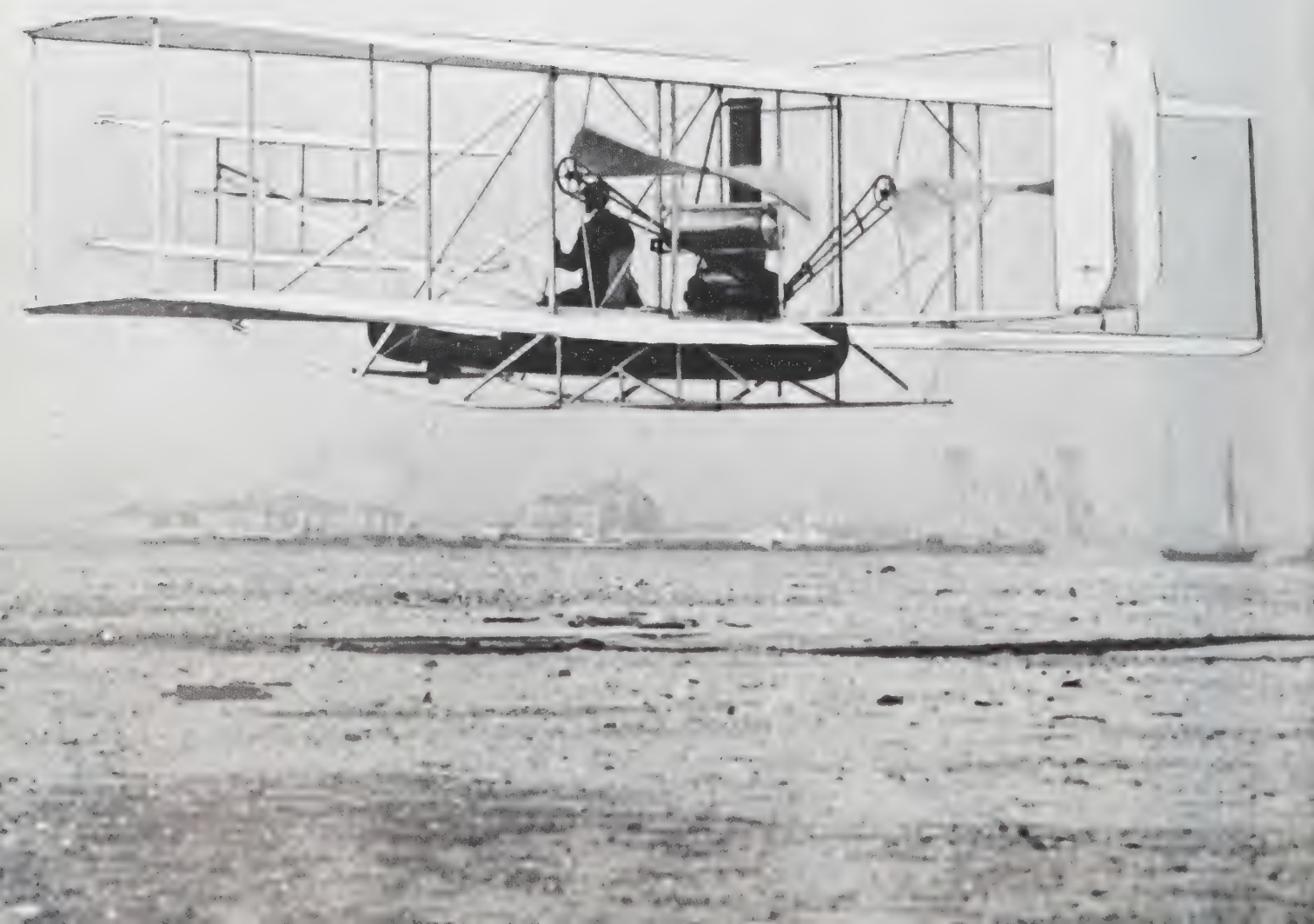
95 When Honda's Gold Wing 1,832cc, six-cylinder engine was tweaked and installed in a lighter, more modern bike, this was the result: a muscular cruiser with a relaxed riding position.

HARLEY-DAVIDSON STREET

96 Harley's first all-new model after 13 years was a radical departure from its heavyweight cruisers: a budget-priced, lightweight all-rounder powered by a 749cc twin and aimed at the youth market.

YAMAHA MT-09 TRACER

100 The MT-09 Tracer was one of the best-selling bikes of 2015 and it's not hard to see why—its sharp styling, agile handling, and superb engine made it an outstanding all-rounder.



ADER ÉOLE

1 French inventor Clément Ader took off in his steam-powered Éole in October 1890. But with wings modeled on a bat and no control system, Ader's machine could fly only in straight lines, a few inches off the ground.

WRIGHT FLYER

2 Every airplane is a descendant of the machine built by Orville and Wilbur Wright of Dayton, Ohio. Starting from scratch they made a biplane glider, developed a control system, and learned to fly. Adding a homemade engine, on December 17, 1903, they achieved a controlled flight lasting 59 seconds. By 1905 a modified flyer could stay airborne for 38 minutes.

SANTOS-DUMONT NO.14-BIS

3 Brazilian Alberto Santos-Dumont made straight-line flights of up to 240 yards (220m) in his No.14-bis in Paris in 1906. An assemblage of box kites, piloted by Santos-Dumont standing in a balloon basket, the No.14-bis rose only 16 feet (5m) off the ground.

VOISIN BIPLANE

4 Brothers Charles and Gabriel Voisin built the first aircraft in Europe that could sustain a controlled flight. A version of their biplane later flew a 0.6-mile (1km) circuit in Paris and 17 miles (27km) cross-country.

100 PLANES

BLÉRIOT XI

5 French businessman Louis Blériot made a fortune manufacturing car headlights and spent it on flight experiments. Surviving numerous crashes in impractical machines, he eventually developed a promising line in monoplanes. The Blériot XI had a wooden frame partially covered in canvas, and a propeller at the front driven by a converted motorcycle engine. In summer 1909 a British newspaper offered a large cash prize for the first flight across the English Channel. Several aviators took up the challenge, but Blériot was first to make the crossing from Calais to Dover. His 36-minute flight on July 25 caused a sensation and made him a celebrity. Blériot went on to become a major aircraft manufacturer, and versions of his monoplane sold in substantial numbers.

FABRE HYDRAVION

6 French engineer Henri Fabre's experimental floatplane was the first aircraft to take off from water.

FARMAN LONGHORN

7 Hard to crash, this biplane was widely used to train pilots. Its "longhorn" was a control device at the front.

DEPERDUSSIN MONOCOQUE

8 Built as a racer, this streamlined monoplane—with a strut-free plywood fuselage—was the fastest aircraft of its day, setting a record of 108 miles per hour (174kph) in 1912.

SIKORSKY ILYA MUROMETS

9 Aircraft were small, single-engine machines until Igor Sikorsky's large, multiengine designs. His Ilya Muromets had four engines, carried 16 people, and included the first airborne toilet. In June 1914 it flew from St. Petersburg to Kiev and back—a 1,600-mile (2,560km) round-trip.

FOKKER E.III EINDECKER

10 With a machine gun firing forward through the propeller, the single-seat Eindecker was one of the first effective fighters, allowing German pilots to dominate the air over the Western Front in 1915. But it was a flimsy monoplane, liable to break up under the stress of aerial maneuvers, and was rendered obsolete by faster biplanes.

CURTISS JN-4 "JENNY"

11 The US Curtiss company built thousands of "Jenny" biplanes as trainers for military pilots. Sold off cheap after the war, they became the staple for barnstormers doing aerial stunts.

NIEUPORT II "BÉBÉ"

12 A single-seat fighter, the Bébé ("Baby") gave the French air superiority over Germany during the Battle of Verdun in 1916. It was also flown by US volunteer pilots of the Lafayette squadron, aiding the French war effort.

GOTHA G.IV

13 These World War I German bombers could fly to 20,000 feet (6,096m) high; their pilots had to breathe bottled oxygen through tubes.

JUNKERS J.I/14

14 This all-metal plane—designed by German engineer (and all-metal pioneer) Hugo Junkers—was used for low-level wartime attack.

SPAD S.XIII

16 A powerful Hispano-Suiza V8 engine made this French single-seat biplane the fastest fighter in World War I. More than 8,000 had been made by the end of the conflict.

FOKKER D.VII

17 The most effective German fighter of World War I—robust, fast, and maneuverable—performed outstandingly in summer 1918 against ever-worsening odds.

CAPRONI CA.4

20 Gianni Caproni's three-engine triplane looked ungainly but was effective in Italian raids on Austria.

SOPWITH CAMEL

18 Britain's most famous World War I fighter, the Sopwith Camel was notoriously difficult to fly. The torque generated by its rotary engine, spinning with the propeller, and the concentration of the aircraft's weight toward the nose made it unstable and a death trap for novice pilots. But in the hands of experienced fliers it had outstanding maneuverability, its quick turns giving it a deadly advantage in dogfights. Almost 5,500 Camels were built; together, they shot down more than 1,200 German aircraft; fewer than ten Camels exist today.

JUNKERS F.13

21 A single-engine, all-metal monoplane, the F.13 was astonishingly advanced when it appeared in the aftermath of World War I. Carrying four passengers, it was used by airlines in the 1920s and 1930s.

FOKKER DR.I

15 The German Fokker triplane fighter was developed in response to the success of the British Sopwith triplane on the Western Front in spring 1917. The DR.I was not fast, but it had an excellent rate of climb and could outmaneuver most flying machines in close combat. Fighter ace Manfred von Richthofen, aka "the Red Baron," scored 20 of his 80 "kills" in a DR.I, and he was flying one when he was shot in March 1918. He managed to land it safely before later dying in the cockpit. Before long his plane was dismantled by souvenir hunters.



VICKERS VIMY

19 Designed to raid Germany, the Vimy was delivered too late for World War I. After the conflict, however, it found fame as the first aircraft flown nonstop across the Atlantic.



DOUGLAS WORLD CRUISER

22 This seaplane was designed for the US Air Service's attempt at a first round-the-world flight. Four cruisers set out from Seattle in April 1924; two completed the journey 175 days later.

SAVOIA-MARCHETTI S.55

23 In July 1933, Italian Fascist Italo Balbo led 24 Savoia-Marchetti flying boats from Italy to a World Fair's event in Chicago.

1923 FOKKER F.VII

24 Australian aviator Charles Kingsford Smith used this three-engine monoplane for the first flight from the United States to Australia in 1928.

1926 FORD TRIMOTOR "TIN GOOSE"

25 Carmaker Henry Ford ventured into the aviation business with this all-metal three-engine airliner. Capable of carrying 15 passengers, it opened up domestic US air routes in the late 1920s.

1926 RYAN NYP SPIRIT OF ST. LOUIS

26 Young airmail pilot Charles Lindbergh had a Ryan monoplane customized for an attempt at the first nonstop flight between New York and Paris; for which a \$25,000 prize was on offer from the hotelier Raymond Orteig. Flying solo in a single-engine aircraft with few flight instruments and a huge fuel tank blocking his view ahead, Lindbergh reached the French capital on May 21, 1927, after a flight of 33 hours 30 minutes.



1927 CIERVA C-8 AUTOGIRO

27 This airplane-helicopter hybrid was propeller driven and had lift provided by a rotating wing.

1928 DE HAVILLAND D.H.60G GIPSY MOTH

28 This British aircraft was piloted solo by Amy Johnson from England to Australia in 1930.



1928 LOCKHEED VEGA

29 Designed by Jack Northrop, the Vega was a technically advanced and stylish aircraft, with a cowl to streamline its air-cooled engine, a strut-free single wing, and a smooth monocoque fuselage. Amelia Earhart piloted a Vega to become the first woman to fly solo across the Atlantic in 1932, and one-eyed aviator Wiley Post flew his Vega, Winnie Mae, solo around the world in 1933.

1929 DORNIER DO X

30 Powered by 12 engines, this German flying boat was the largest aircraft of its time. Only three were built.

1931 SUPERMARINE S.6B

31 The last in a series of floatplanes designed by R. J. Mitchell won the Schneider Trophy for Britain in 1931. Superbly streamlined, it set a world speed record of 408 miles per hour (653kph).

1931 MACCHI M.C.72

32 This dart-shaped floatplane withdrew from the 1931 Schneider Trophy with technical problems, but in 1934, it achieved a record 441 miles per hour (705kph).

1931 JUNKERS JU-52

33 Also used as a civil airliner, the Ju-52 trimotor transport was the workhorse of the Luftwaffe throughout World War II.

1932 GRANVILLE SUPER SPORTSTER

34 This small, fast, and dangerous racer was essentially an outsize engine with a pilot sitting on top.

BOEING 247

All-metal, streamlined, and with retractable wheels, the 247 was the first modern airliner. It could cross the United States in under 20 hours.

LOCKHEED ELECTRA

The ten-seater Model 10 Electra was the most stylish, comfortable airliner of the 1930s.

SIKORSKY S-42 CLIPPER

Built for Pan American, this four-engine flying boat carried 12 passengers on routes from Miami to Rio de Janeiro and across the Pacific.

DE HAVILLAND DH88 COMET

This two-seat aircraft won an England-to-Australia air race in 1934, reaching Melbourne in 71 hours.

HUGHES H-1 RACER

Millionaire Howard Hughes built and flew the streamlined H-1, setting a new world speed record and crossing the United States in seven hours 28 minutes.



DOUGLAS DC-3

Robust, reliable, cheap to operate, and carrying 21 passengers in reasonable comfort, the DC-3 was the first airliner to make passenger transport commercially viable. By 1939, three out of every four US air passengers were traveling in DC-3s. In World War II its military version, the Skytrain, became the standard Allied transport aircraft. More than 10,000 of them were built.

JUNKERS JU-87

The "Stuka" dive-bomber was central to blitzkrieg tactics in World War II, spreading terror ahead of German tanks.

FAIREY SWORDFISH

Though slow, the "Stringbag" torpedo biplane was effective when flown from Royal Navy carriers in World War II.

MESSERSCHMITT BF 109

A fast, single-seat, all-metal, monoplane fighter, the Bf 109 set new standards for military aviation. First used by Germany's Condor Legion in the Spanish Civil War, in 1940 it took on RAF Hurricanes and Spitfires in the Battle of Britain. Around 33,000 Bf 109s were built, more than any other fighter in history.

HAWKER HURRICANE

Designed by Sidney Camm, the Hurricane was always upstaged by the more glamorous Spitfire, yet it was the RAF's most numerous fighter in the Battle of Britain, shooting down the most enemy aircraft. Later in World War II, outclassed by newer fighters, it took on a ground-attack role.

SUPERMARINE SPITFIRE

Designed by R. J. Mitchell, the Spitfire was a fighter built for speed, with a distinctive elliptical wing shape and a powerful Rolls-Royce Merlin engine. It entered service shortly before World War II and, alongside the Hawker Hurricane, played a decisive role in the Battle of Britain. It proved readily adaptable, and repeated upgrades increased its speed and firepower; it reached Mark XVIII by the end of the conflict.



1938

BOEING B-17

46 US "Flying Fortresses" flew daylight raids in World War II. Each aircraft had a 6,000-pound (2,720kg) bombload, 13 machine guns, and could fly up to 30,000 feet (9,144m). The B-17s sustained heavy losses and rarely achieved precision bombing, but they inflicted massive damage on the enemy.



1938

SHORT SUNDERLAND FLYING BOAT

47 Developed from civilian Empire-class flying boats, Sunderlands were used in World War II by RAF Coastal Command to patrol the North Atlantic Ocean, hunting for German U-boats.

1939

HEINKEL HE178

48 In August 1939, four days before the start of World War II, the He 178 made the world's first jet-powered flight. Designed by Hans von Ohain, it was a prototype that never went into production.

1940

MITSUBISHI A6M ZERO

49 The Zero, a single-seat fighter, was built to equip the carriers of the Imperial Japanese Navy. When introduced it was the world's top naval fighter, with exceptional maneuverability, contributing to Japan's early victories in the Pacific War.

1940

BOEING 307 STRATOLINER

50 Developed from the B-17 bomber, the 307 was the first airliner with a pressurized cabin, allowing it to fly at stratospheric altitude above turbulent weather. Despite its innovation, it was not a success.

1941

CONSOLIDATED B-24 LIBERATOR

51 The B-24 bomber was produced in larger numbers than any other US military aircraft, with over 18,000 built. In World War II it served chiefly in the Pacific theater but also in Europe, famously raiding Romania's Ploesti oil fields in 1943 and 1944.

1941

FOCKE-WULF FW 190

53 Designed by Kurt Tank, the Fw 190 was the best all-round German fighter of World War II, with more firepower and a higher top speed—408 miles per hour (653kph)—than the Messerschmitt Bf109. Its bulky, air-cooled, radial engine, unusual for a European fighter, gave it the look of a US aircraft.

1942

AVRO LANCASTER

55 RAF Bomber Command Lancasters flew over 150,000 missions in World War II, including the Dambuster raid on the Ruhr dams in May 1943. Each had four Rolls-Royce Merlin engines and carried a 14,000-pound (6,350kg) bombload.



DE HAVILLAND MOSQUITO

52 The two-engine Mosquito was made of wood. A fast, light bomber, its roles in World War II included reconnaissance, ground attack, and marking targets for heavy bombers.

1941

ILYUSHIN STURMOVIK

54 An armored two-seater ground-attack aircraft, the Soviet Sturmovik was feared by German panzer crews as the ultimate tank buster.



NORTH AMERICAN P-51 MUSTANG

56 A US fighter with a British Rolls-Royce Merlin engine, the Mustang had exceptional speed and range. Its use as a bomber escort transformed the air war over Germany from late 1943, taking a heavy toll on Luftwaffe fighters.

REPUBLIC P-47 THUNDERBOLT

57 An exceptionally robust single-seat fighter, the radial-engined Thunderbolt served in World War II as a bomber escort and in a ground-attack role.

VOUGHT F-4 CORSAIR

58 Despite problems that delayed deployment at sea, the US Navy's Corsair became the best carrier-borne fighter of World War II. Its distinctive feature was the shallow V shape of its inverted gull wing.

GRUMMAN HELLCAT

59 Although inferior to the Corsair, the Hellcat was the most successful US World War II carrier-borne fighter. Hellcats shot down 5,000 enemy aircraft, notably in the "Marianas Turkey Shoot" in 1944.

MESSERSCHMITT ME 262 SCHWALBE

62 The first jet to enter combat, the swept-wing Schwalbe ("Swallow") fighter was deployed in defense of German cities from July 1944. Even in limited numbers it posed a challenge to Allied air superiority.

MESSERSCHMITT ME 163 KOMET

63 The world's only rocket-powered fighter, the Komet reached 600 miles per hour (960kph) but was ineffectual as an interceptor against Allied bombers. It jettisoned its wheels on takeoff and landed on a skid.

GLOSTER METEOR

64 The RAF's Meteor fighter was the only Allied jet aircraft of World War II. It was initially deployed to intercept German V-1 flying bombs. In 1945 it set the first world speed record above 600 miles per hour (960kph).



LOCKHEED CONSTELLATION

60 The most elegant airliner ever built, the four-engine, triple-tailed "Connie" opened up long-distance passenger routes after World War II, including the first scheduled services across the Atlantic. It was not surpassed until the jet age.

BOEING B-29 SUPERFORTRESS

61 The United States developed the long-range B-29 heavy bomber in World War II to attack the Japanese mainland. After laying waste cities with incendiaries, in August 1945, B-29s dropped atom bombs on Hiroshima and Nagasaki.



NORTHROP YB-35 FLYING WING

65 Jack Northrop was a designer obsessed with the "flying wing" concept—an aircraft with no fuselage or tail. His YB-35 was a high-performance, four-engine strategic bomber that was airworthy but was too radical for the US Air Force.

HUGHES H-4 HERCULES

67 The largest flying boat ever built, Howard Hughes's *Spruce Goose* was made of birchwood and intended as military transport. It flew only once, for less than a minute, with Hughes at the controls.

BELL X-1

66 An experimental, rocket-powered aircraft, the X-1 was built specifically to achieve the first flight beyond the speed of sound (Mach 1). It was lifted to high altitude under a B-29 bomber and then released, whereupon the pilot activated the rocket engine. With Chuck Yeager at the controls, the X-1 broke the sound barrier on October 14, 1947. An X-1 later reached Mach 1.46.



NORTH AMERICAN F-86 SABRE

68 A swept-wing single-seat subsonic jet fighter, the F-86 Sabre was rushed into combat to counter Soviet MiG-15s early in the Korean War.

MIKOYAN GUREVICH MIG-15

69 The first aerial combat between jet fighters pitched Soviet MiG-15s against US Sabres during the Korean War; the jets even emerged with honors.

CONVAIR B-36 PEACEMAKER

70 The massive B-36 nuclear bomber had a crew of up to 15 and six rear-facing piston engines mounted on the longest wings of any combat aircraft.

TAYLOR AEROCAR

71 This automobile-plane hybrid had wings that could be folded in a trailer and an engine that powered a propeller or wheels, depending on whether the machine was in the air or on the road. It never caught on.

DE HAVILLAND DH106 COMET

72 The first jet airliner to enter service, a series of fatal midflight structural failures ruined the Comet's chances of commercial success.

BOEING B-52

73 The Boeing B-52 Stratofortress is a bomber of exceptional longevity, remaining in service six decades after its introduction. With eight jet engines mounted in pods on its swept wings, it was built as the spearhead of the US nuclear deterrent. It saw action as a conventional strategic bomber during the Vietnam War. Often carrying cruise missiles, it has also served in recent operations, notably the 1991 Gulf War and the 2001 invasion of Afghanistan.



1956 TUPOLEV TU-95 BEAR

74 A propeller-driven nuclear bomber, the Tu-95 was the Soviet answer to the B-52. It remains in service today.

1956 CESSNA 172 SKYHAWK

75 The all-time best-selling light aircraft, more than 43,000 of these single-engine planes have been built.

1961 AVRO VULCAN

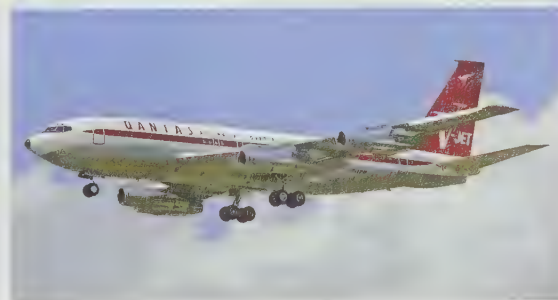
76 An innovative, four-engine, delta-wing bomber, the Vulcan was part of Britain's "independent deterrent," intended to attack the Soviet Union with atom bombs and, later, nuclear missiles. Supplanted by submarine-launched missiles in the nuclear role, it saw combat in the 1982 Falklands War.

1961 LOCKHEED U-2 SPY PLANE

77 The CIA's reconnaissance aircraft was designed for spy flights over the Soviet Union. In 1960 a U-2 piloted by Gary Powers was shot down by Soviet air defenses. Two years later, photos taken by U-2s identified Soviet weapon emplacements in the Caribbean and triggered the Cuban Missile Crisis.

1958 BOEING 707

78 A spin-off from Boeing's military program, the 707 was the first jet to make a profit on transatlantic flights. It kick-started the jet age and dominated long-distance passenger flight in the 1960s.



LOCKHEED F-104 STARFIGHTER

79 This supersonic interceptor was described as "a missile with a man in it." It was an exciting ride, difficult and dangerous to fly.

MIG-21

80 The Soviet MiG-21 was an agile single-seat supersonic fighter. Supplied to North Vietnam, it performed well against US F-4s in the Vietnam War.

NORTH AMERICAN X-15

81 Flown to the edge of space, this experimental rocket-powered aircraft clocked a record 4,520 miles per hour (7,232kph) in 1967.

SUD AVIATION CARAVELLE

82 France's first jet airliner, the Caravelle, was elegant, with the engines mounted at the rear of the fuselage. Its success paved the way for the later Airbuses.

F-4 PHANTOM

83 McDonnell Douglas made the versatile F-4 two-seat fighter for the US Navy. Also adopted by the US Air Force, it saw intensive combat in Vietnam.

DASSAULT MIRAGE III

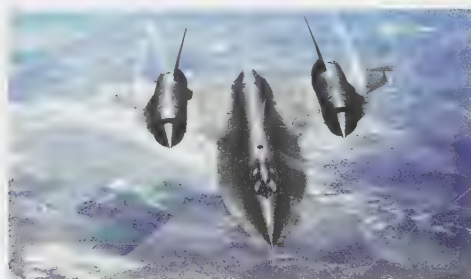
84 The most successful fighter produced by the French Dassault company, the supersonic single-seat delta-wing Mirage III proved its worth in combat when deployed by the Israeli Air Force against Arab states in the 1967 Six-Day War. Mirage IIIs were also used by Argentina against Britain in the Falklands War.

GRUMMAN E-2 HAWKEYE

85 The E-2 was the first purpose-built airborne early warning aircraft. Built for the US Navy, it has a rotodome (a rotating radar dish) that feeds information to onboard computers. It identifies and tracks hostile aircraft and directs aircraft of its own side to their targets.

LEARJET

86 US inventor Bill Lear introduced the first mass-produced executive jet. The design was developed from a Swiss fighter aircraft, the P-16.



LOCKHEED SR-71 BLACKBIRD

87 The fastest, highest-flying jet ever built, this reconnaissance aircraft flew at more than three times the speed of sound at more than 16 miles (25km) high. Its titanium-alloy skin was coated in radar-absorbent black paint.

HARRIER JUMP JET

88 The world's only fully successful V/STOL (Vertical or Short Takeoff and Landing) jet aircraft, the Harrier has swiveling nozzles that can direct the thrust of the engine downward for takeoff. RAF Harriers and Royal Navy Sea Harriers served in the Falklands War in 1982.

BOEING 747

89 The sheer size of the 747 jumbo jet transformed passenger air travel. Carrying more than twice as many people as any previous jet airliner, it made long-distance intercontinental journeys affordable for the masses. About 1,500 747s were built by 2014. The original design proved capable of extensive upgrades, the third-generation 747-8 entering service in 2011.



1974 GRUMMAN F-14 TOMCAT

90 A two-seat air-superiority fighter and interceptor serving with the US Navy from the 1970s through to the early twenty-first century, the F-14 had variable-sweep wings to maximize performance at different speeds. It starred in 1986 movie *Top Gun*.

1997 FAIRCHILD REPUBLIC A-10 THUNDERBOLT

92 The "Warthog" is not an elegant aircraft but it proved brutally effective in the ground-attack role during the 1991 Gulf War, destroying around 900 Iraqi tanks.

1983 LOCKHEED F-117 NIGHTHAWK

93 An imaginative product of Lockheed's Skunk Works, the F-117 stealth fighter is a subsonic single-seat aircraft designed to penetrate enemy air defenses at night, relying on its radar invisibility for survival. Its angular surfaces deflect radar emissions.



2010 SUKHOI SU-47

97 The Russian Su-47 is a supersonic jet fighter with forward-swept wings to provide optimum maneuverability at low speeds.

AIRBUS A380

98 The world's largest airliner, the wide-bodied A380 can carry 850 passengers on its two decks.



1969 CONCORDE

91 A technological triumph but a commercial failure, Concorde was the future that never happened. In 1962 the British and French governments agreed to collaborate in building the first supersonic airliner. The result was an aircraft of style and elegance, able to cruise at twice the speed of sound. But Concorde could carry only 128 passengers, and its introduction met fierce opposition, particularly in the United States, on grounds of noise and pollution. In the end, the future of passenger aviation lay with the cheap mass transport provided by the Boeing 747, not the expensive luxury of supersonic flight. Only 14 Concorde entered service and all were retired in 2003. Yet Concorde remains, in terms of aesthetics and technology, one of the finest aircraft ever built.



1986 VOYAGER

94 In 1986 Dick Rutan and Jeana Yeager flew the propeller-driven Voyager nonstop around the world in nine days at an average speed of 110 miles per hour (176kph).

1988 ANTONOV AN-225

95 A late product of the Soviet era, the six-engine An-225 transport is the largest aircraft ever flown.

1997 NORTHROP B-2 SPIRIT

96 These flying-wing stealth bombers are the most expensive planes ever made, costing around \$2 billion each.

2007 BOEING 787 DREAMLINER

99 Boeing's first twenty-first-century airliner responds to demands for fuel efficiency and increased operating range.

2007 LOCKHEED MARTIN F-35 LIGHTNING II

100 This single-seat, single-engine, multirole stealth fighter makes all existing military warplanes of the same type obsolete.



CATCH-ME-WHO-CAN

Designed by British engineer Richard Trevithick, this exhibition loco gave the world a preview of the railway age to come. At the head of the first train to carry fare-paying passengers, it ran for a few weeks (until it broke down) on a circular track near what later became London Euston station. The venture intended to show that rail travel was faster than traveling by horse.

LOCOMOTION

2 *Locomotion* No. 1 was the great leap forward in rail travel. Originally named *Active*, it was the first steam locomotive to carry passengers on an end-to-end public railway line, the Stockton & Darlington Railway in northeast England. On September 27, 1825 it hauled 450 people 25 miles (40km) from Darlington to Stockton at 15 miles per hour (24kph). The locomotive was designed and built by father and son George and Robert Stephenson at their works in Newcastle upon Tyne in 1824. Its historical significance is unsurpassed, but its engine workings were primitive—the boiler exploded in 1828, killing the driver John Cree. Although it was rebuilt and remained in service until 1841, its design was superseded by the Stephensons' masterpiece, the *Rocket*. *Locomotion* No. 1 is now preserved as a stationary engine and is on permanent display at Darlington's Head of Steam museum.

ROCKET

3 The most famous steam locomotive in history was built for the Rainhill Trials, a timed race over a mile-long (1.6km) track near Liverpool. The only one of ten entrants to complete the course, George and Robert Stephenson's *Rocket* averaged 12 miles per hour (19kph) and reached a top speed of 30 miles per hour (48kph). It later went into service on the Liverpool & Manchester Railway.

100 LOCOMOTIVES

AMERICAN TYPE 4-4-0

4 This lightweight, versatile class of steam locomotives opened up North America and became emblematic of the Wild West. Replicas are still in service today, most notably at the heads of trains around the perimeters of the Disneyland theme parks in the USA, France, and Japan.

CRAMPTONS

5 Their low-slung boilers and outsize driving wheels lowered the center of gravity to reduce the risk of derailment at speed.

METROPOLITAN STEAM

6 Could passengers and crew survive in the steam-filled tunnels of London's underground rail network? These locos proved that they could.

FAIRLIES

7 The rail equivalent of the push-me, pull-you, these steam locos now survive only on preserved narrow-gauge lines, but their articulated wheel arrangements have been adopted by most modern mainline trains.

TALYLLYN

8 Most rail tracks were 4 feet 8.5 inches (1,435mm) apart. The Talyllyn in Wales was the first narrow-gauge railway, and this loco, named after the line, was the first to run on its 2-foot-3-inch-wide (686mm) way.

VOLK'S ELECTRIC

11 This narrow-gauge railway runs for just over a mile (1.6km) along the seafront in Brighton, England. It is one of the world's first electric lines and the oldest still in operation. At the time of its construction, it seemed no more than a curiosity; few would have predicted that its power source would eventually render steam and diesel obsolete.

PUG

12 Pugs are 0-4-0 steam locos used mainly for shunting (moving coaches and goods wagons around stations and yards). Usually saddle tanks (with their water containers mounted above the boilers), they are thought to have been named for their supposed resemblance to the dogs with the scrunched-up muzzles.

1870

GNR STIRLING SINGLE

9 Distinguished by its 8-foot-long (2.44m) single pair of driving wheels, this was not the first 2-2-2, but it was the first loco with this wheel formation to haul express trains. It worked the Great Northern Railway in Britain.

1880

SHAY

10 This was the first loco with gears, which prevented the driving wheels from slipping on wet rails.

SHARP STEWART B

13 These so-called "toy trains" are renowned for their work on the steep and arduous Darjeeling Himalayan Railway in northern India.

HR JONES GOODS

15 This Scottish Highland Railway workhorse was the first loco to adopt the 4-6-0 wheel formation that later became widespread. Fifteen were built and one remains in preservation.

GNR C1

16 This was the first in a long line of steam locos with massive boilers to produce the power needed to pull heavy passenger expresses at high speed.

MIDLAND COMPOUND

20 With these three-cylinder compound locomotives, the English Midland Railway attempted to prove that short passenger trains with high frequency were a match for longer, heavier trains on rival networks. The experiment failed, but through no fault of this lovely 4-4-0.

PIKES PEAK COLORADO

14 Every train on this railroad, the highest and steepest in North America, is kept on track by a rack and pinion adhesion system.

MIDLAND SPINNER

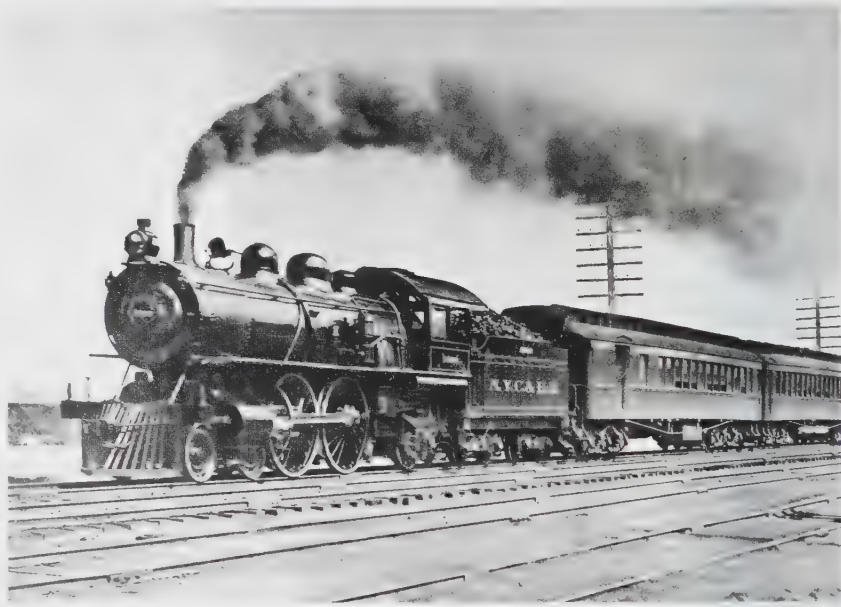
17 Officially the Midland Railway 115 class, these locos got their nickname from the sight of their 7-foot-9.5-inch-tall (2.38m) driving wheels taking them up to 90 miles per hour (145kph).

SANTA FE 900

19 When reversed, 2-10-0s had a tendency to derail. The addition here of a trailing bogey (2-10-2) was a breakthrough.

999

15 In the year it entered service, the New York and Hudson River Railroad's 4-4-0 *No. 999* broke the 100-mile-an-hour (160kph) speed barrier between New York and Buffalo at the head of the *Empire State Express*. Since the only supporting evidence is that of the footplate crew's observation of the speedometer, the rival claim of *City of Truro* is equally credible. *No. 999* is now preserved on permanent display at the Museum of Science and Industry in Chicago.



CITY OF TRURO

21 This Great Western Railway 4-4-0 is the other claimant (with *No. 999*) to the title of the first loco to do 100 miles per hour (160kph). Which version you believe may depend on whether you are British or American, but either way, *City of Truro* was a titan of the steam age.

U-127

22 What distinguishes this 4-6-0 from the thousands of steam locos built in Russia after the Revolution of 1917 is that this is the one that, in 1924, hauled the funeral train of Lenin, the founder of Communism in the Soviet Union.

DRG 80

23 These German 0-6-0 tank engines were originally used for shunting. Later, more powerful versions had 0-8-0, 0-10-0, and finally 2-8-4 wheel arrangements.

1908

PRUSSIAN CLASS P8

24 This 4-6-0 was used throughout Germany and in every country that came under German influence during the first half of the twentieth century—which meant most of continental Europe.

E550

25 This electric loco was designed by Hungarian engineer Kálmán Kandó and used as a support loco for heavy trains on the steep incline outside the main station in Genoa, Italy.

1908

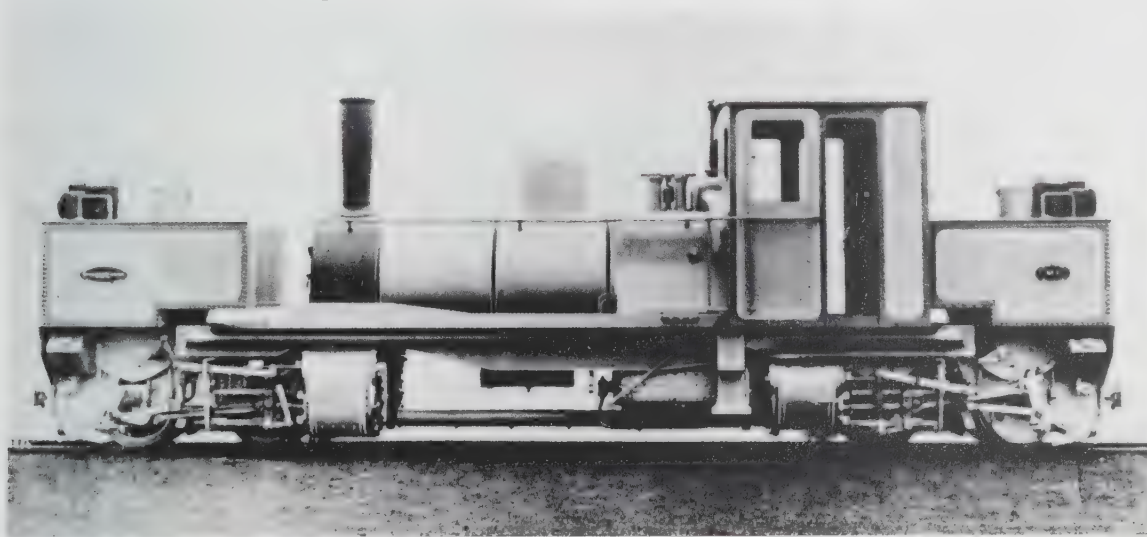
INVERTED PACIFIC

26 Pacifics are steam locos with 4-6-2 wheel arrangements; they were widely used on passenger expresses. Austria produced this 2-6-4 to demonstrate that the layout works as well in reverse.

1909

GARRATT

27 The problem with the earliest steam locomotives was that the more power they were required to produce, the bigger they needed to be. So how would it be possible to haul heavy loads along tracks with tight corners? The solution was provided by British engineer Herbert William Garratt, who came up with a three-section articulated design in which the boiler is mounted on a central frame and two engines occupy separate but linked frames at each end of it. The resulting powerhouses, which could negotiate curves with as little as 99-foot (30m) radii, were soon in service in arduous terrain throughout the world.



SLM 2-8-0

28 This Swiss-built masterpiece worked the Hejaz Railway, which ran the 810 miles (1,310km) between Damascus, Syria, and Medina, Saudi Arabia.

HUNSLET/BALDWIN

29 This is the generic name for a range of easily adaptable locomotives supplied by the two US companies to the UK War Department.

K4 PACIFIC

30 The premier passenger express loco of the Pennsylvania Railroad until the end of steam in 1957.

1917

MIKADO

31 Named for the original, built by Baldwin for Japan, this class once made up one in every five US locos. The strongest was the O-8 of the Great Northern St. Paul, MN–Seattle, WA, line.

SBB/RHB CROCODILES

32 So-called because their fronts and rears resembled the snout of the reptile, they were powered by overhead electric catenaries on the railways of the Swiss Alps.

FLYING SCOTSMAN

33 In 1934 this became the first steam loco officially to exceed 100 miles per hour (160kph). Retired in 1963 after 40 years hauling the express between London and Edinburgh, it returned to the tracks in 2016 following a ten-year restoration project.

CAERPHILLY CASTLE

34 The first of a class of locos that headed expresses all over the British Great Western network, particularly on lines that couldn't take the weight of the Kings.

JINTY

Officially the Fowler Class 3F, this 0-6-0 tank engine of the London Midland & Scottish Railway lives on as the locomotive that has hauled millions of British children's starter model train sets.

A-1 BERKSHIRE

These 2-8-4s were named for their testing ground, the Berkshire Hills on the Boston and Albany Railroad. They outperformed the Mikados and gradually superseded them. Two remain in working order, and a Berkshire was the model for the train in the 2004 movie *The Polar Express*.

MOUNTAIN

The Illinois Central (IC) Railroad had 45 of these mighty 4-8-2s. Two of them survive: one in Foundation Park, Centralia, Illinois, the other at the IC depot in McComb, Missouri.

DRG CLASS 01

These Pacifics were the first German locomotives to use fully standardized parts, which enabled a Hamburg-based engine, for example, to be mended in Munich. (Previously, the network had been regionalized and fragmented; consequently, a Prussian loco that broke down in Schleswig-Holstein would have to be hauled back to its home shed in Berlin for repair.) The 01s were a great success: there is little doubt that more than 232 of them would have been built had it not been for the outbreak of World War II. The last of them remained in service until 1982.



KING GEORGE V

The career highlight of the first King class loco came not on its native Great Western Railway in Britain but in the United States, to which it was shipped in the year of its completion to help celebrate the centenary of the Baltimore and Ohio Railroad. It thereafter carried a commemorative bell and plaque.

HUDSON

The first 4-6-4 to operate in the United States, the Hudson gave its name to this wheel arrangement. It hauled heavy passenger expresses on the New York Central Railroad, notably the *20th Century Limited* and the *Empire State Express*.

S CLASS

This Pacific [4-6-2] steam loco headed the Victoria Railways' broad-gauge (5-foot-3-inch-wide/1,600mm) section of the Melbourne-Sydney route until it was superseded by diesel locomotives in the 1950s.

PANNIER TANK

This GWR design icon was the first tenderless engine to have water tanks mounted on the sides of the boiler but not reaching down to the running platform.

COUNTY DONEGAL RAILCARS

These were the first diesels in the UK. They operated on the 3-foot-wide (914mm) network in the northwest of Ireland. Two survive on the Isle of Man.

GALLOPING GOOSE

The railcar that looks like an automobile was used on the Rio Grande Southern Railroad until 1951, when the line lost its battle to prevent closure.

WINSTON CHURCHILL

This Canadian-style loco is one of the star attractions on the Romney, Hythe & Dymchurch Railway, a 13.5-mile (22km) and 15-inch (381mm) gauge line in Kent, England.

FLYING HAMBURGER

46 Germany's fastest diesel-electric train cruised at 99 miles per hour (158kph) on the Berlin–Hamburg line.

SNCF 242 A1

47 This sleek and mighty 4-8-2, designed by André Chapelon for the Paris–Orléans route, is regarded as France's greatest steam loco.

KF 4-8-4

48 This fast, light loco was built to handle the steep gradients, tight curves, and flimsy bridges on the prewar railways of China.

SL7

49 Built by the Japanese during their occupation of Manchuria, this streamlined loco was later taken over by China.

PRINCESS ROYAL

50 This was the LMS's main weapon in its fight against the LNER for supremacy on the London–Scotland routes.



BRIGHTON BELLE

51 The world's first all-electric, all-Pullman service brought unprecedented luxury to train travel between London Victoria and the south coast of England. In real time, the 54-mile (86km) journey was scheduled at 55 minutes. On a celebrated BBC film now watchable on YouTube, this has been compressed by time-lapse filming into four minutes. The *Brighton Belle* was retired in 1972; its successors on the route have no oak paneling and no restaurant car and are no more than three minutes quicker: there are currently moves to reinstate the Belle.

BLACK FIVE

52 Officially known as Class 5s, these multipurpose workhorses of the London Midland & Scottish Railway were designed by William Stanier. They were powerful, durable, and adaptable, and their capacity to go anywhere and haul any passenger or goods train made them popular with crews and enthusiasts alike. Of the 842 that were built, 18 are preserved, and several of these remain in regular use, not only on heritage railways but also on some mainline specials.



COCK O' THE NORTH

53 The first of eight members of the P2 class built by the London & North Eastern Railway to work the demanding main line between Edinburgh and Aberdeen, Scotland. The loco takes its name from one of the titles of the head of the Scottish clan Gordon.

PIONEER ZEPHYR

54 This multiple unit of the Chicago, Burlington and Quincy Railroad vies with the Union Pacific's M-10000 for the title of the first US passenger diesel. (Diesels had been used as switchers for a decade.)

ANDES 2-8-0

55 Locos of this class were built by Beyer-Peacock in Manchester, England, and shipped to Peru, where one of them still pulls tourist trains through the mountains for which it is named. When not in service, this sole survivor is housed in the sheds at Chosica, near Lima.

CLASS 16E PACIFIC

56 This South African-designed, German-built 4-6-2 headed the Union Express between Pretoria and Cape Town, the route of the modern Blue Train.

C56 CLASS

57 These 2-6-0s were built by Japanese Government Railways from 1935 to 1942 during World War II on the new line that they forced slaves and prisoners of war to construct between Rangoon, Burma (Myanmar), and Bangkok, Thailand. They were operated postwar by Japanese National Railways.

OLTON HALL

58 This Great Western Railway Hall Class 4-6-0 achieved global stardom at the head of the Hogwarts Express in the Harry Potter movie franchise.

LMS CORONATION

59 On the two highly competitive train routes between London and Scotland, the LNER's *Flying Scotsman* stole a march on its West Coast rivals. This was the LMS response: originally streamlined, locos of this class were later refitted with a more conventional outline, but they were none the worse for this modification. The first of the line, *Coronation* itself, briefly snatched the speed record from the East Coast operators, touching 114 miles per hour (183kph) in 1937.



RR CLASS F7

65 Six giant streamlined 4-6-4s of this type pulled the Milwaukee Road's *Hiawatha* expresses between Chicago and other cities in the American Midwest. Some people thought that these locomotives were faster than *Mallard*, but such claims were never substantiated. Sadly, none of them survived the wrecking ball.

E7 SERIES

60 These diesels were developed by General Motors before World War II. They became ubiquitous after the conflict, and their bulldog noses were as emblematic of US railroads in the twentieth century as the American Type 4-4-0 had been of those of the 1800s.



CC1020

61 The German-built equivalent of the Swiss "Crocodile" arrived in Austria at around the same time as Hitler.

MALLARD

62 By virtue of achieving an officially confirmed speed of 125.8 miles per hour (202.5kph) on July 3, 1938, *Mallard* set a record that will never be broken: that of the fastest steam locomotive of all time. Sir Nigel Gresley's streamlined A4 class Pacific was retired in 1963 and now has pride of place at the National Railway Museum in York, England.

DUCHESS OF HAMILTON

63 In an unusual (but not unique) case of rail identity theft, *Duchess of Hamilton* swapped name and number plates with *Coronation* and was passed off as its better-known sibling at the 1939 New York World's Fair.

ROYAL HUDSON

64 One of these semistreamlined 4-6-4s of the Canadian Pacific Railway pulled King George VI and Queen Elizabeth on a royal tour in 1939.

DRB 06

66 These streamlined express locos, the only 4-8-4s ever built in Germany, were the pride of Nazism, but because of the outbreak of war, only two of them were built. They were scrapped in 1951.

ALLEGHENY

67 These giants of the Chesapeake and Ohio had a two-wheel leading bogey, two sets of six driving wheels, and a six-wheel trailing bogey to support the huge firebox and the driver's cab.

1941

4449

68 This Southern Pacific 4-8-4 was one of two locos to haul the Liberty train on its US tour in 1975-76 to commemorate the bicentenary of American independence.

J CLASS

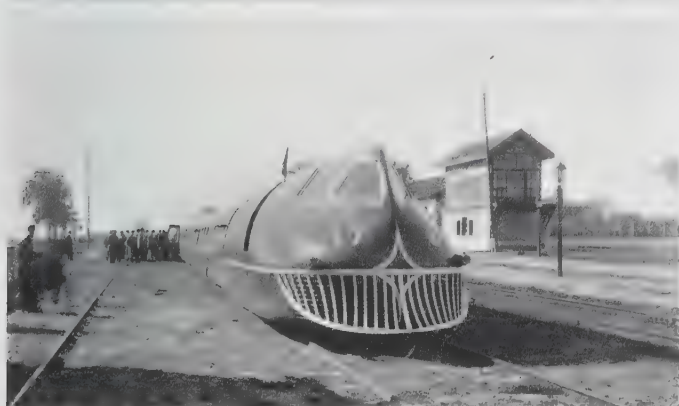
69 Streamlined in the expectation that they would haul the Norfolk & Western's crack expresses, they spent most of their working lives at the head of coal trains to help the US war effort.

BIG BOY

70 Twenty-five of these giants were built to haul freight over the Union Pacific's line through the Wasatch mountain range in Wyoming and Utah. They were articulated in the manner pioneered by Garratt in order to accommodate 16 driving wheels in a 4-8-8-4 configuration.

USATC S100

71 These US tank engines were shipped to many parts of Europe during and after World War II.



TALGO

72 The Spanish Talgo pioneered the use of bogies that span the gap between coaches to produce a smoother ride. For many years its futuristic design looked out of place on the railways of Spain, most of which had been neglected since their construction, but the latest Talgos operate over a high-speed pan-iberian network that is the envy of many other countries.

AC-12

73 To give the engineers the best view ahead, the US Southern Pacific put the cabs at the front of these gargantuan 4-8-8-2 steam locos that worked mainly in the Sierra Nevada of California.

1945

TANGMERE

74 Still working, this 4-6-2 belongs to the Battle of Britain class, every member of which was named after a person or place in the 1940 face-off between the British Royal Air Force and the German Luftwaffe.

WP CLASS 4-6-2

75 Stalwarts of Indian railways, 755 of these 4-6-2s were built in 20 years by Baldwin of the United States and two Canadian companies.

BRITANNIA

78 The Standard Class 7, of which *Britannia* was the first of 55 members, was the last batch of steam locos before the changeover to diesel and electric traction was completed on August 11, 1968. Although it seemed strange to some people that British Railways should have carried on commissioning locos that they knew would soon be obsolete, they had no other way of keeping up with demand.

1948

C-62

76 These 4-6-4s, based on US models, were the mightiest steam locos ever to run on Japan's original 3-foot-6-inch (1,067mm) gauge network. Indeed, they were the second-most powerful narrow-gauge locos in the world after the South African class 16E Pacifics. One of the class, C-62 17, is preserved at Nagoya.

CLASS 11 4-8-2

77 Designed in South African and built by several European companies, these locos worked the Benguela Railway that linked the port of Lobito, Angola, with the African interior.



SBB AE 6/6

79 These electric giants of the trans-Alpine route were the first Swiss trains to be given individual names; each named for one of Switzerland's cantons.

SNCF CLASS CC7100

80 As the first French electrics to run at 63 miles per hour (100kph), they showed the permanent way toward the TGVs.

UNION PACIFIC GTEL

81 The Union Pacific operated the world's largest fleet of gas turbine locos; the prototype UP50 inspired 54 more of the type.

V200

82 This German diesel was exported to many countries, including Saudi Arabia, and widely adapted, most notably into British Western Region's Warship class.

SETTEBELLO

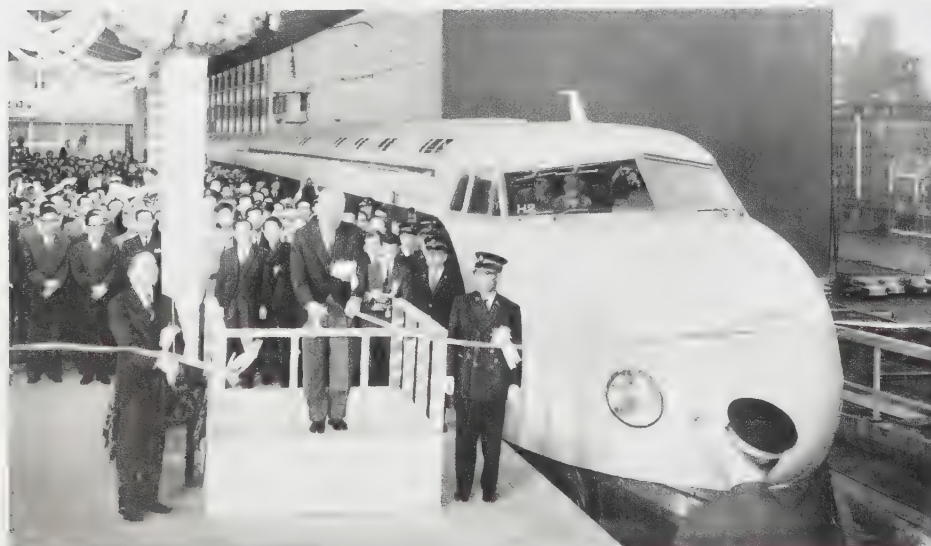
83 Italy's electric multiple unit (EMU) express between Milan and Rome was fast and comfortable but most notable for the observation cars at the rear of every train.

RED DEVIL

84 Named for its striking livery, the last surviving member of South African class 26 is a 4-8-4 that is still running on special trains.

GT3

85 During three years of tests, British Railways found that English Electric's gas turbine prototype was cheaper to maintain than piston-engined equivalents, because it had fewer moving parts that could wear out. However, its power-to-weight ratio was inferior to that of both diesel and electric traction, so GT3 was dismantled.



DELTIC

86 The British diesel that bridged the gap between steam and modern multiple units was named for its three engines, which were mounted in a shape that resembled the fourth letter of the Greek alphabet, delta.

CLASS 47

87 The most widely used diesels in Britain since the end of steam, these locos have two six-wheeled bogies with all axles powered, the so-called Co-Co configuration. A total of 512 class 47s were built in six years.

BULLET TRAIN

88 The first bullet train, known officially as the 0 Series, was introduced on the line between Tokyo and Osaka, Japan. Today, passenger trains of this type operate throughout the nation's Shinkansen network, which now extends for around 1,500 miles (2,400km). They travel at up to 200 miles per hour (320kph), a speed that is made possible because the whole system is new and separate from preexistent railway lines.

PENDOLINO

89 The train that leans into curves at high speeds was such a success in Italy, its country of origin, that it has now been adopted on the rail networks of Britain, China, Czech Republic, Finland, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, and Switzerland.

1975

F40PH

90 These Amtrak diesel-electric locomotives revived the moribund US rail network and confounded politicians' efforts to kill them off. Many can be found on passenger, tourist, and freight railroads today.

INTERCITY 125

91 The number of British Rail's deluxe passenger express refers to its top speed of 125 miles per hour (200kph). It has a maximum speed of 148 miles per hour (238kph), making it the fastest diesel-powered train in the world—a record it still holds today.



1981

TGV

92 Inspired by the Japanese bullet train, these French passenger expresses are exactly what their initials stand for—Trains à Grande Vitesse, cruising at 176 miles per hour (279kph). Developed by Alstom during the 1970s, electric multiple units of similar type now operate throughout Europe.

1993

AVE

93 Spain's second-generation high-speed trains complement the Talgo to form an interurban network that has stimulated commerce, industry, and tourism nationwide. The name is an acronym of Alta Velocidad Española ("Spanish high speed") and a play on the Spanish word for "bird." Currently covering 2,000 miles (3,200km), AVE is the second-largest high-speed train network in the world after that of China.

1994

EUROSTAR

94 The Channel Tunnel—the land link between Britain and mainland Europe—enabled Eurostar to operate between London, Paris, and Brussels.

IE 201

95 These diesels—built by US General Motors—turned Ireland's anachronistic rail network into a driving force of an economy that was known as "the Celtic tiger."

EUROSPRINTERS

96 These electric locomotives were built by German company Siemens and exported to countries including China, Denmark, Greece, and South Korea. In 2006 a EuroSprinter belonging to Austrian State Railways clocked 222 miles per hour (357kph).

W. C. RÖNTGEN

97 The Munich-Hamburg InterCityExpress train (also known as ICE 884) lost a wheel and derailed at Eschede on June 3, killing 101 people and injuring 100. It was traveling at 125 miles per hour (200kph) at the time.



TORNADO

98 The last of the 49 original A1 Class of the London & North Eastern Railway was scrapped in 1966. It was sorely missed by enthusiasts, so in 1990 a group of them banded together to create a brand-new A1 Pacific that conformed to the latest safety regulations and would thus be authorized to go on modern main lines. Eighteen years later, No. 60163 *Tornado* moved under its own power for the first time and has kept going ever since.

SAPSAN

99 Russia's high-speed train has almost halved the travel time between Moscow and St. Petersburg—a distance of 400 miles (640km)—which can now be covered in three hours 40 minutes.

2ES10

100 This Russian twin-sectioned electric freight loco on twin chassis, each with two sets of four-wheeled bogies (Bo-Bo), is equivalent to 0-4-4-0 on steam trains.

ORIGINAL RIVETED
QUALITY CLOTHING

LEVI STRAUSS & CO.
SAN FRANCISCO, CAL.

ORIGINAL RIVETED
QUALITY CLOTHING

JOSIAH WEDGWOOD
THE APOTHEOSIS
OF HOMER VASE

1 The great English potter opened a factory in 1769, focusing on new glazing methods. He developed a unique type of pottery known as jasperware. This bas-relief vase, inspired by a Greek original of the fourth century BCE, was made for Wedgwood by John Flaxman Jr.

MICHAEL THONET
MODEL NO. 14
BENTWOOD
CHAIR

2 Thonet opened a furniture workshop in Vienna, Austria, where he experimented with bending wood using steam and pressure. This, the first cheap, durable, mass-produced chair, was made by these methods from solid and laminated beechwood.

HENRY TATE
SUGAR
CUBE

3 The English grocer became a leading sugar refiner by the age of 50 in 1869. His greatest success came after 1872, when he purchased a patent for making sugar cubes.

JACOB W. DAVIS & LEVI STRAUSS
LEVI'S DENIM
JEANS

4 In the early 1870s, Davis, a tailor, began making strong working trousers for laborers, reinforcing the weak points in the seams and pockets with copper rivets. In 1872, he teamed up with fabric supplier Strauss to create and patent trousers, riveted for strength, made of brown cotton duck and blue denim. In 1873 the US Patent and Trademark Office granted them a patent. That same year Davis began sewing a double-stitched orange design on the back pocket of the jeans to make them distinct.

100 DESIGN ICONS

JEAN-PIERRE & JEAN-FRÉDÉRIC PEUGEOT
PEUGEOT
PEPPER MILL

5 The system developed by the Peugeot brothers effectively ground coffee, but became supremely successful in their innovative pepper mill, where dried peppercorns were placed in a chamber, cracked, and then milled by two rows of adjustable grinders.

WILLIAM MORRIS
ACANTHUS

6 In his portrayals of nature, and belief in "art for all," Morris established the Arts and Crafts movement. This sinuous, curving pattern, based on stylized acanthus leaves, was an important influence on the development of Art Nouveau.

CHRISTOPHER DRESSER
TUREEN & LADLE

7 Rejecting heavily embellished Victorian styles, Dresser created elegant, functional items that show his love of Japanese design. His tureen and ladle resemble objects he saw on his trip to Japan in 1876–77.

THOMAS CHURCH
CHURCH SHOES

8 Soon after opening a small factory in Northampton, England, in 1873, Church was producing high-quality footwear for shops locally, in London, and across Europe. In 1881 he became the first manufacturer to produce shoes shaped differently to fit left and right feet, in different widths, and in all styles. Named "Adaptables," his innovative shoes won the gold medal at that year's Great Exhibition at Crystal Palace.

ARTHUR HEYGATE MACKMURDO
COVER OF *WREN'S CITY CHURCHES*

9 With abstract, flame-like tulips and tendrils; elongated birds; and angled, freestyle lettering in a flowing banner, this cover was unprecedented. In contrast to the symmetrical, extravagant styles of the time, the woodcut evokes Japanese woodblock prints of the Edo period (1603–1868). The pared-down, undulating design, with its integration of type, had a powerful impact on the Art Nouveau movement.

KARL ELSENER
SWISS ARMY KNIFE

10 The soldiers' first miniature tool kit featured a blade, a hole piercer, a can opener, and a screwdriver that all folded into the knife's handle. Elsenner then added a spring mechanism and attached further tools to the handle.

ALPHONSE MUCHA
POSTER FOR
GISMONDA

11 Mucha's portrayal of the actress Sarah Bernhardt in a life-size poster catapulted him to fame as the epitome of Art Nouveau.

CHARLES ROBERT ASHBEE
SILVER-MOUNTED
GLASS DECANTER

12 Contrasting with fancier Victorian glass decanters, this design is based on an Elizabethan jug, using restrained curvilinear embellishment.

PETER BEHRENS
JUGENDSTIL
TABLE LAMP

13 This mystical, winged, hooded figure, made of curving bronze and colored glass, typifies the decorative Art Nouveau style.

JOSEF HOFFMANN
MUSTARD
POT &
SPOON

14 Viennese architect Hoffmann helped to initiate modernism with these sleek and smooth geometric contours.

CHARLES RENNIE MACKINTOSH
LADDER BACK
(HILL HOUSE) CHAIR

15 Mackintosh designed Hill House in Scotland for the publisher Walter Mackie. Echoing features of the mansion, this ebonized wood chair, with a ladder back that extends to the floor, was made to decorate the master bedroom. Vertical lines and a grid reflect Celtic craftsmanship and linear Japanese art.

MARTIN F. CHRISTENSEN
GLASS MARBLE

17 Christensen invented a machine for making marbles that produced twists and swirls of colored glass inside clear glass balls.

PETER CARL FABERGÉ 190
ROSE TRELLIS
FABERGÉ EGG

18 Made for Czar Nicholas II by Fabergé's work master, Henrik Wigström, it is latticed with diamonds.

JOHAN ROHDE
COSMOS TEA &
COFFEE SERVICE

19 Blending Art Nouveau's curves with minimal decoration, Rohde presaged the

EARL R. DEAN 1915
COCA-COLA
BOTTLE

20 In 1915 the Coca-Cola Company launched a competition across the United States for glass manufacturers to design a distinctive bottle "which a person could recognize even if they felt it in the dark." Believing (mistakenly) that "coca" referred to cocoa, Dean, a bottle designer for the Root Glass Company, designed a bottle based on a picture of a cocoa pod from an encyclopedia. To make it more stable on a conveyor belt, he narrowed the center, and widened the base. Resembling silhouettes of contemporary female fashions, his design won the contest. Made from a cast-iron mold, with its fluting and embossed label, the curvaceous form of the thick, green glass bottle contrasted with other drink bottles of the time and was, as required, instantly recognizable. The Coca-Cola company trademarked the design and has kept it ever since.



LOUIS CARTIER
SANTOS
WRISTWATCH

16 The first modern wristwatch for men, this was designed by Cartier originally for his Brazilian friend Alberto Santos-Dumont, an early aviation pioneer. Santos had complained to Cartier that, while he was flying with both hands on the controls, he could not read the time on his pocket watch. So Cartier produced this practical, flat-faced wristwatch that could easily be glanced at while Santos was flying. He named his innovative watch the "Santos." It featured exposed screws and a distinctive square bezel (rim). By 1911, Cartier was selling the watch commercially.

CLARA DRISCOLL & LOUIS COMFORT TIFFANY 1918
PEONY TIFFANY LAMP

21 Driscoll made this flower-inspired lamp using Tiffany's innovative handmade colored glass and mosaic technique.

CHUCK TAYLOR 1917
CONVERSE ALL STARS

22 In 1917 the Converse Rubber Shoe Company produced a basketball shoe called the All Star. In 1921 basketball player Charles H. "Chuck" Taylor joined the Converse All Stars, a team sponsored by the company. He wore the shoes and improved their flexibility and strength.

GERRIT RIETVELD 1918
RED-AND-BLUE CHAIR

23 Made from standard cuts of timber, this lightweight chair features flat planes, uprights, and horizontals in black and primary colors. It exemplifies the theories on purity of Piet Mondrian, a leading member of De Stijl ("style" in Dutch), a modernist art and design movement in the Netherlands.



COCO CHANEL
CHANEL NO. 5 PERFUME BOTTLE

24 Inspired by men's cologne flacons, whiskey decanters, and pharmaceutical vials, this bottle was angular, understated, and mass-produced in accordance with Chanel's motto: "Always remove, always strip away, never add."

MARIANNE BRANDT
TEA INFUSER & STRAINER

28 The sleek, geometric forms of this teapot exemplify the machine age, uniting practicality with simplicity.

ARMAND DESAEGHER & OCTAVE AUBECO
LE CREUSET ENAMEL COOKWARE

29 French for "the cauldron," Le Creuset is based on ancient Roman cooking pots but is extra durable through a double-enamel coating fired at extreme heat. Its signature color—"Flame," implying molten cast iron in a cauldron—is produced by a unique method that colors the glaze.

RENÉ LALIQUE
BACCHANTES VASE

31 Made by hand using Lalique's unique press molding, this opalescent glass vase features a rhythmic-looking, dynamic relief of neoclassical nudes.

ADOLPHE MOURON CASSANDRE
NORD EXPRESS POSTER

32 Inspired by Cubism but Art Deco in style, a low viewpoint and a dramatic perspective capture the power and speed of a night train.

EILEEN GRAY
E1027 SIDE TABLE

33 Polished chrome-plated, tubular steel and a crystal glass disk bring industrial materials to this adjustable domestic table.

JOOST SCHMIDT
BAUHAUS EXHIBITION POSTER

25 With its bold, geometric forms, and integrated lettering, this poster for the first Bauhaus exhibition was a powerful visual statement, uniting art and technology, and emphasizing functionality and simplicity.

MONTBLANC
MEISTERSTÜCK 149

26 The Montblanc pen company's most successful product: a bullet-shaped, streamlined writing implement with a gold-and-platinum nib that adapts to individual handwriting styles.

WILHELM WAGENFELD
WA 24 TABLE LAMP

27 As form follows function—Bauhaus style—the working parts of this lamp are exposed, and the rounded, opaque glass shade comes from industrial lighting.



MARCEL BREUER
MODEL B3 WASSILY CHAIR

30 The B3 cantilevered chair—named in honor of Wassily Kandinsky, Breuer's teacher at the Bauhaus—is lightweight and resilient and was inexpensive to mass-produce, being easily assembled from preprepared curving steel tubes, and canvas or leather. One of the first items of furniture to exploit the potential of newly engineered, seamless, steel tubing, it was inspired by Breuer's bicycle handlebars. The chair made a huge impact on other contemporary and subsequent furniture designs.

LE CORBUSIER, PIERRE JEANNERET & CHARLOTTE PERRIAND
LC4 CHAISE LONGUE

34 Inspired by the graceful curves of eighteenth-century French daybeds, this was the result of a collaboration between three architects. Its ergonomic form, smooth upholstery, and chromium-plated tubular steel base followed Le Corbusier's machine-age philosophies (he referred to this chaise longue as a "relaxing machine"). Traditionally, the frame of any large furniture item was concealed beneath upholstery, but here it was deliberately exposed.



MARCEL BREUER
CESCA CHAIR

Cane, beech, and cantilevered steel achieve Breuer's ideal of a chair that feels like "sitting on columns of air."

CLARICE CLIFF
CROCUS POTTERY

Made with minimal brushmarks, the simply structured crocus design is Cliff's unique expression of Art Deco.

ALVAR AALTO
L-LEGGED STACKING STOOL

Focusing on functionality and comfort, Aalto designed with clean, modernist lines, but favored wood over tubular steel. Mixing art and nature, this design evolved from his methods of bonding veneers and molding wood. The L-shaped, bent legs fused with the seat.

COCO CHANEL
CHANEL 2.55 SHOULDER BAG

Inspired by soldiers' bags, this freed womens' hands, with leather threaded through double chain straps.

ADOLF LOOS
LOOS DRINKING SET

Cut and polished by hand, this plain glassware with an engraved pattern on the base led modern design.

LUDWIG MIES VAN DER ROHE & LILLY REICH
BARCELONA CHAIR

Made for the International Exhibition, the X-shaped frame of this chair was based on the curule seats used by ancient Egyptian, Greek, and Roman magistrates.

ALFONSO BIALETTI
MOKA EXPRESS

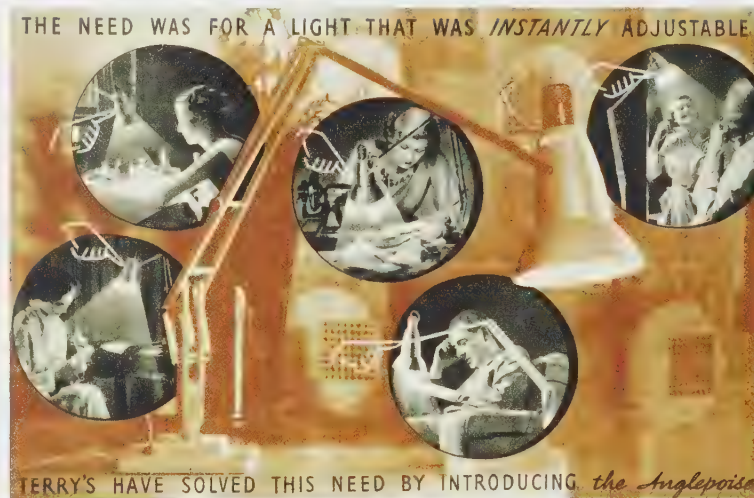
Made in aluminum, which was previously used only in industry, this revolutionary octagonal coffeemaker reflected Art Deco designs, and was the first home espresso maker.

WILHELM WAGENFELD
GLASS TEA SERVICE

Expressing principles of simplicity and utility, Wagenfeld initiated the use of new materials in everyday products. Made of heat-resistant, test-tube glass, the tea service is delicate, balanced, and strong, adhering to his ideals of purity in design.

GEORGE CARWARDINE
ANGLEPOISE LAMP

Utilizing a new, versatile type of counterbalanced spring that eliminated the need for clamps or counterweights, the anglepoise was the first lamp that could be moved easily in all directions and could hold each position rigidly. The heavy base, metal shade, and spindly arm enabled the lamp to be moved to any position, while the metal shade concentrates and focuses the beam of light.

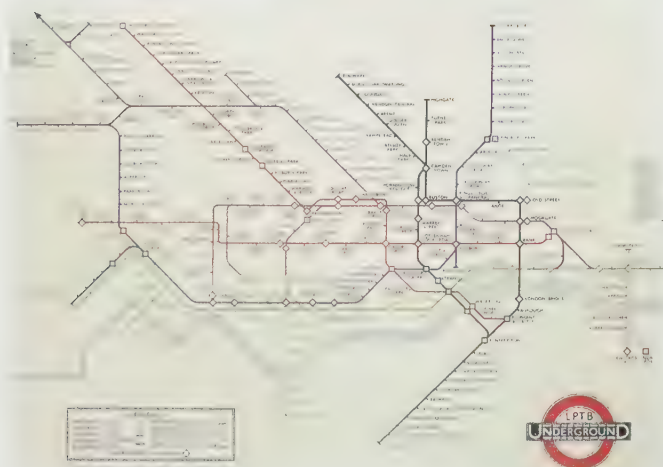


HARRY BECK
LONDON UNDERGROUND MAP

The first London Underground map, published in 1908, included the streets above and was difficult to interpret. Further map designs attempted to clarify the routes for passengers, but they remained confusing. In 1931, Beck, an engineering draftsman at the London Underground Signals Office, created this color-coded, diagram-map. Based on an electrical circuit, and abandoning geographic accuracy, it showed simply how to get from one station to another.

GEORGE G. BLAISDELL
ZIPPO LIGHTER

With its smooth, boxy shape; spring-loaded flip top; and protective windshield, the Zippo developed from Blaisdell's efforts to create an attractive, affordable lighter guaranteed to work in almost any weather. When used by US soldiers in World War II, it became legendary and remains virtually unchanged.



RAYMOND LOEWY
**PENCIL
SHARPENER**

46 Resembling a teardrop or a plane fuselage, this streamlined, functional chrome design typifies the machine age.

WELLS COATES
**EKCO AD
65 RADIO**

47 With its chrome grille, this unprecedented circular radio was made from the new, moldable, synthetic material Bakelite.

FREDERICK HURTEN RHEAD
**FIESTA
DINNERWARE**

48 A brave departure from traditional, one-color dinnerware, this was made to be mixed and matched in bright color combinations.

HENRY DREYFUSS
**MODEL 302
TELEPHONE**

49 Ergonomic, with a spring-powered dial, this phone was weighted and easy to hold and cradle against the ear.

EGMONT ARENS
**KITCHENAID
MODEL K
STAND MIXER**

50 An efficient, powerful, practical, versatile machine that blended convenience with Art Deco contours.



BAUSCH & LOMB 1937
**RAY-BAN
AVIATOR
SUNGLASSES**

51 As aircraft flew higher and farther than ever before, many pilots experienced headaches and altitude sickness. These sunglasses blocked more than 80 percent of the light, reducing dazzle without obscuring vision, and protected pilots' eyes. Always readily identifiable by their distinctive teardrop-shaped lenses, their popularity was boosted by Tom Cruise in the 1986 movie *Top Gun*.

DESIGNER UNKNOWN
**MILK
BOTTLE**

52 The first milk bottles were produced in 1880 by the Express Dairy Company in London. Soon, several dairies were using them in various sizes. When electric refrigerators became prevalent in homes in the 1940s, the pint-size bottle became common. The thick glass and simple shapes of the bottles were economical to manufacture and conveyed a sense of the milk's purity and wholesomeness.

FADA RADIO & ELECTRIC COMPANY
MODEL 115 RADIO

53 Nicknamed "the Bullet" or "the Bullet Streamliner," and originally called Model 1000, this portable, chunky plastic radio with round dial and minimal controls was produced in an unusual range of bold, bright color combinations.

CARLO ALESSI
**BOMBÉ TEA &
COFFEE FACILITY**

54 This established Alessi's reputation for style and innovation. Smooth and curving, it was made from silver- and chrome-plated brass. The harmonious contours and lack of adornment recall earlier modernist designs.

CORRADINO D'ASCANIO
**PIAGGIO VESPA
SCOOTER**

55 After World War II the Italian economy was in ruins. Enrico Piaggio, whose aeronautical factory had been bombed, wanted to produce a cost-effective, modern method of transportation. He hired aeronautical engineer and inventor D'Ascanio, who created a lightweight, stylish, streamlined bike that encapsulated the mood of postwar youth culture. Piaggio declared it looked like "*una vespa*" ("a wasp"), and the name stuck.



JAN TSCHICHOLD
& EDWARD YOUNG
**PENGUIN
PAPERBACK
BOOK COVERS**

56 Allen Lane's original concept of producing quality paperback books at low prices was enhanced by Edward Young's innovative cover designs with horizontal, color-coded bands: blue for biography, orange for fiction, and green for crime. Jan Tschichold added progressive typography.

RUSSEL WRIGHT 1951
**AMERICAN
MODERN
FLATWARE**

57 Embodying the notion of informal living, this sculptural, organic cutlery matched the popular table service of the same name.

ISAMU NOGUCHI
**AKARI
LANTERN**

58 Using handmade paper from mulberry tree bark, this is a modernist twist on Japanese paper lanterns.

ARNE JACOBSEN
**ANT
CHAIR**

59 Mixing modernist and Scandinavian design, this was the first mass-produced chair with a seat and back formed from a single piece of wood.

TAPIO WIRKKALA
**IITTALA
TAPIO**

60 Finnish design company Wirkkala produced kitchenware that included glasses with a single air bubble inside each stem.

LEO FENDER, GEORGE FULLERTON
& FREDDIE TAVARES 1954
**FENDER
STRATOCASTER**

61 Lightweight, strongly curving, and comfortable to use, the radically shaped "Strat" guitar was first made of ash and maple.

ROGER VIVIER
STILETTO SHOES

62 From fashion to practical purposes, such as holding riders' feet firmly in stirrups, raised heels have been worn for centuries by men and women. But high, thin-heeled stilettos were not made before the 1950s because wood was the only material available, and it was not strong enough to support the weight of a human. In 1954, by embedding a steel stem into a wooden heel, Vivier created an elegant shoe with a 3-inch-high (8cm) heel that appeared to elongate the wearer's legs, and became loved by women. Vivier had started to design for Dior, and from the first, his stiletto shoes, with their unique decorations and heels, were worn by movie stars and royalty.



ROLEX 1954
**ROLEX OYSTER
PERPETUAL
SUBMARINER**

63 Originally intended for divers in depths of up to 660 feet (200m), this watch had a movable bezel for time tracking under water. After being worn by James Bond in nine films, it became a gentleman's watch as well.



W. A. G. PUGH 1954
**JIF LEMON
PACKAGING**

64 Squeezeable—with a distinctive lemon shape, size, texture, and color—this packaging created instant impact. Replacing glass bottles, it was one of the earliest food applications for blow-molded polythene.

EERO SAARINEN 1956
**TULIP
CHAIR**

65 "I wanted to clear up the slum of legs. I wanted to make the chair all one thing again," declared Finnish-American designer Saarinen about this single-legged chair that resembles both a flower and a wine glass. The molded fiberglass shell seat is supported on an aluminum stem fused into plastic, combining new technology with modernist curves, and draws on Saarinen's early training as a sculptor.



CHARLES & RAY EAMES 1956
**EAMES LOUNGE
CHAIR &
OTTOMAN**

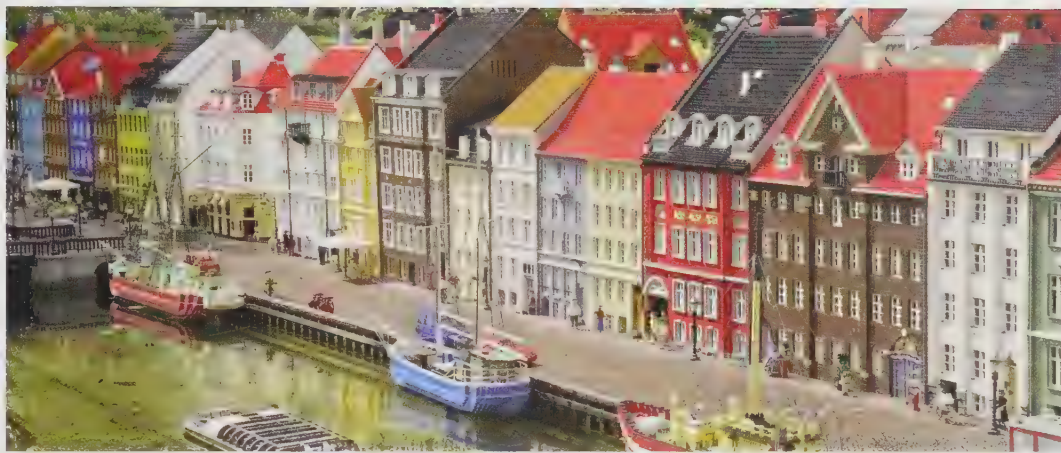
66 Charles Eames described this deep-cushioned chair as having "the warm, receptive look of a well-used first baseman's mitt." With leather upholstery and a wide molded plywood seat veneered in rosewood, it gently reclines and rocks, and accommodates the shape of the sitter.

GIO PONTI 1957
**SUPERLEGGERA
CHAIR
No. 699**

67 With minimal parts, this chair lives up to its "super-lightweight" tag—a five-year-old child can lift it with one finger. Its delicate elegance belies its strength, which is derived from a clever system of struts.

OLE KIRK & GODTFRED KIRK CHRISTIANSEN 1932 LEGO

68 In 1934 Ole Kirk Christensen named his small toy company LEGO, from the Danish *leg godt* ("play well"). By 1947 he had the first injection-molding machine in Denmark, and he and his son made uniquely interlocking, brightly colored, easy-clean, plastic bricks in many shapes and sizes.



JOCK KINNEIR & MARGARET CALVERT 1962 MOTORWAY SIGNS

69 One of the most ambitious and effective information design projects ever executed in the United Kingdom, this road signage system was produced when miles of high-speed motorways were being built. Following many of the principles of modernism, it became an international prototype. In an attempt to regulate the profusion of signs on Britain's roads, graphic designer Kinneir and his assistant, Calvert, created coordinated lettering, colors, shapes, and symbols for main roads and motorways. They created pictograms and a corresponding sans-serif typeface that were accessible, clear, and friendly.

POUL HENNINGSEN 1960 PH ARTICHOKE LAMP

70 Twelve rows of six thin, pliant metal leaves hang from a central core, resembling a pine cone and emit a restful, glare-free light.

VERNER PANTON 1959-61 S CHAIR

71 The first no-leg, cantilevered, injection-molded chair to be formed from a single piece of plastic, this symbolizes the optimism, color, and reduced lines that are still redolent of the 1960s. Its name came from the similarity of its shape to the letter.

OLOF BÄCKSTRÖM 1960 O SERIES SCISSORS

72 Since 1832 the Fiskars ironworks in Finland has been producing knives, nails, tools, and scissors. In 1960, Bäckström designed probably the world's first ergonomic scissors for the company. Made for the mass market, the curving, comfortable, durable, low-cost, plastic handles were attached directly to nickel-free steel blades. In 1967 there was an unexpected surplus of orange plastic left over from the production of an orange juicer, so Bäckström used it for his innovative scissor handles.



KENJI EKUAN 1960 KIKKOMAN SOY SAUCE BOTTLE

73 After three years Ekuan perfected this teardrop-shaped bottle, with its red cap, which is practical, reliable, and elegantly oriental in appearance.

ACHILLE & PIER GIACOMO CASTIGLIONI 1961 ARCO LAMP

74 To illuminate a table from any angle, a heavy marble base secures a long, stainless-steel arc of telescopic tubing with a suspended, polished, dome-shaped shade.

ROBERT WELCH 1962 ALVESTON CUTLERY SET

75 Named after his hometown, Welch's cutlery won awards for its refined fluidity and balance.

ROBIN DAY 1962-63 POLYPROPYLENE CHAIR

76 A one-piece stacking chair named for the injection-molded polymer from which it is made.



MAIJA ISOLA 1960 UNIKKO FABRIC

77 This bold, vibrant, dramatic print of stylized poppies contrasted with the small prints that were then fashionable and conveyed the exuberance of the 1960s.

WALTER GROPIUS TAC TEA SERVICE

78 When chunky shapes predominated, this oriental-inspired, finely contoured porcelain tea service was designed by the founder of the legendary Bauhaus.



ETTORE SOTTSSASS & PERRY KING VALENTINE PORTABLE TYPEWRITER

79 Breaking away from dull, gray office equipment, the brightly colored, portable Valentine typewriter fits neatly into its hard, molded plastic carrying case, amalgamating portability and convenience with fun and practicality. Sottsass said: "When I was young, all we ever heard about was functionalism, functionalism, functionalism. It's not enough. Design should also be sensual and exciting." So he and King deliberately interpreted contemporary Pop Art for office environments. It has become emblematic of its era, named after the day it was launched, Valentine's Day.

OTL AICHER PICTOGRAMS FOR MUNICH OLYMPICS

82 Easily understood, Aicher's original graphics and typeface for the 1972 Summer Olympics in Munich were created on a series of grid systems in a range of colors. Hugely influential, they inspired the use of pictograms for public signage around the world.

RICHARD SAPPER TIZIO DESK LAMP

83 Sapper created this lightweight desk lamp using two parallel arms rather than wires to conduct electricity, two counterweights to allow the lamp to be tilted and adjusted, and a halogen bulb, seldom used in domestic lighting.



CARSTEN JØRGENSEN BODUM BISTRO COFFEE PRESS

84 This streamlined, heat-resistant glass jug, with a minimal chrome frame and a black, durable plastic knob and handle, enabled users to make coffee by the most straightforward and efficient method. Created by Jørgensen for the Danish company Bodum, the uncomplicated design became a seminal influence.

MASSIMO VIGNELLI NEW YORK CITY SUBWAY MAP

85 Vignelli came up with a modernist-influenced map for the Big Apple's subway. It adopted color-coding devised by lawyer Raleigh D'Adamo. Although Vignelli's map has been redesigned over the years, his work can still be seen in the way's iconic signage

ERNÖ RUBIK RUBIK'S CUBE

86 From its start as a working model to help explain 3D geometry, this became the world's best-selling toy.

ANDREW RITCHIE BROMPTON FOLDING BICYCLE

87 This efficient, collapsible bike has small wheels, downward-pointing handlebars, and a hinged frame.

VARIOUS SWATCH WATCH

88 In the 1970s the watch market was flooded with cheap quartz timepieces from Asia. This was the Swiss riposte: a relatively inexpensive product with few moving parts. Seen as fun and fashionable, it recaptured the market.

JOE COLOMBO TUBE CHAIR

89 Using a new process of molding plastic, this flexible-foam-covered chair was made of cylinders of different diameters that could be easily moved; it was taken to symbolize harmony and unity.

GIANCARLO PIRETTI PLIA FOLDING CHAIR

91 At the time it was produced, the folding mechanism in this lightweight, transparent plastic and tubular steel chair was unique, with three connected metal disks enabling it to be folded flat.

JEAN-LOUIS DUMAS BIRKIN BAG

89 Named after the actress and singer Jane Birkin, these leather handbags are made by artisans using Dumas's century-old, signature saddle stitching. Ample proportioned, with pockets, a flap, and a recognizable lock, they became synonymous with high style.



MICHAEL GRAVES
**WHISTLING
TEA KETTLE**

90 This kettle—best known for its little bird that sings when the water boils—has smooth contours and a witty charm that are essentially postmodernist, yet also intentionally reminiscent of Art Deco.

MARC NEWSON
**LOCKHEED
LOUNGE**

91 Newson calls his undulating chair in polished, curved, and riveted aluminum “a fluid metallic form, like a giant blob of mercury.”



DIETER RAMS
**ET66
CALCULATOR**

92 This small calculator was developed with a focus on function, simplicity, and ease of use. Matte black, with smooth, bead-like buttons, it was shaped and sized to slip into a pocket and was the first utilitarian item of this sort to be perceived as stylish and fun.

PHILIPPE STARCK
**ALESSI JUICY
SALIF CITRUS
SQUEEZER**

93 On its tall, spiky legs, with a name derived from the French word for “saliva,” the Juicy Salif is an expressive, sculptural lemon juicer.

RON ARAD
**BOOKWORM
SHELF**

94 Deliberately antithetical to conventional shelving, this witty design exploits the paradox of steel in an organic form. By adjusting the brackets, the shelf can be adapted into numerous shapes.

WALTER WINDISCH
**STAPLELESS
STAPLER**

95 Stapleless staplers were not new—they first came on the market in 1909—but this simple, compact plastic version was somehow perfectly in tune with the minimalism of the 1990s.

JASPER MORRISON
GLO-BALL LAMP

96 This highly imaginative reinterpretation of Edwardian spherical lampshades is a reflective opal glass lamp that is slightly elliptical in shape. Glo-ball lamps come in a range of sizes, and their matte finish radiates a subdued, diffused glow.

NAOTO FUKASAWA
MUJI CD PLAYER

97 Mixing innovation and wit, simplicity and complexity, this wall-mounted compact disc player has beautifully clean lines, a simple pull-cord on-off switch, and no lid or superfluous extras. At a glance, in certain settings, it may even be mistaken for an air extractor.

TOM DIXON
COPPER SHADES

98 Using a technically advanced process of vacuum metalization, these shimmering, hollow spheres, with copper interiors and brass exteriors, are sculptural and reflective. They emit a subtly glowing light and are currently in demand throughout the world.



JONATHAN IVE
IPHONE

99 After seven years developing touch-screen technology, Apple produced the iPhone, a sleek, efficient, practical design for what was a combination of a phone, an iPod, and a handheld computer. For such an advanced, intelligent device, Jonathan Ive created a minimal, accessible design, integrating aesthetics with Apple's latest technological developments. By either tapping or sliding the screen, users are immediately connected with the functions, guided by the simple, instantly recognizable and user-friendly icons. In focusing on users' needs, Ive mirrored the philosophy of German designer Dieter Rams.

CHRISTIAN BIRD
**EDGE OF
BELGRAVIA
KNIFE**

100 A shiny blade of coated stainless steel, and a fused, faceted handle, blend sharp cutting efficiency, durability, and style in this lightweight knife. Bird also produces ceramic blades, which stay sharper for longer than their steel equivalents. Particularly outstanding is the ceramic paring knife with the 4-inch-long (10cm) blade.



CHARLES FREDERICK WORTH

1 The “father of haute couture,” Englishman Worth dominated Parisian fashion after opening the first couture house with Swedish businessman Otto Bobergh in 1858. He redefined the fashionable female silhouette, utilizing bustles, shorter crinolines, and gigot sleeves.

JACQUES DOUCET

2 This Parisian art collector created finely worked clothes in lace, silk, muslin, and satin, often with beads, embroidery, or feathers.

LUCILE (LADY DUFF-GORDON)

3 The revolutionary Lucile made corsets less restrictive and clothes more sensual. She colored her hair and pioneered runway shows.

JEANNE LANVIN

4 Initially a milliner and dressmaker, Lanvin turned to couture in 1909, specializing in elegantly simple designs.

100 FASHION DESIGNERS

JEANNE PAQUIN

5 Opening her house in Paris in 1891, astute businesswoman Paquin created romantic and glamorous designs.

MARIANO FORTUNY

6 Spaniard Fortuny's best-known legacy is the Delphos: a clinging sheath dress made with a single piece of silk.

GUCCIO GUCCI

9 Gucci's leather goods company—in Florence from 1920, then Rome from 1938—earned fame for its interlocking G logo and red and green trim, complemented by fine quality and service.

MADELEINE VIONNET

7 One of the most innovative designers of the early to mid-twentieth century, Parisian couturiere Vionnet created flowing dresses inspired by the drapery and figures of classical statues. She perfected the bias cut and—using seams and faggoting (openwork stitching)—draped the body with fluid, soft fabrics, such as silk crêpe and satin, dispensing with corsets and applying minimal embellishment. Her simple, loosely structured designs for day and evening fell sensuously from the shoulders. She also popularized cowl and halter necklines.

NINA RICCI

10 Turin-born Maria “Nina” Ricci was one of the most prestigious designers of her day. At her house, she worked fabrics directly on to live mannequins, which ensured figure-flattering cuts in luxury fabrics.

COCO CHANEL

11 A twentieth-century trailblazer, Chanel transformed women's dress and appearance. Discarding corsets, she created functional, easy-to-wear clothes in soft fabrics, such as jersey. Her innovations included wide-legged trousers, stylish knitwear, and “beach pajamas,” and she promoted the little black dress from funeral wear to cocktail hour staple.

AUGUSTA BERNARD

12 Evoking the draping of Greek statues, Bernard created slender, bias-cut evening dresses in pale colors. In 1932 one of her gowns was chosen by *Vogue* as the most beautiful dress of the year.

JEAN PATOU

13 An advocate of easy-fitting casual clothes with neat lines, French couturier Patou believed "the sports silhouette is the smart silhouette."

LUCIEN LELONG

14 Lelong's sports-influenced garments were simply cut and came "alive" in motion. He also helped to protect French couture from the Nazis, who wanted to move the industry to Germany.

ELSA SCHIAPARELLI

15 Dismissed by Chanel as "that Italian artist who makes clothes," the designer affectionately known as "Schiap" loved to amuse and shock the fashion world (the packaging of her signature Shocking scent gave rise to the phrase "shocking pink"). Her first collection featured trompe l'oeil sweaters, and she introduced divided skirts, padded shoulders, colored zips to match clothing, dyed fur, and brooch-like buttons. She collaborated with Salvador Dalí and other artists and furthered the notion of runway shows.



MAINBOCHER

16 Self-taught, US designer Main Rousseau Bocher was famed for his evening wear, including dinner suits with blouses and strapless dresses. His use of cinched waists anticipated Dior's New Look of 1947.

EDWARD MOLYNEUX

17 This English artist and couturier had ateliers in Paris, Biarritz, Cannes, Monte Carlo, and London. His elegant designs utilized unbroken lines, zips to mold the figure, pleated skirts, and printed silks.



CRISTÓBAL BALENCIAGA

18 A Spanish seamstress's son became the "king of couture," hailed by Dior as "the master of us all." With superlative skills in cutting and construction, he used fabric and bold colors as never before. Unlike many couturiers, he could design, drape, cut, sew, and fit his own patterns. In 1951 he reshaped silhouettes with his influential sack dress.

MAGGY ROUFF

19 The French creator of harmonious, flattering, understated womenswear focused on simplicity and delicacy. Like other designers working in the 1930s she had a fondness for drapery and took great care with the addition of accents of color and embellishment. Although her evening gowns were exquisite, she is best known for her sportswear and lingerie.

HOWARD GREER

20 After his success as a costume designer for the silver screen, Greer opened own couture house in 1928.

JACQUES HEIM

21 In 1946 the French fashion and costume designer opened a sportswear boutique and created a two-piece swimsuit with Swiss engineer Louis Réard.

NORMAN HARTNELL

22 Leading London couturier Hartnell helped design practical daywear during the austerity of World War II.

MARCEL ROCHAS

23 Having abandoned a law career to design clothes for his wife, Rochas became a skillful predictor of looks and an expert in creative color combinations.

1903-93

ALIX GRÈS

24 Parisian couturiere Grès was an uncompromising designer. With bias cuts, asymmetrical shapes, pleating, and drape, her gowns took hours of intricate work to create an air of elegant restraint.

1905-58

CLAIRE MCCARDELL

25 Best-known for her trademark popover dress, McCardell designed clothes for the modern woman.

1906-78

CHARLES JAMES

27 An innovator and genius sculptor of fabrics, British-born James viewed his creations as art and often reworked them during and between seasons. He is best known for his contribution to US haute couture, which included spectacular designs such as the four-leaf clover ball gown. Financially foolhardy, he died penniless.

1914-87

PIERRE BALMAIN

29 The French architecture student is celebrated for his "Jolie Madame" style, hailed by the *New York Times* as "luxurious fashions" that made "women look pampered."

1921-89

GUY LAROCHE

32 Initially a milliner, Laroche launched a haute couture business in 1957 and a ready-to-wear collection in 1960, thus injecting youth into Parisian elegance. He was one of the first designers to introduce separates.



CHRISTIAN DIOR

26 The Normandy-born Dior dominated fashion after World War II with his New Look. Making a powerful political statement, it contrasted with wartime austerity, reviving hourglass shapes with full skirts and reams of expensive cloth. Previously Lelong's main designer, Dior followed his New Look with similarly influential silhouettes, such as the A, H, and Y lines. Other innovations included princess line dresses. Hours before his death, Dior insisted a protégé—Yves Saint Laurent—take over the house that bore his name.

1913-84

JACQUES FATH

28 One of the main influences on post-World War II haute couture, Frenchman Fath created glamorous designs that celebrated the female form: low necklines, wasp waists, flowing contours, and juxtaposed color. Fine pleating and asymmetrical draping enhanced bodies in motion. An astute businessman, he anticipated the potential of ready-to-wear.



1914-81

JACQUES GRIFFE

31 Skilled at drawing, draping, cutting, and sewing, this tailor and couturier created supple, form-flattering clothes. He honed his craft at the house of Vionnet before opening his own salon in 1941.

1900-82

EMILIO PUCCI

30 The Florentine designer's most famous fan was Marilyn Monroe, who was buried in one of his dresses. Enormously influential in the realm of glamorous resort wear, the label is now known for distinctive colors and swirling patterns.

1900-81

OTTAVIO & ROSITA MISSONI

33 The innovative, technical work of this Italian husband and wife team changed attitudes toward knitwear.

1907-81

LOUIS FÉRAUD

34 The French artist and fashion designer, inspired by arts of other cultures, created costumes, haute couture and ready-to-wear, chic suits, and glamorous tailoring.



1970-1980

GABY AGHION

35 Egyptian-born Aghion was the founder of the fashion manufacturing label Chloé. After moving to Paris at the age of 18, she began to develop her style of relaxed body-conscious clothing. She established Chloé in 1952 and showed her first luxury prêt-à-porter collection in 1956. Aghion had a knack for hiring talented designers who suited the brand, and these have included Karl Lagerfeld, Stella McCartney, and Phoebe Philo. The company has described itself as "youthful and modern in design, and slightly audacious in spirit."

ANDRÉ COURRÈGES

40 Civil engineering student Courrèges joined Balenciaga in 1949 and opened his own house in 1961. His space-age collection included miniskirts, trouser suits, and shift dresses in white and silver.

MARC BOHAN

41 Having worked for Molyneux and Patou, Bohan became chief designer and artistic director at Dior. There, he elevated pop fashion to elegant haute couture.

SONIA RYKIEL

43 The French "queen of knits" was one of the first designers to champion unfinished hemlines and exposed seams. Signature garments included striped knitwear and cardigan dresses.

1990

HUBERT DE GIVENCHY

42 Having designed separates for the likes of Elsa Schiaparelli, French couturier Givenchy opened his own house—Maison Givenchy—in 1952 and introduced a prêt-à-porter collection in 1954, followed by a menswear line. A union with Balenciaga created a new loose silhouette called "the sack," launched in 1957. The knee-length dress was highly influential and became an iconic piece. With Audrey Hepburn as his muse for almost 40 years, Givenchy produced designs that were elegant and charming, supplanting extraneous decoration with a purity of line.

GINA FRATINI

44 Raised in Britain, Burma (Myanmar), and India, Fratini designed scenery and costumes for a dance company before producing a first collection in England in 1966. Her original and influential creations included smocks, long jumpers, and delicate gauze and chiffon dresses.

1970

PIERRE CARDIN

36 Trained as a tailor, Cardin made his couture debut in 1953. His ethos was fashions for all, often in space-age fabrics.

1980

RUDI GERNREICH

37 The designer created many bold firsts, such as the topless monokini, "no-bra bra," and see-through blouse.

1960

BILL BLASS

38 US designer Blass created a brand that became synonymous with the pared-down elegance of the late twentieth century.

1970

ANNE KLEIN

39 Born in New York, Klein became one of the most popular designers of practical, stylish women's clothing.



ROY HALSTON

45 Iowa-born socialite and former milliner Halston turned to womenswear in 1968. His sexy, sleek garments—including shirt dresses, wrap coats, and sarongs—became iconic designs of the 1970s. He developed a reputation for understated yet luxurious evening wear, made from pliable materials such as silk; jersey; and his favorite, ultrasuede. Celebrity wearers included Lauren Bacall and Anjelica Huston.

b. 1932

VALENTINO GARAVANI

46 His collections attracted international acclaim for their glamour, drama, and immaculate cut.

b. 1933

KARL LAGERFELD

48 Lagerfeld is known for his bold designs, constant reinvention, and quality tailoring.

b. 1934

MARY QUANT

51 Quant popularized the miniskirt and young, affordable fashion at her London boutiques, the first of which opened in 1955. In the 1960s she went into mass production to meet worldwide demand for microminis, patterned tights, plastic raincoats, and "paintbox" makeup.

1936–2008

YVES SAINT LAURENT

53 This prêt-à-porter pioneer is one of the greats in fashion history. In 1957, at the age of 21, he became head designer at Dior. His first collection was inspirational, especially the Trapeze Line. After a stint in the French army in 1960, he and partner Pierre Bergé launched his couture house in Paris in 1962, followed by Rive Gauche, his first ready-to-wear store, in 1966. Saint Laurent mixed street wear with couture, introducing palazzo pants, women's tuxedos, Mondrian-style shift dresses, and platform shoes.

1912–1982

OSCAR DE LA RENTA

47 The Dominican "guru of glamour" worked in Paris and New York, honing his opulent, romantic style.

b. 1922

EMANUEL UNGARO

49 His futuristic clothes included short A-line dresses, many in special fabrics. His style, he says, is "seductive with restraint."

b. 1913

GIORGIO ARMANI

50 The king of Italian tailoring launched a menswear collection in 1975 and then a women's line the following year. His understated, body-conscious clothing—soft suits, subtle palettes—was radical for its time. Armani's popularity soared in the 1980s when his "power suits" hit film and television screens.



b. 1946

PACO RABANNE

52 After training as an architect, Rabanne created jewelry for Dior, Givenchy, and Balenciaga and then opened his fashion house in 1966. Radical, futuristic designs were the result.



BARBARA HULANICKI

54 Fueling a trend for fashionable yet affordable boutiques, Hulanicki founded Biba in London in 1964.

b. 1938

ISSEY MIYAKE

55 At his Design Studio, visionary Miyake blends Eastern fabrics and designs with Western technology.

b. 1924

RALPH LAUREN

56 The New York designer launched his Polo menswear in 1969 and womenswear in 1971.

KENZO TAKADA

57 In provincial Japan, Takada began making clothes with fabric remnants. He opened the store Jungle Jap in Paris and launched a first collection in 1970. "Big silhouettes" are among his hallmarks.

AZZEDINE ALAÏA

58 The Tunisian-born "king of cling" is a respected designer who introduced and popularized body-conscious clothing when frills were in fashion. Rather than adhering to fashion's trends, he showed his creations in his own time. He worked for Dior, Laroche, and Mugler before opening his first atelier in 1979. After launching his ready-to-wear store in 1980, he began to create body-conscious clothes that accentuated busts and narrow waists. His Lycra stretch dresses were particularly popular in the 1980s—the era of the gym-honed body and the glamazon—and continue to be a fashion staple into the twenty-first century.



ROBERTO CAVALLI

59 The "king of bling" patented radical printing techniques using knits and leather, and he is now known for his sexy, seductive, glamorous shapes in exotic colors. His designs are often lavishly embellished with sequins, feathers, and other decoration. Animal prints are a Cavalli staple.

VIVIENNE WESTWOOD

61 Westwood helped fashion the punk movement with her partner, Malcolm McLaren, at their London store Sex, opened in 1971 as Let It Rock. Her confrontational collections explore extremes and eccentricity.



ZANDRA RHODES

60 British designer Rhodes was a legendary master of innovative bold prints and dramatic silhouettes. She set up her first print studio in 1964 with Alex MacIntyre and opened Fulham Road Clothes Shop in 1969, selling designs that featured her prints. That same year she produced her first solo collection, which showcased her romantic evening wear in luxurious fabrics. Rhodes is well known for her flowing gowns and colorful kaftans, which were often gathered, smocked, and layered to create a voluminous silhouette.

OSSIE CLARK

62 This British designer was a fantastic cutter and constructor of cloth. His collections showcased exotic fabrics, clinging dresses, handkerchief skirts, and crisp, fitted linen suits.

CALVIN KLEIN

63 Noted for clean lines, Klein began selling women's coats in 1968, followed by ready-to-wear collections. His radical refinement of US classics took in men's underwear, jeans, and shirts.

REI KAWAKUBO

64 This Tokyo designer shocked the fashion world with the unconventional, amorphous clothes of her label, Comme des Garçons.

BETSEY JOHNSON

65 During the punk era, Johnson used vivid colors and unusual fabrics, such as vinyl, to create radical designs.

YOHJI YAMAMOTO

66 Since establishing his first label in Tokyo in 1972, Yamamoto has created functional clothes for men and women—divested of glamour, often unexpected, asymmetrical, oversize, and draped with loose gathers.

JIL SANDER

67 This German minimalist worked as a fashion editor before opening a boutique in Hamburg in 1968. Her first collection of understated clothes was compared to Bauhaus architecture, because of its perfect proportions and pure clean lines. She is known for technical, androgynous styles devoid of fiddly details.

GIANFRANCO FERRÉ

60 Italy's "architect of fashion" created original shapes with exaggerated proportions and in neutral colors.

KANSAI YAMAMOTO

69 Best known for creating costumes for David Bowie, avant-garde Japanese designer Yamamoto launched his own label in 1971 and showed his debut collection that same year.

NORMA KAMALI

70 The 1980 collection by Kamali was made entirely in gray sweatshirt fabric. It brought the fabric into the fashion limelight and inspired mass-market copies.



THIERRY MUGLER

74 This designer's clothes emanate confidence and power. They are identifiable by their sexiness, structure, bold colors, accentuated shoulders, and shapes that enhance bodily curves.

DONNA KARAN

75 Karan brought New York chic into the mainstream with easy-to-wear, affordable clothing. Her designs were often created utilizing stretch fabrics and neutral colors. She is known for her "seven easy pieces."

GIANNI VERSACE

77 The "master of neo-baroque" was unrivaled in the 1980s and 1990s. He showed his debut women's ready-to-wear line in 1978 and his first couture collection in 1989. Versace's hallmarks were glamorous, unashamedly sexy clothes in brilliant colors and patterns, often created using innovative materials and cutting-edge technology. His opulent style translated well into costume design for ballet companies and pop performers such as Elton John and Madonna. He worked closely with his sister Donatella (pictured here with the designer). Versace celebrated beauty, strength, and theater with dramatic cuts, wild prints, and exaggerated components. "It's the responsibility of a designer," he said, "to try to break rules and barriers."



DIANE VON FÜRSTENBERG

72 Born in Belgium, von Fürstenberg is one of fashion's most enduring designers. She is best known for her iconic wrap dress, debuted in 1973, which fused glamour with practicality. The dress was so flattering and versatile that five million garments had been sold by 1976, and the design continues to be produced in a range of colors, fabrics, and prints into the twenty-first century.

PAUL SMITH

73 Traditional tailoring meets unexpected fabrics—often patterned or multicolored—in Smith's cleverly marketed work. In 1993 he debuted a womenswear line that also combined formality with quirky design.

MIUCCIA PRADA

76 The granddaughter of the founder of luxury label Prada experiments with prints, proportions, and fabrics to create unexpected yet accessible lines. Her avant-garde label is named Miu Miu.

VERA WANG

77 The go-to designer for haute couture bridal gowns, Wang also creates figure skater costumes, having initially pursued a career as a professional skater. She opened her salon in 1990.

ALBERTA FERRETTI

78 The Italian designer—famed for modern methods and delicate, Grecian-inspired gowns—helped to initiate the Made in Italy movement. She added lingerie to the label in 2001 and wedding gowns in 2010.

CHRISTIAN LACROIX

79 With his unconventional styles, colors, and prints, Lacroix is often credited with saving haute couture at a time when street fashion was lauded. He drew on diverse cultures to create eccentric, theatrical designs.

JEAN PAUL GAULTIER

00 Dubbed the *enfant terrible* of fashion, the French designer emerged in the late 1970s with avant-garde creations inspired by film, music, and street culture. He changed corsets from objects of suppression to symbols of feminine power, staged spectacular shows that mixed cultures and genders, and put skirts on men—all backed up by quality tailoring and fine fabrics.



DONATELLA VERSACE

81 Donatella's extravagant, sexy designs have brought the Versace label to the present day, following her brother Gianni's creative vision yet reworking it with her own.

MARTIN MARGIELA

02 This provocative Belgian deconstructionist, who has hardly ever been photographed or interviewed, brings new life to raw edges and exposed seams.



DRIES VAN NOTEN

54 Based in Antwerp, Van Noten delivers collections characterized by high-end boho glamour and immaculate tailoring. Mixed prints and textures are a favorite.

ANN DEMEULEMEESTER

85 Demeulemeester is one of the Antwerp Six: visionary Belgian deconstructionists who emerged in the mid-1980s, blending punk, gothic, and Japanese influences. Her distinctive designs focus on streamlined silhouettes and attention to detail.

DOMENICO DOLCE & STEFANO GABBANA

83 Inspired by their native Italy—especially its films, architecture, landscapes, history, art, and traditional black dresses—the duo are accomplished tailors with an inherent understanding of women. Since their first women's collection in 1986, they have mixed femininity, drama, sexiness, glamour, and insouciance.

JOHN GALLIANO

86 Although this designer's eclecticism seemed more aligned with street fashion, he led couture houses Givenchy (1995–96) and Dior (1996–2011) to great acclaim.

JUNYA WATANABE

87 This Japanese designer established his own womenswear label under the Comme des Garçons umbrella. Always innovative, he experiments with cutting-edge textiles and traditional tailoring to create what is sometimes labeled "techno couture."

TOM FORD

88 The "king of cool" won international fame for his label's blend of tradition, modern design, and individuality, and made Gucci relevant for a new generation.

MARC JACOBS

89 The New York designer is renowned for the luxurious materials, simplicity, and modernity of his own label.

ANNA SUI

90 Michigan-born Sui specializes in an eclectic mix of couture and street styles, inspired by different cultures and historical costumes.

ELIE SAAB

91 The self-taught Lebanese designer is celebrated for gowns in rich fabrics with intricate embellishments.

VIKTOR & ROLF

92 Based in Amsterdam, the design duo's imaginative collections of sculptural clothing have been likened to works of art.

HUSSEIN CHALAYAN

94 The Cypriot-born British designer blends fine art with fashion to produce unconventional, creative garments. The results—which he calls “wearable art”—include a wooden corset; paper clothes; and a mechanical, plastic dress.

ALEXANDER MCQUEEN

93 Labeled “the hooligan of British fashion” for his controversial runway collections, McQueen gained a reputation for outrageousness and nonconformity yet received great acclaim for his “bumster” trousers, skull motifs, and excellent tailoring. In 1995 fashion stylist Isabella Blow bought his entire graduation collection. Chief designer at Givenchy from 1996 to 2001, McQueen was named British Designer of the Year in 1996, 1997, 2001, and 2003. From 2001, as creative director of his own label at Gucci, he produced lavish, dramatic, and much-copied clothes.



STELLA MCCARTNEY

95 Heralding her signature cocktail of sharp tailoring and sexy femininity, McCartney's entire graduation show was bought by a London boutique in 1995. In 1997 she was appointed creative director of Chloé in Paris. An animal-rights supporter, she uses no leather, fur, wool, silk, or other animal-derived fabrics.

PHOEBE PHILO

96 As creative director of Chloé from 2001 to 2006, this influential British designer turned it into a global luxury brand.

SARAH BURTON

97 Creative director of Alexander McQueen since 2010, she also designed Kate Middleton's wedding dress in 2011.



ZAC POSEN

98 Hailed as “a star” by the *New York Times* when he was barely into his twenties, this well-connected New Yorker was inspired by 1930s glamour, French art, and Madeleine Vionnet's bias cutting. His work is bold and dramatic, yet alluring and feminine, often featuring bias cuts, draping, and fishtail hemlines. A more affordable line called Z Spoke launched in 2009.

CHRISTOPHER KANE

99 This Scottish designer is known for body-con clothes, using unexpected palettes and skillful tailoring. He also designs for Versace's diffusion line Versus.

ALEXANDER WANG

100 From his first women's collection in 2007, Wang has founded an empire on a casual yet sophisticated urban style. He added an accessories collection in 2008.

Vicas sirus. natione antichristis. arte medicus. discipulus apostolorum. postea paulum secutus usque ad confessionem eius serviens domino sine crimine:

nam neque uxorem unquam habuit neque filios: septuaginta et quatuor annorum vixit in bithynia. plenus spiritu sancto.

Qui cum iam scripta essent euangelia. per mattheum quidem in iudea. per marcum autem in italia: sancto instigante spiritu in archaie partibus hoc scripsit euangelium: significans etiam ipse in principio ante suum alia esse descripta.

Cui cetera ea quae ordo euangelice dispositionis exposcit. ea maxime necessitas laboris fuit: ut primum grecis fidelibus omni prophetatione venturi in carnem dei christi manifestata humanitate ne iudaicis fabulis attentis: in solo legis desiderio teneretur: vel ne hereticis fabulis et stultis sollicitationibus seducti reciderent a veritate elaboraret: dehinc. ut in principio euangelii iohannis natiuitate presumpta. cui euangelium scriberet et in quo electus scriberet indicaret: contestans in se completa esse. quam essent ab alijs inchoata. Cui ideo post baptismum filij dei a perfectione generationis in christo impletreptende a principio natiuitatis humane potestas permixta est: ut requirentibus demonstraret in quo apprehendens erat per nathan filium dauid introitu recurrentis in deum generationis admixto. indisparabilis dei predicatio in hominibus christum suum. perfecti opus hominis redire in se per filium faceret: qui per dauid patrem

facta. sorte domini electionis numerus completeretur: sicque paulus summatione apostolicis actibus daret. quem dominus contra stimulum recalcitrantem dominus elegerat. Quod et legentibus ac requirentibus deum. et si per singula repeditum a nobis utile fuerat: sciens tamen quod operam agricolam oporteat de suis fructibus edere. uitauimus publicam curiositatem: ne non tam volentibus deum demonstrare videremur. quam fastidientibus prodidisse.

Incipit euangelium secundum lucam. Prohemium ipsius beati lucæ in euangelium suum.

Quoniam quidem multi conati sunt ordinare narrationes quae in nobis complere sunt res. sicut tradiderunt nobis quae ab initio ipsi viderunt. et ministri

fuerunt euangelis: visum est et michi assecuto omnia a principio diligenter et ordine tibi scribere optime theophile: ut cognoscas res veras de quibus eruditus es veritatem.

Vir in diebus herodis regis iudee sacerdos quidam nomine zacharias de vice abia. et uxor illi de filibus aaron: et nomen eius elizabeth.

Erant autem iusti ambo ante deum: incedentes in omnibus mandatis et iustificationibus domini sine querela. Et non erat illis filius. eo quod esset elizabeth sterilis: et ambo profecissent in diebus suis. Factus est autem cum sacerdotio fungeretur zacharias in ordine vicis sue ante deum: secundum consuetudinem

JOHANNES GUTENBERG

Gutenberg's Bible Textura

1 Gutenberg's invention of movable type in c. 1440 is widely viewed as the development that gave birth to the modern era. It meant that books could be printed more quickly and cheaply, and therefore knowledge spread more widely. He worked with scribe Peter Schöffer to design the first typeface, which closely and elegantly imitated the blackletter script of the local region.

NICOLAS JENSON

Jenson

2 After being sent by the King of France to study Gutenberg's new movable type, Jenson went on to Venice where, influenced by the local manuscript writing, he created the first "Venetian" typeface.

ERHARD RATDOLT

Ratdolt's Rotunda

3 A German book printer, Ratdolt also created 14 early typefaces. Rotunda is a rounded medieval script used in southern Europe.

FRANCESCO GRIFFO

Bembo

4 Although produced by Monotype in 1929, Bembo is based on a font cut by Francesco Griffo over four centuries earlier. Its refined, harmonious forms mark a significant leap forward from earlier Venetian fonts such as Jenson, yet it retains much of the mark of the human hand. It was named after the Venetian scholar Pietro Bembo, whose book *De Aetna* was the first to feature Griffo's design. Along with Garamond, it is the most popular of the Renaissance serif faces, and is still widely used for finely printed books, but it can be too delicate for modern printing or screen use.

FRANCESCO GRIFFO

Griffo's Italic

5 The first italic typeface was designed by Griffo, after the publisher Aldus Manutius commissioned him to produce a slanted design to replicate handwriting. Aldus sought to create a series of small pocket books, and the tighter letters in italics made this possible. Manutius is also credited with developing a standardized system of punctuation.

100 TYPEFACES

WAGNER & SCHÖNSPERGER

Sebetbuch Fraktur

6 Produced for a prayer book for Kaiser Maximilian, the name Fraktur refers to the broken curves and angled strokes of the calligrapher's brush it seeks to imitate.

LUDOVICO DEGLI ARRIGHI

Arrighi's Italic

7 An elegant and influential italic face, Arrighi based the design on his own handwriting.

PHILIPPE GRANDJEAN

Romain du Roi

11 This revolutionary design (French for "King's roman") was drawn to mathematical principles, and so is a forerunner to Bodoni and Didot as well as geometric designs such as Futura.

CLAUDE GARAMOND

Garamond

8 There are so many typefaces today called Garamond that it can be hard to know which of them is authentic. In fact, many of these Garamonds turned out to be based on the later work of Jean Jannon, a Protestant whose typefaces were sold in mysterious circumstances to the French establishment in 1641 and misattributed, perhaps intentionally, to Claude Garamond. Garamond's original design, with its formal, stately-yet-sturdy high Renaissance forms, took its inspiration from Francesco Griffo's Bembo. In its many variations, Garamond is still used widely today.

WILLIAM CASLON I

Caslon

12 "When in doubt, use Caslon" runs the printers' maxim, such is its popularity and usability. William Caslon trained as a gun engraver, and this is evident in the flourishes of his flamboyant italics. The Caslon type foundry was kept running until 1937.

ROBERT GRANJON 1567

St. Augustin Edoulié

9 The versatile Robert Granjon here turned his hand to Civilité, a theatrical northern European form of script.

MIKLÓS KIS

Janson

10 Declared the best type designer in Europe by the Medici family, Miklós Kis's work was for a long time falsely attributed to Anton Janson.

JOAN MICHAËL FLEISCHMAN

Fleischmann

13 German punchcutter and typographer Fleischman was known for his innovative, even exaggerated designs. He later created an early typeface for music notation.

PIERRE-SIMON FOURNIER

Fournier

14 Famous for his use of ornaments, Fournier issued his *Manuel Typographique*, a guide to type and printing, in 1764.

JOHN BASKERVILLE

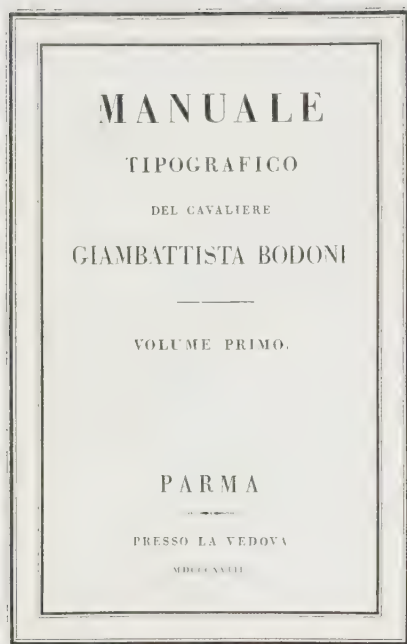
Baskerville

15 With its elegant, upright forms and narrow strokes, Baskerville, according to Fournier, reached the "utmost pitch of perfection." John Baskerville's many innovations included sharply printing lettershapes, darker inks, and smoother paper, yet he enjoyed little success in his lifetime.

RICHARD AUSTIN

Bell

16 When publisher John Bell bought a type foundry, he turned to Austin to realize his vision for a contemporary typeface design.



GIAMBATTISTA BODONI

Bodoni

17 Giambattista Bodoni took the thin, upright strokes of Baskerville a stage further, creating the first "modern" typeface. Bodoni's refined, neoclassical elegance features flat serifs that are virtual hairlines. Designed for use in books, it can be hard to read and is today usually seen at large sizes. It is still associated with class and style.

JOHANN BREITKOPF

Breitkopf Fraktur

18 Typographer and music publisher Johann Breitkopf designed this blackletter face in the last year of his life. He also worked on type for musical notation.

FIRMIN DIDOT

Didot

19 Operating from his father's print shop in Paris, Didot came to dominate French book design for a century with the delicate strokes of this typeface. With Bodoni, these faces became collectively known as Didones.

JUSTUS ERICH WALBAUM

Walbaum

20 Trained as a confectioner, Walbaum taught himself engraving by using confectionery molds and chisels adapted from sword blades. The typefaces he cut were modeled closely on Didot, and were admired for their soft, warm, and graceful forms.

WILLIAM CASLON IV

CASLON'S EGYPTIAN

22 The first sans-serif typeface, Caslon's Egyptian, was not, in fact, an "Egyptian" face. It did not prove an instant success and there are few known uses of it.

BENJAMIN FOX

Clarendon

25 Clarendon is the name given to a whole swath of bold, punchy Victorian slab-serif typefaces, well known for their hard-hitting use on posters of the era. The first Clarendon was cut by Benjamin Fox for Robert Besley in London, and was the first typeface to be patented, due to the many copycat designs it inspired. The name is thought to derive from the Clarendon Press in Oxford.

JOHANN C. BAUER

Fette Fraktur

26 Heavier than other Frakturs, Fette Fraktur was influenced by the bold types fashionable at the time. Frakturs were widely used in Germany until 1941, when the Nazi Party, concerned about how readable they would be in conquered territories, denounced them as Jewish.

EDWIN PRINCE

DOVES TYPE

29 The legendary, lost font Doves was a charmingly rickety revisiting of Jenson. After a business dispute it was thrown into the River Thames, where it remains to this day.

RICHARD AUSTIN

Scotch Roman

21 The Anglo-American equivalent of Bodoni and Didot was Scotch Roman, a slightly more earthy, rugged affair. Originally called Pica Roman No. 2, Austin's Scotch Roman is almost unusable as the upper-case letters are disproportionately heavy.

VINCENT FIGGINS

Antique

23 Thought to be the first typeface produced with thick, square serifs—known as slab serifs or Egyptians.

WILLIAM CASLON IV

Caslon's Italian

24 The Caslon foundry experimented with a typeface that reversed thin and thick strokes, a style known as Italian.



LINN BOYD BENTON

Century

27 An American favorite, Century's sturdy, trustworthy forms can today be seen in all kinds of literature, from school textbooks to official US Supreme Court documents. Benton's more famous son, Morris Fuller Benton, created 18 variations of Century.

BERTHOLD TYPE FOUNDRY

Akzidenz-Grotesk

28 Odd-job Sans Serif, or Akzidenz-Grotesk, is the model upon which modernist typefaces such as Helvetica, Univers, Franklin Gothic, and Transport were based. Its heavy, unmodulated lines represent the start of the search for the purest, simplest lettershapes.

FREDERIC W. GOUDY

COPPERPLATE GOTHIC

30 Unusual, small wedge serifs suggest stone carving or the engraver's tool. Designed early in Goudy's highly successful career, he treasured the original drawings.

MORRIS FULLER BENTON

Franklin Gothic

31 America's answer to the sans-serif typefaces becoming popular in Europe, Franklin was named after the printer—and founding father—Benjamin Franklin.



OSWALD B. COOPER

Cooper Black

33 An extra-heavy version of the largely forgotten Cooper Old Style, Cooper Black's outside bubble forms communicate strength and softness at the same time, and have proved a hit with advertisers right up to the present day.

VICTOR HAMMER 1940

Hammer Uncial

35 Victor Hammer aimed to bring a manuscript quality back into typography through his many Uncial designs.

RUDOLF KOCH

NEULAND

36 Koch hand-cut Neuland so that each letter varied slightly. Its angular, rugged capitals evoke rock carving.

EDWARD JOHNSTON

Underground

32 Skilled calligrapher Johnston created the first humanist sans serif, with forms derived from handwriting, for the London Underground where it is still in use.

DEUTSCHES INSTITUT FÜR NORMUNG

DIN

34 Germany's national typeface was designed by engineers for autobahns, car number plates, and other official uses. An unusual success for a design by committee, its strict geometry has since been softened.

HERBERT BAYER

universal

37 Designed to be the official Bauhaus font, Universal combined the "unnecessary" upper and lower cases.

ERIC GILL 192

Gill Sans

38 Gill saw himself more as a stone carver than a type designer, yet his only sans-serif typeface became the unofficial typeface of the United Kingdom, used by the BBC, Penguin Books, British railways, and the Church of England. Essentially an improved version of Edward Johnston's Underground font, Gill Sans is an elegant yet idiosyncratic mix of geometric shapes and handwritten forms. Revelations of Gill's extraordinary sexual proclivities have not proved damaging to the reputation of his typefaces.

FRANK HINMAN PIERPONT

Grotesque

39 Monotype's Grotesque was a quirky early sans serif. Grotesques are thought to be so named due to typographers' first reaction to their appearance.

JOSEF ALBERS

Schablonenschrift

40 Albers's experiment in stencil type aimed to break away from the history of type and handwriting, into pure geometric forms of circle, square, and triangle.



PAUL RENNER 1947

Futura

41 As the name suggests, Renner wanted to design a typeface that looked to the future, rejecting the traditions of typographic form. Highly geometric, but subtly crafted, Futura's initial release featured very simple uppercase forms, along with radical, abstract lowercase forms such as the letters "r" and "a" (above). It is still the archetypal modernist, geometric sans serif.

ERIC GILL 1940

Joanna

42 For this subtle slab serif based on the work of Robert Granjon, Gill successfully created "a book face free from all fancy business." Named after his daughter, it is a natural accompaniment to Gill Sans.

MORRIS FULLER BENTON

BANK GOTHIC

43 Inspired by Bauhaus experiments into geometric forms, Benton designed this square, capitals-only font. Also designed in 1930 was another square typeface, City, by Georg Trumpp.

STANLEY MORISON & VICTOR LARDENT

Times New Roman

44 After publicly criticizing the London newspaper *The Times* for its poorly printed and antiquated typography, Stanley Morison was invited to design a new typeface for the paper. Its narrow forms and rudimentary serifs are disliked by many, yet after being adopted by Microsoft as its default font it has become perhaps the most ubiquitous typeface in history.



BERTHOLD WOLPE

Albertus

45 Trained as a metalworker, Wolpe's skills in engraved lettering can be seen in the flared, chiseled forms of Albertus. With its great warmth and character, it was used on many books by London publisher Faber, becoming an iconic part of its poetry covers.

HERBERT BAYER

bayer type

47 Another Bauhaus experiment into pure geometric shapes, this time with the addition of elegant hairline serifs.

CHAUNCEY H. GRIFFITH

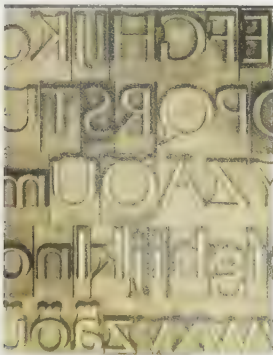
Bell Gothic

49 Created for the US telephone book, Bell Gothic was designed to be read at small sizes on poor-quality paper.

HERMANN ZAPF

Palatino

51 Named after sixteenth-century calligrapher Giambattista Palatino, Zapf's masterpiece mirrors the letters formed by a broad-nib pen. Intended for display use, it became widely used for book text.



FRANK HINMAN PIERPONT

Rockwell

46 The most successful slab serif, Rockwell has an open, friendly character that belies its strict geometry of circles, unmodulated strokes, and fat, square serifs. More modern in feel than the Clarendon typefaces, Rockwell was based on Litho Antique from 1910, which is thought to be the first geometric slab serif.

A. M. CASSANDRE

PEIGNOT

48 Released to coincide with the 1937 World Fair, Peignot mixes upper and lower cases into a trendsetting French classic.

ROBERT E. SMITH 1942

Brush Script

50 An exuberantly drawn typeface that expertly joins letters to replicate writing with a brush. It is so popular and overused that many designers loathe it.

ROGER EXCOFFON

Mistral

52 Taking his own handwriting as a model, Excoffon sought to imitate the hand-drawn more closely than Brush Script, replicating rough lines and ink spread.

HERMANN ZAPF

Optima

53 A sans serif with added flair, Optima features strokes that swell toward the end, suggesting Roman stone carving. Zapf's preliminary sketches were made on a 1,000-lira note when he visited a cemetery in Florence. Optima's fresh, open, humane forms are today often seen associated with health and beauty products.

ADRIAN FRUTIGER

Univers

54 A little colder in feel than Helvetica, its contemporary rival, Univers was an attempt to match the success of Akzidenz-Grotesk, upon which, like Helvetica, it is based. Begun when Frutiger was a student, the project consisted of a whole family of 21 typefaces, and a unique numbering system.

HOWARD KETTLER

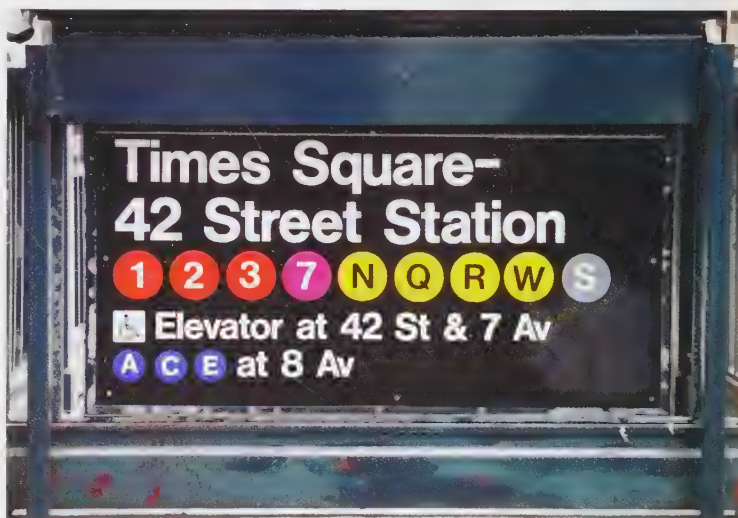
Courier

55 The most popular typewriter font for decades. Now, as the "system" typeface, Courier is as much associated with error messages.

JOCK KINNEIR & MARGARET CALVERT

Transport

56 Designed to unify Britain's chaotic road signage system, Transport was extensively tested for its readability in different conditions.



MAX MIEDINGER

Helvetica

57 The all-conquering Helvetica is the typeface that, after seeing off its identikit rivals Univers and Akzidenz-Grotesk, became the most popular sans serif in the world. The name is an adaptation of the Latin name for Switzerland, chosen to give it an international marketability. Helvetica divides opinion—fans admire its near-perfect balance and simplicity, whereas critics bemoan its bland, soulless aesthetic. Paid a flat fee for his work, Miedinger did not share the rewards of the typeface's success.

JAN TSCHICHOLD

Sabon

58 Jan Tschichold, once a committed modernist, embraced traditionalist principles in typography to create Sabon, a faithful rendition of Claude Garamond's type.

AMERICAN TYPE FOUNDERS

OCR-A

59 A typeface made for maximum legibility, not for the human eye, but for electronic scanners.

MATTHEW CARTER

Snell Roundhand

Based on the hand of Charles Snell, an early eighteenth-century calligrapher who decried all flourishes, the delicate lines of this typeface only became possible with the development of phototypesetting.

HANS EDUARD MEIER

Syntax

The last sans serif to be cast in metal, Meier took Renaissance writing shapes and applied them to sans serif, creating a modern-looking typeface with an energetic, human touch.

ADRIAN FRUTIGER

Frutiger

Designed for use in Paris's Roissy Airport, Adrian Frutiger described his typeface as "an arrivals and departures machine." Often considered the best typeface for signage, careful attention was paid to reading words at an angle and from a distance. Whereas Univers, Frutiger's earlier typeface, is rigid and strict, Frutiger is more relaxed and confident.



MICHAEL HARVEY

ZEPHYR

Harvey produced a number of fonts that suggested the third dimension, and relished the extra drama created.

HERB LUBALIN & TOM CARNASE

AVANT GARDE

Designed as a logo for a magazine, and later made into a typeface. Typographer Ed Benguiat declared "the only place Avant Garde looks good is in the words 'Avant Garde'."

HERMANN ZAPF

Arguably not a typeface at all, Zapf Dingbats comprises solely graphic symbols. A precursor to Emoji, Zapf's set of typographic widgets marked the beginning of the use of symbols in writing.

VARIOUS

VAG Rounded

When Volkswagen and Audi merged, they needed a new typeface that wasn't a serif like Audi's Times, or a sans serif like Volkswagen's Futura. The solution was VAG Rounded, which became the classic rounded typeface.

ROBIN NICHOLAS & PATRICIA SAUNDERS

Arial

The controversial Helvetica-look-alike Arial still causes bad feeling among typographers. It was produced by Monotype to compete with rival type foundry Linotype's Helvetica, and the two typefaces can be virtually indistinguishable. In its defense Monotype can argue, with some justification, that Arial is based on its own earlier Grotesque font, and that Helvetica is itself a mere parody of Akzidenz-Grotesk. Arial is a little friendlier and more open than Helvetica, which many prefer.

SUSAN KARE

Chicago

Designed for readability at low resolution on the early Mac computer, this was used by Apple for all its menus and dialogues on screen, right up to the early iPods.

ZUZANA LICKO

Matrix

Designed specifically to work with new desktop computers, Matrix pays little heed to traditional typography, having a tough geometry derived from earlier bitmap fonts.



CAROL TWOMBLY

TRAJAN

Trajan's majestic capitals are based on the inscription at the bottom of Trajan's Column in Rome, which was carved early in the second century. Perhaps owing to its powerful, authoritative tone, Trajan has become known as "the movie font," fronting countless blockbusters. Other imitations of the Trajan's Column inscription predate Twombly's but this was the first "literal" translation.

ROBERT SLIMBACH

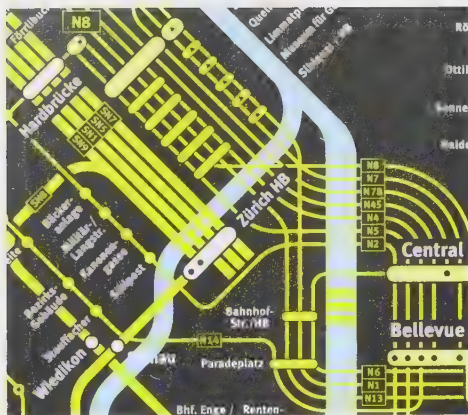
Minion

Slimbach drew on his wide knowledge of Renaissance typefaces to create this modern classic. Rather than drawing on one particular style, Minion is a synthesis of many typefaces of the era. More compressed than other typefaces, but without appearing squeezed, it is a solid, dependable font for extended pieces of text.

BARRY DECK

Template Gothic

Based on an old sign Deck saw in his local laundromat, Template Gothic celebrates crude, naive hand lettering, and turns it into a professional, digital typeface.



MONOTYPE 1991

Century Gothic

A popular modern take on 1920s geometric faces, Century Gothic has been criticized for being a Monotype rip-off of Futura. Yet it has its own, enviable qualities as an elegant, slender, and open sans serif.

ROBERT SLIMBACH & CAROL TWOMBLY

Myriad

This collaboration between two experienced designers resulted in a slick but approachable font with a vast number of variations. While it owes a debt to Frutiger, Myriad features more natural stroke endings, giving a slightly friendlier feel.

TOBIAS FRERE-JONES

An interpretation of the type used on the US Highways, Interstate is made up of austere combinations of straight lines and semicircles. It surpasses its perfunctory origins with a large family of typefaces, including the super-fine version shown above.

LUCAS DE GROOT

Thesis

Not content with creating a typeface with a few variations, Lucas de Groot designed an entire typographic system. Slab-serif, sans-serif, and semi-serif designs are combined in an "interfamily." Thesis looks modern and professional.

ERIK SPIEKERMANN

Meta

Originally designed for the German postal service Bundespost, which did not use it, Meta still went on to be hugely popular and was dubbed the "Helvetica of the 90s." Spiekermann bemoaned the cold sharpness of digital type when compared to the printed page, and with Meta aimed to create "warmth in a digital world." A celebration of imperfect geometry and varying line thicknesses.

LETTEROR 1990

Erikgrithand

Described by its makers as the "typography of reminders and shopping lists," Erikgrithand is based on Erik van Blokland's handwriting with a thick marker.

NEVILLE BRODY 1994

Blur

Working between Letraset, paper cutouts, the photocopier, and the computer, Brody devised a range of original, dynamic fonts, including this fluid blur-like creation.

ROBERT SLIMBACH 1977

Poetica

Based on models from the Italian Renaissance, Poetica features four variations of the same italic script. Well suited to extended text, it captures the vitality and grace of the chancery writing style.

VARIOUS 1982

ROSEWOOD

A chromatic typeface, in which two layers are overprinted to produce colorful, flamboyant effects, Rosewood is based on forms from nineteenth-century type catalogs.

HOEFLER & FRERE-JONES 1984

Knockout

Influenced by Victorian-era wood types, this is a typeface with a punch and a giant selection of heavy weights.

ZUZANA LICKO 1989

BaseNine

With an unusual aesthetic generated from on screen pixel ratios, BaseNine is made for use at only 9, 18, or 36-point size.

MATTHEW CARTER 1979

Verdana

An early web-safe font at a time when there were few available, Verdana became one of the most widely used fonts in the world. Highly efficient for its intended use at small text sizes on screen, Verdana has been criticized for looking ungainly at larger sizes.

ZUZANA LICKO 1989

Mrs Eaves

Named after John Baskerville's scandalous live-in lover, Mrs Eaves is Licko's reimagining of Baskerville. It is a typeface of refined subtlety and delicacy, appropriate for important occasions.

The next steps ...

ATLAS plans to submit a paper based on the data presented today at the end of July, at the same time as CMS and to the same journal

H → W/F → H/F channel: plan is to include results in the July paper
H → π, W/ZH → W/Z bb: first results with 2012 data expected later in the Summer

MORE DATA will be essential to:

- ☐ Establish the observation in more channels, look at more exclusive topologies
- ☐ Start to understand the nature and properties of the new particle

This is just the BEGINNING !

We are entering the era of "Higgs" measurements
First question: is the observed excess due to the production of a SM Higgs boson ?

Note:

- ☐ we have only recorded ~ 1/3 of the data expected in 2012
- ☐ the LHC and experiments have already accomplished a lot and much faster than expected

VINCENT CONNARE 1994

COMIC SANS

No typeface has invoked as much ire and ridicule as Comic Sans. Although created as a useful rendition of comic-book-style lettering, it can look like it was written by a ten-year-old. After being bundled with Windows 95, it was let loose into contexts for which it was never intended: menus, ambulances, gravestones, even announcements of scientific discoveries. Websites imploring us to ban Comic Sans sprang up, alongside online mockery of its poor use. In truth, it meets a need for a typeface with a warmer, gentler tone than much that is on offer.

RICHARD LIPTON

Bickham Script

87 Lipton, a fine calligrapher, created this formal script with expressive, sweeping strokes and fine hairlines, based on the work of the eighteenth-century engraver George Bickham.

TOBIAS FRERE-JONES

GOTHAM

90 The typeface that took Barack Obama to the White House, Gotham communicates a clean-cut honesty—authority expressed with a clear, true voice. Named after the New York City of the *Batman* comics, and inspired by lettering at the New York Port Authority Bus Terminal, this is a typeface that has the hustle and bustle of the working US city in its veins. Frere-Jones was researching New York's vernacular signage, concerned that its existence was threatened by the elements and the creeping uniformity of its typographic replacements, and saw it as his duty to record it for posterity, before it was too late. Originally designed for *GQ* magazine, Gotham has since become accepted by the US establishment and was used for the memorial to victims of the World Trade Center attacks. As its designer boldly states, this is a no-nonsense typeface: Gotham is simply "what letters look like."

JONATHAN HOEFLE & TOBIAS FRERE-JONES

Archer

91 Unlike the cold functionalism of many slab serifs, Archer possesses great charm and an almost dainty, flowery style, with rounded "ball" endings that add visual interest.

JOSHUA DARDEN

Freight

93 A typeface with size-specific designs. Freight Micro, shown here, has fat serifs visible at tiny sizes. Freight Big Book, conversely, features delicate, refined serifs.

FRANTIŠEK ŠTORM

Farao

93 Štorm revisited the wild, untamed slab-serif designs of the nineteenth century, and created his own version with bags of character.

GERALD GIAMPA

Bodoni 26

93 An experimental mix of upper- and lowercase forms taken straight from Bodoni, Giampa's creation has an eccentric beauty.



CHRISTIAN SCHWARTZ

Amplitude

92 Ink traps—small triangular nicks that allow for ink spread at small sizes—are used by Schwarz as an aesthetic device, boldly distinctive at both large and small sizes.

ED BENGUIAT & HOUSE INDUSTRIES

ED INTERLOCK

94 Designed to recall whimsical 1950s and 1960s advertising fonts, Ed Interlock cleverly creates a variety of remarkable interlocking letters as you type.

LUCAS DE GROOT

Calibri

95 Since becoming the default choice for Microsoft software in 2007, replacing Times New Roman in Word, Calibri holds the number one spot as the most-used typeface in the world. In the words of its creator, Lucas de Groot, Calibri has a "warm and soft character." Its subtly rounded corners become more apparent at larger sizes.

TOMI HAAPARANTA

Suomi Script

96 A typeface that is smarter than it looks, Suomi Script connects pairs and trios of letters into unique forms, so that the lettershapes rarely repeat themselves, resulting in a more convincing and appealing appearance.

HANNES VON DÖHREN

Brandon Grotesque

97 Inspired by magazines of the 1920s and 1930s, Döhren set out to create the same fuzzy warmth and softness that comes with poor printing. The result was the subtly rounded edges of the elegant Brandon Grotesque.

HOUSE INDUSTRIES

Eames Century Modern

98 Appropriating the esteemed name of architects and furniture designers Charles and Ray Eames, this typeface builds on Century and its variants, but gives it a new, sparkling finish with extra character.

RICHARD LIPTON

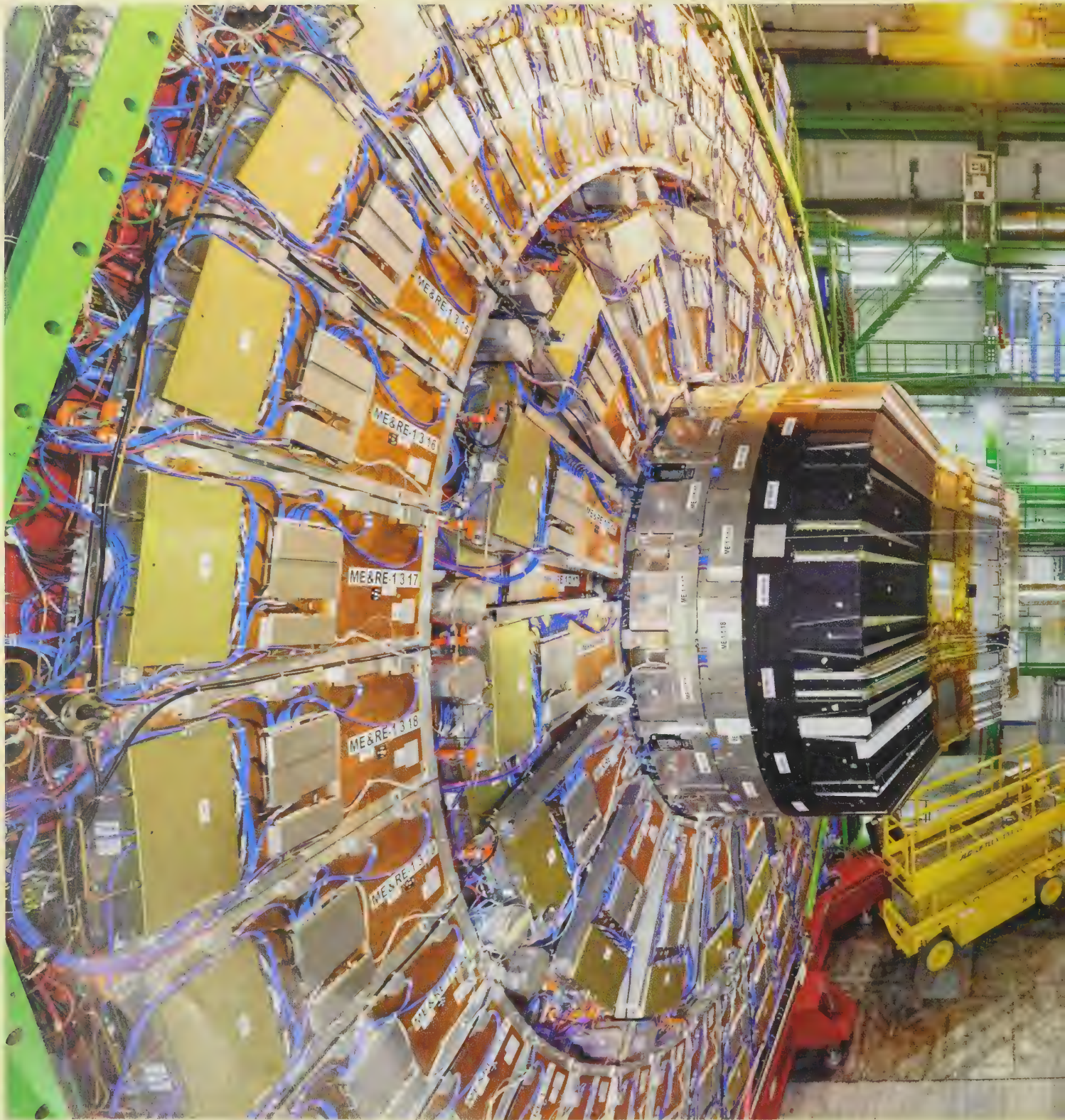
Tangier

99 Possessing a charismatic, flowing elegance, Lipton's exploration into formal calligraphy features exquisite detailing, a huge range of flourishes, and alternative letterforms for extra expression.

DAN RHATIGAN & IAN MOORE

Sodachrome

100 Sodachrome's innovative design features two misaligned, colored typefaces that overlap like a tight image to form a unique layered, multicolored slab serif.





SCIENCE & NATURE

All kinds of life are covered here—the beautiful and the ugly, the docile and the dangerous, the extinct and the endangered. Other entries take us into the bowels of the Earth, for the Top 100 minerals and gemstones, and into deep space for the wonders of the cosmos. Also featured are the people who've made the greatest additions to the sum of human knowledge—from Galileo Galilei to Stephen Hawking via Isaac Newton, Louis Pasteur, Marie Curie, Albert Einstein, and Jonas Salk.

◀ A section of CERN's Large Hadron Collider, the world's largest and most powerful particle accelerator.



c. 965–c. 1040

IBN AL-HAYTHAM (ALHAZEN)

1 Regarded as the first theoretical physicist, Alhazen was an Arab polymath. He made early discoveries in optics, mathematics, and astronomy. His most important work, *Book of Optics* (1021), influenced scientists in the Middle Ages and Renaissance.

900–1037

IBN SINA

2 A Persian physician and philosopher who is known in the West as Avicenna. His main works are a medical encyclopedia, *The Canon of Medicine* (1025), and *The Book of Healing* (1027), which discussed the nature of scientific inquiry and set out many influential theories in physics and astronomy.

NICOLAUS COPERNICUS

3 Copernicus developed the first modern theory of heliocentrism—that Earth and other planets orbit the Sun—which was eventually published just before his death in 1543 in *De revolutionibus orbium coelestium* (*On the Revolutions of the Celestial Spheres*). This was a controversial view and contradicted prevailing Catholic and Protestant doctrines. His work was a huge influence on Galileo Galilei, Isaac Newton, and many other leading scientists. The Copernican system is seen by many as a key moment in the scientific revolution.

TYCHO BRAHE

4 A Danish astronomer, Brahe built observatories with accurate astronomical instruments. In 1572 he discovered and described a nova, or new star, refuting Aristotle's then accepted notion regarding the impermanence of the stars.

100 SCIENTISTS

1561–1626

FRANCIS BACON

5 An English polymath, Bacon is credited with establishing and popularizing the modern scientific method in *New Instrument* (1620). He also forecast developments in science and technology in *New Atlantis* (1627); it and his other writings inspired the formation of the Royal Society in London.

GALILEO GALILEI

6 Italian mathematician, astronomer, engineer, physicist, and philosopher, Galileo made crucial contributions to the scientific revolution. He was one of the first to use telescopes and microscopes scientifically, and improved both instruments. His observations of the Moon's craters helped show celestial bodies are imperfect. Galileo overturned Aristotle's naive understanding of forces and motion, laying the foundation for the Newtonian Revolution. He set out plans for the pendulum clock. Galileo discovered the phases of Venus, giving support to Copernicus's heliocentrism. This support was controversial, and his *Dialogue Concerning the Two Chief World Systems* (1632) was on the Catholic Church's index of forbidden books until 1835.

JOHANNES KEPLER

7 German mathematician and astronomer Kepler accessed Tycho Brahe's detailed observations and used them to derive three fundamental laws of planetary motion. He published the first two—describing orbits as ellipses, and planets' speed increasing close to the Sun—in *Astronomia nova* (1609). Kepler's laws underpinned Isaac Newton's law of gravity. The founder of modern optics, he was the first to explain how telescopes work and improve on the design.

1578–1657

WILLIAM HARVEY

8 An English physician, Harvey proposed and found evidence of circulation of the blood, overturning anatomical dogma. He published his experiments and results in *Motion of the Heart and Blood In Animals* (1628).

1627–1691

ROBERT BOYLE

9 An Irish chemist and physicist, Boyle's *The Sceptical Chymist* (1661) laid the foundation of modern chemistry. He invented the vacuum pump and formulated the derived gas law known as Boyle's law. He was a founding member of the Royal Society in London.

1628–1694

MARCELLO MALPIGHI

10 The Italian physician, biologist, and microscopist was a pioneer of histology (anatomy under the microscope). He discovered capillaries and was the first to describe red blood cells.

1629–1695

CHRISTIAAN HUYGENS

11 Huygens was the first to derive a formula for motion of a pendulum and to build a pendulum clock. He founded modern probability theory, developed the wave theory of light, and discovered Saturn's rings and its moon Titan.

1632–1723

ANTONIE VAN LEEUWENHOEK

12 Dutchman Van Leeuwenhoek established microbiology. He used the highest magnification microscope of the time to become the first to observe and study bacteria, protozoa, and spermatozoa.

ROBERT HOOKE

Hooke was curator of experiments at London's Royal Society. He discovered a law of extension in solids—Hooke's law—in 1660 and wrote the first account of microscopy, *Micrographia* (1665). He argued with Isaac Newton over priority in understanding gravity.

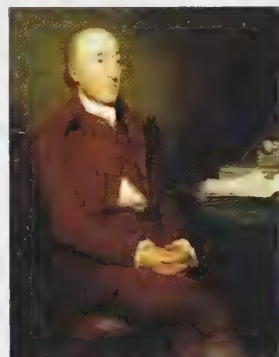
ISAAC NEWTON

Newton is one of the most important scientists in history. An English physicist and mathematician, he established the notion of the clockwork universe, unfolding according to strict laws. His major work *Mathematical Principles of Natural Philosophy* (1687) set out his Universal Theory of Gravitation and his three laws of motion, showing how forces and motion are the same everywhere, which revolutionized understanding of planetary orbits and tides. Newton's other major work, *Opticks* (1704), proved white light is a mixture of colors and promoted a particulate view of matter and light. Newton also built the first practical reflecting telescope and founded calculus, the mathematics of change, independently of Gottfried Leibniz.



ANDERS CELSIUS

Celsius was the first to measure the intensity of starlight and studied the aurora borealis. In 1742 he derived the temperature scale that bears his name, based on the freezing and boiling points of water.



CAROLUS LINNAEUS

A Swedish botanist and zoologist, he formulated the binomial classification of species, also known as Linnaean taxonomy.

JAMES HUTTON

Hutton developed a theory that features of the landscape are formed by simple processes, such as erosion, over extremely long periods of time. The theory became known as uniformitarianism and challenged the prevailing view, catastrophism, which posited a much younger Earth. He also proposed the rock cycle, correctly explaining the formation of igneous, sedimentary, and metamorphic rocks. His tireless geological expeditions uncovered convincing evidence of his theory in rock formations across his native Scotland.

JOSEPH BLACK

Black discovered magnesium and carbon dioxide, defined specific and latent heat, and invented an accurate chemical balance.

HENRY CAVENDISH

Cavendish carried out experiments to measure Earth's density, and discovered hydrogen in the reaction between metals and acids.

JOSEPH PRIESTLEY

Priestley was one of three to discover oxygen. He experimented with electricity and invented artificially carbonated (soda) water.

WILLIAM HERSCHEL

Herschel built the most powerful telescopes of the age, discovering Uranus in 1781 and infrared radiation in 1800. He attempted to discern the shape of the Milky Way by counting stars in different directions.

ANTOINE LAVOISIER

Often called the father of modern chemistry, Lavoisier established a correct theory of combustion through precise quantitative experiments, dismantling the phlogiston theory of burning. He developed a system of nomenclature (systematic naming) of chemical compounds in his *Elementary Treatise on Chemistry* (1789). He invented a calorimeter for measuring the heat involved in chemical reactions.

ALESSANDRO VOLTA

Volta disproved the theory that electricity could only be generated by living things. He discovered the electrochemical series—the electric potentials (voltages) produced by different combinations of different metals separated by cardboard soaked in brine. In 1799 he invented the battery, known as the voltaic pile. He also studied the chemistry of gases and discovered methane.

PIERRE-SIMON LAPLACE

24 De Laplace developed statistical methods for use in interpreting scientific experiments. He explained the stability of the planetary orbits and elaborated the modern theory explaining the formation of the solar system.

JOHN DALTON

25 A pioneer of modern atomic theory, English chemist Dalton was the first to attempt to work out the relative masses of different elements, and how atoms combine to make molecules, with his *Law of Multiple Proportions* (1803). Dalton conducted extensive studies of the atmosphere and made important contributions to meteorology, thanks to more than 200,000 weather observations. He studied evaporation, the behavior of gases, and developed Dalton's law of partial pressures, stating that the total pressure exerted by a mixture of gases is the sum of partial pressure of each individual gas present. Dalton also carried out early research into color blindness.



ANDRÉ-MARIE AMPÈRE

26 After Hans Christian Ørsted found that electric currents produce magnetism in 1820, Ampère laid down the fundamentals of electromagnetism. Ampère was the first to experiment with forces between two current-carrying wires and forces around current-carrying coils of wire. He formulated Ampère's law, relating electric current to magnetic forces. The unit of electric current, the ampere or amp, is named after him.

AMEDEO AVOGADRO

27 Italian scientist Avogadro made fundamental advances in the understanding of atoms, molecules, and gases. Avogadro's law of 1810 states that equal volumes of different gases, at the same temperature and pressure, contain the same number of particles. Avogadro's number—the number of units in one mole of any substance—is named after him but was not calculated by him.

CARL FRIEDRICH GAUSS

28 Gauss developed mathematical techniques fundamental in many aspects of science, and Gauss's law of electric fields.

HUMPHRY DAVY

29 A pioneer of electrochemistry, Davy used a voltaic pile to discover sodium, potassium, and calcium; he was first to isolate several other elements, too. He experimented with gases, suggested the use of nitrous oxide (laughing gas) as an anesthetic, and in 1802 was the first to produce light from electricity. He invented a miner's safety lamp, in which metal gauze enclosed the naked flame, preventing mine explosions.

JÖNS JACOB BERZELIUS

30 Berzelius discovered several elements, including thorium. He established the modern system of chemical notation and law of definite proportions.

GEORG OHM

31 Ohm is best known for Ohm's law, which is used to work out the relationship between current, potential difference (voltage), and resistance. The unit of electrical resistance, the ohm, is named after him.

MICHAEL FARADAY

32 An English physicist and chemist, Faraday created the first electric motor and first electric generator. He discovered electromagnetic induction—the process in which a changing magnetic field generates electric current—and was the first to visualize electric and magnetic fields as lines of force. In chemistry, Faraday discovered several compounds, including benzene, and derived the basic laws of electrolysis.



JUSTUS VON LIEBIG

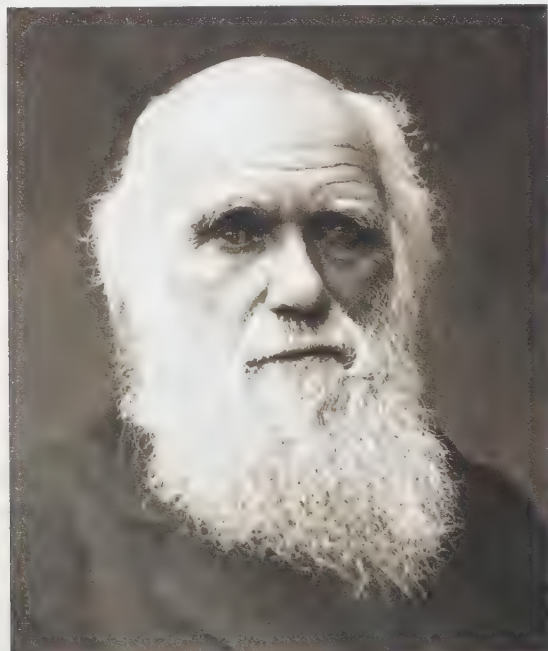
33 Von Liebig established many aspects of the modern chemical laboratory and practical chemistry teaching. He studied plant nutrition and pioneered the application of biology and chemistry in agriculture, developing nitrogen-based fertilizer.

LOUIS AGASSIZ

34 Agassiz made contributions to natural science with his work on glacial activity and extinct fishes. He was the first to suggest the phenomenon of ice ages. His *Research on Fossil Fish* (1833–43) inspired further study of extinct life.

CHARLES DARWIN

35 From 1831 to 1836, Darwin worked as a naturalist on board HMS *Beagle* during an expedition to South America. His observations, plus experiments at his home in Dorset, England, led him to his theory of evolution by natural selection, in which new species arise through small changes over long periods of time and the notion that all species have a common ancestor. He explained his theory in *On the Origin of Species* (1859), followed by *The Descent of Man* (1871), in which he hypothesized that humans originated from Africa.



ROBERT BUNSEN

36 In 1860, Bunsen used the burner he helped invent to identify caesium and then a year later, rubidium.

CLAUDE BERNARD

37 Bernard revealed the body's ability to maintain internal stability—later called homeostasis. He also advocated blind tests for clinical trials.

JAMES JOULE

38 Joule experimented to determine the equivalence of heat and mechanical work, helping to establish the law of conservation of energy. Similarly, he established how resistance in a circuit determines how much heat is produced when electric current flows. The unit of energy, the joule, is named after him.

GREGOR MENDEL

40 Mendel became a friar to access free education. In his monastery garden, he experimented with pea plants and identified the principles of heredity. Ignored in his lifetime, his work was rediscovered in 1900 and today forms the basis of modern genetics.

1822-95

LOUIS PASTEUR

41 Pasteur uncovered the role of bacteria in the spoiling of food, inventing the technique later called pasteurization. He championed the germ theory of disease and disproved the doctrine of spontaneous generation, which suggested that living things can arise from non-living matter.



RUDOLF VIRCHOW

39 Virchow is credited with first stating the modern cell theory and discovering the blood disease leukemia.

WILLIAM THOMSON, LORD KELVIN

42 An Irish physicist, Thomson formulated the first and second laws of thermodynamics and calculated the correct value of absolute zero.

JAMES CLERK MAXWELL

43 Maxwell derived equations that united the phenomena of electromagnetism, showed that light is an electromagnetic wave, and predicted the existence of radio waves. He developed a mathematical understanding of the behavior of gases. He demonstrated the first durable color photograph in 1861.

DMITRY MENDELEEV

44 Mendeleev discovered that chemical elements arranged by relative atomic mass fall into groups with similar properties. He then developed the periodic table of elements, which was later modified to use atomic number not mass.

ROBERT KOCH

45 Koch found the causative agents of cholera, tuberculosis, and anthrax. His research techniques inspired others.

WALTHER FLEMMING

46 A German biologist, Flemming initiated the use of synthetic dyes in cell biology. He made painstaking observations of the cell-division process, which he named mitosis. In 1879 he found the thin strands that appear during cell division—split in two, one in each daughter cell—later named chromosomes.

CAMILLO GOLGI

47 Italian biologist and physician Golgi developed nerve cell stain that allowed him to observe connections between cells in the brain. He discovered many anatomical structures, most notably the Golgi apparatus in 1897, an organelle inside cells.

LUDWIG BOLTZMANN

48 Boltzmann was an Austrian physicist who developed the science of statistical mechanics in the 1870s. Mechanics is the study of forces and motion, so statistical mechanics uses statistics to predict the behavior of matter in terms of the motions and collisions of countless tiny particles—atoms and molecules. For example, statistical mechanics predicted a range of speeds for particles in a gas. At the time, most physicists did not believe in the reality of atoms and molecules. Boltzmann's methods were convincing proof, although they remained controversial among other physicists for more than 20 years. In 1877 his mathematical approach helped define entropy, the randomness of the particles of matter, in terms of statistical mechanics. Entropy is a crucial component of the second law of thermodynamics. Boltzmann's equation for entropy is featured on his gravestone.



HENRI BECQUEREL

49 Becquerel was awarded the 1903 Nobel Prize in Physics for his discovery of radioactivity in 1896 while experimenting with phosphorescent uranium mineral. His experimentation showed the radiation was intrinsic to the substance. The becquerel unit of radioactivity is named after him.

WILLIAM RAMSAY

50 Ramsay discovered the first noble gas argon in 1894, and four years later, neon, krypton, and xenon. The Scottish physicist was also the first to isolate helium.

EMIL FISCHER

51 A German organic chemist, Fischer is most famous for his work on the chemistry of sugars, purines, and proteins.

SANTIAGO RAMÓN Y CAJAL

52 The Spanish pioneer of the histology of the nervous system, Ramón y Cajal established proof of the neuron doctrine.

1853–1926

HEIKE KAMERLINGH ONNES

53 Dutch physicist Kamerlingh Onnes was a pioneer of low-temperature research. He was the first to cool gases to near absolute zero, and the first to produce liquid helium. In 1911 he discovered superconductivity.

PAUL EHRLICH

54 Ehrlich found ways to distinguish between different types of blood cells, making the diagnosis of blood diseases easier. He also developed the first chemical medicines that could effectively target specific bacteria, specifically arsphenamine, the first treatment for syphilis. He won the 1908 Nobel Prize in Physiology or Medicine for significant advances in immunology.

1856–1940

JOSEPH JOHN THOMSON

55 Thomson experimented with cathode rays—beams emitted by negative electrodes in vacuum tubes. His research led to his discovering the electron in 1897. He worked out the charge-to-mass ratio of the electron. He won the 1906 Nobel Prize in Physics for the discovery and for advances in understanding the conduction of electricity in gases.

MAX PLANCK

56 Deriving an equation to describe the light and infrared radiation emitted by hot objects, Planck hit upon the idea of quantization—that fundamental quantities such as energy can only have certain allowed values. Quantization is the basis of quantum theory. He was awarded the 1918 Nobel Prize in Physics.

57 A Swedish pioneer in physical chemistry who modeled the greenhouse effect.

KARL LANDSTEINER

59 Landsteiner first distinguished the human ABO blood group system in 1901.

ERNEST RUTHERFORD

60 Rutherford won the 1908 Nobel Prize in Chemistry for his work with radioactivity. He discovered the atomic nucleus in 1909 and was first to suggest the basic structure of the atom.



ALFRED WEGENER

65 Wegener was the first to suggest continental drift—the movement of the continents that is the basis of plate tectonics—and that the continents were once joined as one supercontinent, Pangaea.

MARIE CURIE

58 Polish-born French physicist and chemist Curie pioneered research into radioactivity. Working in a makeshift laboratory in a shed at the University of Paris, with her husband, Pierre, she worked her way through tons of uranium ore, uncovering radioactive elements and making groundbreaking discoveries. She, her husband, and Henri Becquerel, discoverer of radioactivity, shared the 1903 Nobel Prize in Physics for their work. The only person ever to have won two Nobel Prizes in different sciences, she was awarded the 1911 Nobel Prize in Chemistry for discovering the radioactive elements polonium and radium, and for isolating and investigating radium.



ALBERT EINSTEIN

61 A German-born physicist, Einstein was one of the most influential scientists of the twentieth century. In 1905 he published four revolutionary scientific papers while working as a clerk at the Swiss Patent Office. One was on the photoelectric effect (light ejecting electrons from atoms); one on Brownian motion (the jiggling of small particles such as pollen grains as a result of collisions with molecules); one on special relativity (time and space are not absolute but depend upon relative motion); and one on the relationship between mass and energy, which included his famous equation $E=mc^2$. In 1915 he developed general relativity, the theory of gravity as warped space-time. He won the 1921 Nobel Prize in Physics for his explanation of the photoelectric effect.

MAX VON LAUE

62 A German physicist who won the 1914 Nobel Prize in Physics for discovering diffraction, or bending, of X-rays by atoms in crystals, which led to X-rays being used to determine crystal structure—X-ray crystallography.

WALTER RUDOLF HESS

64 A Swiss physiologist, he was awarded the 1949 Nobel Prize in Physiology or Medicine for mapping brain regions by function.

1882–1935

EMMY NOETHER

65 An important contributor to theoretical physics, Noether's theorem relates conservation laws to symmetries in physics.

NIELS BOHR

66 Danish physicist Bohr made fundamental advances in understanding atomic structure through the emerging science of quantum theory in the 1910s, and to quantum theory in general in the 1920s and 1930s. His theoretical model of the atom created in 1913 won him the 1922 Nobel Prize in Physics.

THOMAS HUNT MORGAN

67 US geneticist Morgan is famous for his groundbreaking research into the genetics of fruit flies, which established that mutation was important in evolution.

ERWIN SCHRÖDINGER

00 Austrian physicist Schrödinger established many basic features of quantum theory, notably the Schrödinger equation in 1925, which is a wave equation for predicting behavior of quantum systems such as subatomic particles, which behave as both waves and particles. He is known for his Schrödinger's Cat thought experiment in 1935, whereby a cat in a box whose survival is determined by a probabilistic system is both alive and dead at the same time, according to quantum theory.

EDWIN HUBBLE

69 US astronomer Edwin Hubble made fundamental discoveries in extragalactic astronomy, or the study of galaxies outside the Milky Way. In the Great Debate of 1920, astronomers had argued as to whether the Milky Way Galaxy was the entire universe. In 1924, Hubble settled the debate by determining the distance to individual stars in nebulae that are so far away, they are other galaxies. In 1929 he provided crucial evidence that the universe is expanding when he used redshift to determine the speeds of several galaxies, showing all are moving away, and the farther away a galaxy is, the faster it is receding.



FREDERICK BANTING & CHARLES BEST

70 Canadian doctor (Banting) and American physiologist (Best) were first to isolate and purify insulin from a dog's pancreas (1921). They gave the first insulin injection to a human (1922). Banting received the 1923 Nobel Prize in Physiology or Medicine, with Scottish scientist John Macleod. Outraged, Banting shared his prize money with Best.

JAMES CHADWICK

71 In 1932, Chadwick discovered the neutron, a subatomic particle, which had been theoretical until then. He was awarded the 1935 Nobel Prize in Physics.

LOUIS DE BROGLIE

72 This French physicist won the 1929 Nobel Prize in Physics for wave-particle duality: his suggestion that particles also act as waves, and vice versa.

HOWARD FLOREY & ERNST CHAIN

73 Australian pathologist Florey and German biochemist Chain were the first to test penicillin on humans and to find a way to mass-produce penicillin, which had been discovered by Scottish biologist Alexander Fleming in 1928.

HANS ADOLF KREBS

74 German-British biochemist Krebs studied complex chemical reactions inside living cells. He was awarded the Nobel Prize in Physiology or Medicine in 1953 for his discovery of the citric acid cycle in 1937, also known as the Krebs cycle, regarding the sequence of reactions that releases energy from carbohydrates.

ENRICO FERMI

75 Fermi won a Nobel Prize in Physics for bombarding atoms with neutrons. He built the first-ever nuclear reactor.

LINUS PAULING

77 This US chemist pioneered the modern understanding of bonds between atoms and won the Nobel Prize in Chemistry in 1954.

BARBARA MCCLINTOCK

78 A pioneering cytogeneticist, McClintock made advances in mapping regions of chromosomes, or strands of DNA. She identified the functions of centromere and telomere regions of chromosomes. She was awarded the 1983 Nobel Prize in Physiology or Medicine.

WERNER HEISENBERG

76 German physicist Heisenberg created quantum mechanics to describe the behavior of subatomic particles.

PAUL DIRAC

English physicist Dirac combined special relativity and quantum mechanics in his Dirac equation of 1928 and implied the existence of antimatter.

GEORGE GAMOW

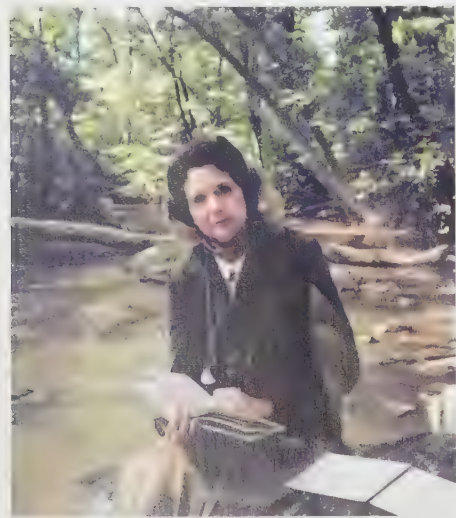
Gamow made important contributions to understanding alpha decay (a form of radioactivity), the formation of elements inside stars, and the Big Bang.

HANS BETHE

Theoretical physicist Bethe won the 1967 Nobel Prize in Physics for his work on the formation of elements in stars. He also made landmark advances in quantum theory.

RACHEL CARSON

She published her research into the harmful effects of pesticides on the environment in *Silent Spring* (1962)—the title refers to the lack of songbirds as a result of pesticides passing up the food chain. She was the subject of strong criticism by many in the chemical industry and credited with inspiring the modern environmental movement.



HIDEKI YUKAWA

A Japanese physicist, Yukawa became the first Japanese Nobel laureate, winning the physics prize in 1949 for predicting the existence of mesons—subatomic particles.

DOROTHY HODGKIN

A British biochemist, Hodgkin developed X-ray crystallography (using X-rays to determine the positions of atoms in crystals) for use with proteins. She used it to determine the molecular structure of penicillin and vitamin B12, for which she won the 1964 Nobel Prize in Chemistry. In 1969 she deciphered the structure of insulin.

LUIS ALVAREZ

Alvarez won the Nobel Prize in Physics in 1968 for discovering subatomic particles. He postulated that an asteroid impact made dinosaurs extinct.

JONAS SALK

In 1952, Salk made the first vaccine for polio, which at the time was one of the biggest medical challenges in the developed world, and set up a field test of more than 1.8 million children.



FRANCIS CRICK & JAMES WATSON

In 1953 molecular biologists Crick and Watson determined the molecular structure of DNA (deoxyribonucleic acid), the molecule that contains the hereditary information for cells. They discovered it was a double helix, like a twisted rope ladder, with sugar and phosphate molecules as the ropes and nucleobases as the rungs. They used X-ray crystallographs, taken by English chemist Rosalind Franklin, and built a test model of the structure using laboratory equipment, metal plates, and rods. Watson, Crick, and Franklin's colleague, Maurice Wilkins, were awarded the 1962 Nobel Prize in Physiology or Medicine. In the 1960s Crick played a crucial role in deciphering the genetic code regarding how the sequence of nucleobases determines the structure of proteins.

RICHARD FEYNMAN

Feynman made landmark contributions to quantum theory. He remade quantum electrodynamics and was a joint winner of the 1965 Nobel Prize in Physics. He invented Feynman diagrams that represent interactions between particles.

FREDERICK SANGER

English biochemist Sanger won the Nobel Prize in Chemistry twice: in 1958 for determining the amino acid sequence of insulin and in 1980 for pioneering DNA sequencing.

b. 1918-47

GERTRUDE B. ELION

90 US biochemist Elion developed many groundbreaking medicines, including one of the first antiviral drugs, acyclovir, a treatment for herpes. She shared the 1988 Nobel Prize in Physiology or Medicine with US pharmacologist George H. Hitchings and Scottish pharmacologist James W. Black.

b. 1920-86

ROSALIND FRANKLIN

91 English chemist and X-ray crystallographer Franklin determined the molecular structures of coal, graphite, viruses, RNA, and DNA. Under her supervision, student Raymond Gosling took Photo 51, an X-ray crystallograph of DNA molecules. The photograph provided direct evidence of the molecule's helical structure, providing Francis Crick and James Watson with the information they needed to work out DNA's double-helix structure.



b. 1929

EDWARD O. WILSON

92 US biologist Wilson carried out pioneering research into social behavior and uncovered pheromone-driven behaviors in ant colonies.

b. 1929

MURRAY GELL-MANN

93 Gell-Mann won the 1969 Nobel Prize in Physics for his advances in the physics of subatomic particles, including quarks, a name he coined.

b. 1929

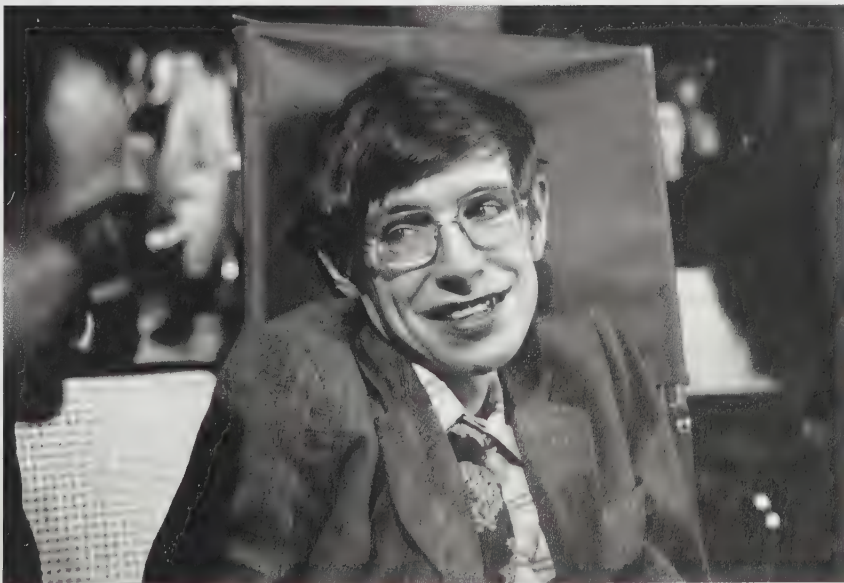
PETER HIGGS

94 Higgs won the 2013 Nobel Prize in Physics after his proposal for a mechanism that gives mass to fundamental particles, and its associated particle the Higgs boson, were proved correct.

b. 1942

STEPHEN HAWKING

97 English physicist Hawking has made many landmark contributions to relativity and quantum theory, despite suffering from a form of motor neuron disease, which has increasingly restricted his movement and speech since the disease was diagnosed in 1963, when he was 21. His early research focused on singularities: infinitely dense, infinitesimally small regions of space, which must lie at the center of black holes, and might have been present at the beginning of the universe. In the 1970s he combined that research with quantum theory, predicting that black holes would actually shrink, as they must emit a stream of particles, called Hawking radiation, at their surface (the event horizon). His popular account of the physics of cosmology, *A Brief History of Time* (1988), was a best seller worldwide.



b. 1932

SHELDON GLASHOW

95 Glashow shared the 1979 Nobel Prize in Physics for finding a way to combine two fundamental forces: the electromagnetic force and the weak force.

b. 1928

LYNN MARGULIS

96 US biologist Margulis's endosymbiotic theory of eukaryotic cell development revolutionized ideas regarding how life arose on Earth.

b. 1938

J. CRAIG VENTER

98 Venter was heavily involved in the Human Genome Project. He led a team that manufactured a bacterium genome (complete DNA sequence) and implanted it into a cell, creating the first synthetic life in 2010.

b. 1957

ALAN GUTH

99 Guth pioneered cosmic inflation theory, which explains the rapid expansion of space in the early universe.

b. 1951

EDWARD WITTEN

100 US physicist Witten found a way to unify separate string theories into the M-theory, a promising candidate for a grand unified theory that would explain all of physics.



EARLY EXPERIMENTS WITH MAGNETS

1 The first recorded experimentation with magnets was in the ancient Greek city of Magnesia, where naturally magnetic iron ore, called lodestone, was plentiful.

OPTICS: UNDERSTANDING MIRRORS & LENSES

2 Ancient Greek philosophers experimented with mirrors, but Arabic scholars in the tenth century were first to understand how they work.

HELIOCENTRICITY

3 Several ancient astronomers suggested that Earth and other planets revolve around the Sun, but the prevailing view was Earth was at the center. In 1543, Nicolaus Copernicus produced evidence for heliocentricity in his book *De revolutionibus orbium coelestium* (*On the Revolutions of the Celestial Spheres*), which began to change opinion across Europe.

ACCURATE HUMAN ANATOMY

4 Andreas Vesalius's *On the Fabric of the Human Body* challenged anatomical orthodoxy, rectified ancient Roman anatomist Galen's errors, and encouraged doctors to carry out dissections of human bodies.

100 SCIENTIFIC BREAKTHROUGHS

EARLY EXPERIMENTS WITH STATIC ELECTRICITY

5 English scientist William Gilbert published details of his pioneering experiments with magnetism and static electricity produced by rubbing fur with amber.

THE SHAPE OF PLANETARY ORBITS

6 Nicolaus Copernicus thought planets orbited the Sun in circles at constant speeds; Johannes Kepler realized that planets' orbits must be ellipses, with planets slowing down when farther from the Sun. His calculations matched planets' observed movements, proved heliocentrism correct, and led Isaac Newton to realize the force keeping planets in orbit is gravity.

MODERN SCIENTIFIC METHOD

7 Ancient Greek philosophers explained phenomena with observation and deduction. Many of their conclusions were wrong. Arab scholars in the Middle Ages added to and altered Greek knowledge, through systematic questioning and experimentation. But many consider the beginning of modern science proper as the publication of Francis Bacon's *New Instrument* in 1620, which stressed the importance of testing hypotheses and formulating theories. The book inspired many to reject ancient knowledge, and scientific progress picked up pace.

CIRCULATION OF THE BLOOD

8 The dominant view was that the liver made blood for veins, and the heart made blood for arteries. William Harvey's experiments proved blood circulates. Others had come to similar conclusions, including several Arab scholars, but Harvey had solid proof.

UNDERSTANDING OF ATMOSPHERIC PRESSURE

9 Blaise Pascal tested atmospheric pressure with a barometer at different altitudes. The barometer was invented by Evangelista Torricelli in 1643.

WHITE LIGHT SPECTRUM

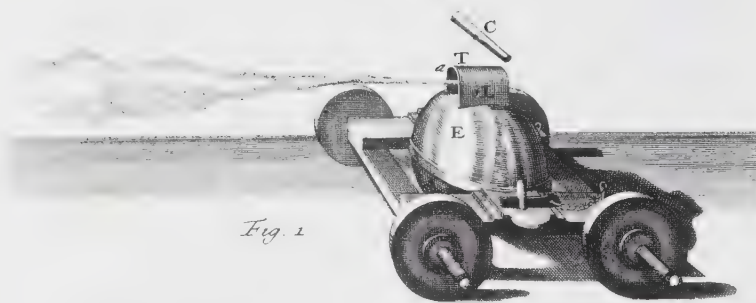
10 Scientists supposed that the colors produced by a prism were added by the glass. Isaac Newton proved that the colors are in white light, and a prism separates them.

DISCOVERY OF MICROORGANISMS

11 Antonie van Leeuwenhoek made the most powerful microscopes of the age. He observed single-celled organisms, now called protozoa. In 1683, he observed even smaller single-celled organisms: bacteria.

MEASUREMENT OF THE SPEED OF LIGHT

12 No one was sure if the speed of light was infinite or just very high until Ole Rømer used a clever method involving Jupiter's moons and came within 25 percent of actual value.



NEWTON'S LAWS OF MOTION

Published in his *Mathematical Principles*, Isaac Newton's three mathematical laws of motion had profound effects on science, engineering, and philosophy, provided explanations for many phenomena, and led to mechanistic interpretations of various phenomena. The first and second laws state that force is needed to change an object's motion and that when a force acts, the change in motion is equal to force divided by the object's mass. The third law states that forces occur in pairs: action and reaction.

UNIVERSAL THEORY OF GRAVITATION

In *Mathematical Principles*, Isaac Newton laid out his law of gravity. Like his second law of motion, it was a law that could be expressed as a mathematical equation that could predict how things behave under influence of gravity. When applied to the Moon and planets, the law perfectly predicted elliptical orbits, as observed. A triumph for Newton and for science.

KINETIC THEORY OF GASES

Daniel Bernoulli used math to show the pressure of gas as collisions of countless tiny, fast-moving particles, giving evidence of the particle theory of matter.

CLINICAL TRIALS

After a suggestion that citrus fruit can prevent scurvy on long sea voyages, James Lind conducted the first controlled trial, dividing sailors into groups, with different diets.

BINOMIAL CLASSIFICATION

Carolus Linnaeus's simple system classifying each species with two names: one for the group, or genus, and one for the species. For example, in 1758 he coined "*Homo sapiens*."

DISCOVERY OF HYDROGEN

Hydrogen was discovered by Henry Cavendish, who called it "inflammable air."

DISCOVERY OF OXYGEN

Discovered by heating mercury oxide. First described as "dephlogisticated air."

DISCOVERY OF PHOTOSYNTHESIS

After the discovery of oxygen, Jan Ingenhousz's experiments showed that the gas is produced only where light falls on plants, able to revive a suffocating mouse with an illuminated plant. The full details of the process were not elucidated until the 1940s.

THE SHAPE OF THE MILKY WAY

William Herschel was the first to try working out the galaxy's shape by counting stars.

SMALLPOX VACCINE

Edward Jenner adapted an existing technique in a daring experiment.

ATOMIC THEORY

John Dalton published *A New System of Chemical Philosophy*, which contained the first modern theory of atoms. The idea that all matter is made of tiny indivisible particles dates to at least 2,500 years ago, but was not widely accepted until the end of the nineteenth century. Dalton applied it to chemistry, and realized that it could explain why substances combine in simple proportions in chemical reactions—for example, the mass of iron sulfide is always 64 percent iron, 36 percent sulfur. All the atoms of a given chemical element have the same mass, and during a reaction, atoms combine, separate, or rearrange.

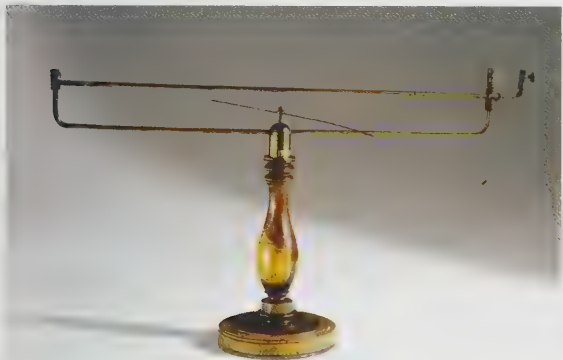
ELEMENTS

| | | | |
|------------|----|-----------|-----|
| Hydrogen | 1 | Strontian | 46 |
| Azote | 5 | Barytes | 68 |
| Carbon | 5 | Iron | 50 |
| Oxygen | 7 | Zinc | 56 |
| Phosphorus | 9 | Copper | 56 |
| Sulphur | 13 | Lead | 90 |
| Magnesia | 20 | Silver | 190 |
| Lime | 24 | Gold | 190 |
| Soda | 28 | Platina | 190 |
| Potash | 42 | Mercury | 167 |

1806

CHEMICAL BONDS

24 Humphry Davy passed electric current from a battery through salt solution (sodium chloride), discovered the element sodium, and surmised that bonds between atoms are electrical in nature.



1820

ELECTROMAGNETISM

25 While preparing for a lecture on electricity, Hans Christian Ørsted noticed that electric current in a wire caused a compass needle to deflect. Other scientists quickly investigated, leading to the invention of motors, generators, and electromagnets, and to the realization that light is an electromagnetic phenomenon and the production of radio waves.

1828

SYNTHESIS OF UREA

26 Most scientists believed that organic compounds, such as urea, could only be produced by living things—until Friedrich Wöhler made urea, an organic compound, from ordinary, inorganic ingredients.



CONSERVATION OF ENERGY

31 James Joule conducted an experiment that demonstrated the heat produced by falling weights was always in proportion to the amount of work done by the falling weights, and led the way for realization that the amount of energy could be tracked, and could never be destroyed or made. Previously, light, sound, heat, electricity, and magnetism were considered separate forces of nature, typically as fluids that could flow from one object to another.

ELECTROMAGNETIC INDUCTION

27 Michael Faraday discovered how changing magnetic fields create electromotive force that produces electric currents in wires.

DISCOVERY OF ICE AGES

28 Louis Agassiz studied the effects of glaciers on landscapes and studied extinct animals. He realized that long ago, continents were under thick ice.

MEASUREMENT OF THE DISTANCE TO A STAR

29 Positions of nearby stars shift relative to the more distant ones, as Earth moves around in orbit. Friedrich Bessel used this parallax to estimate the distance to a star.

ANESTHESIA

30 William E. Clarke administered ether before the removal of a tooth, and Crawford Long gave a patient ether for the removal of a tumor.

DOPPLER EFFECT

32 Tests with sound and light confirmed Christian Doppler's proposal of 1842 that the frequency of waves would change as its source moves toward or away from an observer.

GERM THEORY OF DISEASE

33 Prevailing theory was that infectious diseases were caused by noxious air from filth or decay. Several scientists began to realize the role of microorganisms—notably Ignaz Semmelweis and John Snow in the 1840s and 1850s. Experiments by Louis Pasteur in the 1860s confirmed it.

CELL THEORY

34 Rudolf Virchow (pictured) added the final piece to cell theory: that all cells arise from preexisting cells. He had gathered the ideas and observations of several other biologists, notably Matthias Schleiden and Theodor Schwann, who noted that plants and animals (respectively) are composed of cells.



THEORY OF EVOLUTION

Charles Darwin published his theory of evolution by natural selection in his book *On the Origin of Species*, based on his own experiments, and observations of variety among living things he encountered on a five-year expedition to South America. He suggested that mutations (variations) are introduced into organisms when they reproduce; mutations that confer advantage in a particular environment are most likely to be passed on to later generations. Mutations accumulate over time, to give rise to new species. He realized that modern species have common ancestors.



SPECTROSCOPY

Robert Bunsen and Gustav Kirchhoff

made an instrument that created detailed spectra of the colors produced by metals in a flame. They found that each element's spectrum had a characteristic set of bright lines, enabling it to be identified.

SYNTHESIS OF ASPIRIN

Hermann von Gilm prepared a pure sample of acetylsalicylic acid (aspirin) by reacting salicylic acid with acetyl chloride. Industrial synthesis began in the 1890s.

ELECTROMAGNETIC RADIATION

When James Clerk Maxwell combined his four equations of electromagnetism into one single formula, the result was a wave equation: the same mathematical description as for a water wave. The formula contained a speed, which matched the measured speed of light—and the conclusion was inescapable: light is an electromagnetic wave.

DISCOVERY OF CHROMOSOMES

While observing cell division, or mitosis, Walther Flemming noted these structures, later understood as carrying genes.

TRANSPLANT SURGERY

Thanks to improvements in surgical procedures, Theodor Kocher carried out the first modern organ transplant, of a thyroid.

PHOTOELECTRIC EFFECT

Heinrich Hertz noted how electromagnetic waves could cause electricity to jump across a gap.

RADIO WAVES

Heinrich Hertz produced electromagnetic waves using an electrical spark jumping across a gap. Hertz measured the properties of the waves, which had a variety of frequencies, all in what became called the radio spectrum.

Experiments with pea plants led Gregor Mendel to find that each individual inherits two copies of a factor for each characteristic, and one dominates. His work was rediscovered in 1900 and factors were renamed as genes.

UNDERSTANDING OF ENTROPY

Rudolf Clausius proposed the concept of entropy. When energy is transferred, some is lost as heat, and entropy increases. In 1877, statistical mechanics developed by Ludwig Boltzmann gave it firm mathematical footing.

PERIODIC TABLE

Dmitry Mendeleev noticed that when he arranged the known chemical elements in order of atomic weight, various properties recurred at definite intervals, or periodically. This enabled him to arrange the elements in a table. Elements with similar properties fell into groups in the table. Mendeleev's table had gaps but he (correctly) predicted new elements would be discovered to fill them.

Handwritten periodic table of elements, showing various chemical symbols and names in French and Russian. The table is organized into groups and periods, with elements like H, He, Li, Be, B, C, N, O, F, Ne, Na, Mg, Al, Si, P, S, Cl, Ar, K, Ca, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, As, Se, Br, Kr, Rb, Sr, Y, Zr, Nb, Mo, Tc, Ru, Rh, Pd, Ag, Cd, In, Sn, Sb, Te, I, Xe, Ba, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, Ta, W, Re, Os, Ir, Pt, Au, Hg, Tl, Pb, Bi, Po, At, Rn, Fr, Ra, Ac, Th, Pa, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, Lr, and many others.

46 Dmitry Ivanovsky filtered bacteria from extracts of a diseased plant. The extract stayed infectious. He surmised smaller disease-causing agents exist: viruses.

DISCOVERY OF X-RAYS

47 Experimenting with cathode-ray tubes, Wilhelm Röntgen noticed that a fluorescent screen nearby would glow even when the tube was covered with black paper.

RADIOACTIVITY

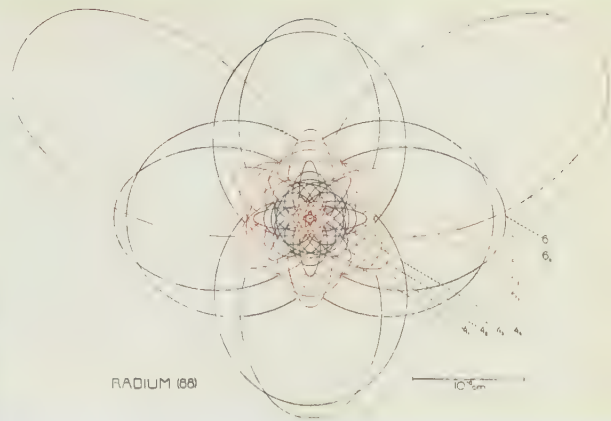
48 Henri Becquerel was experimenting with phosphorescent minerals, to see if they produce X-rays as well as light—since X-rays were associated with a glow inside cathode-ray tubes. He wrapped photographic plates in black paper, to block the light but not the X-rays. All failed—except a uranium compound, which even produced invisible rays when not exposed to light. Radioactivity was a crucial discovery for understanding the structure of the atom.

DISCOVERY OF GLOBAL WARMING

49 Svante Arrhenius was the first to suggest that burning fossil fuels was leading to a rise in the average temperature of our planet. The mechanism behind global warming, in which carbon dioxide absorbs infrared radiation, had been known since the 1820s.

DISCOVERY OF THE ELECTRON

50 Investigating the rays emanating from the negative electrode of a cathode-ray tube, J. J. Thomson proved that the rays are made of countless, negatively charged tiny particles smaller than an atom. Thomson had discovered the first-known subatomic particle.



QUANTUM THEORY

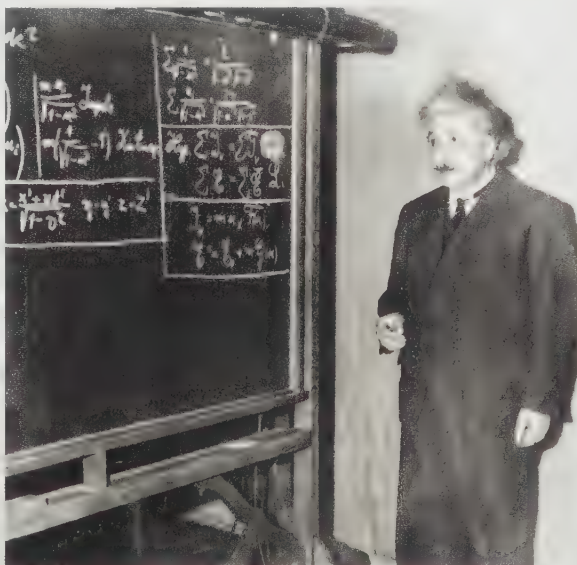
51 Theories explaining how hot objects emit radiation could not be made to match reality. Max Planck suggested that energy can only have certain values: it is quantized like steps, not continuous like a ramp. Without quantum theory, scientists would not understand the structure of the atom.

DISCOVERY OF BLOOD GROUPS

52 Karl Landsteiner discovered factors in blood that can cause blood cells to clump together, causing life-threatening clots. He worked out there are three types, which explained why some transfusions killed patients, while others saved their lives.

SPECIAL RELATIVITY

53 Albert Einstein published his special theory of relativity in *On the Electrodynamics of Moving Bodies*. He proposed solutions to problems that had plagued physicists, as a result of the fact that the speed of light must be absolute: any two observers must measure it the same, even if they are in relative motion. There are no absolutes apart from the speed of light: observers moving relative to each other will measure the same intervals of time and space differently.



DISCOVERY OF VITAMINS

54 Umetaro Suzuki isolated a compound from rice bran, later identified as vitamin B1. In 1912, Casimir Funk named the nitrogen-rich (aminated) compound vitamin.

SUPERCONDUCTIVITY

55 While studying mercury metal, cooled to a few degrees above absolute zero, Heike Kamerlingh Onnes discovered its electrical resistance disappeared.

X-RAY CRYSTALLOGRAPHY

56 Father and son William Henry and William Lawrence Bragg were the first to map positions of atoms in crystals using X-rays.

DISCOVERY OF HYDROGEN BONDING

57 Some molecules containing hydrogen have an unequal distribution of electric charges, which results in some parts of the molecule being slightly positively charged, and others slightly negative. The resulting forces between molecules explains the strange behavior of water.



GENERAL RELATIVITY

59 Albert Einstein's general relativity predicts the behavior of objects that are accelerating (changing the motion) and are under the influence of gravity. It made use of a concept that emerged in 1907: time is a dimension, like the three space dimensions, and all four are interwoven into space-time. Gravity is caused by the curvature of space-time by any objects that have mass. The more the mass, the greater the curvature. The theory was tested during a solar eclipse in 1919.

DISCOVERY OF THE PROTON

58 Physicists realized that nuclei of hydrogen atoms, with the same positive electric charge as the electron has negative, were particles in their own right.

ATOMIC STRUCTURE

60 Niels Bohr had suggested electrons could only orbit in certain orbits, each with a different level of energy. In the 1920s, Bohr and others developed quantum mechanics, which described the structure of electron levels in great detail but revealed the strangeness of the quantum world.

DISCOVERY OF INSULIN

61 Frederick Banting and Charles Best discovered insulin in an extract of a dog's pancreas. In 1922, they conducted tests on humans. By 1924, large quantities were being made.

UNCERTAINTY PRINCIPLE

62 Werner Heisenberg proposed his uncertainty principle: if you know a particle's exact position, you cannot know its speed, and vice versa. A consequence of the fact that particles behave as waves, it is essential to understand radioactive decay.

PENICILLIN

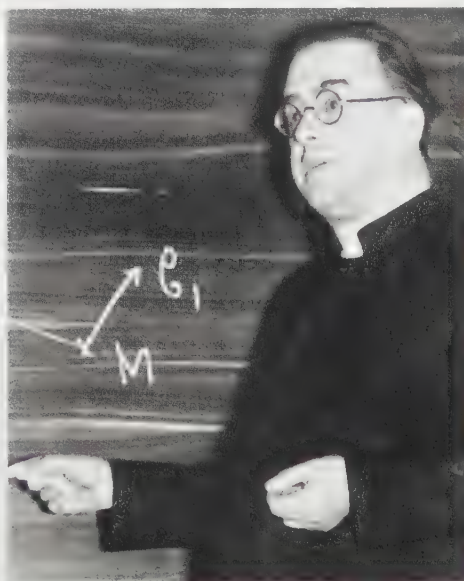
63 This antibiotic compound produced by a fungus was discovered by Alexander Fleming. Howard Florey and Ernst Chain found a way to manufacture it.

ANTIMATTER

64 Combining quantum theory with special relativity led Paul Dirac to discover antimatter in theory. The first antiparticle was the positron, found in 1932.

EXPANSION OF THE UNIVERSE

65 Observations made during the 1920s, by Edwin Hubble and Vesto Slipher, showed that galaxies are hurtling away in all directions at tremendous speeds. In 1927, Georges Lemaître (pictured) used general relativity to suggest that the universe—space itself—is expanding. Two years later, Hubble discovered that the farther away a galaxy, the faster it is receding. Hubble's law, as this relationship is called, provided convincing evidence that space is indeed expanding.



THE BIG BANG THEORY

66 Georges Lemaître supposed that an expanding universe might have started as a tiny object. He called it the "primeval atom."

DISCOVERY OF THE NEUTRON

67 Ernest Rutherford suggested the neutron in 1920. James Chadwick's discovery of the particle completed the picture of the atom.

UNDERSTANDING OF ECOLOGICAL SYSTEMS

68 After studying the interaction between living things and their environment, tracing the flow of energy and resources, Arthur Tansley coined the term "ecosystem."



KREBS CYCLE

69 Inside living cells, a series of complex chemical reactions is involved in extracting energy from energy-rich molecules in food—the reactions that keep animals and plants alive. Albert Szent-Györgyi determined most of the steps but Hans Adolf Krebs put the whole sequence together.

NUCLEAR FISSION

70 When Otto Hahn and Fritz Strassmann bombarded uranium with neutrons, they produced lighter elements, not the heavier elements they expected. Lise Meitner correctly interpreted the result as a splitting, or fission, of the uranium nucleus into smaller fragments. In 1942, Enrico Fermi constructed the first nuclear reactor, in a squash court in Chicago.

WORK IN NUCLEAR PHYSICS

71 Stars burn because of energy released when hydrogen nuclei (protons) join, or fuse, to make helium nuclei. In 1937, George Gamow and Carl von Weizsäcker worked out one of the series of steps by which this occurs, and in 1939, Hans Bethe worked out the other.

RADIOMETRIC DATING

72 There are several different methods of using radioactivity to date old objects. First was radiocarbon dating, invented by Willard Libby and tested on ancient Egyptian kings.

UNDERSTANDING SINGLE GENE DEFECTS

73 Linus Pauling's research on sickle-cell anemia proposed a mechanism by which different versions of the same gene make different versions of the same protein—in this case, hemoglobin.

NUCLEAR FUSION

74 Controlled nuclear fusion holds a promise of near limitless energy production. The first time it was instigated was in a test for a hydrogen bomb. A fission bomb raised the temperature of isotopes of hydrogen high enough for fusion to begin.

POLIO VACCINE

75 Polio, a viral disease that mostly affects children and still has no cure, took hold in the United States in the 1940s. Jonas Salk headed an intensive effort, using cutting-edge science, and developed a vaccine that prevents it.



STRUCTURE OF DNA

76 DNA (deoxyribonucleic acid) carries genetic inheritance. James Watson (pictured) and Francis Crick worked out the double-helix structure of its molecules, in one of the most remarkable and thought-provoking advances in all of science.

MILLER-UREY EXPERIMENT

77 In an effort to work out how life on Earth began, Stanley Miller and Harold Urey mixed inorganic compounds present on early Earth. After several days, essential organic compounds had formed.

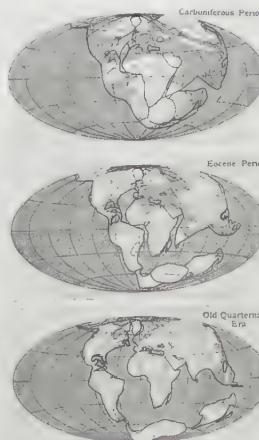


PLATE TECTONICS

78 Extensive seafloor mapping led Harry H. Hess to revive Arthur Holmes's idea that Earth's crust is fractured into pieces, moving around on convection currents in the molten rock below. It is a unifying Earth science theory, explaining volcanoes and earthquakes.

GREEN REVOLUTION

79 Pitting advances in genetics against the problem of feeding a rapidly growing global population, Norman Borlaug developed strains of wheat that were shorter, so less prone to damage with more of the energy in the grains. This averted famines in several countries. Borlaug is said to have saved a billion people from starvation.

DISCOVERY OF THE COSMIC BACKGROUND RADIATION

80 Big Bang theory had emerged as the favorite explanation for the origin of the universe, but lacked proof. It predicted that the hot early universe produced high-energy radiation—but as the universe expanded and cooled, the radiation would have stretched to a longer wavelength, corresponding to cooler temperature. That radiation should be everywhere. Arno Penzias and Robert Woodrow Wilson found the radiation, by chance, as a radio signal coming from everywhere in space.



THE STANDARD MODEL OF PARTICLE PHYSICS

81 This is the most robust theory of particles and their interactions. Physicists organized the particles detected and produced in particle accelerators into families with similar properties. There are two main types of particle: bosons, which are related to force fields, and fermions, which are related to matter fields. The theory predicted particles that have since been discovered.

ENDOSYMBIOSIS THEORY

82 Lynn Margulis found evidence that important features of plant and animal cells were free-living bacteria millions of years ago that were assimilated.

INTERPLANETARY SPACE PROBES

83 After sending many craft and even people to the Moon, spaceflight engineers and scientists turned their attention to the planets.

BLACK HOLES

84 These were studied theoretically with the general theory of relativity, and became a reality when observed using an X-ray telescope in 1970.

DISCOVERY OF ONCOGENES

85 J. Michael Bishop and Harold Varmus discovered the first of many genes susceptible to becoming disrupted and causing cells to become cancerous.

GENETIC ENGINEERING

86 Herbert Boyer and Stanley Cohen removed genes (sections of DNA) from one bacterium's genomes and spliced them into the genome of another, creating the world's first transgenic organism. Since then, genetic engineering has been used to create animals that produce medicines, and crops that are resistant to certain pests.

HUMAN IVF

87 A human being was born who had been conceived outside a woman's body, thanks to in vitro fertilization (IVF) developed by Robert Edwards and Patrick Steptoe.

ERADICATION OF SMALLPOX

88 The World Health Organization declared that smallpox had been eradicated after a global immunization campaign.



COSMIC INFLATION

89 Cosmologists had struggled to explain why the cosmic background is so similar in every direction, and why space-time is so flat; Alan Guth devised cosmic inflation as a refinement of Big Bang theory. According to the theory, the universe expanded exponentially, for a tiny fraction of a second, just after the moment it was first created.

SCANNING TUNNELING MICROSCOPE

90 This device invented by Gerd Binnig and Heinrich Rohrer enabled individual atoms to be imaged for the first time.

1983

DISCOVERY OF HOMEBOX GENETIC SEQUENCES

91 Two teams of scientists independently discovered a DNA sequence that occurs like a motif in certain genes that control development of body shape.

1954

DNA FINGERPRINTING

92 Alec Jeffreys's method of matching DNA to an individual has revolutionized forensics and paternity testing, and has many scientific applications.

1985

POLYMERASE CHAIN REACTION (PCR)

93 Kary Mullis's invention of PCR makes millions of copies of DNA sequences from a small sample, aiding genetic research.

2012

DISCOVERY OF THE HIGGS BOSON

100 First hypothesized in 1964 by several physicists, notably Peter Higgs, the Higgs field is the mechanism that endows fundamental particles (those not composed of other particles) with mass. It is a crucial part of the Standard Model of particle physics. Proof of the existence of the Higgs field came with the production of the Higgs boson, the particle associated with the field. The Higgs boson was produced and detected by physicists at CERN's Large Hadron Collider in Geneva.

DISCOVERY OF EXTRASOLAR PLANETS

94 Long assumed to be commonplace, the first planet orbiting a star outside our solar system was found in 1989. Hundreds have been discovered since then.

PRODUCTION OF A BOSE-EINSTEIN CONDENSATE

95 A form of matter predicted in the 1920s in which many atoms, cooled to near absolute zero, behave as a single particle.

HUMAN STEM CELLS

97 Stem cells can develop into any other kind of cell, and hold promise for medical interventions, such as curing degenerative diseases. James Thomson found a way to grow human embryonic stem cells.

SEQUENCING OF THE HUMAN GENOME

98 The human genome—the entirety of the DNA in a human being—is about three billion base pairs long. Base pairs are the building blocks of the genetic code. The task of determining the sequence of base pairs was completed after a international effort lasting ten years: the Human Genome Project.



ARTIFICIAL CLONING

96 A clone is an organism that has the same genome as another organism. Dolly the sheep, born in 1996, was the first mammal cloned with DNA from an adult. The embryo that became Dolly was created by inserting into an egg cell DNA from a cell that came from the udder of an adult sheep.

SYNTHETIC LIFE

101 A team headed by J. Craig Venter manufactured a bacterial genome, building up a sequence of DNA and implanted it into a bacterial cell whose DNA had been removed, creating a new life form, *Mycoplasma laboratorium*.



12TH CENTURY.

1 2 3 4 5 6 7 8 9 0

GOTHIC.

I II III IV V VI VII VIII IX X

14TH CENTURY.

1 2 3 4 5 6 7 8 9 0

1470.

1 2 3 4 5 6 7 8 9 0

15TH CENTURY.

1 2 3 4 5 6 7 8 9

NUMBERS

1 The earliest records of the use of numbers are sets of tally marks scored into bones. Examples have been found in both Europe and Africa, dating to between 25,000 and 35,000 years ago.

PLACE VALUE SYSTEM

2 In ancient Egypt, symbols were devised to represent 10, 100, and so on. The place value system made writing down large numbers much more practical: for example, 124 could be written with 7 symbols (1 hundred, 2 tens, and 4 units) instead of 124 individual marks. It also simplified the processes of arithmetic.

SEXAGESIMAL NUMBER SYSTEM

3 This ancient Babylonian place value number system was based on the number 60 and used symbols for tens and units. The sexagesimal number system is still used for measuring angles and time.

100 MATHEMATICAL & COMPUTING DISCOVERIES

ABACUS

4 The ancient Babylonians were the first to use an abacus, or counting frame. Early versions were just stones on a wooden board.

SOLVING QUADRATIC EQUATIONS

5 Babylonian clay tablets show methods of solving quadratic formulas: equations involving squared numbers.

STANDARD MEASUREMENT

6 Several ancient civilizations devised standard units. The cubit in ancient Egypt was based on the length of the forearm.

CRYPTOGRAPHY

9 Mesopotamian clay tablets reveal the earliest coding scheme, for keeping secret a recipe for a pottery glaze.

ZERO

11 The first known symbol for zero was used to represent the ground level in building projects in ancient Egypt. The real power of zero is revealed when it is used in a place value system. Ancient Babylonians left a space in their place value system, and by 300 BCE, were using a dedicated symbol.

PI (π)

7 The ratio of the circumference to the diameter of a circle was calculated to within 1 percent of the true figure in ancient Egypt.

PYTHAGOREAN THEOREM

8 Evidence of early use of the theorem has been found on clay tablets and papyri in Mesopotamia, hundreds of years before Greek mathematician Pythagoras championed it.

SQUARE ROOT

10 Ancient Babylonian clay tablets include the symbol for square root (a number that produces a specified number when it is multiplied by itself.)

BABYLONIAN ALGORITHM

12 An algorithm is broken down into a sequence of steps. One of the first was a simple way of working out square roots.

FRACTIONS

13 Ancient Egyptians were the first to write down fractional numbers, always with a 1 as the numerator.

ROMAN NUMERALS

14 Roman numerals date from the beginning of the Roman Empire, but little is known of their invention.

IRRATIONAL NUMBERS

15 Numbers that cannot be expressed as a ratio have confounded mathematicians, including Pythagoras.

ZENO'S PARADOXES

16 Greek philosopher Zeno devised several mind-bending paradoxes on the nature of space and time.

INFINITY

17 Although several mathematicians had considered the idea that there is no largest number, Zeno was the first to grapple with the concept of infinity.

PLATONIC SOLIDS

18 Plato's five perfect shapes (octahedron, tetrahedron, icosahedron, cube, dodecahedron) have inspired mathematicians.

LOGIC

19 The first formal examination of logic by Aristotle centered on syllogism: the relationship between premises and conclusions as a method of discovering truths.

CONIC SECTIONS

20 First studied by Apollonius of Perga, cutting a cone at various angles results in a set of curves, such as a parabola.

EUCLID'S *ELEMENTS OF GEOMETRY*

21 This comprehensive and hugely influential work set out knowledge of geometry at the time.

TRIGONOMETRY

22 The mathematical relationships between the sides and angles of triangles—using functions such as sine, cosine, and tangent—were developed gradually over hundreds of years, first with astronomers measuring the angles of stars in the sky.

NEGATIVE NUMBERS

23 Commercial transactions in China involved red and black rods, representing payments and debts, respectively. A major work in Chinese mathematics from this time, *The Nine Chapters on the Mathematical Art*, deals with negative numbers.

FIBONACCI SEQUENCE

24 1, 1, 2, 3, 5, 8, 13... each term is produced by adding the last two terms. The sequence has a number of remarkable properties, appears in many contexts in nature, and relates to the golden ratio. It was first explored by Indian mathematician Pingala and popularized by Leonardo of Pisa in the thirteenth century.

SIEVE OF ERATOSTHENES

25 A prime number is one that has no factors except 1 and itself. Greek mathematician Eratosthenes devised a way of finding primes, by crossing out any multiples of 2, then multiples of 3, then of 5 (multiples of 4 are already crossed off, as they are multiples of 2), and so on. Any numbers left behind are prime.

ANTIKYTHERA MECHANISM

26 A mechanical computer that could predict planetary motions, recovered from an ancient shipwreck in 1901.

HINDU-ARABIC NUMERALS

27 Modern numerals were invented in India, later used by Arabic scholars, and adopted in Europe in the Middle Ages.

DECIMAL NOTATION

28 Mathematicians and tradespeople across several civilizations had worked with number systems based on the number 10 for hundreds of years and the concept of zero had also long been used. However, it was Indian mathematicians who brought these ideas together into a coherent system for writing down any number with only ten symbols. The first record of such a system is found in Lokavibhaga, written by a monk called Sarvanandi in 458. The decimal notation system was adopted by Arabic scholars, whose works were highly influential in the adoption of the system in Europe. John Napier (pictured) introduced decimal notation for fractions in the seventeenth century.



ALGEBRA

29 This method of solving equations was set out in *The Compendious Book on Calculation by Completion and Balancing*, written by Persian mathematician Muhammad ibn Musa al-Khwarizmi.

SPHERICAL ANGLES

30 Persian scholar Nasir al-Din al-Tusi pioneered the study of angles on spherical surfaces, known as spherical trigonometry.

1427

DECIMAL FRACTIONS

31 Jamshid al-Kashi pioneered fractional number notation, using a vertical line where today a decimal point is used.

THE EQUALS SIGN

34 Robert Recorde invented the symbol for “equals”—two parallel lines of equal length, “because no two things can be more equal”—in his book *The Whetstone of Witte*. Equations had long been a feature of mathematics, but mathematicians tended to use words. Recorde’s shorthand symbol did not become popular until the eighteenth century.

DOUBLE-ENTRY BOOKKEEPING

32 Luca Pacioli formalized accounting in *Summa de arithmetica, geometria, proportioni et proportionalità*.

GOLDEN RATIO

33 The ratio is found throughout the natural world and explored in *De divina proportione* (On the Divine Proportion) by Luca Pacioli, illustrated by Leonardo da Vinci.

Alwaies willyng you to remeber, that you reduce your nomb.rs, to th. it leaste denominations, and smalleste formes, before you procede any farther.

And again, if your equatiõ be suche, that the greatestte denomination Cōfike, be ioined to any parte of a compoūde number, you shall tourne it so, that the number of the greatestte signe alone, make stande as equalle to the rest.

And this is all that needeth to be taughte, concerning this woordes.

Whobeyt, for easie alteratiõ of equations. I will p.pounde a fewe exāples, bicause the extraction of their rootes, make the more aptly bee wroughte. And to avoid the tedious repetition of these woordes: is equalle to: I will sette as I doe often in woordes use, a paire of paralleles, or Cemoūne lines of one lengthe, thus: =====, bicause noe. 2. thynges, can be moare equalle. And now make these numbers.

1. 14.ze. —+— 15.9. —+— 71.9.
 2. 20.ze. —+— 18.9. —+— 102.9.
 3. 26.3. —+— 10ze —+— 9.3. —+— 10ze —+— 213.9.
 4. 19.ze —+— 192.9. —+— 103. —+— 1009 —+— 19ze
 5. 18.ze —+— 24.9. —+— 8.3. —+— 2ze.
 6. 343. —+— 12ze —+— 40ze —+— 4809 —+— 9.3.
1. In the firste there appeareth. 2. numbers, that is 14ze.

1637

CARTESIAN COORDINATES

39 French philosopher and mathematician René Descartes devised the coordinate system, with which any point on a two-dimensional plane can be defined by two numbers (or three on a three-dimensional space, and so on), with reference to two (or more) axes at right angles to one another. Algebraic expressions (equations using variables such as *x*) define curves and shapes.

PASCAL'S MECHANICAL CALCULATOR

40 The first automatic calculating device, invented by Blaise Pascal, could add or subtract large numbers quickly and without errors, thanks to a clever arrangement of cogs. Numbers to be added or subtracted were entered by turning dials with a stylus, and the result was displayed in a window.

PROBABILITY THEORY

41 Blaise Pascal and Pierre de Fermat founded the mathematics of probability.

CALCULUS

42 The mathematical study of change was devised independently by scientist Isaac Newton and mathematician Gottfried Leibniz.

IMAGINARY NUMBERS

35 The square root of -1 (symbol *i*) is the simplest imaginary number: there is no “real” number solution. All other imaginary numbers are multiples of *i*. Italian Rafael Bombelli pioneered their use.

LOGARITHMS

36 John Napier was the first to introduce logarithms, in *Mirifici logarithmorum canonis descriptio* (A Description of the Wonderful Table of Logarithms). They eased the complicated calculations required by scientists, geographers, and explorers.

NAPIER'S BONES

37 Napier’s simple calculating device was a set of wooden or ivory sticks. A number was inscribed at the top of each face, with multiples of that number down the side. Making a calculation involved arranging the sticks in a box with numbers written down one side.

SLIDE RULE

38 This calculating device, with two sliding scales marked with logarithms, can be used for a range of complex mathematical tasks. Invented by William Oughtred, it was utilized by engineers and scientists until the introduction of the pocket calculator in 1970.

NATURAL LOGARITHMS (BASE “e”)

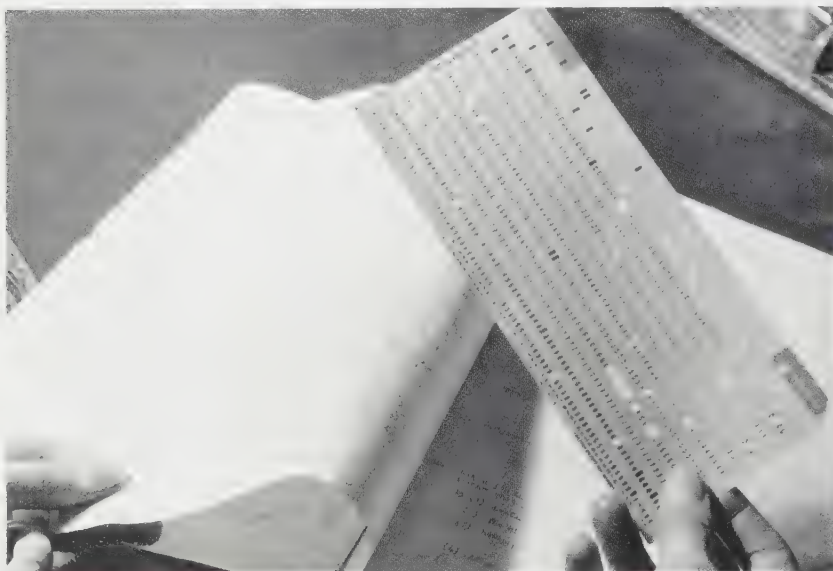
43 First investigated by Gregoire de Saint-Vincent and Alphonse Antonio de Sarasa, natural logarithms are crucial in number theory and science.

BINARY NUMBERS

44 Gottfried Leibniz published the first study of the binary system, inspired by the ancient Chinese divination document the *I Ching*. The binary number system has only two digits (0 and 1) and is used today mainly by computers and other digital devices to store information and carry out calculations.

PUNCHED CARDS

45 Punched cards were used to store information and programs in early electronic computers, but they were invented by weaver Joseph Marie Jacquard to control his programmable loom. Patterns of holes punched in cards allowed combinations of rods to lift levers holding the thread, thereby enabling Jacquard looms to produce fabrics with complex patterns. Charles Babbage suggested using punched cards to automate his mechanical calculator, the Analytical Engine, and Herman Hollerith produced a punched card machine that could collate census data.



TOPOLOGY

46 Known as rubber sheet geometry, this is the study of the basic properties of shapes under transformation.

EULER'S IDENTITY

47 Derived by Swiss mathematician Leonhard Euler, this is considered by many to be the most profound equation: $e^{i\pi} + 1 = 0$ —relates e (the base of natural logarithms), imaginary number i , and π , the ratio of the circumference of a circle to its diameter.

COMPUTER PROGRAM

54 English mathematician Ada Lovelace wrote a program for the Analytical Engine.

VECTORS

55 This first work by Irish mathematician and astronomer William Rowan Hamilton concerned quantities with magnitude and direction.

BOOLEAN ALGEBRA

56 The algebra of logic, used to design computers, was invented by English mathematician George Boole.

BAYES' THEOREM

48 Thomas Bayes established a method of working out the probabilities of interdependent events.

METRIC SYSTEM

49 The First French Republic introduced the unified system of weights and measures based on decimal ratios.

FOURIER SERIES

50 Joseph Fourier proposed that any curve, however complex, can be represented by adding together a series of simple sine wave curves with different wavelengths. It is useful in mathematical analysis and many fields of engineering, and is also important in the digital age, as the basis of the Fast Fourier Transform.

NON-EUCLIDEAN GEOMETRY

51 This is the study of shapes on curved surfaces, which do not obey the rules in Euclid's *Elements* (300 BCE). Several mathematicians contributed to it.

GROUP THEORY

52 Évariste Galois devised this profound, unifying insight into abstract algebra and geometry. It is a vital tool in understanding transformations and symmetry in theoretical mathematics.

BABBAGE ANALYTICAL ENGINE

53 A successor to his Difference Engine of 1833, Charles Babbage's mechanical calculator was the first programmable computer. Neither machine was completed in Babbage's lifetime, but three Difference Engines have been constructed following his plans.

MÖBIUS STRIP

57 Devised by German mathematician August Möbius, the strip is a surface that has only one side and one edge; for example, a loop made from a strip of paper with a twist.

SET THEORY

58 This key branch of mathematics, which has revealed deep truths about number theory, was initiated by German mathematician Georg Cantor.

CHAOS THEORY

59 French mathematician Henri Poincaré theorized that chaotic systems are unpredictable: tiny changes in initial conditions produce very different outcomes.

VENN DIAGRAMS

60 English logician John Venn invented Venn diagrams, which visualize relationships between sets in set theory.

SPACE-TIME

61 Hermann Minkowski devised four-dimensional space, with time on equal footing as three space dimensions, in response to Einstein's special relativity.

STATISTICS

62 People have long gathered data—on weather and populations, for example—but the statistical tools to produce meaningful analyses of data were only developed in the 1910s. English mathematician Karl Pearson set up the world's first university statistics department in 1911.



NUMERICAL WEATHER PREDICTION

63 Lewis Fry Richardson developed the system by which weather predictions work today, but carried out laborious calculations by hand.

TURING MACHINE

66 This hypothetical machine was devised by Alan Turing to investigate whether mathematical problems can be solved by a series of steps. It was highly influential on the development of computing: every computer is equivalent to a Turing machine.

ZUSE Z3

67 This electromechanical computer was designed by German engineer Konrad Zuse. It was the first programmable automatic digital computer.

COLOSSUS

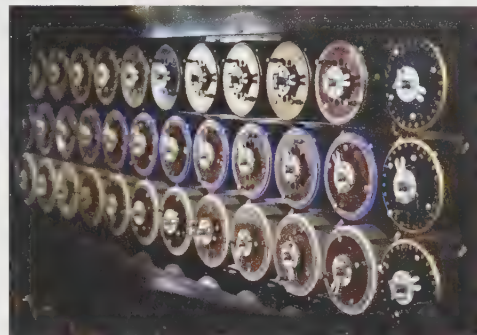
69 Designed by English engineer Tommy Flowers, this was the world's first programmable, digital, all-electronic computer. Programming the device involved changing plugs and switches, rather than entering instructions, via punched cards for example. Colossus Mark 1 was the first of a series of Colossus computers that were used by British intelligence services to decipher encrypted German radio communications. Because the project was secret, it had little influence on the progress of computers at the time.

GÖDEL'S THEOREMS

84 Kurt Gödel found that mathematics and logic will always be incomplete because their truths are self-consistent.

MAGNETIC MEMORY

85 Magnetic drum storage, invented for electromechanical calculating machines, was the predecessor of hard disk drives.



ATANASOFF-BERRY COMPUTER

68 Bulgarian-American physicist John Vincent Atanasoff and his graduate student Clifford Berry designed and built the first automatic, fully electronic digital computer. It was not a general purpose machine, because it could not be programmed.

VON NEUMANN ARCHITECTURE

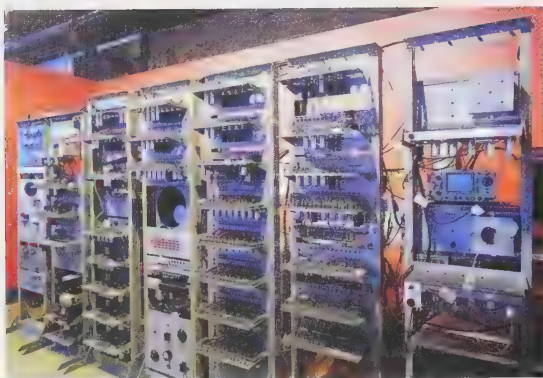
70 The basic scheme for all modern stored-program computers—processor, memory, control unit—was devised by John von Neumann.

ENIAC

71 The first fully programmable, general purpose, digital electronic computer was built for the US Army. Input and output were via punched cards.

RANDOM ACCESS MEMORY (RAM)

72 The first random access memory (RAM) was the Williams-Kilburn tube, made from a cathode-ray tube. Designed by Freddie Williams and Tom Kilburn, it was put to use in the Manchester "Baby" in 1948.



MANCHESTER SMALL-SCALE EXPERIMENTAL MACHINE "BABY"

73 Built to test the Williams-Kilburn tube random access memory, the SSEM was the first general purpose electronic digital computer, based on the von Neumann architecture, with stored programs.

INFORMATION THEORY

74 The theoretical analysis of the limits on storing and manipulating information was pioneered by US mathematician Claude Shannon in his paper "A Mathematical Theory of Communication."

ASSEMBLY LANGUAGE

75 Inside a computer, programs are collections of binary digits. Grace Hopper designed the first assembly language, the same commands but written in words that are readable by humans.

HIGH-LEVEL PROGRAMMING LANGUAGE

82 Formula Translation programs needed a compiler to translate them into binary "machine code."

MODEM

83 The first modulator-demodulators passed information between computers using telephone lines.

ASCII

84 In American Standard Code for Information Interchange, each character or symbol is represented by a binary code. Versions of ASCII are used in most computers.

TURING TEST

70 In his paper "Computing Machinery and Intelligence," Alan Turing proposed that if a human judge could not distinguish which answers came from a computer and which from a human, the computer could be deemed truly intelligent.

OPERATING SYSTEM

70 Early computers ran one program at a time and were monitored and controlled by humans. An operating system reduces the need for such intervention by managing a computer's hardware and software.

ARTIFICIAL INTELLIGENCE

60 The quest for intelligent machines was kick-started at the first conference on artificial intelligence at Dartmouth College, New Hampshire. Present was one of the pioneers of the field, John McCarthy, who had coined the term the previous year.

PILOT ACE

76 The pilot version of the Automatic Computing Engine was important because calculations were implemented through software, not hardware.

RANDOM NUMBER GENERATOR

77 John von Neumann made a machine originate pseudo-random numbers.



HARD DISK

81 The hard disk drive was invented by Reynold Johnson. The first one, the IBM 250 Disk File, could store up to 3.75 megabytes, and took about one second to fetch a particular piece of information. Today's hard disk drives can store hundreds or thousands of gigabytes and access information extremely quickly.

COMPUTER MOUSE

85 Douglas Engelbart pioneered this "X-Y position indicator control for movement by the hand."

HEXADECIMAL NOTATION

86 This readable shorthand for binary in computers uses digits 0 to 9 plus letters A to F. The unit of computer code is the byte, and any byte can be represented by two hexadecimal symbols: 0101 1101 is 5D.

FAST FOURIER TRANSFORM

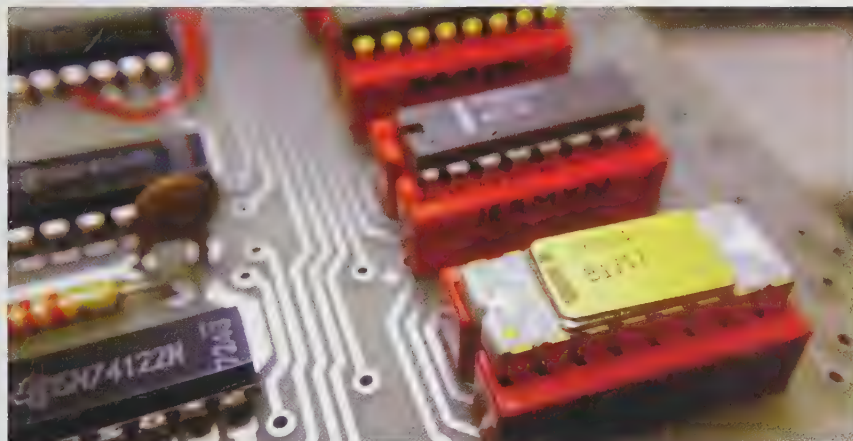
87 The revolutionary algorithm, based on the Fourier transform, is used in many contexts in the digital world.

APOLLO GUIDANCE COMPUTER

68 The computer that took people to the Moon had to be small but powerful. Its development drove the use of integrated circuits (chips).

POCKET CALCULATOR

89 By the late 1960s, integrated circuits—electronic circuits on a single piece of semiconductor (typically silicon)—were small and powerful enough to make handheld electronic calculators.



MICROPROCESSOR

90 In the computers of the 1940s and 1950s, the central processing units (CPUs) were huge and power-hungry collections of valves. In the 1960s, smaller, lower-power transistors took over from valves. By the 1970s, thousands of transistors and other electronic components could be etched onto a single piece of silicon, using a technology called large-scale integration. The first commercial CPU on a chip—a microprocessor—was the Intel 4004.



FRACTALS

94 Benoit Mandelbrot introduced the word "fractal" to describe mathematical structures (shapes, equations) that are self-similar at different scales. An everyday example is a fern frond, which is fringed by miniature fronds. Fractal mathematics is used to understand complex systems, such as stock markets and earthquakes, and to create realistic textures and landscapes in computer-generated images.

E-MAIL

81 US computer programmer Ray Tomlinson introduced the @ symbol as a way to address electronic mail.

GRAPHICAL USER INTERFACE (GUI)

92 The Xerox Alto was the first to use a familiar computer interface involving icons and menus.

INTERNET PROTOCOL SUITE

93 The standard language of inter-networking, the basis of the Internet, was created by Bob Kahn and Vint Cerf.

PERSONAL COMPUTER

95 The term "personal computer" had been used since the late 1960s. However, the IBM PC was so successful that it came to be a generic embodiment of the term.

CHUDNOVSKY ALGORITHM

96 David and Gregory Chudnovsky's formula computed the value of π (π). It worked out the first 1 million decimal places, and has since extended that into the trillions.

SEARCH ENGINE

97 Alan Emtage devised Archie: software that created a searchable index of files held on computers connected to the Internet.

SOLUTION OF FERMAT'S LAST THEOREM

99 After eight years, Andrew Wiles solved one of the most notorious problems of mathematics: proving a 1637 conjecture made by French mathematician Pierre de Fermat.

QUANTUM COMPUTER

99 This was the first demonstration of quantum computing, which makes use of the phenomena of quantum physics. Future models will be far more powerful than "classical" computers.

PROOF OF THE POINCARÉ CONJECTURE

100 Grigori Perelman solved one of the seven Millennium Prize Problems in mathematics, listed by the Clay Mathematics Institute in 2000. The other six remain unsolved.



LOMBRIAN PERIOD

CHARNIA

1 *Charnia* was a frond-like creature, 10 inches (26cm) long, which resembled a modern sea pen (Pennatulacea) but was not related to it. It was anchored to the sea floor below the level to which light penetrates and absorbed nutrients from the water.

TRINCHURAN PERIOD

ARKARUA

2 This disk-like fossil, 0.4 inches (1cm) across, had a raised center and a five-pointed central depression, like a starfish.

LOMBRIAN PERIOD

ANOMALOCARIS

3 At up to 6 feet 6 inches (2m) long, *Anomalocaris* was a top predator. The name means "abnormal shrimp." It had a pair of large, stalked, compound eyes; a mouth like a pineapple ring; and two arms with barbed spikes held in front of the mouth.

100 PREHISTORIC ANIMALS

AMBIAN PERIOD

OPABINIA

4 An early arthropod-like animal, *Opabinia* was a little less than 3 inches (8cm) long. It had a proboscis like a vacuum cleaner hose, ending in a claw that passed food to a mouth under its head.

TRINCHURAN PERIOD

HALLUCIGENIA

5 Resembling a velvet worm, *Hallucigenia* had a tubular body around 1.5 inches (3.5cm) long, with eight pairs of slender legs ending in claws. Above each leg was a rigid conical spine.

LOMBRIAN PERIOD

HALKIERIA

6 A "slug in chain mail," this 3-inch-long (8cm) early mollusk had three differently shaped overlapping plates covering its upper surface. It probably walked by rippling its foot.

AMBIAN PERIOD

GRAPTOLITES

7 Resembling tiny hacksaw blades, these colonial animals lived in cups on branched stems in the sea.

LANZHAN PERIOD

ARCHAEOCYATHA

8 The earliest reef builders were sponges with horn-shaped skeletons resembling corals, but they became extinct. Reefs reappeared later.

TRINCHURAN PERIOD

ISOTELUS REX

9 The world's largest trilobite was 28 inches (70cm) long and 16 inches (41cm) wide. Its head and tail shields were semicircular, and it had complex compound eyes.

DEVONIAN PERIOD

DUNKLEOSTEUS

12 One of the biggest armored placoderms ever to have lived was this monstrous fish. It was 33 feet (10m) long and weighed around 6 tons. Instead of teeth, it had an armored face with two pairs of hard bony plates that formed a beak-like mouth that could open and close in 50 to 60 milliseconds, which would have created such suction that prey would have been sucked into it. *Dunkleosteus* had such a powerful bite that it could chomp into arthropods, ammonites, and even smaller placoderms of its own kind. The fish is also thought to have regurgitated bones and hard parts, much like a modern owl. It was a slow but powerful swimmer, and very much the apex predator, the creature to avoid in the inshore waters of Devonian seas, yet its group died out within 50 million years.

TRINCHURAN PERIOD

PROMISSUM

10 *Promissum* was the largest-known conodont, an eel-like animal with a primitive backbone and a mouth containing the first mineralized teeth. It resembled the modern hagfish. *Promissum* is thought to have been one of the earliest vertebrates.

AMBIAN PERIOD

PNEUMODESMUS

11 This terrestrial millipede is the first known land animal. Its cuticle has spiracles, so it was also the earliest animal known to have breathed air.

JAEKELOPTERUS

13 The largest-known euryptid had a body 8 feet (2.5m) long. Its claw-like mouthparts were around 18 inches (46cm) long in repose, but when extended, added another 3 feet (1m) to the creature's overall length. It was a fearsome predator. (Although commonly known as a sea scorpion, *Jaekelopterus* was not a true scorpion and probably lived in freshwater.)



ARTHROPLEURA

17 The largest land invertebrate ever to have lived was this giant millipede, that was 8 feet (2.5m) long. It fed on plant material in dense, damp forests.

PEDERPES

18 Pederpes is the first-known amphibian with signs of four-legged terrestrial locomotion; even so, it hunted in water.

STETHACANTHUS

19 This was a shark with a shaving-brush-like dorsal fin topped with pointed scales, and a patch of pointed scales on its head.

TIKTAALIK

14 This lobe-finned fish had tetrapod features. It was one of the transitional animals between fish and amphibians.

CLADOSELACHE

15 The first true shark was a fast, agile predator, with a streamlined body 6 feet (1.8m) long, a deeply forked tail, and blades on the dorsal fins.

PTERASPIS

16 Armor covered the front of this primitive, jawless fish. It lacked fins but had winglike flanges over the gills. A horn-like snout made it streamlined.

PULMONOSCORPIUS

20 The largest known land-living scorpion was around 28 inches (70cm) long. It hunted other arthropods, and its sting alone might have been enough to kill small amphibians.

CASINERIA

21 Part amphibian and part reptile, this is the first creature known to have laid eggs on land and not in water.

GIGANTOPRODUCTUS

22 The biggest-ever brachiopod, or lamp shell, was more than 12 inches (30cm) in diameter. Smaller versions still live in our seas today.

HELICOPRION

23 *Helicoprion* was a shark-like cartilaginous fish with a strange circular tooth whirl like a circular saw set into the lower jaw. The whirl was a growth ring with new teeth pushing the old teeth into the whirl rather than being discarded, like the teeth of modern sharks. *Helicoprion* was between around 10 to 13 feet (3-4m) in length.



PERMIAN BEASTS

MEGANEUROPSIS

24 These giant, dragonfly-like griffinflies had wingspans of 30 inches (76cm). They were able to grow so large because there were few other aerial predators.

TRIASSIC BEASTS

COTYLORHYNCHUS

25 The largest land herbivore of the early Permian was a mammal-like reptile 20 feet (6m) long and weighing 2 tons. It had a huge, barrel-shaped body but a disproportionately small head.

TRIASSIC BEASTS

DIMETRODON

26 Fifteen feet (4.5m) long, *Dimetrodon* was a nocturnal, carnivorous reptile. On its back was a large sail, which either regulated body temperature or was for display.

TRIASSIC BEASTS

INOSTRANCEVIA

27 This saber-toothed therapsid had a long, slender body—11 feet 6 inches (3.5m) long—and relatively short legs. Its 6-inch-long (15cm) incisors impaled the large herbivores of the day. It was one of the largest gorgonopsids.



TRIASSIC BEASTS

PRIONOSUCHUS

28 Up to 33 feet (10m) in length, *Prionosuchus* was the largest known amphibian, five times bigger than the largest of today's amphibians, the Chinese giant salamander. With its slender snout, *Prionosuchus* resembled a modern gharial crocodile and was probably an ambush aquatic predator like the modern crocodile. It frequented rivers and lagoons in humid, tropical forests and may have fed on primitive sharks and lungfishes by swiping at them sideways with its long, tooth-filled jaws, just like the gharial.

TRIASSIC BEASTS

TANYSTROPHEUS

29 This semiaquatic reptile was 20 feet (6m) long, half of which was neck. Sharp interlocking teeth in a narrow snout indicate a squid- and fish-eater.

TRIASSIC BEASTS

PENTACRINITES

30 Clumps of this crinoid were attached to driftwood. Each crinoid was 6 feet 6 inches (2m) long, with a stem and feathery arms.

TRIASSIC BEASTS

CYNOGNATHUS

31 Cynodonts were related to early mammals. The carnivorous *Cynognathus* had a heavy body with wide jaws, sharp teeth, and maybe whiskers. It chewed its food and could swallow while breathing.

TRIASSIC BEASTS

SHAROVIPTERYX

32 The wing membranes of this gliding reptile were stretched across its long hind legs and tail rather than across the forelegs, as in other gliders. It might have had small membranes on its forelegs, too, so it resembled a delta-winged jet aircraft.

TRIASSIC BEASTS

LONGISQUAMA

33 On the backs of these tiny, lizard-like reptiles were large protrusions that resembled hockey sticks. Their precise composition is unknown, but they were either precursors of feathers or supports for a sail-like membrane.

TRIASSIC BEASTS

SHASTASAURUS

34 The largest ichthyosaur and marine reptile so far discovered, the *Shastsauros* was 70 feet (21m) long. Unlike other dolphin-like ichthyosaurs, it had a short, toothless snout; no dorsal fin; and a downward-pointing tail that indicated a cruiser rather than a fast swimmer. It was thought to be a ram or lunge feeder, engulfing squid while swimming forward.



DREADNOUGHTUS

35 Eighty-five feet (26m) long and nine times heavier than an African bull elephant, this enormous titanosaur was one of the largest animals ever to have lived, and the largest known terrestrial vertebrate. The discovery in 2014 of an almost complete skeleton in Argentina was one of the most exciting finds in paleontology. When alive, around 77 million years ago, it was a gentle plant-eating dinosaur, with a gigantic body, elephant-like legs, long tail, and an enormously long neck that was probably held horizontally. Due to its colossal size, it would have been impregnable to attacks from any predator. An even bigger surprise is that the Argentine specimen still was not fully grown, so the fully mature *Dreadnoughtus* would have been even bigger!

STENOPTERYGIUS

35 This ichthyosaur, resembling a modern dolphin, was an open ocean species feeding on fish and squid. One fossil was found about to give birth. The baby would have appeared tail-first, like a dolphin, to prevent it from drowning before it was fully out of the womb.

MEGATEUTHIS

37 Around 10 feet (3m) long, this was the largest of the belemnites, squid-like cephalopods with hard internal skeletons and ten equal-sized arms.

EPIDENDROSAURUS

38 This feathered, tree-living dinosaur had a long third finger like that of the aye-aye of Madagascar. Its tail ended in a fan of feathers that might have been used like a woodpecker's tail, to prop itself up on a vertical tree trunk.

COMPSOGNATHUS

42 This was a turkey-sized predatory dinosaur that lived on island coasts, where it caught small lizards.

ARCHAEOPTERYX

43 This was a transitional species between dinosaurs and birds. It had sharp teeth and flight feathers.

EURHINOSAURUS

39 This ichthyosaur could grow up to 20 feet (6m) long. Its upper jaw was twice as long as its lower jaw and was lined with teeth like a modern sawfish.

STEGOSAURUS

40 This large, plant-eating, armored dinosaur had two rows of vertical plates on its back and defensive tail spikes. It was 30 feet (9m) long, a slow mover, and lived in herds.

LEEDSICHTHYS

41 The world's largest bony fish was up to 53 feet (16m) long. It was a filter feeder, with specialized gill rakers similar to those of the modern whale shark, consuming plankton in the sea. It has been suggested that Leedsichthys squirted water at the seabed to disturb organisms living in the mud.



TEMNODONTOSAURUS

44 Unusually large eyes—8 inches (20cm) across—indicate that this fishlike ichthyosaur probably dived down into the abyss in search of deep-sea squid, ammonites, and fish. Its only apparent weakness was a blind spot directly above its head. This powerful swimmer was almost 40 feet (12m) long.

PLIOSAURUS

45 The 49 feet (15m) specimen unearthed in Arctic Svalbard in 2007 is the largest pliosaur so far discovered. It has yet to be formally named, but it is currently known as "Predator X." Pliosaurus are short-necked versions of plesiosaurs. They had powerful jaws and slammed into their prey before ripping it apart.



TRIASSIC PERIOD EPIDEXIPTERYX

46 This pigeon-size dinosaur was the proud possessor of the earliest tail feathers, like those of a peacock.

TRIASSIC PERIOD IGUANODON

47 This plant-eating dinosaur measured up to 43 feet (13m) in length and could walk on two or four legs. Its thumbs were conical spikes, function unknown, and its long fifth fingers could manipulate objects.

TRIASSIC PERIOD MICRORAPTOR

51 Microraptor was a small dinosaur with feathered wings on its fore and hind limbs. It either glided or used powered flight to catch prey on the ground.

CRETACEOUS PERIOD SHANTUNGOSAURUS

55 One of the largest, plant-eating, duck-billed dinosaurs, *Shantungosaurus* was 49 feet (15m) long. Its beak was toothless, like a duck's bill, but its jaws were lined with 1,500 chewing teeth. A large hole near its nostril might have been covered by a flap and inflated to make a sound.



TRIASSIC PERIOD SPINOSAURUS

48 *Spinosaurus* is the largest-known carnivorous dinosaur, measuring up to 59 feet (18m) from nose to tail. It had a long, narrow skull, reminiscent of that of a modern crocodile, and along its back, a 5-foot-long (1.5m) line of spine extensions that supported a sail-like structure on its back. *Spinosaurus* was probably a semiaquatic fish-eater, propelling itself through the water with its flat feet.

CRETACEOUS PERIOD SAUROPHTHIRUS

52 A flea, around 1 inch (2.5cm) long, that sucked the blood of large pterosaurs in much the same way as fleas feed on modern bats.

CRETACEOUS PERIOD PTERODAUSTRO

53 A medium-sized pterosaur, *Pterodaustro* had a baleen whale's mouth with bristle-like teeth in the lower jaw for sieving out tiny aquatic organisms.

TRIASSIC PERIOD SARCOSUCHUS

49 At almost 40 feet (12m) in length, this giant gharial-type crocodilian was twice the size of the modern species and had a bulla at the end of its snout, similar to the gharra of male gharials. It lived in rivers, where it ate fish and even other dinosaurs.

CRETACEOUS PERIOD DEINONYCHUS

50 Large brained and agile, this predatory dinosaur had a large sickle-shaped claw on its hind feet, and it killed like an eagle. It hunted in packs.

CRETACEOUS PERIOD PLATYCERAMUS

54 The world's largest bivalve mollusks were 10 feet (3m) across. They provided shelter for small fish, and fossilized pearls have been found inside them.



CRETACEOUS PERIOD ARGENTINOSAURUS

56 An exceptionally large titanosaur sauropod, *Argentinosaurus* was between 72 to 85 feet (22-26m) in length. Like its cousins, it had a massive body with columnar legs, along with a very long neck and tail. It was a herbivore and could reach into the tops of conifer trees or sweep the ground for ferns. It had stones in its stomach to mash food. It probably traveled in small herds, with a top speed of around 5 miles per hour (8kph). Many are thought to have gathered at floodplain nesting sites to lay eggs, each approximately 9 inches (22cm) in diameter. Hatchlings probably took 15 years to grow into adults.

TYRANNOSAURUS REX

57 This was a bipedal, theropod dinosaur with a massive skull and a body 40 feet (12m) long. It had a powerful bite, killing duck-billed dinosaurs and sauropods, and might also have scavenged for food.

DEINOSUCHUS

58 This giant alligator—almost 40 feet (12m) in length—fed on large dinosaurs. It took them by surprise at the water's edge and tore off meat by using the "death roll" technique practiced by modern crocodilians.

BEELZEBUFO

63 Sixteen inches (41cm) long, this was the largest known frog. It fed on baby dinosaurs. Its name means "devil frog."

QUETZALCOATLUS

59 This giant pterosaur was one of the largest animals to have flown. With a wingspan of up to 36 feet (11m), it soared like a vulture, but fed on fish like a heron.

PARASAUROLOPHUS

60 This dinosaur had long, backward-pointing hollow crests between its nostrils and on the top of its head for sound production, thermoregulation, or sexual display.

TRICERATOPS

61 This large, rhino-like dinosaur had three horns and armored shields on the head and neck. The horns may have had both a display and a defense function.

ELASMOSAURUS

62 About half of the length of this 46-foot-long (14m) plesiosaur was neck. *Elasmosaurus* was a slow swimmer that rose from the depths to surprise shoals of fish, belemnites, and ammonites. It swallowed small stones to aid digestion and to act as ballast, and it probably gave birth to its young in the sea.



ANKYLOSAURUS

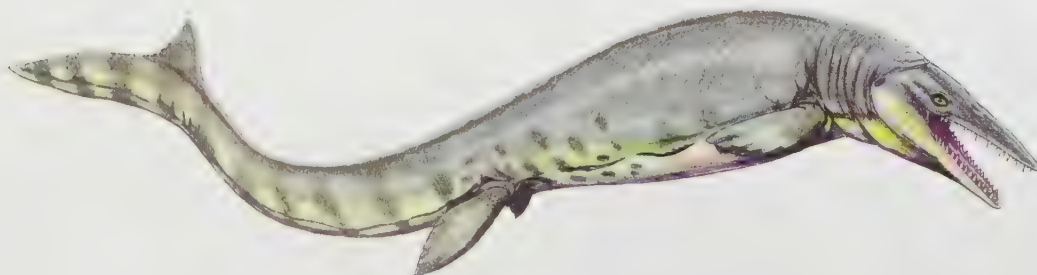
64 This heavily armored dinosaur was around 20 feet (6m) long from snout to tail. It cropped vegetation with fan-shaped teeth and swallowed its food without chewing.

ANZU WYLIEI

65 The "chicken from hell" was a cassowary-like oviraptor dinosaur built like a Swiss army knife, with claws to grab animals, and jaws to tear off leaves.

PARAPUZOSIA

66 This, the largest species of ammonite, was 11 feet 6 inches (3.5m) in diameter. Ammonites were cephalopod mollusks similar to the modern chambered nautilus.



HAINOSAURUS

67 The largest known mosasaur, *Hainosaurus* was up to 43 feet (13m) long. It was a top marine predator and a powerful swimmer. It caught and ate turtles, plesiosaurs, pterosaurs, squid, sharks, fish, and even weaker members of its own kind. With the extinction of the ichthyosaurs and the decline of the plesiosaurs, mosasaurs were the terrors of Cretaceous seas.

CRETACEOUS PERIOD

NYCTOSAURUS

68 The 20-inch-long (50cm) antler-like crest on the head of this small 14-inch-long (35cm) pterosaur probably had a display function.

PALEOCENE EPOCH

TITANOBOA

69 The largest and longest snake ever was a member of this species, measuring 42 feet (12.8m) in length and weighing 2,502 pounds (1,135kg). A constrictor, it lived in the tropics of South America and had a lifestyle similar to that of the modern giant green anaconda.



CRETACEOUS PERIOD

BASILOSaurus

70 Basilosaurus was a primitive toothed whale that grew up to 66 feet (20m) in length. It had a body like an eel, and it moved like one, too—up and down and from side to side—which was most unusual for a sea-dwelling mammal. Also unusual was that it chewed its food before swallowing. There were two types of Basilosaurus: one type fed on bony fish and sharks; the other caught whale calves of the genus *Dorudon*. At the time they were discovered the fossils were thought to come from a reptile, hence the suffix “-saurus.”

CRETACEOUS PERIOD

CAMPANILE GIGANTEUM

71 One of the largest known gastropod mollusks was a sea snail with a shell 35 inches (90cm) long. It probably grazed the seabed like the Australian giant creeper.

CRETACEOUS PERIOD

EOHIPPIUS

72 The “dawn horse” was fox-size with long legs, and scampered among vegetation like a muntjac.

CRETACEOUS PERIOD

ANDREWSARCHUS

73 This long-snouted mammal with strong jaws and sharp teeth is thought to have scavenged the carrion of beached whales.

CRETACEOUS PERIOD

TITANOMYRMA GIGANTEUM

74 Queens of the largest-known ant were 2.5 inches (6cm) long, with 6-inch-wide (15cm) wingspans.

CRETACEOUS PERIOD

DAEODON

75 The “terminator pig” was the size of a rhino but related to the hippo. It was 12 feet (3.6m) long, and stood 7 feet (2.1m) tall at the shoulder. It had a brain the size of an orange, large canine tusks, and a sagittal crest on the top of its head. It was an omnivore, but carrion was an important part of its diet. It waylaid young camels and rhinos.

CRETACEOUS PERIOD

PELAGORNIS

76 This albatross-like seabird had a wingspan of 24 feet (7m). It was one of the largest birds ever to have flown. It soared over oceans while the similar-size condor-like teratorn *Argentavis* flew in the mountains.

OLIGOCENE EPOCH

PARACERATHERIUM

77 The largest land mammal that ever lived was an enormous hornless rhinoceros. It was 26 feet (8m) long, stood 20 feet (6m) tall at the shoulder, and weighed 20 tons.

CRETACEOUS PERIOD

CARCHARODON (CARCHAROCLES) MEGALODON

78 Megalodon was the largest shark and one of the most powerful predators in vertebrate history. At up to 59 feet (18m) long, it was a stockier version of the great white shark. Its triangular teeth with fine serrations were up to 7 inches (18cm) long. It fed on whales, dolphins, seals, and sea turtles.





LIVYATAN MELVILLEI

75 *Livyatan melvillei* was an enormous toothed whale, some 57 feet (17.5m) long. It probably resembled a modern sperm whale, except that it had large, peg-like teeth in both upper and lower jaws. These were the longest feeding teeth of any known animal. Livyatan preyed on smaller baleen whales, dolphins, and seals; however, it shared the seas with *Carcharodon megalodon* and might well have been attacked itself.

DEINOTHERIUM

90 Larger than elephants, the *Deinotherium* had downward curving tusks attached to the lower jaw rather than the upper, as in modern pachyderms.

KELENKEN

81 This flightless avian was 10 feet (3m) tall. Known as "the terror bird," it picked up its victims in its beak and smashed them on the ground until they were dead.

STUPENDEMYS

82 The world's largest freshwater turtle—12 feet (3.6m) long—grazed on plants in slow-moving rivers.

GIGANTOPITHECUS

83 The largest ape that ever lived was 10 feet (3m) tall and weighed up to 1,191 pounds (540kg). It was probably a plant-eater; its massive jaws adapted to deal with tough, fibrous material such as bamboo.

MACRAUCHENIA

84 This mammal—which resembled a cross between a llama and a camel without a hump—probably possessed a short trunk, like the saiga antelope. It could run fast and change direction quickly in order to elude predators.

DEINOALERIX

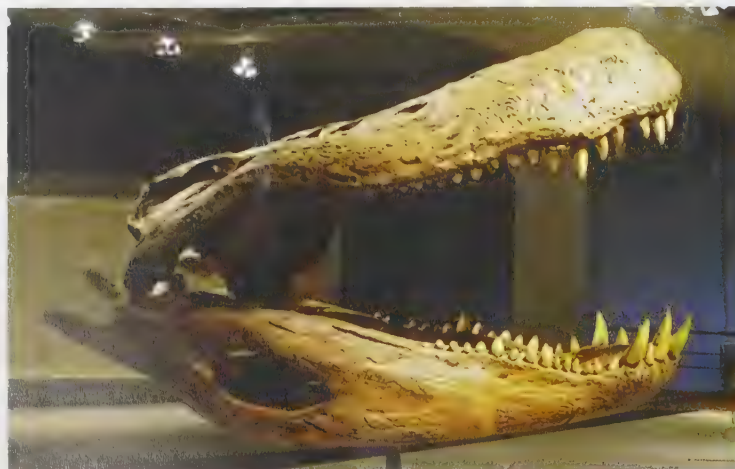
85 The "terror shrew" was actually a moonrat, a hedgehog without quills. It ate mainly insects, occasional small mammals, reptiles, and birds.

MAMMUT AMERICANUM

87 The American mastodon had shorter legs and a longer body than the mammoth, but it was similar in build to the Asian elephant. It had thick wooly hair and very long tusks.

PURUSSAURUS

86 At between 36 to 43 feet (11–13m) in length, this giant South American caiman was one of the world's largest and more recent giant crocodilians. It lived eight million years ago in a tropical coastal habitat, where it ate sharks, rays, bony fish, lungfish, turtles, birds, sloths, bats, rodents, and fish; in fact, just about anything it could catch



JOSEPHOARTIGASIA

88 The world's largest rodent resembled a giant capybara but is related to the pacarana. It was 10 feet (3m) long and stood 5 feet (1.5m) tall at the shoulder.

MEGATHERIUM AMERICANUM

89 The largest giant ground sloth was as big as a modern elephant. It rose on its hind legs, using its tail as a prop, to graze bushes and trees. Its large curved claws brought down branches.

PLEISTOCENE EPOCH

ELASMOTHERIUM

90 *Elasmotherium* was a giant rhinoceros the size of a mammoth and substantially bigger than the woolly rhinoceros. It had a single horn, long legs for galloping, and stood 6 feet 6 inches (2m) at the shoulder. It was a grassland grazer.



DOEDICURUS

91 *Doedicurus* was the largest armadillo-like glyptodont. It had a domed, armored carapace and a tail encased in a flexible bone sheath, tipped with a spiked club.

PLEISTOCENE EPOCH

DIPROTODON

92 This hippo-size giant wombat—10 feet (3m) long and 6.5 feet (2m) at the shoulder—was the largest-ever marsupial.

MEGALANIA

93 The biggest known terrestrial lizard was an enormous monitor—up to 23 feet (7m) in length. It lived until around 30,000 years ago in what is now South Australia, where it fed on Diprotodon, other mammals, and reptiles and birds and their eggs. Its jaws were filled with blade-like teeth, and it probably had toxin-secreting oral glands, making it the largest venomous vertebrate in history.

CANIS DIRUS

94 The dire wolf was heavy-bodied, short-legged, and at 5 feet (1.5m) long from nose to tail, was, in its time, the largest species of dog.

SMILODON POPULATOR

95 This South American species of saber-toothed cat, with 11-inch-long (28cm) canine teeth, was the largest-known feline.

PLEISTOCENE EPOCH

ARCTODUS

96 The short-faced bear was the largest carnivorous North American mammal. Standing on its back legs, it was 12 feet (3.6m) tall, and on all fours it was the same height as the humans with whom it coexisted for a time. It had long legs for endurance running.

ARCHELON

97 The largest sea turtle was 15 feet (4.5m) long and weighed more than 4,850 pounds (2,200kg). It had a strong bite and fed on squid. Like its closest living relative, the leatherback, it had a leathery carapace.



PLEISTOCENE EPOCH

MAMMUTHUS PRIMIGENIUS

98 The woolly mammoth was the last of the mammoth species. It was the size of a modern African elephant, but it was adapted to the cold, with a two-layered fur coat. Its ears were small, to minimize heat loss. It had very long, upwardly curved tusks, up to 14 feet (4.2m) in length.

PLEISTOCENE EPOCH

MEGALOCEROS GIGANTEUS

99 The giant Irish elk had the largest moose-like antlers of any deer—up to 12 feet (3.6m) across. It stood 7 feet (2.1m) tall at the shoulder.

PLEISTOCENE EPOCH

HARPAGORNIS

100 With a wingspan of 10 feet (3m), and weighing 36 pounds (16.5kg), *Harpagornis* was the world's largest eagle. It fed on moas, giant flightless birds of the Southern Hemisphere.



CALIFORNIA CONDOR

1 A project that used glove puppets to feed captive-born chicks saved this bird, North America's largest vulture.

DEVIL'S HOLE PUPFISH

2 The world's smallest pupfish is restricted to a tiny ledge in a pool in a cavern near Death Valley, California.

ALABAMA CAVEFISH

3 This critically endangered, blind cave fish feeds on guano droppings from gray bats that roost overhead.

BLACK-FOOTED FERRET

4 Once thought to be extinct, this species was brought back from the brink by captive breeding, starting in 1997.

RED WOLF

5 With features similar to gray wolves and coyotes, red wolves are under threat from interbreeding with the latter and from disease.

100 ENDANGERED SPECIES

MEXICO

VAQUITA

6 Fewer than 100 of these small porpoises live in the northern part of the Gulf of California, making the species the most endangered marine mammal in the world. Entanglement in fishing nets is its biggest threat. The name is Spanish for "little cow."

AXOLOTL

7 These creatures are known colloquially as "walking fish," but they're really amphibians, a variant form of salamander—they do not develop lungs, nor take to the land like other salamanders, but instead retain their gills and remain fully aquatic. However, water pollution and the influx of non-native fish mean they're extinct in the wild. A 2013 survey revealed none in Lake Xochimilco, which survives today as a network of city canals. However, they are bred in captivity for scientists to study their ability to regenerate limbs.

ARUBA

ARUBA ISLAND RATTLESNAKE

8 Fewer than 230 mature individuals of this light brown to pink rattlesnake survive on the dry, rocky Venezuelan island of Aruba. A small area of undisturbed habitat remains, but goats and resort developments pose significant threats.

BARBUDA

GRENADA DOVE

9 The "pea dove" is the national bird of Grenada and one of the most endangered bird species in the world. It has been little studied, but fewer than 100 individuals are thought to survive, owing to habitat loss and fragmentation.

PANAMA

PYGMY THREE-TOED SLOTH

10 This slow-moving leaf-eater is found only on the Isla Escudo de Veraguas, an uninhabited island off the Panama coast. It has no natural predators and is protected, but fishermen and other visitors catch it illegally.

COLOMBIA

BLACK-HEADED SPIDER MONKEY

11 This inhabitant of tropical forests is a large monkey with gangly limbs and a prehensile tail. It hangs from branches and feeds on fruits. Populations have fallen by 80 percent, owing to hunting and habitat destruction.

COLOMBIA

MAGNOLIA WOLFII

12 Only three mature specimens and two saplings of this canopy tree—endemic to Colombia—are thought to survive in a fragment of mountain forest surrounded by coffee plantations near the town of Santa Rosa de Cabal. The trees produce flowers and fruits, but no seedlings. They have thick leaves, which do not decompose easily, so leaf litter surrounds them.



GALÁPAGOS PENGUIN

13 The only wild penguin north of the equator feeds in the nutrient-rich waters of the Galápagos, except in El Niño (warming) years, when fish disappear and penguin numbers fall.



SPIX'S MACAW

15 This small blue macaw with a gray head was first recognized in 1638, but even then its numbers were few. The last known noncaptive male disappeared in 2000, so the species is thought extinct in the wild—the result of habitat destruction, rats and feral cats, and the illegal bird trade. It lived in the dry forests alongside the São Francisco River in northeast Brazil, where it fed on seeds and nuts. A captive breeding project currently aims to return this macaw to the region.

SANTA CATARINA'S GUINEA PIG

14 This guinea pig is found only in a minuscule part of the tiny Moleques do Sul Island, off the coast of southeast Brazil. It has the smallest geographical distribution of any known mammal. Owing to hunting, only 42 remained when it was assessed in 2008, making it one of the rarest animals on the planet.

NORTHERN MURIQUI

16 Habitat loss and hunting have drastically reduced numbers of this wooly spider monkey.

ARARIPE MANAKIN

17 Fewer than 800 of these small birds remain in the rapidly diminishing areas of forest with vines.

SUPERAGUI LION TAMARIN

18 So specific—and vulnerable—is the habitat of this Brazilian monkey that it was not identified until 1990.

BLOND CAPUCHIN

19 Monkeys with golden fur, blond capuchins—once thought to be extinct—were “rediscovered” in 2006. About 180 of them survive in the Atlantic Forest of Brazil, where they feed on fruits and insects in the lower canopy. Sugarcane plantations, coastal development, and illegal hunting have taken their toll.



BRAZILIAN MERGANSER

20 This fish-eating duck likes clean, fast-flowing water but faces pollution and silt from agricultural growth.

EUROPEAN EEL

22 Since the 1970s, the number of eels has declined by 90 percent from overfishing, pollution, and parasites.

MASAFUERA RAYADITO

21 Goats, rats, and feral cats threaten this species of ovenbird. (Ovenbirds are so-called, not because they're edible, but because they build domed, roughly oven-shaped nests.) Masafuera rayadito live in pairs in humid mountain scrub, among ferns on the subtropical Alejandro Selkirk Island, to the west of mainland Chile. Their numbers are thought to be stable but small, hence their critically endangered status.

SNOWDONIA HAWKWEED

23 The endangered yellow-flowered hawkweed was thought to have become extinct, due to overgrazing, in 1950, but in 2002 it was found on the steep slopes of the north-facing Cwm Idwal. This cup-shaped hanging valley in Snowdonia, North Wales, is considered one of Britain's greatest natural wonders and is the most southerly place in the United Kingdom where Arctic plants are found. Sheep and cattle are excluded from the valley.

UK/FRANCE

WHITE-CLAWED CRAYFISH

24 The invading signal crayfish from North America is ousting this European freshwater crustacean from its habitat.

SPAIN

IBERIAN LYNX

25 Iberian lynx numbers depend on the health of the rabbits on which they feed. Two diseases have struck rabbit populations, hence the lynx is also in decline. Captive breeding is helping to boost its fortunes, but loss of scrubland to human development in Spain and Portugal remains a serious problem. After the Amur leopard, it is the world's most endangered cat.



NIGER/MOROCCO

ADDAX

31 Once common throughout the Sahara Desert and the Sahel, this white antelope with long, screw-shaped horns was reduced by hunting to a single viable wild group in Niger. It has recently been reintroduced in Morocco.

PYGMY HIPPOPOTAMUS

32 Half as tall and a quarter the weight of its bigger cousin, the pygmy hippo lives in the rapidly shrinking forests of West Africa.

TREE HOLE CRAB

33 Deforestation is removing the habitat of this freshwater crab, which lives in water-filled holes in West African forests.

MEDITERRANEAN SEA/ATLANTIC OCEAN

MEDITERRANEAN MONK SEAL

27 Fewer than 600 of these shy seals remain in the Mediterranean Sea and east Atlantic Ocean, making it the world's rarest. Fishermen kill them through trawling or the deliberate elimination of a "competitor."

MEDITERRANEAN SEA

MALTESE SKATE OR RAY

26 Overfishing and trawling in the Mediterranean has hit this skate hard. Once widespread, it is now confined to a small area of the Strait of Sicily, near Malta.

CASPIAN SEA/BLACK SEA

BELUGA STURGEON

28 Overfished and poached for the female's roe—the source of beluga caviar—this species is one of the largest freshwater fish. It lives mainly in the Black and Caspian Seas but enters rivers to spawn.

ITALY

FRESHWATER PEARL MUSSEL

29 This mussel produces fine pearls and can live for more than 200 years, but is very susceptible to river degradation.

MIDDLE EAST AND SOUTHERN EUROPE

NORTHERN BALD IBIS

30 A migratory bird, once widespread in the Middle East and southern Europe, this black, glossy ibis breeds in the wild and only in Morocco. However, ravens eat the eggs, and eagles take the parents. Reintroductions are underway in Turkey and elsewhere, but captive birds are prone to disease. A few were found in Syria, but their fate is uncertain.

GHANA

ROGUEFOOT GOLFATER FROG

34 After four years of intensive searching, fewer than fourteen frogs are thought to survive in two patches of forest, high in the hills of Ghana's Sui River Forest Reserve. They're threatened by illegal and ever-increasing logging.

CROSS RIVER GORILLA

35 This subspecies of the western lowland gorilla faces threats from without, from dense neighboring human populations, but also from within—its small and scarcely sustainable numbers render it susceptible to inbreeding and genetic malfunction.

CORAL TREE

39 Rediscovered in 2012, this “flame tree” had been believed extinct since 1938. Its survival is thought to be due to its location in a rocky area unsuitable for cultivation, but its future remains precarious.

MOUNTAIN GORILLA

40 This gorilla lives in the mountain forests of an area plagued by civil war. That and poaching have taken a toll, but global outcry has afforded the apes some protection.



TRUMPET-MOUTHED HUNTER SNAIL

41 The pale whorled shell of this snail is thrown off to the left of its body. Females do not deposit eggs but give birth to tiny snails. Known from a single limestone outcrop, it is at risk from mining and invasive plants.

AFRICAN WILD ASS

36 This ancestor of the domestic donkey lives in the semideserts of the Horn of Africa. Here, it is hunted for food and traditional medicines and competes with livestock for precious water.

RIVERINE RABBIT

42 Habitat loss, previously due to cultivation and now to livestock farming, threatens this small nocturnal rabbit. Found in the semidesert Karoo region, it lives in the silt floodplains of seasonal rivers—a highly fragmented habitat. The added threats of hunting and trapping make it South Africa's most endangered mammal.

NORTHERN SPORTIVE LEMUR

45 Its name arising from the boxer-like stance it adopts when threatened, this leaf-eating lemur supplements its diet with fruits and flowers. It also consumes its own feces, digesting its food for a second time to obtain all the goodness, and is active at night, sleeping in tree holes by day. Its main natural predators are the Malagasy tree boa, which hunts for them when they sleep, and birds of prey, which snatch them from the canopy. Human threats come from illegal hunting for bush meat, and charcoal production, which destroys the forest. The few hundred survivors live in the north of Madagascar, in a fragmented habitat that is considered too small to protect.

HIROLA

37 On the arid Kenya-Somalia border, the “four-eyed antelope” (whose preorbital glands resemble eyes) is victim to hunting and disease.

SEYCHELLES SHEATH-TAILED BAT

43 Fewer than 100 survive, due to forest clearance for coconut plantations. The new vegetation does not support the insects eaten by the bats while kudzu vine blocks entrances to caves in which they roost.

AMANI FLATWING

38 Confined to a short stretch of a stream in Tanzania's mountains, this damselfly is now in a protected area, but remains vulnerable.

DRACULA ANT

44 So-called because it feeds on the blood of its young, the Dracula ant's abdomen resembles that of a wasp, so it could be a “missing link” between ants and wasps. Habitat loss is thought to be its main foe.



SUICIDE/ TAHINA PALM

45 Fire and grazing threaten this huge palm, which produces thousands of flowers and fruits, and then dies.

PLOUGHSHARE TORTOISE

47 Though protected by law, one of the rarest tortoises faces the illegal pet trade and land clearance by fire.

FOREST COCONUT

48 Only ten mature trees exist on the Masoala Peninsula. The extinct elephant bird distributed its seeds.

GOLDEN MANTELLA

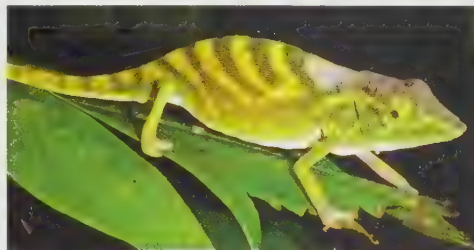
49 The pet trade puts this poisonous but sought-after orange frog at risk, although captive breeding could save it.

MALAGASY RAINBOW FROG

50 These decorated frogs are caught in the Isalo National Park and sold as pets, putting their future in danger.

CALUMMA TARZAN

51 This flat-nosed chameleon is hanging on in the Tarzan Forest in Madagascar's central eastern highlands. Slash-and-burn farming, and logging, are its enemies.



BOIS DENTELLE TREE

54 Sprays of long, white, bell-shaped flowers with shaggy, lace-like petals may not grace the cloud forests of Mauritius for much longer: there are only two trees left because commercially attractive plants, such as the guava, have overrun their habitat. Fortunately, the Mauritius Ministry of Agriculture has taken steps to protect them: one specimen has been transplanted to a nursery, where seeds and cuttings have germinated at least two offspring. The remaining wild tree stands alone on a small hill in the center of the island.



MADAGASCAR POCHARD

53 This diving duck's downfall was fish introduced to Lake Alaotra, its former home, which ate the ducklings. By the 1990s it was thought extinct, until a flock of 22 individuals was found in 2006 at Lake Matsaborimena. Thanks to conservationists, there are now about 80.



SILKY SIFAKA

52 The *Madagascar* movie franchise turned a spotlight on lemurs, but it may have come too late for this variety. There are fewer than 250 mature individuals left in the wild, making it one of the rarest primates in the world. In the northeast rain forests, it lives in pairs or small groups, foraging for leaves and seeds during the day. It must contend with predators—primarily the fossa, a catlike carnivore—habitat destruction by logging companies, and being hunted for its meat.

AMSTERDAM ALBATROSS

55 These birds breed on Amsterdam Island in the French Southern and Antarctic Territories. They are threatened by rats and cats at nest sites and longline fishing at sea.

BACTRIAN CAMEL

56 This two-humped camel is killed for food in the deserts of Mongolia and northwest China. It must also compete with introduced animals for grazing and water.

ASIATIC CHEETAH

57 The Dasht-e Kavir Desert, in the center of the Iranian plateau, is home to the last of these cats. Once widespread, they have been brought to the verge of extinction by habitat loss, a decline in prey, and poaching. Iran has made efforts to highlight their plight.

PRZEWALSKI'S HORSE

58 Reintroduced to Mongolia after a 50-year absence, this horse is now threatened by interbreeding.

CHARIAL

59 Unable to walk or tunnel, this crocodilian has been reduced by industry, agriculture, and fishing nets to near extinction.

GREAT INDIAN BUSTARD

60 One of the heaviest flying birds is a victim of hunting and habitat loss.

WHITE-BELLIED HERON

61 Pollution, dams, roads, and boats disturb this bird's living space alongside rivers that flow through forests and wetlands in the Himalayas. It often nests in *chir* pine forests, but eggs are stolen and birds killed for food. There may be only 75 of them.

SPOON-BILLED SANDPIPER

62 This small wader feeds by sweeping its spoon-like bill from side to side. Its summer breeding grounds in Russia and winter wetlands in Bangladesh and Myanmar are at risk from land reclamation, and it is often trapped illegally in nets.

AMUR LEOPARD

63 Native to northeast China (where it is now extinct) and southeast Russia, this pure leopard species is less than 25 strong. Sadly, it has proved no match for habitat loss, poaching, and climate change.



SOUTH CHINA TIGER

64 Last recorded in its natural habitat in southern China in the early 1990s, the most endangered tiger—distinguished by a lighter yellow coat than that of other varieties, with more distinct, narrow, black stripes—is thought to be extinct in the wild. Wild pigs and deer would have been its main prey, but habitat destruction and uncontrolled hunting reduced its numbers from thousands in the 1950s to no more than 80. A “rewilding” project in South Africa, in which captive tigers are taught to hunt naturally, will return wild tigers to China, but reserves must be found with sufficient space and prey. Some South China tigers survive in zoos, but others are reared in horrendous confinement on farms to supply ingredients for traditional medicine.

BAISHAN FIR

65 Seven of these trees were found on a summit in eastern China in 1963. By 1987, after two had been moved to botanic gardens and died, only three were left—the rarest conifers in the world. Flooding, deforestation, and climate change limit their chances.

GIANT PANDA

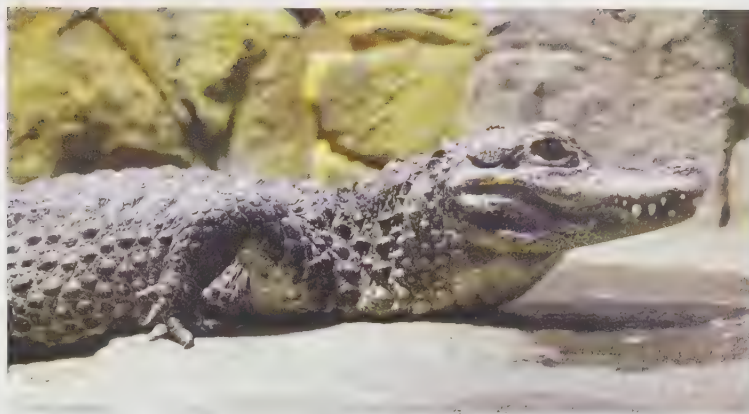
66 The conservation icon is making a comeback: experts believe that there may currently be as many as 3,000 individuals living in the wild.

CHINESE GIANT SALAMANDER

67 The world's largest amphibian—up to 6 feet (1.8m) long—is overexploited for food and traditional medicine.

YANGTZE RIVER DOLPHIN

66 The former “goddess of the Yangtze” is probably extinct. A scientific expedition in 2006 found none, and a single specimen filmed (but not confirmed) in 2007 would have been one of the last. A species that entered China’s Yangtze River 20 million years ago, and which numbered in the thousands in the 1950s, has fallen prey to industrialization and the use of the river for fishing, transport, and hydroelectric power. The final nails in its coffin were illegal fishing with high-voltage electricity, and the building of the Three Gorges Dam, which disrupted the river flow. A few river dolphins were brought into captivity, but died without offspring, the last in 2002. It is hoped that some remain in the wild, but—despite government action—the outlook for any such survivors is grim.



CHINESE ALLIGATOR

68 Native to eastern China, this is one of only two species of alligator. Smaller than its American cousin, it was once widely distributed throughout the eastern Yangtze River. Today, after decades of agricultural encroachment on its territory, the few remaining individuals live in pools.

CHINA YANGTZE FINLESS PORPOISE

70 Likely to follow the Yangtze River dolphin into extinction in the wild, this porpoise has been bred in captivity.

CHINA QIAOJIA PINE

71 The rarest pine tree lives—in limited numbers—in a single, small location, bordered by land prone to fires.

CHINA HAINAN GIBBON

72 Limited to Hainan Island in the South China Sea, the black-crested ape is a victim of hunting and habitat loss.

CHINA CHINESE CRESTED TERN

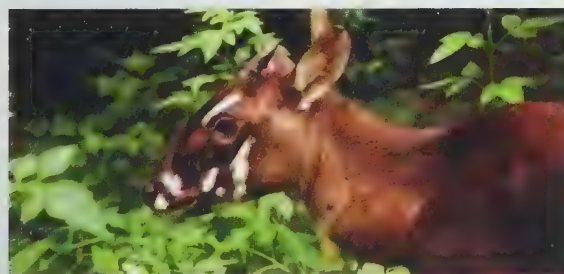
73 Surviving in tiny, isolated groups, this seabird species is thought to be no more than 50-strong.

CHINA JAPANESE CRANE

74 Known for its dances in the snow, this red-crowned bird is being nurtured back from the brink on Hokkaido.

LAOS/VIETNAM SAOLA

75 With none in captivity, and no confirmed sightings, the Saola is highly mysterious. The antelope is rarely photographed, and the Laos authorities are reluctant to release information about it. The International Union for Conservation of Nature and Natural Resources concludes that its “numbers may be so low that no viable populations remain.”



CHINA RED RIVER GIANT SOFTSHELL TURTLE

76 The fate of the largest freshwater turtle—which has a pig-like snout and a pancake-shaped, rubbery shell—rests with thus far unsuccessful attempts to breed from two in China’s Suzhou Zoo. The pair are two of only four known to exist, the others living in China and Vietnam. The search continues for survivors in the wild, but their breeding opportunities are effectively nil, their habitat is threatened by pollution, and their bones and shell are sought after for traditional medicine.

VIETNAM WHITE-HEADED LANGUR

77 On Cát Bà Island, these rare monkeys—whose chocolate-brown fur contrasts with their offspring’s initially golden coloring—are poached for meat and medicine.

VIETNAM TONKIN SNUB-NOSED MONKEY

78 Characterized by a flat, upturned nose, this monkey lives in limestone hills in northern Vietnam. Hunting and deforestation have slashed its numbers.

PHILIPPINE EAGLE

79 The Philippines's national bird is one of the largest eagles and, owing to deforestation, one of the rarest.

JAVAN RHINOCEROS

80 This one-horned—or, in the case of females, no-horned—rhino, with skin resembling armor, once ranged throughout southeast Asia. But since a group in Vietnam was declared extinct in 2011, it's been limited to a single population in West Java. Around 35 survive, making it the world's rarest large mammal, but the value of its horn in traditional Chinese medicine means it remains constantly under threat.



SUMATRAN ELEPHANT

81 This elephant is poached for ivory and poisoned or shot when habitat loss forces it into contact with humans.

SUMATRAN ORANGUTAN

82 Female Sumatrans give birth only every eight or nine years, so the species is very vulnerable to hunting.

BULMER'S FRUIT BAT

83 The largest bat to roost in caves was thought to have died out during the last Ice Age. It was rediscovered in 1975, but within two years was almost exterminated by hunters. Its cave remains unprotected.

CHRISTMAS ISLAND FRIGATEBIRD

84 Yellow crazy ants attack the chicks of this aerial pirate, so its population numbers are rapidly declining.

WESTERN UNDERGROUND ORCHID

85 Unearthed in 1928, this orchid lives entirely underground. With no chlorophyll for nutrition, it feeds on a fungus. The six populations are all at risk from drought and agriculture.



GILBERT'S POTOROO

86 Known as the "rat kangaroo," owing to its shape, this is the most endangered marsupial in Australia. A stable but small population is most at risk from fire in the surrounding vegetation but also from predators.

LIGHTNING DREAMING CREEK SHRIMP

87 Known from a single waterfall, this shrimp competes with cane toad tadpoles.

NORTHERN HAIRY-NOSED WOMBAT

88 Dingos attack the largest known burrowing plant-eater. A single colony remains.

ORANGE-BELLIED PARROT

89 One of only three migratory parrot species, the orange-belly flies between Tasmania, where it nests in eucalyptus trees, and southeast Australia, where it overwinters in salt marshes. Urban development and farming have had an impact in Australia while the introduction of red foxes and feral cats has hit birds in Tasmania. Fewer than 200 orange-bellies survive in the wild, but a further 170 in a captive breeding project have raised hopes that the parrot's future is now assured.



AUSTRALIA

REGENT HONEYEATER

90 With bold yellow-and-white plumage, this nectar-eating bird is endemic to the eucalyptus woodlands of Australia. The main threat to it is the clearance of that habitat for farms and residential developments.



LORD HOWE ISLAND STICK INSECT

92 Confined to Lord Howe Island's tiny rocky islet of Ball's Pyramid, off the east coast of Australia, these "tree lobsters"—presumed extinct by 1930—were rediscovered in 2001, making them the world's rarest insects. They were once on the main Lord Howe Island, where they were used as bait to catch fish, but a ship ran aground on the island and escaping black rats ate almost the entire population. They are large creatures, 6 inches (15cm) long, with sturdy legs. Unusually for insects, the males and females form a bond, with the former faithfully following the latter. However, females can reproduce without males—a process, known as parthenogenesis, that probably enabled the species to recover from low numbers in the past.

SYDNEY HAWK DRAGONFLY

91 This black-and-yellow dragonfly is found only in three areas of Sydney. The loss of deep pools in which its aquatic larvae live is thought to account for its decline. Long droughts could wipe out the species.

KAKAPO

83 This nocturnal, flightless parrot is known for the male's booming call. Its ground-dwelling lifestyle means that it falls victim to attack by cats, rats, ferrets, and stoats. It survives, albeit in tiny numbers, on predator-free islands. It is monitored, but still susceptible to threats, including disease.



SOUTHERN BLUEFIN TUNA

84 Overfishing has caused a huge decline in this tuna's numbers. The Southern and Atlantic species are targeted and, despite well-publicized conservation warnings, there are no signs of an increase in spawning stock.

HAWKSBILL TURTLE

95 This sea turtle gets its name from its narrow, pointed beak. Killing hawksbill turtles is now outlawed, but poaching continues because their distinctive shells, with colorful overlapping scales that form a serrated pattern on the edges, are highly valuable in the illegal wildlife trade as the source of decorative tortoiseshell.

NORTH ATLANTIC RIGHT WHALE

96 Ships and fishing gear are the main modern threats to one of the most endangered whales. Consequently, at calving grounds the speed of marine traffic is limited to 10 knots (11.5mph/18kph) from December to March. However, it was first harvested because it was the "right" whale to catch: it was a slow surface skimmer that didn't sink when harpooned and yielded large quantities of oil. Eliminated from the east Atlantic, then almost from the west, it is no longer harvested. Experts disagree whether its numbers have since remained stable, but agree that it's endangered.

ATLANTIC GOLIATH GROUPE

97 Spear fishermen caught many of these tropical fish at spawning sites, severely impacting their numbers.

ATLANTIC ANGEL SHARK

98 Once a "junk fish" used as crab bait, it became popular as human food in the 1970s, hence its depleted stocks.

COMMON SAWFISH

99 The sawfish's toothed snout is used to slash and kill its prey. It is threatened by trade for shark fin soup and traditional medicines.

FIRE CORAL

100 Exterminated naturally in Panama by an El Niño event, this colonial marine organism survives in a few sites in Indonesia.



ANGUILLIDAE
EEL

CUSK EEL

1 In 1970 a cusk eel was caught in the Puerto Rico Trench in the Caribbean Sea. It was living 27,461 feet (8,370m) below the surface, the greatest depth at which any fish has been found. In spite of their name, cusk eels are not true eels; they are more like barbels, with fins modified as feeler-like sensors under the mouth.

ELAPIDAE
SNAKE

REEF-SHALLOWS SEA SNAKE

2 This coral reef-dweller is the world's third-most deadly snake, after two of Australia's terrestrial serpents, the inland taipan and the eastern brown snake. Fortunately, the reef-shallows sea snake is not aggressive, avoiding confrontation. It feeds on fish around coral reefs and has a fondness for moray eels.

AMPHIPODA
CRUSTACEAN

"SUPERGIANT" AMPHIPOD

3 Amphipods are buglike marine creatures. In the Antarctic they can be up to 4 inches (10cm) long, ten times bigger than the largest garden pill bug. In deep trenches in the Atlantic and Pacific Oceans, scientists have discovered even bigger amphipods, measuring 13 inches (34cm) in length.

ALUPELONCHIDAE
SHARK

THRESHER SHARK

4 The thresher shark has a unique way of catching fish. It herds shoals of small fish and then stops still, bringing its long, scythe-shaped tail over its head and using it like a bullwhip. It then swims around scooping up the dead and dying. It is found in temperate and tropical oceans worldwide.

DECAPODA
SHRIMP

BIGCLAW SNAPPING SHRIMP

5 It was once thought that the snapping shrimp made its characteristic sound by clacking together the moving parts of its larger claw. We now know the noise is caused by an imploding cavitation bubble and spark in the high-speed water jet created as the claw shuts.

100 SEA CREATURES

ALVINELLA POMPEIANA
POLYCHAETE

POMPEII WORM

6 This unusual polychaete worm lives close to hydrothermal vents (hot water springs) at the bottom of the Pacific Ocean. Its tail sits in scalding hot water at 176°F (80°C), while the rest of its body is in cooler water at 72°F (22°C), making it one of the most heat-tolerant creatures on Earth. The worm is around 5 inches (13cm) long and has feathery gills on its head that are colored red by hemoglobin. Little is known about its diet, but it probably obtains its food from the bacteria that live in the fleece-like jacket on its back.

IGUONIA
LIZARD

MARINE IGUANA

7 A Galapagos Islands resident, this is the only lizard that feeds in the sea. It dives down and scrapes seaweeds off rocks. When basking between dives, it listens for the alarm calls of mockingbirds that warn it of approaching Galapagos hawks, its main predator.

TELEUTHEROIDEA
OCTOPUS

VEINED OCTOPUS

8 An inhabitant of the western Pacific Ocean, the veined octopus uses tools, behavior once thought to be exclusive to humans. It collects discarded half-coconut shells and arranges a pair of them into a tiny fortress, much like the two parts of a clam. There, it hides from predators.

ANGUILLIDAE
EEL

EUROPEAN EEL

9 European eels spend most of their lives in fresh water, but they head for the Sargasso Sea in the Atlantic Ocean to breed. In 2009 tagging studies revealed that they do not go there directly, but follow the clockwise-flowing currents of the North Atlantic Gyre, passing the coast of northwest Africa and then westward along the equator to reach their destination.

COPEPODA
COPEPOD

FLYING COPEPODS

10 Some species of brightly colored copepods, barely 0.125 inches (3mm) long, escape from predators by jumping from the water and landing up to 5 inches (13cm) away—leaps of 40 times their own length.

STomatopoda
CRUSTACEAN

SEA HARE

11 The sea hare's defense against lobsters, its main predator, is to squirt a purple cloud of noxious chemicals, including opaline, which deactivates the lobster's antennae.

DIPTERIFORMES
PENGUIN

EMPEROR PENGUIN

12 Emperors can dive to 1,755 feet (535m) under the sea, deeper than any other bird. When returning to the surface, air trapped under their feathers escapes in the form of bubbles, which speed their ascent.

GIANT SQUID

12 The world's biggest invertebrate and active predator can be up to 43 feet (13m) long from the end of its body to the tip of its long, retractable tentacles.

BOWHEAD WHALE

14 Nineteenth-century Inuit harpoons have been found embedded in recently killed bowhead whales, revealing them to be the world's oldest mammals. The oldest is over 200 years old.

BLUE WHALE

15 The blue whale is not only the largest living mammal but probably the largest animal that has ever lived, bigger than even the greatest dinosaur.

GREEN SPOONWORM

16 The sexes show a huge size difference. The female is 6 inches (15cm) long, with a proboscis extending 39 inches (1m); the male is only 0.125 inches (3 mm) long.

EDIBLE ROCK CRABS

17 Scientific tests have revealed that, for their size, these crabs have stronger muscles than any other creature on Earth.

GREY REEF SHARK

18 When threatened, these sharks have a unique "hunch" display—they raise their snouts, arch their backs, and swim erratically to repel any perceived threat—they are not territorial, but they are protective of their personal space.

BULL SHARK

19 Although principally a sea creature, the bull shark enters rivers and lakes to give birth safely to its pups. It has been known to breed 2,486 miles (4,000km) up the Amazon and as far north as Illinois on the Mississippi.



GREAT WHITE SHARK

20 The world's largest predatory fish is the most dangerous to humans. It accounts for the greatest number of fatal attacks on people. It's also an unexpected world traveler. "Nicole" is a female white shark that in 2005 was tracked across the Indian Ocean, from South Africa to Western Australia and back, in little over nine months. In the Atlantic Ocean in 2013, "Lydia," another adult female, was followed from North America to the Mid-Atlantic Ridge before she turned about. In the Pacific Ocean white sharks mill about at a location halfway between California and Hawaii, known as the "white shark café." Why is a mystery.

KRØYER'S DEEP SEA ANGLERFISH

21 The female is a large-mouthed, deep-sea fish with a luminous fishing lure. The male is a tiny parasite attached to her and constantly available to impregnate her whenever required to do so.

BASKING SHARK

22 It has long been a mystery where the ocean's second-largest fish goes to in the northern winter. Now, we know that some of them head south. Sharks tagged off Cape Cod, Massachusetts, have been recaptured at the mouth of the Amazon, off the coast of Brazil.

CROCODILE ICEFISH

23 The Antarctic's crocodile icefish has highly unusual blood: it's as clear as gin, for it has few or even no red blood corpuscles. The blood also contains antifreeze, an adaptation to the icy waters.

CHIASMODOGMA

BLACK SWALLOWER

24 This fish eats prey much bigger than itself. An 8-inch-long (20cm) specimen was once found with a 34-inch-long (86cm) snake mackerel in its stomach.

PHYLLOPODA

ACORN BARNACLE

27 The barnacle is a crustacean, related to crabs and lobsters, rather than mollusks. It has the longest penis relative to body size of any known animal. As the barnacle is immovably attached to a stationary object, it needs a long sexual organ in order to reach its closest neighbor.

CONUS

GEOGRAPHY CONE SHELL

28 This highly dangerous sea snail has the most potent venom of all the cone shells. Venom is injected through a hollow tooth located on its proboscis. A fish is paralyzed in two seconds and a person in several minutes. It accounts for many human fatalities in the Indo-Pacific.

CEPHALOPODA

HOODED SEAL

32 Mothers have the shortest lactation period of any mammal—just four days. After birth, pups gain 15 pounds (7kg) a day.

DELPHINUS DELPHINUS

SHORT-BEAKED COMMON DOLPHIN

33 Those in the Bay of Biscay are fussy eaters. They eat almost exclusively energy-rich lanternfish, ignoring other species.

PHYLLOPODA

BOX JELLYFISH

25 Also known as a sea wasp, this most lethal of jellyfish can kill a human in five minutes. It doesn't drift with the current but swims quickly. It has 24 eyes that see in color.

OSTEOGASTER

ORANGE-DOTTED TUSKFISH

26 The tuskfish is one of the few fish known to use tools. One individual living off Palau was filmed cracking open a clamshell. It excavated the sand around the shell, picked it up in its mouth, and carried it to a rock. It then repeatedly dashed the shell against its "anvil" until it broke. Scientists were impressed because the behavior requires forward thinking, a big deal for a fish.



SAURIA

SALTWATER CROCODILE

29 The world's largest reptile with the world's most powerful bite travels long distances by surfing ocean currents around India and Australasia.

CAUDOFOVATE

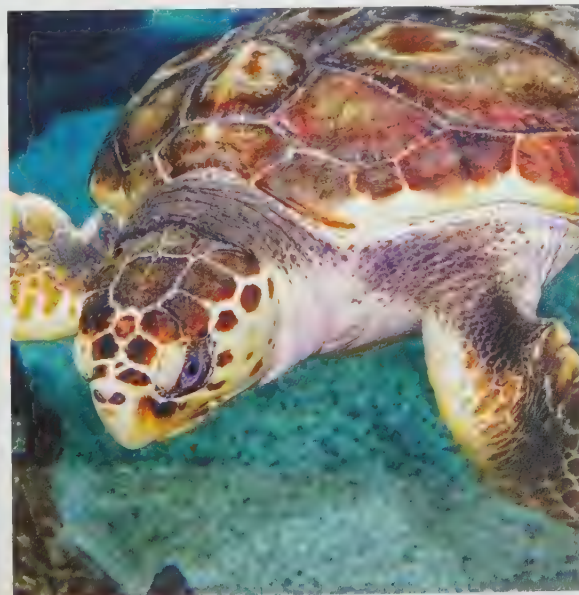
SCALY-FOOT GASTROPOD

30 This sea snail lives near hydrothermal vents around Mauritius in the Indian Ocean. It has a shell, but its foot is also armored with iron mineral scales.

CLupeidae

HERRING

31 Herring communicate with each other by expelling air from their anuses. This behavior is known to scientists as "Fast Repetitive Tick," a term with potential for turning into an amusing acronym.



TESTUDINATA

LEATHERBACK TURTLE

34 The world's largest and most widely traveled turtle dives deep, and it can do so because, unlike most other reptiles, it can generate and retain its own body heat. In the Pacific Ocean, in 2008, a female turtle broke all records. She swam from Indonesia to Oregon, a distance of 12,774 miles (20,558km), and was on her way back again when her satellite tag failed. In the Atlantic Ocean, leatherbacks deposit eggs along the north coast of South America, but in summer can be seen off the British Isles, where they feed on swarms of jellyfish (and scare the heck out of people because they pop up like sea serpents when they're entirely unexpected).

BROWNSNOUT SPOOKFISH

35 This deep-sea fish can look up and down at the same time because it has mirrors in its eyes. It's the only vertebrate thus endowed.

EASTERN EMERALD SEA SLUG

36 This mollusk of tidal pools along the eastern seaboard of North America acquires its green color from chloroplasts derived from the algae on which it feeds. As it has no shell, it needs this coloration for protective camouflage.

BLUE SEA SLUG

42 This creature floats under the sea's surface and steals the stings from Portuguese men-of-war. The slug concentrates the stings, so it becomes even more venomous.

BLUE-RINGED OCTOPUS

44 This creature's venom is more than 1,000 times more toxic than cyanide and can kill a human in minutes. There is no known antidote.



VELVET BELLY LANTERNSHARK

37 This small, deep-sea shark not only has light-emitting organs along its belly, but also a spine on each of its two dorsal fins that glows like a *Star Wars* light saber. The belly lights disguise the shark by blending in with the faint glow from the surface. Any creature looking up from below will not see it. The luminous spines are to discourage predators.

ANTARCTIC KRILL

38 When attacked, these shrimp-like crustaceans literally jump out of their skins. They are the food of many Antarctic predators.

SEVEN-FIGURE PYGMY GOBY

39 This coral-reef fish is tiny—just over 1 inch (2.5cm) long—and has the shortest lifespan of any known vertebrate—around 59 days.

FLYING FISH

40 Flying fish are able to leave the water and glide through the air for up to one minute to avoid predators.

FLUORESCENCE GRASS CORAL

41 The world's largest stand-alone corals are of this type: the biggest measure 13 feet (4m) high and 26 feet (8m) across.

DUMBO OCTOPUS

43 This finned octopus with large eyes became known as the "Dumbo octopus" on account of its similarity to the shape and movement of Walt Disney's baby elephant. The largest known is 6 feet (1.8m) long, but the remaining 37 types average 8 inches (20cm) in length. They live at depths of up to 23,000 feet (7,000m).

CLUSTERWINK SNAIL

45 When threatened, this tropical ocean shellfish emits bright green flashes—one every 100 milliseconds—through its normally opaque shell. The light makes the clusterwink look bigger than it really is, and also summons even bigger predators to deal with the aggressor.



POTBELLED SEAHORSE

46 Seahorses are the slowest-moving fish in the sea. The roles of males and females in reproduction are the opposite of those in other species: the male seahorse broods the young in a pouch on his belly; once born, the mother takes over.

PSYCHEDELIC FROGFISH

47 This anglerfish with pink-and-white stripes moves slowly by walking on its pectoral fins, but more rapidly by jet propulsion. In the latter mode, it resembles a beach ball in the wind.

AMERICAN LOBSTER

48 Weighing up to 44 pounds (20kg), the world's heaviest crustaceans crawl along the seabed on paddle-like appendages under their abdomens.

BELUGA STURGEON

49 One of the world's most valuable fish, on account of the caviar it produces, the largest specimen ever caught was 24 feet (7.3m) long. They live mainly in the Black and Caspian Seas.

COOKIE-CUTTER SHARK

50 Small, circular bite marks on whales, dolphins, and tuna are the result of attacks by cookie-cutters that lurk in the marine depths by day and then rise at night to attack their prey on the surface.

INDO-PACIFIC SAILFISH

51 With a top speed of 68 miles per hour (110kph), the sailfish is generally agreed to be the ocean's fastest fish, although some scientists claim that black marlin and swordfish are faster.

JAPETELLA OCTOPUS

52 Light passes through this octopus's transparent body, but if illuminated by a predator, it turns to opaque red. Red is invisible in the deep sea.

YETI CRAB

53 The legs and claws of this blind deep-sea crab, discovered in 2005 in hydrothermal vents along the Pacific-Antarctic Ridge, are covered with a "fur" of pale yellow, silky hairs, which are home to numerous filamentous bacteria.



COELACANTH

54 This "living fossil" was thought to have become extinct millions of years ago until a specimen was caught by a South African fisherman in 1938. Coelacanths are a lobe-finned fish, up to 6 feet (1.8m) long, with armor-like scales. They rest in deep caves during the day, feeding at night. They are sometimes seen doing headstands, using the rostral organ in their snouts as an electroreceptor to help them find prey.

BLACK CORAL

55 Deep-sea black corals off Hawaii are the oldest continuously living animals on Earth—4,265 years old. In the same area gold corals have been dated 2,472 years, and another species of black coral in the Gulf of Mexico is estimated to be over 2,000 years old. Black coral (a relative of the sea anemone) grows slowly; no more than a few micrometers each year.



ATLANTIC HORSESHOE CRAB

56 Horseshoe crabs are related to spiders and scorpions. They spend the winter in the sea and then come ashore to spawn. A special chemical draws them back to the beach where they were born.

BOOTLACE WORM

57 A specimen on a Scottish beach was 180 feet (55m) long, making this worm the world's longest animal.

JAPANESE SPIDER CRAB

58 This giant crab has the greatest leg span of any crustacean—up to 12 feet (4m) across.

BARRELEYE FISH

59 This strange deep-sea fish has a transparent dome for a forehead. Inside is a pair of barrel-shaped eyes that can rotate like binoculars. They can look upward or forward to see where it's going while simultaneously seeking prey.

GIANT MANTA RAY

60 With a "wingspan" of up to 23 feet (7m), this is the world's largest ray. It's a filter feeder, sometimes making loop-the-loops and guiding plankton into its mouth with its two "horns."

MEGAMOUTH SHARK

61 This extremely rare, giant, blubber-mouthed, deep-sea filter feeder was unknown until the first individual was caught accidentally in a sea anchor off the coast of Hawaii in 1976. Many marine biologists consider it to have been the most important discovery of the second millennium CE. The species can grow to more than 18 feet (5.5m) in length. It is believed to live a life of almost constant grazing. By day it feeds in the deep sea down to depths of 525 feet (160m), where it swims through swarms of shrimp-like krill with its huge mouth—4.5 feet (1.4m) wide—hanging open to receive them. At night it follows its prey to the surface of the water and continues to ingest them there. The megamouth shark is an unusually slow mover, with an average speed of 1 to 1.3 miles per hour (1.5–2.1kph).

HUMPBACK WHALE

62 Humpbacks undertake lengthy annual migrations. In the Atlantic Ocean they travel between the Antarctic, where they feed, and Costa Rica, where they breed, a distance of more than 5,000 miles (8,000km). On the breeding grounds, bulls sing the longest known "songs" in the animal kingdom—some are 20 to 30 minutes long.



COLOSSAL SQUID

63 This is a giant and ferocious deep-sea squid of the Southern Ocean. Maximum size is unknown, although it is thought to be shorter but stockier than the giant squid and to weigh considerably more. It has the world's largest eyes—the size of dinner plates—and the largest beak of any squid. It is armed with a combination of fearsome-looking hooks and suckers. Even so, it falls prey to sperm whales.

GOBLIN SHARK

67 This bizarre deep-sea predator, with a sword on its head and highly extendable jaws, closely resembles a species of shark that lived 125 million years ago, making it a "living fossil." It is around 13 feet (4m) long, has pink skin and nail-like teeth, and its sword-like snout has electroreceptors with which it locates its prey in the dark. It feeds by drifting noiselessly up to a target; when it is within range, its jaws catapult out at lightning speed.

BLAINVILLE'S BEAKED WHALE

64 These whales communicate vocally in the deep sea, but fall silent at depths of less than 558 feet (170m), lest they fall prey to orcas.

GIANT BRISINGID STARFISH

65 The world's largest starfish can be 4.5 feet (1.4m) across, but the central disk of this delicate deep-sea species is only a little over 1 inch (2.5cm) in diameter.

SOUTHERN ELEPHANT SEAL

66 The world's largest seal can dive to 7,000 feet (2,133m), deeper than any other species of seal or sea lion. Thus, it can stay underwater for longer than many whales, dolphins, and porpoises. On its descent it appears to be asleep, sinking like a leaf falling from a tree.

OCEAN SUNFISH

68 This widely distributed sunfish is a contender for the title of the world's heaviest bony fish. It also produces more eggs than any other fish. One female produced 300 million eggs in one go—a record.

NARWHAL

69 The male narwhal has a long spiral "tusk" that projects horizontally forward and slightly downward from its upper jaw. It feeds near the seabed, and so swims upside down to prevent catching its tusk on the ocean floor.

ANDAMAN SQUAT LOBSTER

70 This bottom-dwelling squat lobster has an odd diet: it feeds on the wood from waterlogged trees that have sunk to the seabed. Its gut contains bacteria that digest the wood.

HAGFISH

71 To human perception, the deep-sea hagfish must be one of the most disgusting creatures on Earth. When feeding on the corpses of animals that have sunk from above, it eats them from the inside out. When attacked, its defense is to produce copious amounts of a thick slime laced with threads that gum up the predators' gills.



BELLY-BUTTON NAUTILUS

72 The nautilus's chambered, spiral shell is a buoyancy device that enables it to travel between deep waters, where it hides by day, and shallower waters, where it feeds at night.

NOMURA'S GIANT JELLYFISH

73 With a bell up to 6 feet (2 m) across, this is one of the world's largest jellyfish. For reasons that remain unknown, their numbers are increasing in the seas between China and Japan, and with it, their availability in markets and restaurants as food. They are not, however, generally well-regarded menu items.

AUSTRALIAN SNUBFIN DOLPHIN

74 This newly recognized species of dolphin catches food in an unusual way: it spits water at potential fish prey in order to round them up.



KILLER WHALE

75 At two places in the world—Peninsula Valdes in Argentina and the Crozet Islands in the Indian Ocean—killer whales rush out of the sea and deliberately beach themselves in order to catch baby seals or sea lions at the water's edge. Youngsters learn the beaching technique from their mothers, passing the skill from generation to generation.

BONE WORM

76 These worms burrow into and feed on the skeletons of whales that have sunk to the seabed. They have no mouth or stomach, so absorb nutrients via a root-like structure.

HARP SEAL

77 Mother seals pup on ice 6 to 12 inches (15–30cm) thick. The thickness is important because after weaning, the pup drifts away alone. If the ice melts too early, it could drown.

PALEODICTYON NODOSUM

78 This creature has never actually been seen, yet it's been given a scientific name. It's a worm-like burrower known only from a pattern of tiny holes or tunnels on the seabed.

JAPANESE MUDSKIPPER

79 The female mudskipper lays eggs in an air-filled mud burrow. She ensures there's sufficient oxygen by taking in mouthfuls of air. When the eggs hatch, they need seawater, so she carries out mouthfuls of air.

HARBOR SEAL

80 This seal's whiskers are so sensitive that they can detect a fish even if it swam past 30 seconds previously. It can also determine its direction of travel, what sort of fish it is, and whether it's worth pursuing.

SPERM WHALE

81 This powerful predator catches giant and colossal squid, which it detects with sonar. The sounds are the loudest produced by any animal, with clicks at 230 decibels, the equivalent of a rifle shot a yard from your ear.

MUSSEL SHRIMP

82 Adult males are 0.02 inch (0.6mm) long, but their sperm is 0.33 inch (8mm) long, the largest sperm relative to body size of any animal.

SAWSHARK

83 The sawshark is named for its long snout full of fearsome serrated teeth. It disables or kills prey by slashing at it with sideways swipes of the saw.

RED LIONFISH

84 The lionfish creeps up on small fish and squirts water at them. The prey's lateral line is upset, so the lionfish grabs it before it regains its balance.

ANTARCTIC SEA SPIDER

85 Antarctic sea spiders can have a leg span of 28 inches (70cm), but their bodies are so minuscule that all their vital organs are in their legs.

OARFISH

86 This is the world's longest bony fish, measuring up to 56 feet (17m) in length. It is believed to spend most of its life alone in deep waters, and so has seldom been seen alive. It feeds mainly on shrimp and plankton.



GIANT TUBE WORM

88 One of the most striking creatures found close to deep-sea hydrothermal vents is the giant tube worm. It's more than 6 feet 6 inches (2m) long. Its body is topped with a bright red plume that can retract into its tube. The plume exchanges gases with the seawater and absorbs chemicals spewed out by the vents. These supply bacteria contained in an organ in the worm's body, and the bacteria provide the worm with food. The worm relies on energy, not from the sun like most animals, but from deep within Earth—it can not only survive in, but appears to thrive on, hydrogen sulfide, the main component of stink bombs.

WHALE SHARK

87 The world's largest fish and the largest non-mammalian vertebrate is up to 40 feet (12m) long. This gentle giant filters plankton and small fish from the water.

GREENLAND SLEEPER SHARK

89 The Greenland shark is found in the North Atlantic Ocean, the farthest north of any shark species. At 24 feet (7.3m) in length, it rivals the great white shark as the world's largest predatory fish.

STOMATOPODA

MANTIS SHRIMP

90 These aggressive crustaceans—around 4 inches (10cm) when fully grown—are armed with formidable spears, or hammers, depending on the species. They use them against predators, prey, and each other, and they can even smash the glass of aquaria. They also have amazing trinocular eyes that move independently. They can see normal light frequencies as well as ultraviolet and polarized light—probably the most advanced vision system in the animal kingdom.



ERYTHROIDEA

PURPLE SEA URCHIN

91 Purple sea urchins have eyes in their feet. They have light-sensitive proteins in the base and tips of their numerous tube feet, so their whole body is like an enormous compound eye.

TELEOSTOMIA

GREEN BOMBER WORM

92 This free-swimming deep-ocean worm has bioluminescent gills that can be cast off and remain lit after they have been discarded to distract predators.

SYANGIUS

ESTUARINE STONEFISH

93 The stonefish sting is the most painful known, and the Indian stonefish has the largest venom glands. Its grooved dorsal spines are so tough that they can penetrate the sole of a beach shoe.

TETRAODONTIFORMES

TIGER BLOWFISH

94 The world's most poisonous puffer fish is a delicacy in Japan. The lethal poison—tetrodotoxin—is concentrated in the liver, eyes, and ovaries.

LARINUS

DANA OCTOPUS SQUID

95 When attacking prey, this very large deep-sea squid, with a length of around 7 feet 6 inches (2.3m), emits blinding flashes of light from the underside of its arms that disorientate the intended victim.

TELEOSTOMIA

MIMIC OCTOPUS

96 Discovered in 1998 off the coast of Sulawesi, this octopus copies the shapes and behavior of other marine creatures, many of which are venomous or in other ways dangerous. If damselfish attack, for example, it mimics the banded sea snake, the damselfish's number-one predator, and so they leave the octopus alone.



TELEOSTOMIA

GIANT BARREL SPONGE

99 The world's largest sponge is 6 feet 6 inches (2m) across. It's slow-growing and has been found to live for over 2,300 years, gaining it the nickname "redwood of the reef." It is found in the Caribbean.

TELEOSTOMIA

CUVIER'S BEAKED WHALE

100 This common and widely distributed toothed whale can dive to depths of more than 10,000 feet (3,000m) and remain submerged for up to 17 minutes. It feeds mainly on squid and deep-sea fish.

TELEOSTOMIA

GIANT CLAM

97 The world's largest bivalve mollusk lives in the Indo-Pacific region and can weigh more than 500 pounds (230kg). It was first described in 1521, by early European explorers in the Southern Hemisphere.

TELEOSTOMIA

VAMPIRE SQUID

98 This part squid, part octopus lives and feeds in the darkness of the deep sea in areas where oxygen levels are exceptionally low. When danger threatens, it ejects orbs of blue light from its arms.



ALASKA, USA

HUMPBACKS OF CHATHAM STRAIT

1 Every summer, humpback whales return to Chatham Strait, southeast Alaska, from Hawaii to feed in the fish-rich waters. Some gather in groups to catch herring with "bubble nets." When a shoal is spotted, the whales dive below it and swim in a circle, blowing bubbles as they go, thereby creating a cylinder of bubbles—the bubble net—that percolates up to the surface, trapping the school of herring inside. The whales swim up through the shoal with mouths agape, bursting to the surface like a giant untidy flower.

ALASKA, USA

GRIZZLIES OF BROOKS FALLS

2 Grizzlies arrive from spring until fall when the salmon are running. As the fish leap, the bears catch them in midair.

MANITOBA, CANADA

POLAR BEARS OF CHURCHILL

4 Waiting for the ice to freeze, bears turn Churchill into the "polar bear capital of the world."

CANADIAN ROCKIES

MORaine LAKE

3 Situated in the Valley of the Ten Peaks in Banff National Park, this glacier-fed lake almost "glows" a particular shade of blue. It is the result of light refracted by a fine-grained dust known as "rock flour," which is swept in with the glacial meltwater. The view of the mountains behind the lake is much photographed and is known as the "Twenty-Dollar View" because Moraine Lake appears on the 1969 and 1979 issues of the Canadian banknote of that denomination.

100 NATURAL WONDERS

CALIFORNIA, USA

GIANT FOREST

5 Among this impressive collection of sequoias are five of the ten largest trees on Earth, including the famous General Sherman.

UTAH/COLORADO, USA

DINOSAUR NATIONAL MONUMENT

6 More than 15,000 dinosaur fossils can be seen on a cliff face in the best site of its kind in the United States.

UTAH/ARIZONA, USA

MONUMENT VALLEY

8 Made famous in John Ford's Western movies, this area of towering sandstone buttes that rise over 1,000 feet (300m) above the valley floor has defined, according to film critic Keith Phipps, "what decades of moviegoers think of when they imagine the American West."

ARIZONA, USA

PETRIFIED FOREST NATIONAL PARK

9 Conifer trees more than 225 million years old and now extinct have been turned to stone, along with tree ferns, cycads, and ginkgos.

UTAH/USA

BRYCE CANYON

7 Strangely shaped pillars and spires create fairy-tale forests of red, orange, and white rock lining the slopes of a series of huge amphitheaters. The shapes were formed when ice and rain eroded weaker limestone rocks. The air is so clean at Bryce Canyon that distant mountains can be seen clearly.

ARIZONA, USA

PAINTED DESERT

10 Mudstone, siltstone, and shale strata have been eroded into a landscape that resembles a layer cake. The colors are from iron and manganese compounds.

ARIZONA, USA

GRAND CANYON

12 Carved by the Colorado River for at least 17 million years, this extraordinary gash in the Colorado Plateau is 277 miles (446km) long, up to 18 miles (29km) wide, and 5,906 feet (1,800m) deep. Exposed in the many layers of rocks are three of the four geological eras, covering nearly two billion years in our planet's history. It is not the world's deepest canyon, but it is the most intricate and also one of the best places in North America to see a wild and very rare California condor. In fact, there are 48 bird species that can be seen along the canyon, including the bald eagle during winter.

ARIZONA, USA

METEOR CRATER

11 About 50,000 years ago, a nickel-iron meteorite plowed into the northern Arizona desert at a speed of 26,600 miles per hour (42,808kph) to form one of the world's best-preserved meteor craters.



YELLOWSTONE NATIONAL PARK

13 The world's first national park is an area of dramatic geothermal activity, with mud pots, multicolored hot springs, and explosive geysers, including Old Faithful, which erupts on average every 90 minutes. The heat is here because Yellowstone sits upon the caldera of a supervolcano, the largest in North America. It last erupted 640,000 years ago and could explode again at any time. The park—mostly forest, interspersed with rivers, lakes, and waterfalls—is home to grizzly bears, coyotes, herds of bison and elk, and packs of wolves.

WYOMING, USA

DEVILS TOWER

14 Steven Spielberg's *Close Encounters of the Third Kind* (1977) featured this recognizable monolith. Geologically, it is an igneous intrusion from which the softer rocks all around have been eroded, leaving what looks like a giant tree stump about 1,267 feet (386m) high. A collar of fine-grained sandstone cliffs encircles the base.

BATS OF BRACKEN CAVE

15 More than 20 million Mexican free-tailed bats roost here each summer, the world's largest concentration of mammals. The bats consume several tons of insects every night.

HORSESHOE CRABS OF DELAWARE BAY

16 Like a scene from primordial Earth, horseshoe crabs emerge from the sea to deposit their eggs. The caviar is food for birds migrating north.

MOUNT KILAUEA

17 Meaning "much spreading" in the Hawaiian language, on account of its frequent spewing of runny lava, Kilauea has been erupting since 1983.

CAVE OF CRYSTALS

18 When Naica mine workers broke into this cavern in 2000, they discovered gypsum crystals the size of roof beams, the largest natural crystals ever found. The biggest is 39 feet (12m) long, 13 feet (4m) in diameter, and weighs 55 tons. They have formed over 500,000 years, when the cave was filled with mineral-rich water warmed by a magma chamber below. When the miners pumped out the water, the crystals were left behind. The air temperature in the cave is 136°F (58°C), and the humidity 90 to 99 percent, so without protection, people can visit for only ten minutes, at most.

BUTTERFLY TREES OF EL ROSARIO

19 Millions of overwintering monarch butterflies line the branches of pine and oyamel fir trees.

GIANTS OF ISLA MUJERES

20 The world's biggest concentration of whale sharks congregates off Yucatán to feed.

MOSQUITO BAY

22 At night the waters glow green as tiny marine organisms respond to disturbances by emitting light—bioluminescence.

GREAT BLUE HOLE

21 A patch of deep blue in the Belize Barrier Reef is an underwater sinkhole that measures approximately 407 feet (124m) deep and 984 feet (300m) across. Caves off the main shaft were formed when the sea level was much lower. When the oceans rose after the last Ice Age, the sinkhole and the caves were flooded.

THE PITONS

23 The Pitons are volcanic plugs—solidified lava that once lodged in the throats of volcanoes. Softer rocks have been eroded, leaving the twin spires linked by a ridge.

MEXICO

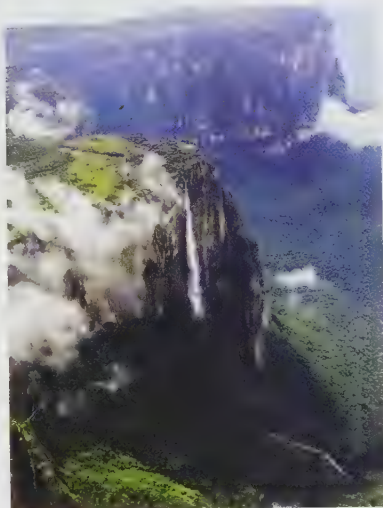
ARRIBADA AT OSTIONAL WILDLIFE REFUGE

24 A week before a new moon, hundreds of ridley sea turtles leave the ocean to deposit eggs on the beach. It is called the “*arribada*,” meaning “the arrival.”

VENEZUELA

AUYÁN TEPUI

25 This towering sandstone table mountain in the Venezuelan rain forest is well known for its waterfall: Angel Falls, the tallest in the world, 3,212 feet (979m) high, with a drop 19 times greater than that of Niagara Falls and named after Jimmie Angel, who crashed his airplane on the summit in 1937. The tepui is home to many species of plants and animals, including birds, frogs, and snakes, which live nowhere else.



MEXICO

HAMMERHEADS OF COCOS ISLAND

25 Each day schools of hammerhead sharks swim back and forth before dispersing at night to hunt.

ECUADOR

GALÁPAGOS ISLANDS

27 This living laboratory of volcanic islands is home to animals—such as the flightless cormorant, the marine iguana, and the giant tortoise—that are unique to the Galápagos archipelago. The many types of finches seen here are descendants of a single species that flew in from the mainland. These finches helped Charles Darwin to formulate his theory of evolution.

COTOPAXI VOLCANO

28 This stratovolcano has erupted more than fifty times since the early eighteenth century. Mudflows rush down its slopes at speed and flow for several hours.

TAMBOPATA

29 Exposed cliffs beside the river are visited by several species of brightly colored parrots and macaws.

PERU

CONDORS OF COLCA CANYON

30 South America's largest flying bird soars on air currents close to the canyon walls.

BRAZIL

AMAZON'S FLOODED FOREST

31 Each year the Amazon River floods adjacent forests so that fish, caiman, river dolphins, and giant freshwater turtles swim in the treetops. Livestock of local folk must live on rafts until the waters recede.

BRAZIL

LAGUNA, SANTA CATARINA

32 Fishermen cooperate with a pod of bottlenose dolphins to catch mullet. The dolphins tell the fishermen when to cast their nets, and the dolphins feed on any fish that escape.

BOLIVIA

SALAR DE UYUNI

34 The crust of the world's largest salt flat overlies a pool of brine. Small “islands” have giant cacti and rabbit-like viscacha. Its reflective surface is used to calibrate satellites in space.

BRAZIL, ARGENTINA

IGUAÇU FALLS

35 Many visitors consider the Iguazu Falls the most spectacular waterfalls on the planet, especially when they are in full spate. The waterfalls are divided by islands and arranged along the edge of the Paraná Plateau in an inverted J shape. A long, narrow chasm, known as “the Devil’s Throat,” is the centerpiece, with mists frequently rising 490 feet (150m) into the air. Swifts nest on the rocks behind the water, and they have evolved special flight techniques to punch through the thundering cascades to the outside.



LAGUNA COLORADA

35 This shallow salt lake turns bright bloodred due to the algae that live there. The vivid color contrasts with the lake's white borax islands.

PERITO MORENO GLACIER

36 Every three or four years, Perito Moreno glacier spreads out across its terminal lake and blocks the meltwater from two other glaciers upstream. The water level builds on the upstream side to such an extent that the ice dam cracks and bursts in a spectacular fashion, releasing a torrent of water and icebergs.



SOGNEFJORD

42 Norway's largest fjord is 127 miles (205km) long, and the main branch averages 2.8 miles (4.5km) in width. Its waters are 4,291 feet (1,308m) deep. The cliffs rise up almost sheer from the water's edge, and ribbon-like waterfalls cascade down the side of dark rocks, dwarfing any large cruise ship that should enter.

ORCAS OF VALDES PENINSULA

37 Sea lions and elephant seals come to the peninsula to breed, but killer whales ride in on the surf and pluck youngsters from the beach.

LOS PENITENTES

38 On the slopes around this ski resort near the border with Chile, the snow forms into rows of pinnacles, some 6 feet (1.8m) high. They resemble monks kneeling in prayer, hence the name *nieves penitentes*, meaning "penitent snow." They form when snow with dirt melts more rapidly than clean snow.

VATNAJÖKULL & GRÍMSVÖTN

40 Vatnajökull is Europe's largest ice cap, and it sits on active volcanoes, such as Grímsvötn. Every so often a volcano erupts, ice melts, and the resulting torrent washes away roads and bridges.

RØST CORAL REEF

43 The world's largest cold-water coral reef is 25 miles (40km) long and twice the size of Manhattan.



TORRES DEL PAINE

39 Three granite towers and two granite peaks topped with black slate form part of the Paine Massif, a spur of the Andes mountain chain. The highest is Paine Grande at 9,462 feet (2,884m). Cup-shaped cirques, sheer walls, giant glaciers, azure lakes, white-water rivers, and dramatic waterfalls complete a picture of nature in all its raw beauty. Beech trees, barberries, fescues, and groundsels dominate the ground cover while guanacos and Chilean huemul deer are the main plant-eating mammals, harried by foxes and pumas. Caracara and Andean condors are the scavengers.

LOFOTEN MAELSTROM

41 Strong currents converge off Moskenesøya, the most remote of the Lofoten Islands, to form a mighty whirlpool, known as the Moskstraumen. Ancient mariners feared this maelstrom, but fishermen now take visitors straight through its center.

THE CLIFFS OF MOHER

44 This exposed coastline is pounded by the Atlantic, with the constant danger of sections falling into the sea.

GIANT'S CAUSEWAY

45 These hexagonal columns in Northern Ireland resemble ancient ruins, but they are natural. Scotland's Fingal's Cave has a similar geological structure. They are the two ends of a road for legendary giant Finn McCool.

THE GAPING GILL

46 The waters of Fell Beck in North Yorkshire drop twice the height of Niagara as they fall into a vast underground chamber.

THE BAY OF MONT-SAINT-MICHEL

47 The incoming tide sweeps across the sand to isolate the island of Mont-Saint-Michel from the mainland just 1,968 feet (600m) away.

THE CÉVENNES GORGE

48 The Cévennes mountain range contains two spectacular canyons: the Gorges du Tarn and the Gorges de la Jonte.

THE CAMARGUE

49 The mosaic of marshland, lakes, and fields at the mouth of the Rhône River is home to wild horses and fighting bulls.

EISRIESENWELT

50 The ice in these caves is year-round, maintained in summer by cold air moving back from the inner depths.

THE MATTERHORN

51 This mountain has pyramidal faces at each of the four compass points. They are so steep that they rarely accumulate snow—regular avalanches dump most of it on the glaciers at the base of each face. A ridge links the two summits: the Swiss summit sits at 14,690 feet (4,477m) and the Italian peak at 14,686 feet (4,476m).

THE PLITVICE LAKES

52 The “land of falling lakes” is a string of freshwater formations separated by natural dams and bordered by forests.

TURKEY CAPPADOCIA

53 The conical hills are made of volcanic ash. Some are capped with harder stones, resembling mushrooms, while others look like humans. The rock is soft, so people have carved out homes and monasteries.

THE WHITE DESERT

54 White monoliths shaped like tents, chickens, mushrooms, cones, and old men in hats are natural chalk sculptures carved by sandstorms. They litter the sands of this desert in the Farafra Depression.

THE ENNEDI PLATEAU

55 Rock towers, pillars, and arches mark this part of the Sahara Desert. Slicing through the plateau is a gorge with red cliffs overlooking pools where drovers come to water their camels.



DZANGA BAI

56 The “village of the elephants” plays host to herds of forest pachyderms, solitary bulls, and troops of lowland gorillas, as well as forest buffalo, red river hogs, and bongos. They come to this clearing in the rain forest to feed on mineral salts, a dietary supplement. Elephants are normally here all day, every day, up to 150 at a time. However, in the shadow of a civil war, ivory poachers killed 26 elephants in 2013, and subsequently the animals have become more wary of open spaces. Military-style surveillance is now employed to protect the surviving elephants.

ERTALE & THE DANAKIL DEPRESSION

57 Rising out of an alkaline desert is Ertale with the world's longest-existing molten lava lake. It is the most active volcano in Ethiopia.

THE GREAT MIGRATION IN THE SERENGETI

61 Thousands of wildebeest, zebras, and gazelles embark on a circular migration that follows the rains around Serengeti National Park. Stalking them are the predators: lions, leopards, cheetahs, and hyenas. Waiting for them at the river crossing are crocodiles, and ready to exploit the leftovers are vultures.

FRUIT BATS OF KASANKA NATIONAL PARK

62 Some eight million straw-covered fruit bats arrive annually to feed on trees that fruit at the same time.

GORILLAS OF VOLCANOES NATIONAL PARK

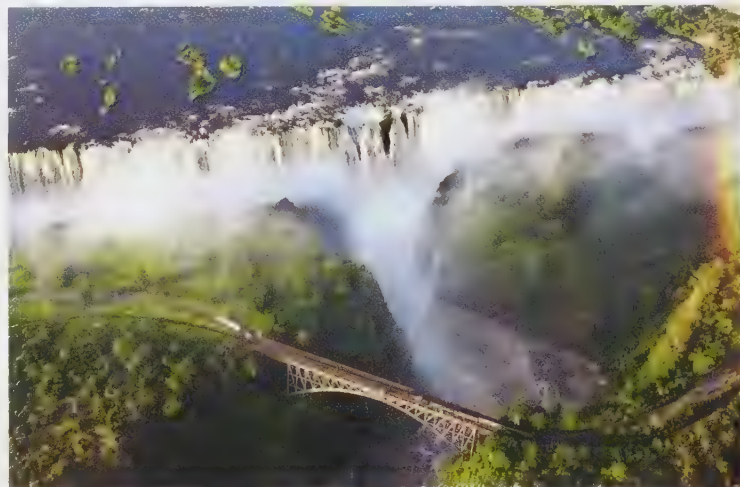
58 In Africa's first national park, visitors make the trek for a one-hour audience with one of the world's rarest primates—the mountain gorilla—and thus follow in the footsteps of Dian Fossey.

MOUNT KILIMANJARO

59 Africa's highest mountain is the largest single-standing mountain in the world. It is an active volcano with triple peaks that are snow-covered even though it is close to the equator.

FLAMINGOS OF LAKE NATRON

60 More than one million flamingos gather at the lake to breed on salt islands that are so caustic that predators cannot reach them.



VICTORIA FALLS

63 The "smoke that thunders" is a great sheet of water—the world's widest uninterrupted waterfall—that disappears into a chasm only 5,605 feet (1,708m) wide before plunging through a 360-foot-wide (110m) gap into a zigzag series of gorges to the plains below. Mist drifts to a height of 1,300 feet (400m), with water droplets rising like inverted rain. At night a "moonbow" replaces the daytime rainbow. The Devil's Pool, on the lip of the waterfalls, allows visitors to look down the vertical cascade.

SKELETON COAST

64 Here, desert meets sea. Nutrient-rich waters sustain fur seals and seabirds, lions feast on whale carcasses, and desert elephants make long journeys across the Namib.

OKAVANGO DELTA

65 The world's largest inland delta is known as "the river that never finds the sea," for it flows into the sands of the Kalahari and evaporates. It is flooded seasonally from rains that fall on the Angolan Highlands. This is one of the few places that lions swim regularly and even pursue prey in the water. Large prides tackle the dangerous African buffalo and even young savanna elephants.

DYER ISLAND & GEYSER ROCK

66 Penguins breed on Dyer Island, and fur seals on Geyser Rock. In the channel in between is the world's largest predatory fish: the great white shark. It targets the young, and attacks reach such speeds that sharks leap clear out of the water.

NAMAQUALAND

67 After invigorating winter rains, this uninviting arid region bursts into life. Great swathes of the veld are covered with carpets of orange, yellow, and white Namaqualand daisies, as well as other spring flowers: an instant floral wonderland. It has the richest bulb flora of any arid region in the world.

SOUTH AFRICA

SARDINE RUN

68 Enormous shoals of sardines follow the east coast of South Africa. Pursuing them are the top predators—dolphins, bronze whaler sharks, Bryde's whales, fur seals, penguins, and gannets—diners at "the greatest shoal on Earth."

MALAYSIA

TSINGY LANDS

69 In the center of the Ankarana Plateau is an unusual world, with rows of razor-sharp limestone pinnacles, some 100 feet (30m) high. The wafer-thin edge could slice off the arm of a careless traveler, yet lemurs leap from rock to rock with consummate ease. "Tsingy" means "where you cannot walk barefoot."

DEAD SEA

70 This is the lowest place on the surface of the planet and the deepest hypersaline lake in the world. Visitors come to learn how it feels to be unsinkable.

RANTHAMBORE NATIONAL PARK

72 Once a hunting preserve of the maharajas, Ranthambore is one of the few places where tigers can be seen in their natural habitat.

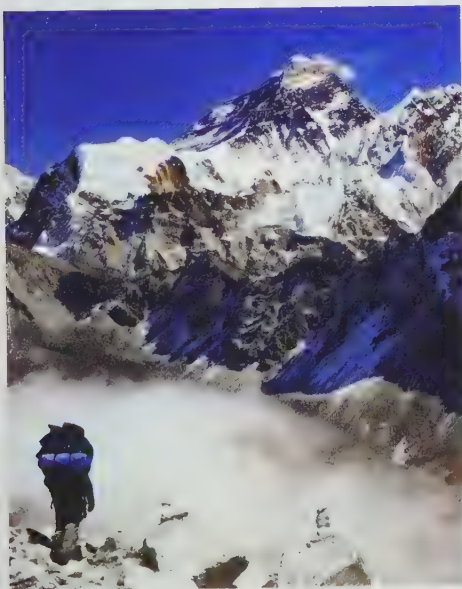
SIGIRIYA

73 Like a walled fortress, this block of granite was known as "the eighth wonder of the world." It towers 1,180 feet (360m) over the flat expanse of surrounding forest.

NEPAL

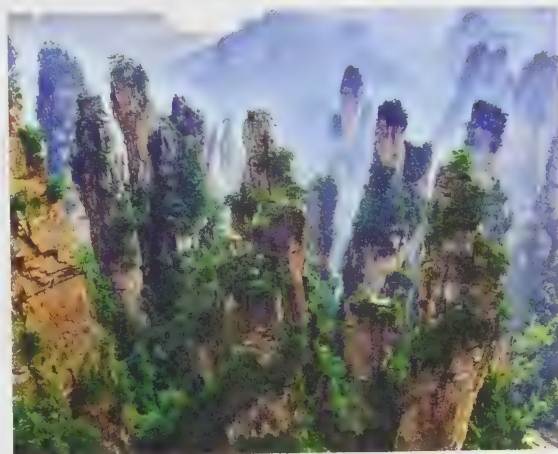
MOUNT EVEREST

74 The world's highest mountain was first conquered in 1953. Many people have died on Everest because of the rapidly changing conditions. Despite this, when the weather is right, there is actually a line to reach the summit.



WULINGYUAN

75 Often shrouded in mist, Wulingyuan is a natural haven in Hunan province. There are more than 3,000 quartzite sandstone pillars and peaks, between which are ravines, gorges, natural arches, and caves, as well as pools, lakes, waterfalls, and streams, some hiding the critically endangered Chinese giant salamander. Dense forests, with clouded leopards and black bears, grow in the subtropical climate.



CHINA

QIANTANG RIVER BORE

76 The world's largest tidal bore can be up to 30 feet (9m) high on normal days and twice that height when typhoons are blowing, as they did in August 2013, sweeping away flood barriers and injuring spectators. The bore travels at about 25 miles per hour (40kph) and is known as the Silver Dragon. The oldest known tide table, dated 1056, is for Hangzhou Bay and the Qiantang River.

CHINA

GUILIN HILLS

77 Rows of limestone hills rise from an otherwise flat landscape. Many have colorful names, such as Elephant Trunk Hill, which resembles an elephant drinking water. The hills are riddled with caves while outside-blooming cassia trees fill the air with the smell of cinnamon.

CHINA

BAISHUI TERRACES

78 Blue-tinted water spills down tiers of semicircular pools with calcium walls streaked in brown in the foothills of the Ha Snow Mountain.

MOUNT FUJI

79 Japan's highest mountain is a dormant stratovolcano with a symmetrical cone that stands alone in central Honshu. It last erupted in 1708. Throughout the centuries, artists have revered this peak, one of the country's three holy mountains, for it is said to suggest the mystery of the infinite. Visitors are permitted to trek to the top. There is a traditional saying: "You'd be a fool not to climb Mount Fuji once, and a fool to do so twice."

KUSHIRO SHITSUGEN NATIONAL PARK

80 This is a sanctuary for the rare Japanese crane, which here spread their wings and dance in the snow.

LAKE BAIKAL

81 One-fifth of all the freshwater in the world is stored in the world's deepest lake in Siberia. In winter the surface waters are frozen solid.

KAMCHATKA PENINSULA

82 One of the world's last wildernesses has active volcanoes, geysers, and mud pools, plus bears, wolverine, snow ram, and sable.

KAMPUNG KUANTAN FIREFLIES

83 Perak River is the venue for the world's largest concentration of fireflies in a mass of twinkling green lights.

SARAWAK CHAMBER

84 In Gua Nasib Bagus is the world's largest natural underground chamber. At up to 377 feet (115m) high, it is three times the size of Wembley stadium in London. It is reached by following a river upstream from the cave entrance but can be inaccessible due to flooding.

CHRISTMAS ISLAND RED CRABS

86 Every year some 120 million red land crabs migrate from their forest home to the sea to spawn. The moving carpet overwhelms homes, gardens, golf courses, roads, and railway tracks. Robber crabs intercept the red land crabs, and cars squash many more. However, their biggest threat is the introduced crazy ant, which is killing hundreds.

CHALLENGER DEEP

87 The deepest place in the world's oceans is at the bottom of Mariana Trench, 36,037 feet (10,984m) deep.

ANAK KRAKATOA

85 In the Sunda Strait between Java and Sumatra, the "child of Krakatau," as this volcanic island is known, is growing. Annual bouts of activity are building up the height and width of the volcano, so it is only a matter of time before it repeats the events of 1883, when Krakatoa blew apart in one of the biggest eruptions in recorded history. It destroyed two-thirds of the original island, caused tsunamis to rush across the sea—killing thousands of people—and was heard 3,000 miles (4,800km) across the Indian Ocean in Mauritius



JELLYFISH LAKE

88 Millions of jellyfish in the lake move from one side to the other during the course of the day. This ensures that the algae living in their tissues are exposed to the sun for the maximum amount of time. It is part of a complicated migration around the lake that takes place every 24 hours.

PINNACLES DESERT

89 Thousands of limestone pillars, up to 16 feet (5m) tall, litter a sea of sand dunes. Over thousands of years, the Pinnacles are buried and then exposed again in a long-term cycle that is driven by the strong southerly winds. The best times to see the Pinnacles are at sunrise and sunset, when shadows play on the shifting sands and there is an intensity of color.

SOUTHERN ISLANDS

SHARK BAY

90 Hundreds of rocky "cushions" in Hamelin Pool are living stromatolites (limestone mounds).

AUSTRALIA

ULURU

91 Known by colonists during the last two centuries as "Ayers Rock," this sandstone monolith is an inselberg, meaning "island mountain," which rises over a flat plain. The color of the grooved rock changes during the day, glowing orange at sunrise, rust in early morning, amber at midday, and deep crimson at sunset. The rock is sacred to the Anangu, the local Aborigine people.

ANTARCTIC

ZAVODOVSKI ISLAND

96 Mount Asphyxia volcano dominates this subantarctic island. It erupts regularly, generating swirls of smoke and steam, yet millions of chinstrap penguins crowd onto its slopes to nest, the biggest such gathering on Earth. Each nest is only 32 inches (80cm) from its neighbors, creating a dense carpet of black and white. The combination of volcanic gases and stench of penguin guano is overpowering, so the mountain lives up to its name.



GREAT BARRIER REEF

92 The Great Barrier Reef is the largest structure on Earth created by living organisms: coral polyps. It is said to have the greatest diversity of living things on Earth. However, all is not well: since 1985 the reef has lost half of its corals.

VIETNAM

TWELVE APOSTLES

93 Curiously, there have only ever been nine rock stacks here, and since July 2005 they have been reduced to eight after one toppled into the sea.

FRANCE

BORA BORA

97 US author James A. Michener called Bora Bora "the most beautiful island in the world," and many who have visited it would agree. With a central island dominated by two volcanic peaks, luxury resorts built over the water, and a barrier reef surrounding a tropical shallow-water lagoon teeming with reef fish, sharks, and manta rays, this is the quintessential tropical island paradise.



FIORDLAND

94 One of the world's great wilderness areas lies on the southwest part of South Island. Long fingers of the sea reach deep inland between the granite mountains of the Southern Alps. Slopes are cloaked in virgin temperate rain forest, and the deep waters are filled with black corals and other rare marine organisms.

GANNETS AT CAPE KIDNAPPERS

95 The largest site in the world for nesting gannets has more than 3,000 pairs crowded on the top of the promontory.

ANTARCTIC

MOUNT EREBUS

98 Hot gases seep through fractures in the ice, creating an intricate system of ice caves with crystallized walls. It is one of three volcanoes with a persistent molten lava lake.

ANTARCTIC

EMPERORS OF ADÉLIE LAND

99 Emperor penguins breed here in the winter, with the male birds packed together, each with an egg on its feet.

ANTARCTIC

LEMAIRE CHANNEL

100 Sandwiched between the Antarctic Peninsula and Booth Island, the channel is overlooked by cliffs, a haven from the strong winds and high seas



LEGUMINOSAE

GUM ARABIC

1 Acacia trees exude a resin from their trunks that has been used for 4,000 years. The only wattle gum that is a safe food additive, this plant from northern Africa and the Middle East is traded internationally for use in the food industry as a stabilizer, fixing in flavors, and putting the chew in pastilles and gum.

DIAPYTERACEAE

BAOBAB TREE

2 This ancient "upside-down tree" is an icon of Africa bushlands. A specimen in Namibia is estimated to be 1,275 years old. Local trade routes were based around known baobab trees. The flowers are pollinated by bush babies and bats. The trunk stores water, while the fruit, seeds, and leaves are eaten and used in traditional medicine.

ASTRACEAE

GARLIC

3 Originally from the steppes of central Asia, this aromatic bulb is grown and used all over the world. It is the oldest plant used as a herb; bulbs were found in the tomb of Tutankhamun. Its pungent smell and strong taste meant it was used more as medicine and magic than food. Today it is valued both as a key cooking ingredient and for its health benefits.

CRUCIFERAE

ALOE

4 An Arabian succulent plant used by ancient Egyptians, ancient Greeks, and found in Anglo-Saxon and Chinese herbals in the tenth and eleventh centuries, the leaves were used in the strong purgative "bitter aloes." The gel from the cut leaves is still used to soothe and heal skin from sunburn or scalds and in cosmetics.

MARSHMALLOW

5 This is a sweet, sticky herb whose soothing and healing leaves and roots have been used for 2,000 years. The ancient Egyptians are said to have eaten a mallow plant. Today's marshmallow candies do not contain this plant but the powdered root was once made into soft lozenges for throat infections and coughs. The peeled root used to be given to teething children.

100 ESSENTIAL PLANTS

ARACHIS HYPOCOTYLEDON

PEANUT

6 The peanut or groundnut originated in South America (mostly in Brazil) but it is now grown across the tropics and some warm temperate regions. Throughout the world it is an important food and a source of vegetable oil. The latter is also used to make polishes, paints, lubricants, insecticides, soaps, and cosmetics.

CHENOPODIACEAE

BEET & CHARD

7 Records of its culinary use stretch back to Roman times and the ancient Greeks. All parts—leaves, stems, and roots—are still used year-round throughout the world.

ERICACEAE

RAPESEED

8 In the thirteenth century, its oil was used in lamps; in the 1940s it was employed as a lubricating oil on Canadian warships. Although a member of the cabbage family, rapeseed was unsuitable as a source of food for either humans or animals due to the presence of two naturally occurring toxins. Edible oil was first extracted in Canada in 1956 and plant breeding in the 1970s removed the toxins. These canola varieties are now an important crop for cooking oil.

BRASSICACEAE

KALE

9 Kale is a primitive "headless" cabbage that has been grown for 2,000 years. Once valued for its ability to overwinter and supply fresh greens during the "hungry gap" months, it is now known as a superfood.

FRAXINACEAE

BOX

10 A long-lived, woody evergreen from Europe and North America, box has been used for topiary since Roman times. Many garden styles, such as the parterres of the Italian Renaissance and the knot gardens of Tudor and Stuart England, use box. The wood is very hard and was used for making boxes, printing blocks, and instruments.

AVENA SATIVA

OAT

11 Oats are descended from a wild species that spread as a weed of wheat and barley from the Middle East to Europe. The grain was domesticated 3,000 years ago and copes with wet, cold parts of Europe. It is used as a food and is known for its cholesterol-reducing effects.

ASTRACEAE

POT MARIGOLD

12 The bright orange petals of this humble annual have been used to color food since ancient times, hence the term "poor man's saffron." The petals and leaves are edible, although the marigold is generally cultivated more as an ornamental plant than as one for eating. A simple balm or cream of the processed petals soothes skin complaints such as eczema.

TEA

12 Tea became the national drink of China under the Tang dynasty (618–906 CE); it came later to the West.

HEMP & CANNABIS

14 An illegal hallucinogen and medicine, but also a source of rope, seed, and oil for 4,000 years.

CHILI

15 Chili peppers, the fruit of capsicums, add varying degrees of heat and flavor to staple foods all around the world.

QUINOA

16 Described as “the miracle grain of the Andes,” the edible seeds are high in protein and amino acids, but low in fat.

CHRYSANTHEMUM

17 Cultivated in China as a flower herb, the chrysanthemum was introduced into the West in the seventeenth century. It is now one of the world’s most popular cut flowers. Potted “mums” are popular in the United States, although some Europeans associate the flowers with funerals.

CHICKPEA

10 These nutritious seeds have been cultivated since 7000 BCE and were among the first crops farmed on the fertile plains of Mesopotamia. The chickpea was taken from North Africa to Spain where it was used in hearty stews. Hummus—once a humble Middle Eastern dish of mashed chickpeas—is now popular worldwide.



CITRUS X SINSENSIS

ORANGE

21 This evergreen, flowering tree is the most commonly cultivated fruit tree in the world. First cultivated in China in around 2500 BCE, Brazil and Florida are now key producers but most of their crop is juiced or made into pectin, despite the fruits being sweet enough to eat raw unlike the bitter orange (*Citrus x aurantium*). The essential oil, extracted from the peel, is used in cosmetics and medicines such as cold remedies.

COFFEE

23 Coffee comes from the roasted seeds of an evergreen shrub native to northeast Africa. Coffee drinking was first recorded in the Middle East in 1573; by the seventeenth century Europeans had a taste for it. The world’s favorite drink is a valuable commodity.



FEVER TREE

19 Bark from wild trees in Peru was used as a malaria cure. In 1820, when quinine was isolated, the Dutch set up plantations in Java.

LEMON

20 Fresh lemon juice and zest are a cook’s essential ingredient for dressings, marinades, desserts, preserves, and drinks. The oil is used in confectionery, perfume, and cleaning materials. Lemon trees were introduced from India into southern Italy in 200 CE; Sorrento lemons from that region are highly prized. Today, lemons are also grown in Argentina, Iran, and California.

COCONUT

22 A palm tree, native to Sri Lanka but now grown all over the tropics, the coconut provides fuel, oil, and roof thatch as well as food. Coconut milk is a culinary pièce de résistance, widely used in drinks, soups, curries, and sweet dishes. Unlike the natural coconut water found inside the green fruit, the milk is made by infusing the shredded fruit flesh in hot water, then straining it.

TRICHOPTERIS

SAFFRON

24 The world's most expensive spice is laboriously harvested by handpicking the three stigmas from each flower. La Mancha in Spain is a key producer: 80,000 flowers yield 17 ounces (500g) of saffron. It is used in rice dishes like paella, but also in cakes and buns.

DICKSONIA AFRICAENSIS

TREE FERN

28 This is a desirable plant for European gardens as it is the hardiest species. In its native Australia and Tasmania it grows in cool temperate forests and gullies. When land is cleared, by law these ferns are tagged and exported and so saved.

IPHIGLIA PUMPA

CONEFLOWER

31 Found in the eastern United States, the roots from this plant were used by native North Americans to treat wounds. Western medicine has since found commercial preparations to be an effective cold cure when taken internally and it is also used externally for skin complaints. The attractive flowers are also valued by growers.

ELAEIS GUINEENSIS

OIL PALM

32 The oil is used in foods such as ice cream, chocolate, and potato chips. A native of West Africa, this fast-growing crop is cultivated in other tropical areas; as land is cleared for these vast plantations rain forest is under threat.

THYTALIS PURPUREA

FOXGLOVE

29 Despite being poisonous if eaten (and subject to legal restrictions in some countries) this genus of herbaceous perennials and biennials is admired for its attractive flower spikes. They are a source of the glycoside digitoxin used to treat heart failure and irregular heartbeat.

CUCURBITACEAE

WINTER SQUASH

25 Thick hard rind keeps these edible fruits through the winter; a sustaining food for thousands of years.

DIOGLOBA

YAM

30 An important agricultural crop in tropical regions, the vines of the plant produce large edible tubers known as yams. The raw material for making steroids, oral contraceptives, and other drugs at one time came from yams; it was a major industry in Mexico from the 1940s until 1970 when they were human-made.

TRIPLODENDRON

CUMIN

26 Today cumin is found in the spice mix garam masala but in the Middle Ages it was widely used in Europe; later the Spanish took it to Latin America.

PAPYRUS

27 This reed was cut into strips pressed together to make papyrus, an early form of paper, in ancient Egypt. Parts of it can also be eaten.



LEUCODENDRON

EASTERN CAPE GIANT CYCAD

33 These are cone-bearing plants that have outlived the dinosaurs; an example of one of the oldest pot plants in the world has been at the Royal Botanic Gardens at Kew in west London since 1775. The long-lived Eastern Cape giant cycad—also known as the bread tree—originates from South Africa and is a popular ornamental garden and container plant due to its attractive palm-like foliage. However, it has become vulnerable because of habitat destruction and removal of specimens by collectors.

ACACIA

GUM TREE

34 These Australian trees, rich in oils and resins, are used for cough medicines and liniments. Aboriginals used bark and leaf remedies but the first commercial production of oils began in 1860. The leaves of certain species are steam distilled to extract the



LAWN GRASS

35 Wealthy estates in northern Europe began to feature lawns in their garden designs from the 1700s. Although still popular today, concerns have been raised about their environmental impact.

FIG

36 Fig trees have been grown since antiquity. Ancient Egyptian carvings show figs being offered to gods and Pliny listed 29 cultivars. As well as their sweet fruit, they are also fine foliage trees.

SOYBEAN

37 First domesticated in north China in the eleventh century BCE, the soybean has been grown in Asia for centuries, with the seeds used fresh or as fermented and dried foods. Today large-scale producers in countries such as North America, Argentina, and Brazil extract soybean oil for use as shortening, margarine, cooking oil, and salad dressings. Soybeans account for 80 percent or more of the edible fats and oils consumed in the United States. Soy oil is also used in industrial paint, varnishes, and other products. Lecithin, a product extracted from soybean oil, is an emulsifier and lubricant used in many food and industrial applications. Once the oil has been extracted, the "meal" that remains can be processed into flour or used as animal feed.



COTTON

38 The cotton trade was underpinned by slavery and brought about the American Civil War of 1861–65. China is the world's biggest producer.

SUNFLOWER

39 Native Americans were eating the seeds thousands of years ago, but it was the Russians that first used it as a source of cooking oil. Ukraine in Europe is now the world's number one sunflower oil producer and exporter.

RUBBER TREE

40 The trunk of this Brazilian tree yields a milky sap that is collected and processed to make rubber for many useful products such as car tires and latex gloves.

HOLY GRASS

41 Also known as sweetgrass, this aromatic herb was used as incense by native North Americans. It has a circumpolar distribution around the North Pole.

BARLEY

42 This ancient grain was domesticated in the Middle East 10,000 years ago and is used in beer, whiskey, and malt production. Pearl barley is used in soups and drinks.



ST. JOHN'S WORT

43 This flowering plant was once thought to have magical properties because a red pigment (hypericin) drips from the pressed flowers. Hypericin is now recognized to be an antidepressant and to have anti-inflammatory properties. St. John's wort is widely used in herbal medicine, but should always be taken with caution; overuse can make the skin sensitive to light. The plant can act as a cumulative poison when eaten by livestock.

STAR ANISE

44 These pretty star-shape seedpods have an aniseed flavor and provide one of the components of Chinese five-spice powder. Star anise has long been cultivated in south China for culinary and medicinal use.

INDIGO

45 Native to India and grown mainly in subtropical areas, this herb has been used as a blue dye since antiquity. Indigo is compatible with all natural fibers and combines well with other dyes.

Conium maculatum

SWEET POTATO

46 Cultivated in the tropical Americas before the time of the Incas, the cooked tubers are sweet, nutty, nutrient-rich, and popular in the United States, Europe, and as street food in Asia.

Lilium candidum

MADONNA LILY

49 Grown by ancient Greeks and Romans as a medicinal herb, Christians adopted the white flower as a symbol of purity. It often features in depictions of the Virgin Mary.

Linum usitatissimum

LINEN

50 Flax fibers are used to make linen, while the seeds produce an edible oil and animal fodder.

Coccoloba palm

COCO DE MER

51 Once the stuff of legends, this coconut of the sea—similar to the shape of a female torso—drifted eastward from the Seychelles.

Lycopersicon esculentum

TOMATO

52 The tomato, which belongs to the nightshade family *Solanaceae*, was first cultivated in Peru, although its use as a food originated in Mexico. The Spanish word "tomate" is derived from the Aztec (Nahuatl) word "tomati." The Spanish conquistadors brought the tomato back to Europe, where it grew easily in Mediterranean climates, but it was considered poisonous by some up until the nineteenth century. Today, diverse varieties are grown and they are a key ingredient in world cuisine.

Lavandula angustifolia

LAVENDER

47 A Mediterranean native now grown commercially, then distilled to extract the aromatic oil used in aromatherapy and perfumes, lavender has a long history of domestic use stretching back to Roman times.



Malus domestica

APPLE

53 This is the most widely grown fruit tree in temperate areas. The fruits are eaten raw and cooked, juiced, or turned into cider and vinegar. In areas where apple orchards have existed for hundreds of years, they play a significant role in the local culture.

Cycas revoluta

SAGO PALM

56 This suckering species of palm is described as humankind's oldest food plant. Native to tropical southeastern Asia, where starch obtained from the trunk is used as a staple food to make noodles and bread. The leaflets of the palm are used as roof thatching.



Lawsonia inermis

HENNA

48 A dye plant from the Middle East. Worldwide, henna is used for cosmetic purposes to color hair, skin, and nails a red or orange color. It is also used to dye fabrics.

Cassia tor

CASSAVA

54 This is an important staple food in West Africa, the Congo, tropical South America (including the Caribbean), and southeast Asia. Cassava roots are a quick-growing and affordable source of starch once peeled, washed, and cooked to remove bitter compounds that are poisonous. Jamaican "bammy" is made from grated cassava, which is pressed into a cake and baked; cassava flour can be made into breads. A fermented liquor, syrup, and tapioca for thickening and puddings are other by-products.

Mentha arvensis

MINT

55 This versatile herb can provide tea to aid digestion, sweet fresh spearmint for cooking, and cool peppermint for candies and toothpaste.

BANANA & PLANTAIN

57 Millions of us eat the familiar yellow Cavendish banana, one of the most economically important crops in the world in the humid tropics and subtropics. There are also many less usual types, such as small fragrant ones and red bananas. Despite their palmlike leaves, *Musa* species are herbaceous perennials, not trees. Plantains, a staple in East and central Africa and parts of Asia, are only edible if cooked.

LOTUS

60 A beautiful plant emerging from muddy water is an example of enlightenment in parts of Asia, where it is revered. Even the white edible root looks elegant.

TOBACCO

61 Native Americans introduced Europeans to tobacco and since the seventeenth century it has been the source of a lucrative world trade. The plant's strong aroma can protect neighbors against pests like cabbage white butterfly.

BASIL

62 From holy temple to foodie kitchen, these pungent leaves have been with us for more than 3,000 years.

OLEA EUROPAEA

OLIVE

63 For over 3,000 years olive trees have been potent symbols of the Mediterranean landscape and diet. Spain, particularly Andalusia, is the world's largest olive oil producer.

RICE

64 Rice, the staple food of over half the world's population, has been grown in China and India for at least 4,000 years. During that time many cultivars have developed. Short-grain rice grown in northern Italy for risotto is thought to have arrived with merchants from the Far East. Rice was introduced to Spain by the Moors in the eighth century, hence such rice-based Spanish dishes as paella.

NUTMEG & MACE

58 Two valuable spices from the fruit of one tree, both traded since the sixth century from the Spice Islands.

DAFFODIL

59 A harbinger of spring in Europe with many cultural associations, this is an important ornamental in the bulb trade.



GINSENG

65 Ginseng can be found growing, usually in cooler climates, in North America and in eastern Asia. The root of this ancient herb resembles a small parsnip that forks as it matures. It is widely used in traditional Chinese medicine as an aphrodisiac and stimulant. The plant contains ginsenosides, a class of natural steroid glycosides, but there is no evidence to confirm that ginseng has medicinal benefits. It can have side effects, such as insomnia, if taken in high doses. It is a common ingredient in commercially prepared energy drinks.

MILLET

66 Millet, a general name for wild grasses that can also include other species, is a grain that can grow in dry, high-temperature conditions. It stores well and is gluten-free. It is still an important food in Russia, the Near East, and India. It is also used as birdseed.

OPIUM POPPY

67 Ancient Greeks knew of the effects of opium, and it featured heavily in their mythology. It remains the world's most important painkiller so crops are legally grown for the pharmaceutical industry.

GERANIUM SPECIES

GERANIUM

68 Some species emit fruity or spicy fragrances, while others provide summer color in flower beds or cascading from balconies.

PETROSELINUM MENTHIFOLIA

PARSLEY

69 Handfuls of this plant's freshly chopped leaves bring flavor and an intense green color to dishes the world over.

PHALAENOPSIS HYANINOA

MOTH ORCHID

70 Thanks to tissue culture propagation, these exotic specimens are now the most popular indoor pot plant.

PHASEOLUS SPECIES

BEAN

71 Grown by Aztecs 5,000 years ago, we are all still eating the common bean: green, dried, and as seed sprouts.

PHYLLOSTACHYS SPERMATOPHYTES

BAMBOO

72 Apart from its many familiar uses (construction, paper-making), the leaves are a source of new medicine and the young shoots are an edible delicacy.

PISUM SATIVUM

PEA

73 Austrian monk scientist Gregor Mendel used peas to establish the laws of inheritance underpinning genetics in 1865. Peas were originally grown for their dry seeds; eating fresh green peas was a later development.



PINE

74 Many different species of these long-lived, evergreen conifer trees are a commercially important source of timber for construction and furniture throughout the world. The fast-growing trees are also used for products such as turpentine, wood pulp, and paper, as well as providing the much-loved Christmas tree.

ALMOND

77 The almond tree is native to the Middle East and South Asia. Its fruit was one of the first food crops to be cultivated in the Middle East. The nuts are used whole, sliced, or ground in cakes, cookies, and candy such as nougat and marzipan. They are also eaten raw or toasted. The oil is in demand for cosmetics and medicinal use.

ALGAE

73 Marine species of plants are less well known than terrestrial plants but as the oceans cover three-quarters of the Earth's surface they are of primary importance. More photosynthesis takes place in the sea than on land, thanks to masses of single-celled phytoplankton floating near the surface of the oceans; their chlorophyll absorbs the sunlight and together with the nutrients in the water, they make protein, fats, and carbohydrates. Phytoplankton are a source of food for a wide range of animals, from small shrimps to large whales. While terrestrial plants have had to evolve structures and metabolisms to cope with water loss and drastic changes in temperature, there is relatively little physical variation in marine environments. All these simple cells have to do is what they have always done, merely lie back and soak up the sun.

PEPPER

75 Still the most important and popular spice in the world, pepper first reached Europe from India's Malabar Coast 3,000 years ago. Dried peppercorns were so valuable they were once utilized as currency such was the demand for their pungent hot bite. The term "peppercorn rent" originated in medieval Europe, where it was accepted in lieu of money. *Piper nigrum* produces black, white, and green peppercorns. Black peppercorns, the dried unripe berries from the vine, have the most value.

POMEGRANATE

70 This is a long-lived tree grown since ancient times around the Mediterranean and Middle East. The seeds have medicinal properties—their ability to kill tapeworms was documented in 1500 BCE. The fruit was introduced into America by Spanish settlers. The slightly tart, ruby-colored seed can be sprinkled liberally over food, juiced, or used to make cordials such as grenadine.

OAK

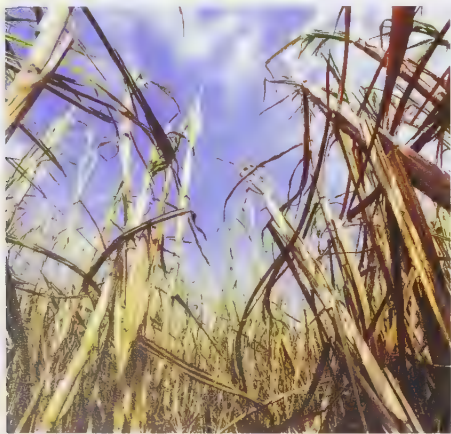
79 The longevity and durable hardwood of the mighty oak tree have made it a popular choice of national tree in countries around the world.

ROSE

80 A promise of a rose garden, the romance of the cut flower, damask perfume, or its distinctive essence captured in rose water—so many ways to enjoy a rose by whatever name.

ROSEMARY

81 Rosemary is a Mediterranean herb used since Roman times. In the kitchen, the robust flavor complements roasted, barbecued, or stewed meats as well as making a soothing tea to aid the digestion.



SUGARCANE

82 This tall fibrous grass filled with sweet juice originated in New Guinea. Columbus introduced it into North America where the resulting plantations created great wealth built on the back of the slave trade. A crop for the humid tropics, it is grown in over 70 countries including Brazil and India.

WHITE WILLOW

83 White willow contains salicin, which was used to develop aspirin in the nineteenth century. The shrub is fast-growing but also grows back when cut and therefore is a candidate for biomass fuel. The wood from *Salix alba* var. *caerulea* is used for cricket bats.

GIANT REDWOOD

85 The world's biggest and oldest tree—"General Sherman"—is 272 feet (83m) tall and 3,500 years old. Redwoods are protected by Sequoia National Park, California.

SORGHUM

88 This grass is described as the "camel of crops" because it can cope with hot, dry conditions, which makes it an important grass to cultivate in more than 30 countries around the world. The United States and Australia are large producers but their crops are grown for animal feed. Sorghum has more agricultural significance for subsistence farmers growing crops in harsh conditions. The grain is small, easy to cook, and very versatile as it can also be processed into flour, which in turn is used to make beer. Sorghum also provides fodder, hay, and silage for animals, and the stems are also used to make household items.

RYE

84 A grain crop that can survive where wheat and barley struggle, rye is common in northern Europe where dark, heavy rye breads such as German pumpernickel and Swedish limpa are popular. Rye is also used to produce alcohol and animal feed.

SESAME

86 Ancient Egyptians used ground sesame seeds in bread; today they are used mainly to produce a cooking oil or snack.

SOLANUM TUBEROSUM

POTATO

87 A nutritious and versatile staple that started out in South America around 5000 BCE and reached Europe in the sixteenth century.



YEW

89 These long-lived, specimen trees with their dense, evergreen foliage are often found in the churchyards of Europe and are commonly used for hedging and topiary. Traditionally, the tree's wood was also used to make the famous English longbows. More recently, yew was found to contain alkaloids that have been used in anti-cancer chemotherapy drugs.

TEUTONIC NAME

TEAK

90 A tall timber tree from South and Southeast Asia, the tropical hardwood is highly durable and resistant due to its high oil content. The wood is used for construction, boatbuilding, and furniture. Myanmar's forests account for nearly half the world's naturally occurring teak. An extract of the bark was a traditional cure for diabetes.

THE ROMAN/ARABIC

COCOA

91 Considered a "food of the gods" since Aztec times when it was made into a beverage, the beans were also used as currency. They are processed into cocoa powder, which when sweetened is used as a flavoring or to make chocolate. Cocoa butter, used in cosmetics, is another common product.

VANILLA PLANTING

VANILLA

96 Our desserts would be bland without the perfumed sweetness of the tiny seeds extracted from the cured pods of this orchid. The plant prefers a hot, wet climate. Most of the vanilla in the world comes from Mexico and Madagascar.

POINTE D'AFRIQUE

COWPEA

97 Versatile in use with low inputs, this ancient African plant is now grown in over 30 tropical countries around the planet. Shade tolerant, it can be grown as an intercrop alongside others such as maize and sorghum. The seeds, pods, and leaves are all edible; a flour can also be made from the ground seeds.



TRITICUM SPECIES

WHEAT

92 This cereal is grown on almost every continent. Wheat was domesticated 10,000 years ago, changing the lifestyle of nomadic hunter-gatherers to a culture of human settlements. It is still a major part of the human diet, constituting 20 percent of all food calories.

TULIP HYBRID

TULIP

93 The Netherlands is the world center of tulip bulb production today, with half exported to the United States.

VACCINIUM NORTON

CRANBERRY

94 Long before Thanksgiving turkey and cranberry sauce, Native Americans used dried cranberries as a trail mix and sailors took them on voyages.

VALERIANA HYPOCYCLOS

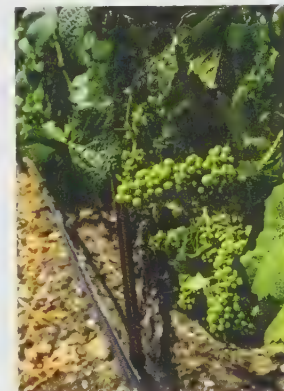
VALERIAN

95 This is a European herb, used by Hippocrates in the fourth century BCE. The roots contain chemicals that act on the nervous system and it is used as a sedative.

VITIS VINIFERA

GRAPE

98 Cultivation of this species began 5,000 years ago in the east Mediterranean. Wild vines only fruit on female plants, so over time self-fertile vines were selected. When Phylloxera disease struck vineyards worldwide in the mid-1800s the economic results were devastating. A different vine species had to be grafted on to the grape varieties to confer disease-resistance. Viticulture can be found on every continent apart from Antarctica.



ZEA MAIZE

MAIZE

99 A major world crop, this produces oil, cereal, flour, and animal fodder, depending on the type of maize. More interesting to the home gardener is sweet corn; its high sugar content makes for a tasty vegetable eaten from the cob. Popping corn comes from a primitive strain with hard grains. The ancestry of corn starts with teosinte, a wild plant that grew in Mexico 7,000 years ago and then spread into North and South America. Columbus is thought to have brought corn to Europe.

ZINGIBER OFFICINALE

GINGER

100 Cultivated in China and India for at least 3,000 years, the underground stem (rhizome) of this plant is used, raw or cooked, in savory dishes and drinks. Preserved or candied ginger adds a warming bite to desserts; dry ginger spice is used in gingerbread and cool



MOHS HARDNESS: 10

WHITE DIAMOND

1 The hardest natural substance known, diamonds are a tightly interlocking net of carbon atoms. Diamonds have been used as a gem since ancient times, but the cutting and polishing of a diamond only began in the Middle Ages. At first, only natural faces were polished, but eventually, today's sparkling cuts evolved. A diamond can only be cut and polished with other diamonds; because of its hardness. The first gem diamonds came from India, and much later from Brazil and South Africa. Today, Russia and Australia are major producers.

MOHS HARDNESS: 10

COLORED DIAMOND

2 Today, many diamonds are artificially colored by irradiation or other means. Naturally colored diamonds are much rarer and command very high prices. The blue Hope Diamond and the Dresden Green are examples of these. By far the rarest, and hence most valuable, are red diamonds.

MOHS HARDNESS: 9

RUBY

3 Ruby is the red variety of corundum, an aluminum oxide. It, along with the other corundum gems (sapphire and padparadscha), are the second-hardest natural substances. Transparent rubies in excess of 10 carats are rarer than diamonds and bring higher prices.

MOHS HARDNESS: 9

BLUE SAPPHIRE

4 Blue sapphire is another variety of the mineral corundum. It was given a separate name in a time before it was realized that it was the same mineral as ruby. Among the finest is the Logan Sapphire in the National Museum of Natural History, in Washington, DC.

100 GEMSTONES

MOHS HARDNESS: 9

FANCY SAPPHIRE

5 The term "fancy sapphire" is applied to any variety of corundum that is neither red (ruby) nor blue (sapphire). The mineral occurs in almost every other imaginable hue, with green and yellow the most abundant.

MOHS HARDNESS: 9

STAR SAPPHIRE

6 Star sapphires are formed during the crystallization process, when microscopic platelets of the mineral rutile attach themselves to the forming crystal and are enveloped by it. They are revealed when the crystal is cut en cabochon.

MOHS HARDNESS: 9

STAR RUBY

7 Star rubies are formed in exactly the same manner as star sapphires, and are even more valuable.

MOHS HARDNESS: 9

PADPARADSCHA SAPPHIRE

8 This orange-pink corundum takes its name from the Sanskrit for "lotus blossom."

MOHS HARDNESS: 8

ALEXANDRITE

9 Named for Czar Alexander II of Russia, where it was first discovered, this is the variety of the mineral chrysoberyl that exhibits a color change in different lights: green in daylight, cherry red in tungsten light.

MOHS HARDNESS: 8

TOPAZ

10 Topaz probably takes its name from the island of Topazios (now Zebirget) in the Red Sea. Its natural colors include red, blue, green, and orange. Most blue topazes sold today are artificially colored by irradiation.

MOHS HARDNESS: 8

IMPERIAL TOPAZ

11 Imperial topaz is sherry colored. Because of the high value of sherry-colored stones, other, cheaper, similarly colored stones are sometimes marketed as "topaz": citrine as "quartz topaz" or "Madeira topaz"; and smoky quartz as "smoky topaz quartz."

MOHS HARDNESS: 8

RED SPINEL

12 Red spinel gems date from at least 100 BCE. Crystals form as hard, sharp octahedrons, and the mineral's name is likely derived from the Latin "*spina*" ("spine").

MOHS HARDNESS: 8

BLUE SPINEL

13 Blue spinel was identified slightly more recently than its red equivalent: the earliest mentions of it can be traced back to the period of the Roman occupation of Britain (51 BCE to around 400 CE).

MOHS HARDNESS: 8

CAT'S-EYE CHRYSOBERYL

14 The name comes from the single bright line across the top of a cabochon-cut stone.

MOHS HARDNESS: 8

PHENAKITE

15 When faceted, colorless phenakite has high brilliance and excellent color dispersion.

MOHS HARDNESS: 8

EMERALD

16 Emerald is the green variety of the mineral beryl. Emeralds were used in jewelry in ancient Egypt, and Cleopatra's mines were exploited by the Romans in the first century BCE. Today, the finest emeralds come from Colombia.



MUCH HARDNESS: 7

GREEN TOURMALINE

21 Tourmaline is a complex group of interrelated minerals, with the gemstone varieties being virtually indistinguishable from each other in cut stones. The most desirable variety is emerald green.

MUCH HARDNESS: 7

SMOKY QUARTZ

22 Smoky quartz is the brown to black variety of the mineral quartz. The Cairngorm variety occurs only in Scotland.

MUCH HARDNESS: 7

AMETHYST

23 Egyptians used amethyst as a gem more than 4,000 years ago. It is the purple variety of quartz. Deposits are widespread, but most gem-quality stones come from Brazil and Uruguay.

MUCH HARDNESS: 7

CINNAMON GARNET

24 Used by the ancient Greeks and Romans, brown to honey brown in color, this semiprecious gemstone is the calcium-rich form of grossular garnet.

MUCH HARDNESS: 7

PYROPE GARNET

25 Pyrope garnets are deep ruby red and formed under extreme conditions of heat and pressure. They are also known as Bohemian garnets or Cape rubies.

MUCH HARDNESS: 7

TANZANITE

17 Blue to blue-violet tanzanite is one of the newest gemstones on the market. It was discovered only in the 1960s and comes almost exclusively from a single area of Tanzania. It was once thought that the deposit would be exhausted within a generation, but it is still productive today.

MUCH HARDNESS: 7

JADEITE

18 Jade has two forms. This is the more valuable of them, a green silicate of sodium and aluminum that is often of gem quality. The other form is nephrite, a silicate of calcium, magnesium, and iron.

MUCH HARDNESS: 7

KUNZITE

19 The pink to lavender variety of the mineral spodumene, kunzite is named for mineralogist G. F. Kunz. It has different colors in different crystal directions, so requires careful orientation when faceted.

ALMANDINE GARNET

20 Red almandine is an iron silicate often found in association with spessartite (manganese and aluminum silicate).

MUCH HARDNESS: 7

INDICOLITE

26 After green, this is the most sought-after form of tourmaline, a name derived from the Sinhalese "turamali," meaning "gem pebbles." Most indicolite today comes from Brazil and the United States.

MUCH HARDNESS: 7

AQUAMARINE

28 Like emerald, aquamarine is a form of the mineral beryl, a beryllium aluminum silicate. Aquamarine varies in color from pale green to intense blue. In past times green aquamarines were the most prized; today, blue specimens fetch the highest prices. While emeralds tend to be small—less than 10 carats (2g)—aquamarine gems over 100 carats are not uncommon. One of the largest known was a transparent crystal weighing 245 pounds (110kg), found in Brazil.

MUCH HARDNESS: 7

ZIRCON

29 Zircon has been mined as a gemstone from the gravels of Sri Lanka for at least 2,000 years. It comes in several colors, especially green. Since the mid-twentieth century, it has also been a major source of the metal zircon, of which it is a silicate.

MUCH HARDNESS: 7

RUBELLITE

27 As the rarest form of tourmaline, rubellite commands the highest prices, particularly specimens of more than 10 carats (2g). The colors range from pink to rich red: the darker the stone, the more it will cost.



MUCH HARDNESS: 7

PERIDOT

30 Peridot is the transparent gemstone variety of the mineral olivine, a constituent of some types of volcanic rock. Its color can range from yellow-green to dark green. It has been mined on the island of Zebirget in the Red Sea for over 3,500 years.

MOHS HARDNESS: 7

CITRINE

31 Citrine is the yellow to yellow-brown variety of crystalline quartz. It is naturally colored, but much of the citrine on the market today is produced by heat-treating low-grade amethyst. Like smoky quartz, it is sometimes marketed as "smoky topaz quartz," implying that it is related to topaz, which it is not.



MOHS HARDNESS: 7

AGATE

32 Agate is a variety of chalcedony, the microcrystalline quartz. It is usually translucent and forms in bands or layers, although it can have internal formations of other minerals that resemble moss or other organic forms.

MOHS HARDNESS: 7

ZULTANITE

33 Zultanite is a transparent gemstone form of diaspore, with multicolor flashes. It comes only from Anatolia in Turkey.

MOHS HARDNESS: 7

TIGER EYE

34 Tiger eye is a gold or brown variety of quartz that shows a chatoyant eye (changeable color) when cut en cabochon.

MOHS HARDNESS: 7

HAWK'S EYE

35 Hawk's eye is a blue variety of quartz that shows a chatoyant eye when cut en cabochon.

MOHS HARDNESS: 7

CARNELIAN

36 Carnelian is a variety of chalcedony, a microcrystalline form of quartz. It is classically red to red-brown, a coloration that comes from iron oxide stains. Carnelian has been used as a gem for at least 5,000 years in the Middle East.



MOHS HARDNESS: 7

BLOODSTONE

37 Quartz comes in crystalline varieties such as amethyst and rock crystal, and as masses of microscopic crystals in a form called chalcedony. Bloodstone is one of the many varieties of chalcedony, along with agate, jasper, and others. It has a green jasper base color, flecked with red jasper.

MOHS HARDNESS: 7

IOLITE

38 Sometimes called "water sapphire," iolite is pleochroic, meaning that it has different colors when viewed from different directions. Faceted stones have to be oriented to get the best blue color.

MOHS HARDNESS: 7

ONYX

39 Onyx is a parallel-banded variety of chalcedony. The bands are alternately black and white, and specimens are cut to highlight the darkness and light.

MOHS HARDNESS: 7

SARD

40 Sard is a brown variety of chalcedony. In sardonyx, it is parallel-banded in brown and white. Sardonyx is a favorite of hard-stone cameo cutters.

MOHS HARDNESS: 7

ROSE QUARTZ

41 Rose quartz varies in color from light pink to rose. It can be near transparent to translucent. Transparent rose quartz is sometimes faceted, but it is usually cut en cabochon; in such cases, it may reveal a six-rayed star.

MOHS HARDNESS: 7

MORGANITE

42 One of the beryl gemstones, along with emerald and aquamarine, morganite is generally pink, although it can also be pinkish yellow, peach, or rose lilac. Stones with a yellow or orange cast are sometimes heat-treated to improve their pink color. Most gem-quality morganite is faceted.

MOHS HARDNESS: 7

KYANITE

43 Kyanite, an aluminum silicate, has always been around, but it has been a gemstone only since facet-grade specimens were found in Brazil.

MOHS HARDNESS: 7

HELIODOR

44 Heliodor is the yellow variety of the mineral beryl and is named for its color, from "helios," the sun. Its color ranges from lemon-yellow to golden yellow.

GREEN GROSSULAR

45 Transparent green grossular garnet is faceted under the name "tsavorite." Usually translucent or opaque, it is used in beads and carvings and sometimes marketed as Transvaal Jade.

PINK GROSSULAR

46 Pink grossular garnet is rarely faceted because it is generally opaque, and consequently, there is no benefit from cutting it. Most pink grossular is used in beads and carvings.

GOSHENITE

47 Goshenite is a relatively common, colorless form of beryl that is most often found as faceted stones.

SPODUMENE

48 Spodumene is a source of lithium, of which it is a silicate. Transparent crystals are faceted as gemstones.

MILKY QUARTZ

50 Once undervalued as a gem material, today, milky quartz is now highly valued as a carving material and for beads. Some of the most attractive pieces have a shimmery, moonstone-like translucency and are cut en cabochon.

FIRE AGATE

51 Fire agate is an unusual gem. It forms as layers of bubbly, transparent chalcedony, between which are sandwiched layers of iron oxides. When cut en cabochon, these layers separate light into red, gold, and green colors.

MOHS HARDNESS: 7

PLASMA

52 Plasma is one of the many varieties of chalcedony. It has a dark-green background mass, with yellow spots. It is identical in every respect to bloodstone, except in bloodstone, the spots are red.

CHRYSOPRASE

53 Chrysoprase is the translucent, apple-to dark-green gemstone variety of chalcedony, colored by traces of nickel. Other chalcedonies, like the agates, are prized mainly for their patterns, but chrysoprase is valued for its color alone. It has been used as a gemstone since ancient times. It is found in Australia, Brazil, Russia, and California.

UVAROVITE GARNET

54 Uvarovite is the only consistently green garnet and the rarest of all garnet species. Its crystals are generally small, and cut uvarovite stones are rare and expensive. It is named after a Russian count, and its primary source was once the Ural Mountains of Russia.

ROCK CRYSTAL

55 The colorless variety of crystalline quartz (silicon dioxide) has been used as a gem and as a carving material for millennia. Rhinestones were originally gems cut from transparent quartz found in and around the Rhine River in central Europe, and the first crystal balls used by fortune-tellers were fashioned from rock crystal.

RUTILATED QUARTZ

56 Rutilated quartz is rock crystal or light smoky quartz enclosing golden or golden-brown needles of the rutile. The rutile can appear as a few single crystals or as a fine mat of hairlike crystals.

CAT'S-EYE QUARTZ

57 Cat's-eye quartz takes its name from its appearance when cut en cabochon: a single, shimmering white line across the stone. This is caused by inclusions of the mineral crocidolite.

MOHS HARDNESS: 7

HIDDENITE

58 A green variety of the mineral spodumene (lithium aluminum silicate), hiddenite becomes more valuable in direct proportion to the depth of its color, which ranges from light green to emerald green.

AVENTURINE

49 Aventurine is a form of quartz. It is characterized by its internal sparkle, caused by reflections from inclusions of other minerals. Its color is principally determined by its mineral inclusions: brown comes from pyrite; reddish brown from hematite; green from fuchsite mica. Aventurine can also be orange, yellow, bluish white, or bluish green, depending on the type and combination of mineral inclusions. It is always cut en cabochon or carved.

MOHS HARDNESS: 7

DANBURITE

59 A relatively rare gem mineral silicate of calcium and boron, danburite is usually faceted. It is typically colorless, but can also be yellowish or brownish.

MOHS HARDNESS: 7

SILLIMANITE

60 Coming in several colors, faceted blue and violet sillimanites are the most prized. Crystals need precise cutting in order to bring out their subtle colors.

MOHS HARDNESS: 7

ANDALUSITE

61 Named for its discovery locality in Andalusia, Spain, faceted andalusites show flashes of many colors. Cat's-eye specimens are found in Brazil and Sri Lanka.

MOHS HARDNESS: 7

UNAKITE

62 Unakite is an epidote-rich granitic rock, with a mottled appearance from the green of epidote and the pink of the granite. It is opaque and may be cut en cabochon.

MOHS HARDNESS: 7

MOONSTONE

63 The shimmering effect of moonstone is created by ambient light as it passes through the mineral's thin interlayering of orthoclase feldspar and albite feldspar.



MOHS HARDNESS: 6

MARCASITE

64 The actual mineral marcasite is not used in jewelry, since it tarnishes on exposure to the atmosphere; the similar-looking but structurally different and therefore more resilient mineral, pyrite, is used in its stead.

MOHS HARDNESS: 6

FIRE OPAL

66 Like precious opal, fire opal is hardened silica gel and is sometimes called "jelly opal." Unlike precious opal, there is no color play. Fire opal is transparent, and may be orange, yellow, orange-yellow, or red.

MOHS HARDNESS: 6

PRECIOUS OPAL

69 Precious opal is composed of tiny spheres of silica (quartz) with water in the intervening spaces, which causes light passing through it to be broken into its spectrum colors. The color produced depends on the size of the spheres. Australia is the main source of precious opal, although small amounts of it occur in India, New Zealand, and the western United States.

MOHS HARDNESS: 6

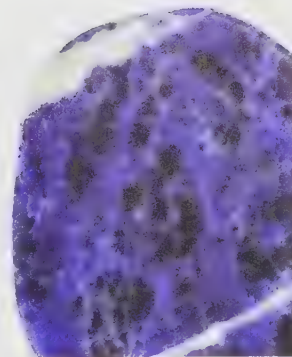
OBSIDIAN

70 Obsidian is a black or brown volcanic glass that breaks with razor-sharp edges and was thus used in Stone-Age tools and polished for Aztec mirrors.

MOHS HARDNESS: 6

LAPIS LAZULI

65 Lapis lazuli is composed of several minerals in varying proportions. Its blue components are lazurite and sodalite, with white calcite, and gold-colored pyrite. Lapis lazuli has been used as a gemstone and as a pigment for at least 4,400 years.



MOHS HARDNESS: 6

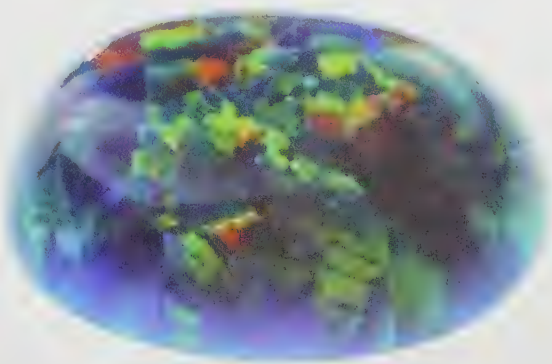
PYRITE

67 Pyrite, also called "fool's gold," is a combination of iron and sulfur. It is relatively hard, brassy yellow, and takes a high polish when used in cabochons or beads or as "marcasite."

MOHS HARDNESS: 6

LABRADORITE

68 A variety of plagioclase feldspar, labradorite forms in thin layers that act as diffraction gratings to produce a range of color flashes within a polished stone.



MOHS HARDNESS: 6

SUNSTONE

71 Sunstone is a variety of oligoclase feldspar that has tiny platelets of iron-rich hematite or goethite oriented within it, giving it a reddish glow and sparkling appearance.

MOHS HARDNESS: 6

AMAZONITE

72 Amazonite is the pastel green to blue-green variety of microcline feldspar. Although it is named after the river in South America, there is little evidence that it occurs there. The main sources are Russia and the United States.

ENSTATITE

73 Enstatite is a very common mineral, but gem-quality specimens are rare. The most popular color is emerald green, but it is also found in yellow. Its name comes from the Greek word for "resistor."

VESUVIANITE

74 Vesuvianite is the new name for the mineral formerly known as idocrase, a name still retained by some older-cut stones. Most specimens are green or chartreuse in color; some vesuvianite is translucent.

BENITOITE

75 Benitoite is the state gem of California and is named for its discovery location, the San Benito River. It is generally an intense sapphire blue, although it is sometimes found in pink and may be altogether colorless.

HEMATITE

81 A hard iron oxide, hematite has a lustrous black surface when polished and has been used as a carving material for at least four millennia. It was particularly popular in the nineteenth century.

NEPHRITE

84 One of the two forms of jade, nephrite is much more common than jadeite. Nephrite has been used to make ornaments, tools, and weapons for at least three millennia. It has a compact, interlocking, fibrous structure and is thus immensely tough. The intricate jade carvings for which the Chinese are famous were all fashioned from nephrite until the introduction of jadeite in the 1800s. Nephrite is still widely used in ornaments.

PREHNITE

75 Although relatively soft, prehnite is sometimes cut as a gem. It is usually translucent yellow-green, pale green, or yellow-brown, and may show a cat's-eye.

SCAPOLITE

76 Scapolite is a rock-forming silicate of variable composition and appearance: it may be colorless, white, yellow, orange, pink, or purple.

ORTHOCLASE

77 Orthoclase is found both as faceted stones and cut en cabochon. Moonstone is a variety of orthoclase.

SODALITE

78 Often mistaken for lapis lazuli, sodalite is an intense blue gemstone that sometimes has white veins.

SUGILITE

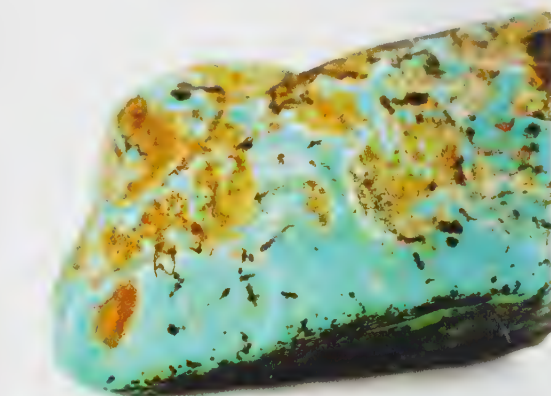
80 This gem was recognized as a mineral only in 1977 and is thus relatively new to the gemstone market. It has a rich purple color and is always cut en cabochon or polished in rock tumblers. It is found in Canada, Italy, Japan, and South Africa.

AMMOLITE

82 One of the newest gems, ammolite is the fossil remains of ammonite shells—coiled sea creatures related to the modern nautilus. Polished ammolite shows a play of colors similar to that of precious opal.

APATITE

83 The name comes from the Greek "to deceive," because it was sometimes mistaken for other minerals. However, the fault here is in the eye of the beholder: apatite is a distinctive blue or green semiprecious stone.

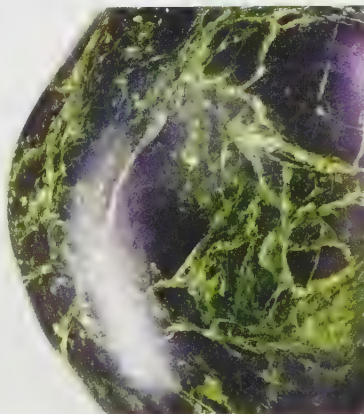


TURQUOISE

85 Among the most ancient of gemstones, turquoise beads over 5,000 years old have been found. Turquoise mines employing thousands of laborers existed in the reign of the pharaoh Semerkhet in the third millennium BCE. The commodity was widely traded among ancient civilizations: turquoise from New Mexico found its way into Aztec art thousands of miles to the south. Turquoise is found in colors ranging from deep blue to green. Much modern turquoise is "color stabilized" (impregnated with epoxy) because the natural blue shades may otherwise turn green after prolonged exposure to the atmosphere.

SPHENE

86 Sphene (the old name for the mineral titanite) has an even higher color dispersion than diamonds. It is rarely cut because it is so soft. It can be colorless, yellow, pink, blue, or green.



MOHS HARDNESS: 5

MOLDAVITE

87 Moldavite was the green glass formed when a meteorite impacted sandstone near Ries, Bavaria, Germany.

MOHS HARDNESS: 4

BRONZITE

88 Bronzite is the name given to the greenish-brown variety of the mineral hypersthene, which has a bronze-like luster when cut.

MOHS HARDNESS: 4

BLUE JOHN

91 This purple-and-yellow layered fluorite comes only from a single location in Derbyshire, England.

MOHS HARDNESS: 4

VARISCITE

96 Gem variscite can be pale to emerald green or blue-green. Some specimens with black webbing can be mistaken for green turquoise. Variscite is cut en cabochon for jewelry items such as brooches, earrings, and beads, and can be carved into bowls or other decorative objects. Its porosity can lead it to discolor easily.

MOHS HARDNESS: 4

PEARL

97 Pearls have been highly valued since antiquity. They are a feature of Egyptian, Roman, and Greek jewelry. Until the twentieth century, gem pearls were naturally formed, but today almost all are artificially grown (cultured). Colors range from black to white, and include cream, gray, blue, yellow, lavender, green, and mauve.

MOHS HARDNESS: 3.5

MALACHITE

89 Used as a gem and a carving material, and as an ore for its component metal, malachite is a green-banded carbonate of copper. Its bands vary from light green to dark green and often form intricate swirling patterns. Fifty tons of malachite were mined in Russia in the nineteenth century, and an entire room in the Winter Palace in St. Petersburg is paneled with it.



MOHS HARDNESS: 2.5

CHRYSOCOLLA

90 Pure chrysocolla (hydrated copper silicate) is too soft to be cut or polished, so gem specimens are mixed with chalcedony to form a more resilient and lustrous material. Blue chrysocolla is the most highly prized.

MOHS HARDNESS: 3.5

SERPENTINE

92 Serpentine is a series of minerals that can be green, yellow, brown, or a mixture of colors. It is used mainly for carving.

MOHS HARDNESS: 5

RHODOCHROSITE

93 Pink to cherry red, gem-quality rhodochrosite is usually formed in layers of light pink to rose colors and is cut as beads, carvings, and en cabochon.

MOHS HARDNESS: 3.5

SPHALERITE

94 Soft and easily fractured, sphalerite is faceted as brilliant yellow-brown, red, golden-brown, or reddish-brown gems.

MOHS HARDNESS: 2.5

SMITHSONITE

95 Too soft for general wear, smithsonite is cut en cabochon or, rarely, faceted for collectors. It is blue, green, or lavender.

MOHS HARDNESS: 1

HOWLITE

98 Howlite in its natural state tends to be white and often forms nodules resembling cauliflowers, which are dyed blue to resemble blue turquoise. Dyed howlite is marketed as "turquenite." It was first discovered in the nineteenth century by Canadian geologist Henry How, after whom it is named.

MOHS HARDNESS: 2

AMBER

100 Amber is one of humankind's oldest gems: beads of amber dating from the third millennium BCE have been found, and an amber cup was recovered from a British Bronze Age burial. The Amber Room in the Catherine Palace, St. Petersburg, Russia, is entirely lined with it. It is the fossil resin of extinct coniferous trees and can be amber in color, as well as red, green, or violet. The coast of the Baltic Sea has been the prime source of amber for most of history.



MOHS HARDNESS: 5

JET

99 Jet is a type of lignite coal formed by the submersion of driftwood in the mud of the seafloor. Jet has been used decoratively since antiquity—jet jewelry and carvings are often found in British Roman sites. It was used in Victorian times for mourning jewelry.



SOLAR SYSTEM

EARTH

1 Earth was thought to be at the “center of the cosmos” until 1543 when Nicolaus Copernicus formulated a model of the universe that placed the Sun at its center. Earth is one of eight planets in orbit around the Sun. It has the right physical and chemical conditions for life to evolve and prosper. There are thought to be as many as 40 billion habitable Earth-size planets in the Milky Way galaxy.

SOLAR SYSTEM

PLATE TECTONICS

2 Earth’s crust consists of seven large pieces, or tectonic plates, that constantly move at a rate of a few inches per year.

SOLAR SYSTEM

CHICXULUB CRATER

3 An asteroid impact 65 million years ago created this 110-mile-wide (180km) crater in Mexico and possibly killed off the dinosaurs.

100 WONDERS OF THE COSMOS

SOLAR SYSTEM

SURFACE OCEANS

4 The ocean covers 71 percent of Earth’s surface. The largest body of water, the Pacific Ocean, covers nearly one-third. The deepest part of the ocean is the Mariana Trench, which has a depth of 7 miles (11km). If Earth’s surface was a uniform height, the planet’s water would cover Earth completely to a depth of 1.7 miles (2.8km). This water came from the volcanic thermal cracking of crustal and mantle rocks.

SOLAR SYSTEM

LEONIDS

5 This prolific meteor shower occurs annually in mid-November when Earth passes through the dusty remnants of comet Tempel-Tuttle. In 1833, 240,000 meteors were seen in nine hours. These were caused by sand- or pea-size rocky, dusty particles hitting the atmosphere at a speed of more than 160,000 miles per hour (257,495kph) and burning out at heights some 87 miles (140km) above ground in a second or so.

SOLAR SYSTEM

HOBA METEORITE

6 Sometimes the remnant of an impacting asteroid survives its passage through Earth’s atmosphere. The largest in the world is the 66-ton Hoba iron meteorite that fell tens of thousands of years ago, and was discovered in Namibia in 1920.

SOLAR SYSTEM

EARTH’S ATMOSPHERE

7 Earth’s early atmosphere came from volcanoes and was mostly water and carbon dioxide but it was later oxygenated by plant life.

SOLAR SYSTEM

MAGNETOSPHERE

8 The magnetic field generated by circulating currents in the inner Earth’s metallic liquid core produces an elongated magnetic bubble around the planet that deflects harmful cosmic rays.

SOLAR SYSTEM

MOON

10 The Moon is approximately one-quarter of the size of Earth and one-eightieth of its mass. It was likely formed at the dawn of the solar system when a Mars-size asteroid hit Earth a glancing blow and a section of its rocky mantle was ejected to form a ring of debris around the Earth. This condensed to become the Moon.

SOLAR SYSTEM

MARE CRISIUM

11 This circular lunar basin measures 345 miles (555km) in diameter and is easily visible from Earth at the top right of the full Moon’s face.

SOLAR SYSTEM

GOODWILL MOON ROCK

12 Apollo 17 astronauts took a sample rock from the Moon’s surface in 1972. It was broken into pieces and sent to 135 foreign heads of state and the 50 US states.

HADLEY RILLE

13 This sinuous collapsed lunar lava channel underlines the volcanic nature of the young Moon. It was an exploration site for the *Apollo 15* mission.

VENUSIAN CLOUDS

14 The thick clouds above Venus reflect 75 percent of the sunlight hitting them and obscure the planet's surface.

VENUS

15 The second planet from the Sun and Earth's sister planet, Venus's mass is 82 percent of Earth's mass and 95 percent of its diameter. It is the brightest planet in the sky. Its dense carbon dioxide atmosphere has produced such effective greenhouse heating that its surface temperature is 863°F (462°C).

MERCURY

16 The closest planet to the Sun and the smallest of the solar system's eight planets. It spins on its axis three times in every two orbits. Mercury suffers the greatest temperature variation of all the planets, and changes from -280°F (-173°C) at night to 800°F (427°C) during the day at some equatorial regions.

CALORIS BASIN

17 This 960-mile-wide (1,550km) Mercurian crater is one of the largest in the solar system and was discovered by the *Mariner 10* probe in 1974.

MARTIAN POLAR CAPS

18 These permanent features are frozen water ice and a layer of frozen carbon dioxide. The northern cap is 621 miles (1,000km) in diameter in the summer.

MARS

19 This small planet is 53 percent of the diameter of the Earth and 11 percent of the mass. Its surface is a red, rusty, cold, desiccated desert, Mars being about 52 percent farther away from the Sun than Earth. A Martian day is 24 hours 37 minutes. Similar tilts mean Mars has seasons comparable to Earth's but its year is twice as long so its seasons are too.

VALLES MARINERIS

20 A huge equatorial canyon system on Mars stretching for about a quarter of the planet's circumference. It is more than 2,500 miles (4,023km) long, 125 miles (200km) wide, and 23,000 feet (7km) deep. It is similar to the East African Rift system on Earth and the Baltis Vallis on Venus. Valles Marineris was formed more than 3,000 million years ago. It has since widened considerably because of episodic and catastrophic water erosion and the collapsing of its walls.



OLYMPUS MONS

21 This 16-mile-high (25km) shield volcano on Mars is the tallest on any solar system planet. It covers an area 80 percent of that of France.

SOLIS LACUS

22 A dark feature on Mars, this was once thought by the US astronomer Percival Lowell to be the capital of a Martian civilization.

HALLEY'S COMET

23 This comet passes close to the Sun approximately every 76 years. Edmond Halley determined its periodicity in 1705.

SOLAR SYSTEM

COMET TEMPEL 1

24 Orbiting the Sun every 5.5 years, the comet was closely observed in 2005 by the *Deep Impact* spacecraft which launched a projectile into the comet. It was visited again in 2011 by the *Stardust* spacecraft.

SOLAR SYSTEM

COMET HALE-BOPP

25 This, the Great Comet of 1997, was the most widely observed comet of the twentieth century, visible to the naked eye for more than 18 months.

SOLAR SYSTEM

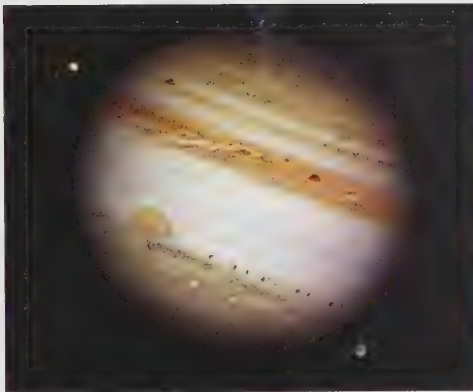
CERES

26 The biggest member of the Asteroid Belt, the remnants of a failed planetary formation process between the orbits of Mars and Jupiter. Ceres is approximately 590 miles (950km) in diameter and is classified as a dwarf planet.

SOLAR SYSTEM

EROS

27 This peanut-shaped asteroid is about 21 miles (34km) long. Its orbit crosses that of Mars but within 1 million years it is expected to be perturbed onto an Earth-crossing orbit.



SOLAR SYSTEM

GREAT RED SPOT

28 In Jupiter's southern hemisphere, this anticyclonic, turbulent, slow-spinning storm has been seen from Earth since c. 1665. It extends about 5 miles (8km) above the Jovian cloud tops and rotates around the planet at a different speed to the surrounding atmosphere.

SOLAR SYSTEM

EUROPA

31 This large Jovian satellite has a relatively young, smooth ice-covered surface that is crisscrossed by linear cracks and streaks consisting of muddy clays. Beneath the ice there is thought to be a liquid ocean that might be an abode for life.

SOLAR SYSTEM

URANUS

32 The seventh planet from the Sun was discovered by William Herschel in 1781. This planet is 14.5 times more massive than Earth and has 27 known satellites.

SOLAR SYSTEM

SATURN

33 At just under twice Jupiter's distance from the Sun and at one-third Jupiter's mass, this cold, chemically less active planet is a dull yellow color. It spins every 10.6 hours, producing a system of banded clouds that are parallel to the equator but much less distinct than Jupiter's.

SOLAR SYSTEM

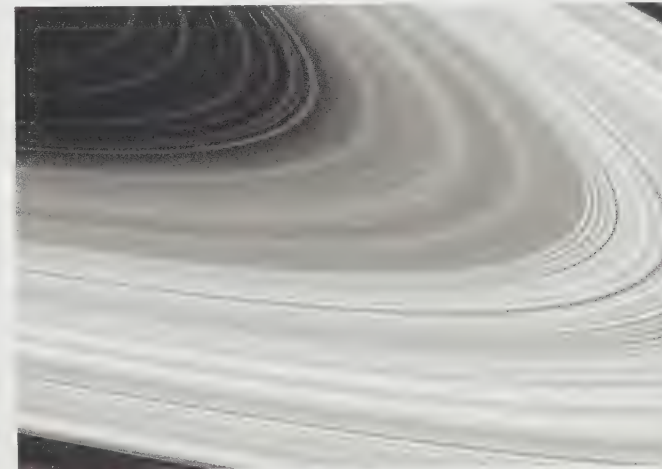
JUPITER

28 The dominant planet in the solar system, second only to the Sun in size and mass. Jupiter's mass is around one-thousandth that of the Sun and 318 times Earth's mass. It is a gas giant, with a rocky-icy core of about 30 Earth masses, the remainder being hydrogen and helium with a few contaminants. It is about 5.2 times farther away from the Sun than Earth and orbits in around 11.9 years. Jupiter spins every 9.9 hours and this has dragged the ammonia ice crystal, ammonium hydrosulfide, and water clouds into a series of bands parallel to the equator.

SOLAR SYSTEM

IO

30 This Jovian Galilean satellite was discovered in 1610. It is the fourth-largest satellite in the solar system, and has more than 400 active volcanoes.



SOLAR SYSTEM

SATURN'S RINGS

34 This prominent thin-ring system consists of circularly orbiting, non-colliding rocky fragments that are ice covered. The rings are inside Saturn's Roche sphere, a region where tidal forces make satellite growth impossible. This sphere has a radius about 2.5 times that of Saturn. Saturn has two main rings, called A and B, and there is a gap, called the Cassini Division, between them.

NEPTUNE

35 The eighth planet from the Sun was discovered in 1846 by analyzing its gravitational effects on Uranus.

PLUTO

38 Pluto was once considered the ninth planet from the Sun. It was demoted to dwarf planet category in 2006.

1992 QB1

37 The Solar System beyond Pluto is not empty. This 104-mile-diameter (167km) object discovered in 1992 was the first to be found out there.

OORT CLOUD

31 Surrounding the Sun and stretching out halfway to nearby stars is this symmetrical collection of 1 trillion cometary nuclei.

GREAT SUNSPOT OF 1947

39 This cool, magnetic, active region on the Sun was the largest and longest-lasting dark spot since 1900 and had an area of about 6,000 millionths of the solar disk (about 40 times Earth's width). It lasted for over half a year, about eight solar rotation

SUN

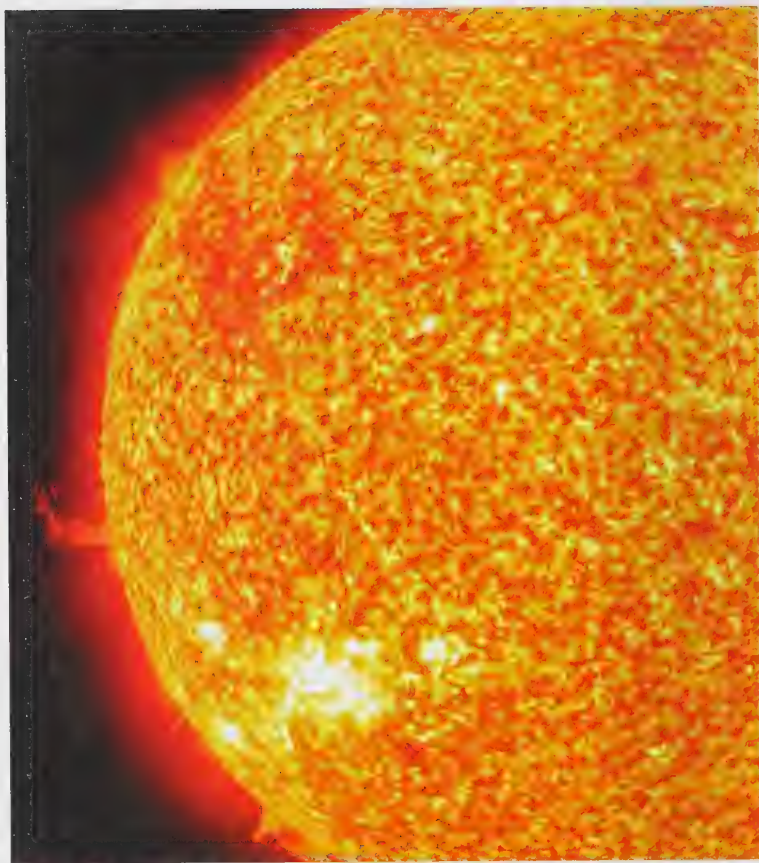
40 The star at the center of the solar system is the Sun. It is a main-sequence star and as such steadily generates energy in its core by converting hydrogen into helium. This process has already lasted for 4.6 billion years and will continue for a similar time until usable hydrogen runs out. The Sun is in the stellar top 5 percent as far as mass and energy output goes. It is nearly a perfect sphere, about 109 times the size of Earth and 330,000 times Earth's mass. Its mass is three-quarters hydrogen, about one quarter helium, and 1.7 percent other elements. Physically, it is all a gaseous plasma, the surface layers being interlaced with magnetic fields. The surface temperature is 10,000°F (5,600°C). Cooler spots appear on this surface and their numbers vary with an 11-year periodicity. The Sun's equator spins round every 25 days but takes 34 days at the poles.

SOLAR FLARE OF 2001

41 This electrostatic discharge above a sunspot group on the solar surface is the biggest solar flare on record. As well as a bright flash of visual, ultraviolet, X-ray, and radio radiation, it ejected a large mass of the corona above it.

SOLAR CORONA

43 With a temperature of well over 900,000°F (500,000°C) this low-density, escaping, faint, plasma, upper-atmospheric solar cloud is more than 200 times hotter than the Sun's visible surface.



SOLAR CORE

42 The Sun's core temperature is approximately 28,260,000°F (15,700,000°C). The mass loss resulting from the conversion of hydrogen into helium is converted into energy. It takes a million years for this energy to get to the Sun's surface.

SPECTRAL LINES

44 Star spectra have absorption lines that have wavelengths that are specific to chemical elements. By knowing the temperature of the absorbing regions in a spectra, these can be used to obtain the chemical composition.

ZODIAC

45 This band of 12 constellations is the celestial backdrop to the movement of the Sun, Moon, and the planets around the sky. The term "zodiac" derives from the Greek for "circle of animals," and half of the signs of the zodiac depict creatures.

URSA MAJOR

46 The sky is divided into 88 areas called constellations. That of Ursa Major, the Great Bear, in the Northern Hemisphere is one of the largest. Within it, forming the rear and tail of the bear is a pattern of stars known as the Plough or Big Dipper. Two of its stars (Merak and Dubhe) point toward Polaris, the pole star.

STARS

61 CYGNI

50 This was the first star to have its distance measured. In 1838, Friedrich Bessel measured how far it moved in six months, as the Earth traveled from one side of its orbit to the other.

STARS

ORION

51 Due to its location on the celestial equator, this prominent and easily recognizable constellation can be seen by people all over the world. It is named after a Greek mythological hunter. Its brightest star is Rigel, a blue-white supergiant that is the seventh brightest star in the sky.

ORION NEBULA

52 This diffuse cloud of gas and dust is south of Orion's Belt and is about 1,340 light-years away from the Sun. It is one of the brightest nebula visible to the naked eye and is the closest region of star formation. It is estimated that the region has a mass about 2,000 times that of the Sun and is an estimated 25 light-years across. The red-and-green coloration is due to spectral lines of hydrogen and oxygen respectively. Blue light is produced by dust reflecting the radiation from bright white stars. The nebula is a stellar nursery and some 700 stars at various stages of youthful activity have been recognized; 150 of these are encircled by protoplanetary disks, where planets are taking shape.

POLARIS

47 The brightest star in the constellation Ursa Minor is very close to the north celestial pole. As such it does not move in the sky and the sky spins around it every day.

CRUX

48 Also known as the Southern Cross, this tiny constellation shines brightly in the southern sky. It is the smallest of all the constellations.

PROXIMA CENTAURI

49 At a distance of only 4.24 light-years this is the nearest-known star to the Sun. Invisible to the naked eye, it was discovered in 1915.



LUHMAN 16

53 This binary star system in the Vega constellation, about 6.5 light-years away, has the closest-known brown dwarfs.

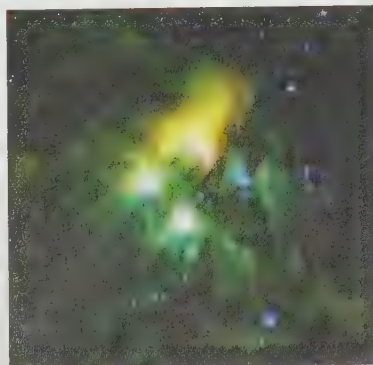
STARS

T TAURI

54 T Tauri is a young star of unpredictable brightness due to orbiting clouds of gas and dust blotting out its light. Some of this material is condensing to form planets.

PLEIADES

55 A prominent open cluster of relatively new stars in Taurus about 420 light-years from Earth. It was formed about 100 million years ago and contains 1,000 or more stars.



ALGOL

56 Also known as the Winking Demon Star, it is one of the best-known and closest double stars. Every 2.85 days one star eclipses the other, reducing the brightness by three for about 10 hours.

CASTOR

57 Double stars are common. Castor is the brightest star in the constellation Gemini. It consists of two stars of different brightness, magnitude 2.0 and 2.9, orbiting their common center of mass every 467 years.

BETA PICTORIS

58 This very young infrared star, approximately 60 light-years away, is at the center of a prominent dust disk which is seen edge on.



GLIESE 876 D

59 The star Gliese 876 is a red dwarf in Aquarius, about 15 light-years away. Analysis of slight variations in its radial velocity indicate that this star has three planets. The most interesting is Gliese 876 d, which has a mass of only 7.5 times that of Earth. The surface temperature is above the boiling point of water so it is not thought to be an abode of life.

BETELGEUSE

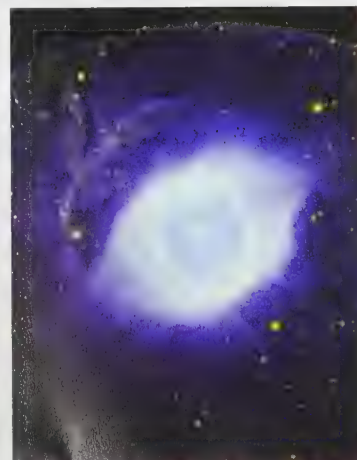
60 The ninth-brightest star in the sky and in the constellation Orion, Betelgeuse is a distinct red color. The name is of Arabic derivation and means "armpit of the central one." Betelgeuse is a supergiant and has a surface temperature of approximately 5,800°F (3,200°C).

CAPELLA

61 The brightest star in Auriga appears to be a single star, but slight temporal variations of the wavelength of its spectral lines show it to be a close binary of two giant stars 60 million miles (97 million km) apart.

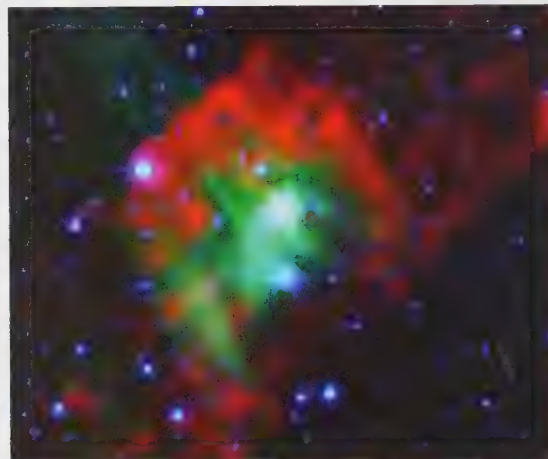
HELIX NEBULA

62 This expanding shell of glowing red and blue gas around what was an old red giant star is one of the nearest planetary nebulae at 700 light-years away, and is about 2.9 light-years across. The central star is becoming a white dwarf.



DELTA CEPHEI

63 This giant star, 887 light-years away, is the prototype star of a class of pulsating variable stars. In Cepheid stars a star's mean luminosity is directly related to the period of light variation. With luminosities thousands of times that of the Sun, Cepheids can just be detected in nearby galaxies. As such, these stars form a vital step in the process of astronomical distance measurement.



RS OPHIUCHI

64 Nuclear explosions on the surface of white dwarf stars produce what appears to be a new star, a nova. RS Ophiuchi is a recurrent nova system about 5,000 light-years away that erupts every 20 years.

SIRIUS

65 The brightest star in Earth's sky, Sirius is in the constellation Canis Major. It is a double star, its companion, Sirius B, is a faint white dwarf star that was discovered in 1862.

OMEGA CENTAURI

66 Visible to the naked eye, this globular cluster of approximately ten million stars was discovered by Edmond Halley in 1677.

RR LYRAE

67 This pulsating variable star is similar to a Cepheid but is old with fewer heavy elements, and the relationship between its luminosity and pulsating period is different.

STARS

MIRA

68 A red giant variable star that changes in brightness from magnitude 2 to 10 over a period of 332 days, Mira is one of the coolest stars in the sky with a surface temperature of about 5,200°F (2,900°C). It is also known as Omicron Ceti. It was studied in detail by German pastor and astronomer David Fabricius in 1596, but its strange behavior was probably known to ancient Chinese and Babylonian astronomers.

STARS

GAMMA CASSIOPEIAE

69 A hot, irregular, eruptive variable star that is spinning so fast it is bulging and losing mass.

STARS

WR 124

70 This Wolf-Rayet star is surrounded by planetary nebula M1-67. WR stars are massive, highly luminous stars shedding mass at a prodigious rate.



STARS

TYCHO'S SUPERNOVA

71 In 1572, Danish astronomer Tycho Brahe saw this new star in the constellation of Cassiopeia.

STARS

COALSACK DARK NEBULA

73 This prominent dark nebula in the southern Milky Way in Crux is a cloud of gas and dust about 600 light-years away.

CRAB NEBULA

72 A supernova remnant in the constellation of Taurus, the causative supernova was observed by Chinese astronomers in 1054. This nebula is about 11 light-years across. The system is 6,500 light-years from Earth, and is a prolific source of X-rays and radio waves.

STARS

GEMINGA PULSAR

74 About 300,000 years ago, a supernova explosion resulted in this rotating neutron star in Gemini. It pulsates with a period of 0.237 second, and is a strong source of gamma and X-rays.

ETA CARINAE

75 Starting life with a mass of around 150 solar masses this eruptive, hot, highly luminous, irregular supergiant has lost over 30 solar masses to the surrounding Homunculus Nebula. It is still one of the most massive stars in the sky that has been studied in detail. It is expected to become a supernova in the astronomically near future. Stars of this type are rare, only a few dozen existing in a galaxy like ours. It is close to the Eddington limit where it emits so much radiation the radiation pressure nearly blows up the star.

GALAXIES & DEEP SPACE

MILKY WAY

76 This is a hazy, white irregular ribbon of light that arcs across the sky, passing through 30 constellations. Its composition was much debated in astronomical history but in 1610 Galileo Galilei, using his homemade telescope, realized that this band was made up of a huge number of stars.



GALAXIES & DEEP SPACE

MILKY WAY GALAXY

77 Our Sun is in the flattened disk of this barred spiral galaxy, on the inner edge of the Orion Arm. From Earth the galaxy appears as a glowing band across the sky. The galaxy is about 110,000 light-years in diameter. Since its birth 4.57 billion years ago the Sun has orbited around the galaxy about 20 times.

GALAXIES & DEEP SPACE

SAGITTARIUS A*

78 The very center of the Milky Way Galaxy contains an intense compact source of radio waves called Sagittarius A*, some 27 million miles (44 million km) across. It cannot be seen in visible light due to large intervening clouds of dust and gas. It is close to a huge invisible black hole.

CYGNUS X-1

78 The nearest black hole to our solar system, Cygnus X-1 is 6,000 light-years away and has a mass of around 15 solar masses. It is part of a binary star system, the visible component being the blue supergiant variable star HDE 226868. It is one of the brightest X-ray sources visible from Earth and was discovered in 1965 using instruments that were taken by a rocket above our absorbing atmosphere.

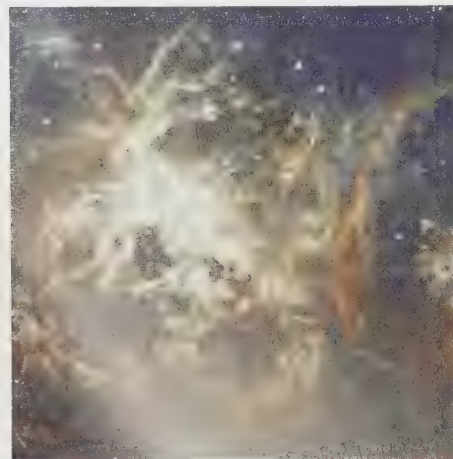
LARGE MAGELLANIC CLOUD

80 A small irregular satellite galaxy in orbit around the Milky Way, the LMC is about 160,000 light-years away, has a mass about one-hundredth that of the Milky Way Galaxy, and is about 14,000 light-years across.

GALAXIES & DEEP SPACE

30 DORADUS

81 Another name for this highly luminous region of ionized atomic hydrogen gas, dust, and very young stars is the Tarantula Nebula. It is more than 1,000 light-years in diameter, and about 160,000 light-years away. It is the most active region of star birth within the Local Group of galaxies. The star birth has been triggered by the ram pressure it receives due to its position on the leading edge of the moving Large Magellanic Cloud.



SUPERNOVA 1987A

82 The only bright supernova that has occurred close by since the invention of the telescope. It is on the outskirts of the Tarantula Nebula, in the Large Magellanic Cloud, some 160,000 light-years away, in the southern sky. Astronomers in the Southern Hemisphere detected the brilliant explosion on February 23, 1987. The expanding shell of gas and its interaction with the surrounding medium has been much observed by the Hubble Space Telescope.

ANDROMEDA GALAXY

84 A huge, close spiral galaxy visible to the naked eye, this galaxy is 2.5 million light-years away and the largest member of the Local Group. It contains about a trillion stars. In around four billion years it is expected to collide and merge with the Milky Way Galaxy. It was only revealed to be extragalactic by the work of Edwin Hubble in the 1920s.



THE LOCAL GROUP

85 This is a collection of more than 54 galaxies, measuring 10 million light-years across, and dominated by the Andromeda and Milky Way galaxies.

VIRGO CLUSTER

86 The closest galaxy cluster to the Milky Way, this group of 2,000 galaxies is 15 million light-years in diameter.

MESSIER 60

87 This is a giant elliptical galaxy in the Virgo Cluster 55 million light-years away. In its core is a 4.5 billion solar mass black hole, one of the most massive black holes found so far.

WHIRLPOOL GALAXY

88 This pair of intersecting galaxies in Canes Venatici is some 23 million light-years away. The collision has enhanced the density waves in the gas and dust in the larger galaxy promoting star formation. The galaxy was sketched by William Parsons in 1845 using the world's then-largest telescope.

SOMBRERO GALAXY

89 Seen almost edge-on, this spiral is viewed from just 6 degrees above its equatorial plane, thus enhancing our view of the dust in its disk. The galaxy has more than 2,000 known globular clusters, ten times the number known in the Milky Way.

PINWHEEL GALAXY

90 This is a nearby spiral galaxy in Ursa Major, which is seen face-on. It is one of the largest spirals known.

NGC 1300

91 The central bar of this barred spiral galaxy in Eridanus funnels gas and dust from the outer arms toward the nucleus. The bar will disperse and the galaxy will become a regular spiral.

ANTENNAE GALAXIES

92 These two galaxies colliding are known as the Antennae Galaxies because of long tails of stars produced by the collision.

COMA CLUSTER

93 This collection of over 1,000 galaxies was observed in 1933 by Fritz Zwicky. He realized that the gravitational mass of the cluster greatly exceeds the sum of the masses of the observed galaxies, thus he discovered dark matter.

3C 273

94 This radio source in the Third Cambridge Catalogue is the brightest and closest quasar in the sky. It is actually a distant galaxy with an active nucleus and a 200,000-light-year-long visible jet.

HERCULES-CORONA BOREALIS GREAT WALL

95 The largest structure in the universe, this wall-like filament of galaxies is 10 billion light-years long and 900 million light-years wide.

COSMIC MICROWAVE BACKGROUND RADIATION

97 Radiation from the dawn of the universe, when it first became transparent after the Big Bang, that has been redshifted over time and is in the microwave region of the spectrum with a temperature of around -454°F (-270°C), just above absolute zero. It was discovered accidentally in 1965 by Arno Penzias and Robert Woodrow Wilson at Bell Laboratories, New Jersey, USA. The discovery discredited the continuous creation cosmology theory and earned them the Nobel Prize in Physics.

CENTAURUS A

96 As the fifth-brightest galaxy in the sky, this is also one of the closest radio galaxies to Earth. At its center is a black hole that is ejecting two streams of plasma at a speed close to that of light. It is the collision of this plasma with the surrounding material that is responsible for the emission of X-ray and radio waves.



HUBBLE EXTREME DEEP FIELD

98 This image of an area of the sky in the constellation Fornax, obtained using a 23-day exposure of the Hubble Space Telescope, reveals galaxies ten billion times fainter than the eye can see. These galaxies are in the distant reaches of the universe, formed around 13 billion years ago. The image indicates that the observable universe contains 200 billion galaxies.

THE GREAT COLD SPOT

99 This 5-degree diameter cold region in the normal cosmic microwave background radiation is in the constellation of Eridanus. The temperature is about 70 millionth of a degree less than the normal. It is thought to be due to a supervoid in space around 8 billion light-years away and 1 billion light-years across.

Z8_GND_5296

100 This extremely faint and very red galaxy is the farthest galaxy from Earth that has been detected and has had its distance measured. Light left it when the universe had an age just 5 percent of its 13.8 billion years.





TRAVEL

We start with the trailblazers—Christopher Columbus and Captain James Cook—the fearless explorers who established contact between peoples who'd previously been unaware of each other's existence, some of whom—the crew of Apollo 11—really did go where no one had been before. We then continue to make travel suggestions for the slightly less intrepid: the cities, parks, gardens, hotels, beaches, islands, museums, galleries, and cultural centers worldwide that are strong candidates for inclusion on any bucket list.

◀ The Old City of Jerusalem has been of symbolic importance as a holy city for centuries



PYTHEAS OF MASSALIA

Some time around 325 BCE, the Greek explorer and geographer Pytheas traveled to the Arctic and described the midnight sun and polar ice, navigated a large swath of the British coast, encountered Germanic tribes, and was the first to suggest the Moon may affect Earth's tides.

XU FU

Xu Fu was a court sorcerer who in 219 BCE, and again in 210 BCE, took 60 barges and thousands of men and began a search for the secret of immortality (the elixir of life). Sailing for years without success, he never returned from that second expedition.

GAN YING

In 97 CE military ambassador Gan Ying was asked to lead a mission to Rome. The Black Sea was as far as he got, however; in antiquity, no one in China traveled as far west as he.

100 INTREPID EXPLORERS

ERIK THE RED

In exile from Norway around 982 CE, Erik sailed to Iceland and founded the first European settlement in Greenland.

11700-11960

LEIF ERIKSSON

Erik the Red's son Leif is considered to be the first European to land on the North American continent.

MARCO POLO

Born in Venice in c. 1254, the Italian merchant traveler Marco Polo was not the first European to enter China, but he was the first to chronicle what he saw during his 23-plus-year odyssey from northern Italy to the court of Kublai Khan (where he lived for 17 years) and back again in his *Book of the Marvels of the World* (c.1300). His impeccably detailed accounts of his travels through Asia and his experiences in the court of Kublai Khan gave Europeans their first insights into the region's geography and customs.

ZHENG HE

Long neglected in China, diplomat and fleet admiral Zheng He commanded expeditions consisting of dozens of vessels and as many as 27,000 men through Asia and East Africa during China's early Ming dynasty.

HENRY THE NAVIGATOR

This Portuguese administrator organized voyages to Africa and the Atlantic during the fifteenth-century's "Age of Discovery."

JOHN CABOT

Cabot's three voyages to North America for King Henry VII, from Newfoundland to Chesapeake Bay, resulted in the first European land exploration of the North American continent since the Vikings in the eleventh century.

BARTOLOMEU DIAS

A knight in the Portuguese royal court, Dias sailed around Africa's southern tip in 1488 in search of a trade route to India.

GASPAR CORTE-REAL

This Portuguese explorer sailed to Greenland twice (thinking it was east Asia), but after the second voyage was never heard from again.

CHRISTOPHER COLUMBUS

Intending to explore Japan in 1492, Genoa-born Columbus instead reached the New World, and thus initiated the Spanish colonization of North and South America.

AMERIGO VESPUCCI

13 Vespucci was the first to show Brazil and the West Indies were not Columbus's "Asia" and gave his name (Americus) to the New World.

JUAN PONCE DE LEÓN

14 In 1513 this Spaniard led the first European voyage to what is now Florida, which he named, returning there again in 1521.

VASCO DA GAMA

15 Setting out from Lisbon on his 1497–99 voyage with a fleet of four ships, the Portuguese explorer Vasco da Gama became the first European to reach India by sea. In so doing he established Portuguese ascendancy in the region and around the "Cape Route" of southern Africa that would last for a hundred years.



PEDRO ÁLVARES CABRAL

16 In 1500 Portuguese nobleman Cabral took a fleet of 13 ships into the Atlantic, "discovered" Brazil, and claimed it for Portugal. He went on to become the first explorer to land on four continents.

VASCO NÚÑEZ DE BALBOA

17 In 1513 the Spanish explorer, together with 190 men, became the first European to cross the Isthmus of Panama and so "discover" the Pacific Ocean—the so-called "South Sea."

SEBASTIAN CABOT

18 The son of John Cabot, this explorer led an expedition to look for a Northwest Passage in 1508; he sailed to South America in 1526, exploring the Rio de la Plata and Parana Rivers before hostile natives forced his return to Europe.

PÁNFILO DE NARVÁEZ

19 De Narváez was a conquistador best known for two failed expeditions—one to Mexico in 1520, when he was taken prisoner and later released, and the other to Florida in 1527.

GIOVANNI DA VERRAZZANO

21 The Italian explorer Da Verrazzano is credited with being the first European since the Vikings to explore North America's Atlantic coast.



FERDINAND MAGELLAN

20 The Portuguese explorer Ferdinand Magellan was the driving force behind the establishment of the Spanish expedition that set out with himself in command to find a westward route to the famed Spice Islands in present-day Indonesia. The voyage resulted in the first circumnavigation of the globe, although Magellan himself died en route in the Philippines on April 27, 1521.

HERNÁN CORTÉS

22 This former court magistrate-turned-conquistador is reviled for being the man responsible for bringing down the Aztec Empire in 1521.

JACQUES CARTIER

23 Frenchman Cartier was the first European to describe and map the Gulf of St. Lawrence and the St. Lawrence River shoreline.

1494-1520

ALONSO ÁLVAREZ DE PINEDA

24 In 1517 this Spanish explorer and cartographer became the first European to lay eyes on the western coastline of Florida and the shorelines all the way down the Gulf Coast to present-day Texas, proving early claims that Florida was an island to be false. He made the first map of the gulf coast region of the United States, which was also the first historical document of Texas.



1539-1540

FRAY MARCOS DE NIZA

25 In 1539, De Niza, a Franciscan friar, explored the deserts of present-day Arizona in the United States and encountered the Zuni tribe of Pueblo Indians.

1540-1542

HERNANDO DE SOTO

26 In the 1540s the Spanish explorer and conquistador de Soto led a series of expeditions in the southwest of the New World and became the first European to cross the Mississippi River.

1480-1521

ESTEVANICO

27 One of the first Africans to reach the New World, he guided expeditions to the interior.

1540-1542

FRANCISCO VÁZQUEZ DE CORONADO

28 Spanish conquistador who led an expedition from Mexico to America's Midwest in search of the "Seven Cities of Gold." He was the first European to see the Grand Canyon.



1519-1521

JOHN HAWKINS

29 An English naval commander, navigator, and slave trader, Hawkins embarked on a series of opportunistic voyages in the 1560s that took him to the Caribbean, West Africa, Florida, and Venezuela.

1576-1577

MARTIN FROBISHER

30 In the 1570s Frobisher, a privateer, voyaged to the New World in search of the elusive Northwest Passage.

1569-1570

HUMPHREY GILBERT

31 In 1583 this English army officer founded a colony on Newfoundland while searching in vain for the Northwest Passage.

1544-1596

FRANCIS DRAKE

32 An explorer who was more pirate than patriot, Sir Francis Drake was the most celebrated seaman of the Elizabethan era. The English admiral circumnavigated the globe from 1577 to 1580, setting out with three ships from England that was reduced to one—the *Golden Hind*—after one ship turned back to England while in the Strait of Magellan, and the other was lost and never seen again. Drake pressed on, however, sailing up the coast of Chile and Peru to California and plundering Spanish merchant ships as he went. He then sailed across the Pacific and Indian Oceans, rounding the Cape of Good Hope and returning to England a wealthy and famous man in 1580. Drake's was the second circumnavigation of the world in a single exhibition. He was knighted aboard the *Golden Hind* by Queen Elizabeth I in 1581. Drake was later second-in-command of the English fleet against the Spanish Armada in 1588.

1575-1591

RICHARD GRENVILLE

33 Grenville took part in early English attempts to colonize the New World and died at the Battle of Flores, fighting alone against 53 Spanish warships.

1580-1596

WILLEM BARENTSZ

34 A Dutch navigator and cartographer who spent his entire life as an explorer looking for the Northeast Passage, which he believed existed north of Siberia, as the sun always shone and must therefore surely melt its ice. The B Sea is named for

WALTER RALEIGH

35 In 1594, Raleigh heard of Spanish accounts of Manoa, a city of gold on Venezuela's Coroni River, and in 1595 he made the first of two voyages there, the second in 1616. His book written after his first voyage, *The Discovery of Guiana*, gave impetus to the legends of El Dorado. Raleigh also took part in the colonization of North America.



RICHARD HAWKINS

36 In 1593, Hawkins purchased his father's ship *Dainty* and sailed to the West Indies, the Caribbean, the Gulf of Mexico, and the South Seas to plunder Spanish possessions, although decades later he would claim the voyage was solely for the purpose of "geographical discovery."

HENRY HUDSON

37 In the 1600s Hudson made a series of voyages in search of the Northwest Passage. He explored the rivers around Manhattan, and the Hudson River now bears his name. In 1610 he entered Hudson Bay and wintered there. His crew mutinied, set him adrift, and he was never seen again. However, he had paved the way for the Dutch colonization of the region.

SAMUEL DE CHAMPLAIN

38 Dubbed the "Father of New France," de Champlain voyaged to the New World for the first time in 1603 and helped to establish Europe's first settlement north of Florida. He settled a site he called Habitation—what is now Quebec City—and established relations with local Native Americans. He returned in 1613 when he was the first European to navigate the Ottawa River, and in 1615 he explored present-day Ontario.



JOHN SMITH

39 One of the leaders of the Jamestown colony in Virginia, site of the first English-speaking settlement in the New World, Smith's life was saved in 1607 when Pocahontas threw her body across his to prevent his execution. The first Englishman to explore and map Chesapeake Bay, Smith returned to the Americas in 1614 and named the northeast region "New England."



XU XIAKE

40 Xu Xiake traveled throughout his native China, detailing its geology and landscapes. He found the headwaters of the Yangtze River.

SEMYON DEZHNEV

41 Dezhnev, a Russian Siberian explorer, sailed into the Bering Strait 80 years before Vitus Bering. The illiterate Dezhnev who kept poorly written records failed to realize the magnitude of his discovery.

JACQUES MARQUETTE

42 This French Jesuit missionary helped establish the first European settlement in Michigan. With Louis Jolliet, he mapped the northern Mississippi River.

LOUIS JOLLIET

43 In 1673, together with Jacques Marquette, Jolliet was the first European to map the upper reaches of the Mississippi River. In 1694 he completed the first survey of the Labrador coast.

WILLIAM DAMPIER

44 The first person to circumnavigate the world three times and the first Englishman to explore Australia's northwest coast, describing its trade winds and currents.

VITUS BERING

45 Bering made two expeditions, in 1726–29 and 1733–41, to map what is now the Russian Far East and the Aleutian Islands.

GEORGE ANSON

46 In 1740, Anson led a flotilla of eight ships on a four-year odyssey to disrupt, plunder, and capture Spanish possessions. The voyage became a circumnavigation, which saw 666 of his 854 crew perish on the way.



JAMES COOK

47 One of the world's great navigators made three expeditions to Australia, where he became the first European to map the continent's east coast and to record a circumnavigation of New Zealand. His mapping of the islands between New Zealand and Hawaii were on a scale never before achieved, and he amassed an unmatched legacy of scientific observations.

JAMES BRUCE

48 In 1768, Bruce, a Scottish travel writer, went to Egypt to search for the source of the Nile, which he believed originated in Ethiopia. Arriving in Ethiopia he lived there for two years, and in November 1770 he arrived in the town of Gish Abay to discover the source of the Blue Nile (the "river of the ancients") in its surrounding foothills.

JEAN-FRANÇOIS DE GALAUP

49 A French naval officer, de Galaup sailed from France in 1785 with the aim of building upon the work of James Cook. De Galaup left Botany Bay, Australia, in March 1788, and was never heard of again.

FRANCISCO JAVIER DE BALMIS

50 The royal doctor to King Charles IV of Spain, Balmis was the leader of an expedition to vaccinate Spain's American and Asian territories against smallpox.

ALEXANDER MACKENZIE

51 This Scottish-born explorer made two crossings of western Canada (1789 and 1792-93) looking for the Northwest Passage. On his second try he reached the Pacific Coast, completing the first transcontinental crossing of North America, north of Mexico.

1774-1807 & 1770-1831

MERIWETHER LEWIS & WILLIAM CLARK

52 Commissioned by President Thomas Jefferson in 1803 and setting out in 1804, Meriwether Lewis and William Clark led the Corps of Discovery from St. Charles, Missouri, westward to the Pacific Ocean, their brief to find the "most direct and practicable water communication across the continent." Following the Missouri River they crossed the Great Plains, wintered in North Dakota, established relations with dozens of Native American tribes, crossed the Continental Divide at Lemhi Pass, and sighted the Pacific Ocean on November 7, 1805. Wintering on the Columbia River they returned to St. Louis on September 23, 1806.



MATTHEW FLINDERS

53 One of England's greatest navigators and cartographers made three voyages to Australia and was the first to circumnavigate and map its vast coastline.

JOHN ROSS

54 The Scotland-born Ross joined the Royal Navy at the age of nine. As a commander in the Swedish Navy he made three voyages to the Arctic, becoming the first European to reach the North Magnetic Pole.

JOHANN LUDWIG BURCKHARDT

55 Burckhardt was a Swiss-born geographer and traveler who studied Arabic at the University of Cambridge and is credited with the rediscovery of the "lost" Nabataean city of Petra in Jordan in 1812.

JOHN FRANKLIN

56 Englishman Franklin took part in a host of battles and voyages of discovery, including the Battles of Copenhagen and Trafalgar, to the east coast of Australia and several voyages to the Arctic.

WILLIAM EDWARD PARRY

57 Parry made expeditions into the Arctic in search of the Northwest Passage. In 1819 his expedition sailed three-quarters of the way across the Canadian Arctic Archipelago. In 1821 a second voyage went as far as the Gulf of Boothia while a third voyage failed to reach Prince Regent Inlet. In 1827 Parry attempted to conquer the North Pole, reaching 82 degrees 45 minutes north, which remained the highest latitude attained for 49 years.



CHARLES STURT

58 In the early nineteenth century Sturt launched expeditions into Australia's interior, determined to find its "inland sea."

FRANCIS CROZIER

50 Crozier made a four-year voyage to the Antarctic Peninsula, penetrating its pack ice and conducting extensive surveys.

FERDINAND PETROVICH WRANGEL

60 Wrangel explored Russia's polar seas—charting the Siberian coastline—adding to our knowledge of glaciology, and led Russia's 1825–27 World Voyage.

CHARLES WILKES

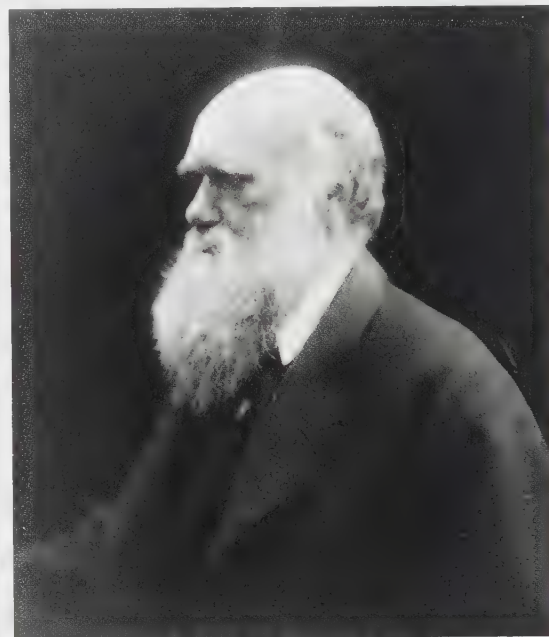
61 From 1838 to 1842, Wilkes led the United States Exploring Expedition, an exploratory and scientific voyage that mapped over 280 Pacific islands, surveyed the Oregon coast, and collected over 60,000 bird and plant species.

JAMES CLARK ROSS

62 Ross made several voyages to the Arctic with William Parry and on June 1, 1831, he successfully located the position of the North Magnetic Pole.

CHARLES DARWIN

63 The English naturalist and geologist Charles Darwin achieved lasting fame with the publication in 1859 of his book *On the Origin of Species*, an account made possible thanks to the five years he spent aboard HMS *Beagle*, a Royal Navy ten-gun brig sloop, from 1831 to 1836. While the *Beagle's* crew surveyed the coastlines, Darwin spent his time ashore, cataloging natural history specimens and investigating new geologic formations. In Chile he saw evidence for a rising landmass, he studied the formation of atolls in the Cocos Islands, and in South Africa, he came to doubt the "stability" of species.



LUDWIG LEICHHARDT

64 Born in Prussia [Germany] in 1813, Leichhardt traveled to Australia in 1842 and led several expeditions into its interior, covering thousands of miles. He was never seen again after leaving McPherson's Station in outback Queensland on April 3, 1848.

DAVID LIVINGSTONE

65 Perhaps the world's most famous pioneering missionary, David Livingstone helped establish missions throughout central Africa. In 1854–56 he became one of the first Westerners to make a transcontinental crossing of the Dark Continent and led a six-year journey down the Zambezi River.

EDWARD JOHN EYRE

66 In 1840–41, Eyre was the first European to cross the Great Australian Bight and Nullarbor Plain.

ROBERT O'HARA BURKE & WILLIAM JOHN WILLS

67 In 1860–61, Burke and Wills trekked from Australia's south coast, north to the Gulf of Carpentaria.

1821–98

RICHARD FRANCIS BURTON

68 A master of two dozen languages, Burton journeyed through Asia, Africa, and the Americas. He was the first European to see Lake Tanganyika.

1835–66

ROBERT KENNICOTT

69 In 1865 Kennicott led an expedition to the Yukon to trace the best route for a cable the Western Union Telegraph wanted to lay from the United States to Europe.

1841–1904

HENRY MORTON STANLEY

70 Stanley, a Welsh journalist and explorer, achieved notoriety for locating the missionary David Livingstone and uttering the words: "Dr. Livingstone, I presume?"

1861–1946

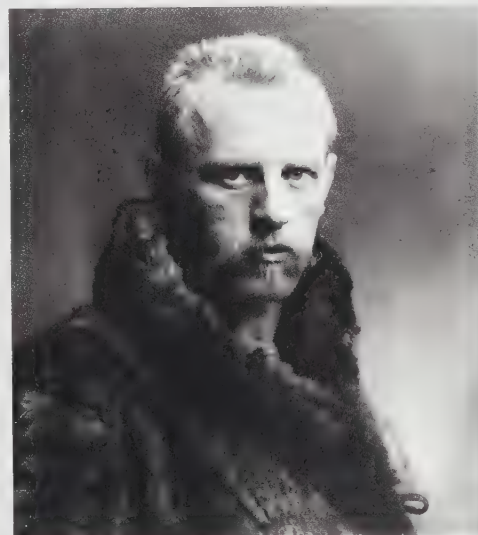
NOBU SHIRASE

75 In 1910 a Japanese army officer, Nobu Shirase, led his nation's first Antarctic expedition, and although the first attempt failed after arriving too late in the season, a subsequent attempt to explore King Edward VII Land was successful. A foray onto the slopes of the Alexandra Range was made, and the expedition returned to Japan, arriving in Yokohama on June 20, 1912, where they were welcomed as heroes.

1847–1918

JOHN FORREST

71 A surveyor, explorer, and in 1890, Western Australia's first premier, Forrest led three expeditions into the uncharted interior of Western Australia between 1869 to 1874.



1844–1918

CARL PETERS

72 A hero of German colonialism, Peters helped set up the colony of East Africa and led expeditions into Uganda and South Sudan.

1818–1914

T. W. EDGEWORTH DAVID

73 In 1907 David, a Welshman, joined Ernest Shackleton on his Nimrod Expedition. On January 16, 1909, David, with Shackleton and Alistair Mackay, reached the Magnetic South Pole.

1841–1910

FRIDTJOF NANSEN

74 Born in Oslo in 1861, Nansen's Arctic expeditions made him a Norwegian folk hero in his lifetime. After an aborted attempt to cross the Greenland ice sheet to Disko Bay in 1888, it was his quest in 1893–96 to get to the geographical North Pole, and his association with his ship, the purpose-built *Fram*, that would bring Nansen lasting fame. His plan was to sail the *Fram* into pack ice, allow it to drift northward, and then make a dash for the pole on dog sleds. The plan failed, but Nansen, his crew, and the *Fram* all survived. He also made oceanographic expeditions to the Atlantic Ocean in 1900 and again in 1910–14.

1862–1900

MARY HENRIETTA KINGSLEY

76 Born into a well-to-do family in London in 1862, Mary Kingsley achieved notoriety as an ethnographer after disregarding social norms to travel alone to the west coast of Africa. Landing in Sierra Leone in 1893 she traveled to Angola where she lived with local people and learned their customs. In 1894 she returned to Africa and canoed up Gabon's Ogooué River, where she caught and returned to England three types of previously unknown fish.



1863–1932

UMBERTO CAGNI

77 On April 25, 1900, the Italian polar explorer Cagni planted an Italian flag at 86 degrees 34 minutes North—a new "Farthest North."

FREDRIK HJALMAR JOHANSEN

78 Johansen traveled not only toward the North Pole with Nansen on his famous *Fram* expedition, but went to the Antarctic with Roald Amundsen as well.

PERCY FAWCETT

79 This British archaeologist and explorer disappeared in South America in 1925 searching for Z—his beloved El Dorado.



ROBERT FALCON SCOTT

110 Scott made two expeditions to Antarctica: the first in 1901, when he set a new southern record at latitude 82 degrees South; and again in 1910, only to reach the South Pole after Roald Amundsen.

ROALD AMUNDSEN

117 Amundsen, the doyen of Norwegian polar explorers, was born in Borge, Norway, in 1872. The first person to have reached both poles, Amundsen was also a part of the Belgian Antarctic Expedition of 1897–99, which became the first group to ever winter in Antarctica, and also led his own expedition in the first-ever crossing of Canada's Northwest Passage from the Pacific to the Atlantic in 1903–06.

LUIGI AMEDEO

82 Amedeo failed to reach the North Pole in 1899, but scaled 16 summits in Uganda's Ruwenzori Range in 1906.

ERNEST SHACKLETON

83 Shackleton led three British expeditions to Antarctica, and in 1916 he navigated 720 nautical miles to South Georgia Island in a longboat after *Endurance* was crushed in ice.

WILLIAM BEEBE

84 US naturalist Beebe traveled extensively throughout the world for the New York Zoological Society, compiling data on avian evolution and marine biology. His book *Galápagos: World's End* was a best seller.

DOUGLAS MAWSON

85 One of the giants of polar exploration, Mawson was born in Yorkshire and emigrated to Australia when still a child. He was the first to reach the Magnetic South Pole and the first to make an ascent of Mount Erebus, Antarctica's second-highest volcano.

FLOYD COLLINS

86 A cave explorer, Collins was an unheralded figure who spent his life exploring Kentucky's wealth of subterranean passages. He died exploring a narrow crawlway.

RICHARD EVELYN BYRD

87 Byrd claimed to have been the first to reach the North Pole by air, but this claim was hotly contested, and no proof was offered. Nonetheless, Byrd was awarded the US Medal of Honor. He later launched three Antarctic expeditions, and on the first of these, on November 28, 1928, he—together with pilot Bernt Balchen, copilot Harold June, and photographer Ashley McKinley—flew to the South Pole.



EDMUND HILLARY & TENZING NORGAY

88 On May 29, 1953, the New Zealand mountaineer Edmund Hillary, together with Sherpa companion Tenzing Norgay, became the first people to stand atop Mount Everest; at 29,035 feet (8,848m), the world's highest mountain. It was the culmination of a military-style operation involving hundreds of porters carrying tons of supplies, a total of ten climbers, and more than 20 Sherpa guides. Despite several attempts since the first in 1921, it was only after the opening of Nepal to the world that a likely southern route was possible.

JACQUES PICCARD & DON WALSH

89 On January 23, 1960, Piccard and Walsh, in their 150-ton bathyscaph the *Trieste*, set a new record for deep-sea diving—35,813 feet (10,916m)—on a five-hour-long descent.

1928-1998

ALAN B. SHEPARD JR.

90

On May 5, 1961, Alan Shepard, a US naval officer and test pilot, became the first American—and second human—to travel into space. In 1971 he walked on the moon.

1930-2012 • 1930-1970

NEIL ARMSTRONG, BUZZ ALDRIN, & MICHAEL COLLINS

93

In July 1969, Neil Armstrong, Edwin "Buzz" Aldrin, and Michael Collins piloted the *Apollo 11* spacecraft, the fifth manned vehicle of America's Apollo program, to the Moon, with Armstrong and Aldrin descending to the surface in the lunar module and becoming the first humans to set foot on another world. Grainy black-and-white images of Armstrong's descent to the surface were broadcast to Earth to 600 million people, and the world was never the same again.



1956-2017

PENG JIAMU

91

Jiamu, a Chinese biochemist, made expeditions into Xinjiang in China's far northwest to catalog flora and fauna.

1921-2011

SCOTT CARPENTER

92

Carpenter was the fourth American in space. In 1965 he lived in SEALAB on the ocean floor for 28 days.



1928-2012

YURI ALEKSEYEVICH GAGARIN

94

On April 12, 1961, the Russian-born cosmonaut Gagarin became the first human to orbit Earth when his *Vostok* spacecraft blasted off from its launchpad at the Baikonur Cosmodrome east of the Aral Sea. His 108-minute orbital flight marked the beginning of the Space Race. After reentry, Gagarin parachuted to Earth near the village of Uzmoriye.

CARL SAGAN

95

A gifted cosmologist, astrophysicist, and communicator, Sagan achieved the highest ratings in the history of US public broadcasting with his television series *Cosmos*. A prolific writer, he published over 600 scientific papers and encouraged exploring the solar system through the use of unmanned probes.

1917-2008

WALLY HERBERT

96

Herbert led a British expedition on a walk to the North Pole in 1969—one of the great feats of polar endurance.

1924-2010

RANULPH FIENNES

97

An insatiable adventurer, British-born Fiennes has led expeditions on the White Nile, circumnavigated the world on its polar axis, and become the first to scale Mount Everest and cross both polar icecaps.

1952-2017

WONG HOW MAN

98

Born in Hong Kong, Man has traveled the globe on *National Geographic* Expeditions and found the true source of the Yangtze River.

1958-2017

AMYR KLINK

99

In 1998, Brazilian Klink circumnavigated the Antarctic Peninsula and was the first to row across the Atlantic Ocean.

1948-2017

ED STAFFORD

100

In 2010, Stafford became the first person to walk the entire length of the Amazon River.



CANADA

WRITING-ON-STONE
PROVINCIAL
PARK

1 Inhabited for over 9,000 years, the Milk River Valley in the Canadian province of Alberta is home to thousands of rock carvings and paintings made by the Shoshone and Blackfoot tribes, and is the Great Plains's largest concentration of rock art.

CANADA

MOOSE MOUNTAIN
MEDICINE WHEEL

2 The Moose Mountain Medicine Wheel—cairns of boulders in the shape of a giant wheel—are around 2,700 years old and were rediscovered in 1896. The wheel, like hundreds of others dotted around the hills of the northern plains, seems to have been used by ancient astronomers to observe the celestial night sky.

CANADA

GROTTOES
OF MANITOBA

3 When Canadian priests began to visit the French pilgrimage town of Lourdes, France, in the 1800s some were so inspired by its Grotte de Massabielle that they began to construct replicas of the grotto in the countryside around Winnipeg in the province of Manitoba, which became places of pilgrimage.

CANADA

NOTRE-DAME
BASILICA OF
MONTREAL

4 The Notre-Dame Basilica in Montreal is extraordinary by any standard you care to use. The High Altar with its decorative walnut motifs was designed in the 1870s by Montreal architect Victor Bourgeois, and its chapels and exquisite pulpit are the equal of anything in Europe.

USA

OLD MISSION
SANTA
BARBARA

5 The tenth of 21 Franciscan missions in California was founded in 1786 to convert local Chumash Native Americans. Daily mass is held in the stately adobe church. It is possible to walk around the old mission buildings including mausoleums as well as acres of beautiful landscaped gardens.

100 SACRED SITES

USA

GLEN COVE
SACRED
BURIAL SITE

6 Glen Cove (called Sogorea Te by the Ohlone people) near San Francisco Bay has been a sacred gathering place and burial site for numerous Native American tribes for more than 1,500 years.

USA

HOPI MESAS

7 The Hopi, one of North America's least understood indigenous tribes, believe that they hold the balance of this, the Fourth World, in their hands. They inhabit three isolated mesas in the pueblo style northeast of Flagstaff, Arizona, which they believe to be their "divine destination," the home of all of the Ancestral Puebloans. Oraibi, the Hopi settlement on the top of Third Mesa, is thought to be the oldest continually inhabited town in North America.

USA

DEVILS
TOWER

8 Rising 1,267 feet (386m) high, the igneous intrusion that is Devils Tower was, according to the Kiowa and Lakota Sioux, raised up into the air when some girls prayed for deliverance from marauding bears.

USA

SHIPROCK

9 One of New Mexico's most prominent natural features, this rock pinnacle is sacred to the Navajo people who believe their ancestors were brought out of persecution in the north and delivered to the southwest on the back of a giant bird.

USA

BEAR
BUTTE

10 An intrusive mass of igneous rock in the Black Hills has long been a sacred site for the Cheyenne and Sioux. Prayer cloths and tobacco bundles are still tied to the branches of nearby trees.

USA

MOUND CITY
(PIPESTONE)

11 Mound City was a quarry site used by the Plains Indians who traveled hundreds of miles to extract the bedrock—a mass of limestone found in a clay deposit—used to make ceremonial pipes, hence the name pipestone. The smoke from these pipes carried messages to the Great Spirit.

USA

TRINITY CHURCH

12 At the heart of the thriving downtown financial district and residential community, this Episcopal parish has been part of New York City since 1697. The first Trinity Church, at 75 Broadway in Lower Manhattan near the intersection with Wall Street, was destroyed in the Great New York City Fire of 1776. The second church building had to be torn down after being irreparably damaged by snowstorms in 1839. The third church on the site is what can be seen today. Completed in 1846, it remained the city's tallest building for over 40 years. Its tower has 23 bells, and its three burial grounds remain intact to this day.

SACRED GROVE

13 The vision that led to the founding of the Latter Day Saint movement took place at this 100-acre (40ha) site in western New York State in the 1820s. Originally the property of Joseph Smith Sr., who moved there in 1818 to clear the forested land in preparation for farming. His son, Joseph Smith Jr., went into the woods to pray one day, where he saw a "pillar of light" followed by a vision of God the Father and Jesus Christ, who told him that all churches were corrupt. Smith subsequently founded the Church of Jesus Christ of Latter-day Saints, which acquired the land in the early 1900s, since when it has been known as Sacred Grove.



ST. PATRICK'S CATHEDRAL

14 St. Patrick's Cathedral is a neo-Gothic-style cathedral church in Manhattan and is a prominent city landmark. When the cathedral was completed in 1878 it was far north of the densely populated areas of the city. It receives in excess of 5.5 million visitors every year, testimony to the cathedral's great aesthetic appeal, which includes its *Pietà*, three times as large as Michelangelo's original, and its gleaming exterior of Tuckahoe marble.

BASILICA OF OUR LADY OF GUADALUPE

15 Basilicas have occupied this site since the early 1500s and the current church holds the statue of Our Lady of Guadalupe, one of Catholicism's most-visited pilgrimage sites. The shrine is near the hill of Tepeyac where Guadalupe is believed to have appeared to Juan Diego Cuauhtlatoatzin, an indigenous Indian, in a number of apparitions. The basilica is visited by millions of Catholics every year, especially around December 12, the feast day of Our Lady of Guadalupe.

CUBAN

MIKVÉ ISRAEL-EMANUEL SYNAGOGUE

16 The oldest Jewish temple in the Americas was founded in 1732 by Sephardic Jews displaced by the Inquisition. White sand covers the synagogue's floor to symbolize the 40 years spent in the desert and the sand used to muffle the sound of illicit worship during the Inquisition.

COLOMBIA

LAS LAJAS SANCTUARY

17 The Las Lajas Sanctuary, a basilica church built in a canyon above Colombia's Guátara River, was begun in 1916 to honor the Virgin Mary who rescued a mother, Maria Mueces, and her deaf-mute daughter from a raging storm.

PERU

CHURCH OF SANTO DOMINGO

18 Well known to Lima's residents as the only city church with a proper steeple, this sixteenth-century church contains the city's oldest choir stalls and the statue of the Virgen del Rosario.

CHURCH OF NOSSO SENHOR DO BONFIM

19 Salvador's most famous church marks the end of a 5-mile-long (8km) procession, the Festa do Bonfim parade, held each January.

BASILICA OF THE NATIONAL SHRINE OF OUR LADY OF APARECIDA

20 This important Roman Catholic basilica is the second-largest church in the world after St. Peter's in Rome.

BASILICA OF THE VIRGEN DE LA CANDELARIA

21 At Lake Titicaca a shrine honors the Dark Virgin who, in 1576, guided fishermen to safety during a storm.

BASILICA OF CAACUPÉ

22 This basilica houses the Virgin of Caacupé, a sixteenth-century statue of Mary that has various miracles to its name.

ARGENTINA

MARY, OUR LADY OF LUJÁN BASILICA

23 The sixteenth-century Luján icon of the Virgin Mary is on display in this basilica built in honor of Argentina's patron saint.

IRELAND

NEWGRANGE

24 A Neolithic passage tomb 278 feet (85m) in diameter made of river stones, it contains a single tomb with a corbeled roof.

MAESHOWE

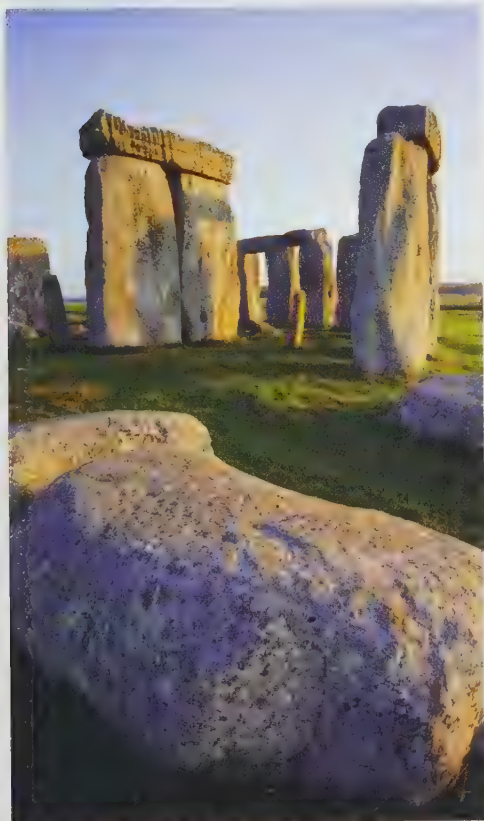
25 This superbly crafted passage grave on Mainland, Orkney, in Scotland was built around 2800 BCE and has a large central chamber and several side chambers.

ST. WINEFRIDE'S WELL

26 The healing waters of St. Winefride's sixteenth-century well at Holywell in Flintshire, Wales, is said to be Britain's oldest continually visited pilgrimage site.

MONT SAINT-MICHEL

31 Only 44 people live on the island fortress of Mont Saint-Michel 650 yards (600m) off the Normandy coast, yet three million people a year come here to visit its eleventh century abbey.



STONEHENGE

27 Made by a people who left behind no written records, this mysterious monument may have been a place of healing, a kind of prehistoric Lourdes, a burial site—around 500 years' worth of cremated remains have been found there—or it may have simply been built as a center of peace, harmony, and unity. Whatever the reason, this famous collection of concentric standing stones set within earthworks in Wiltshire, which date to between 3000 BCE and 2000 BCE remains a place of pilgrimage that draws in anyone with an inquiring mind, whether religious or secular. Located within the Stonehenge Heritage Site, at Durrington Walls, a row of 90 massive standing stones have been explored using ground penetrating radar. The C-shaped stone line is thought to have marked a ritual procession route to the sarsen circle at Stonehenge.

TINTERN ABBEY

28 The first Cistercian abbey in Wales, the ruins of Tintern Abbey have inspired a poem by William Wordsworth and paintings by J. M. W. Turner.

ST. PAUL'S CATHEDRAL

29 This great Baroque church, designed in 1673, is an Anglican cathedral and the seat of the Bishop of London.

WESTMINSTER ABBEY

30 The present abbey began to be raised in 1245 on the site of the old St. Peter's Abbey. It is the coronation and burial site for British monarchs.

CHAPEL OF OUR LADY OF THE MIRACULOUS MEDAL

32 The chapel at 140 rue de Bac was the site of a vision of the Virgin Mary in 1830.

SACRÉ-COEUR

33 One of the most recognizable landmarks of Paris, the Sacré-Coeur Basilica is located at the highest point of the city in Montmartre. It was designed by Paul Abadie and completed in 1914. The Roman Catholic church is dedicated to the Sacred Heart of Jesus.

FRANCE

NOTRE-DAME CATHEDRAL

34 France's most-visited Roman Catholic cathedral is not simply famous for its gargoyles and flamboyant French Gothic exterior. Located deep inside its treasury are some of Catholicism's most holy relics, including a piece of the True Cross, one of the nails used to pierce Jesus's side, and the Crown of Thorns. Desecrated during the French Revolution, the cathedral was restored in the 1840s, and the ringing of its bells signaled the city's liberation in World War II.

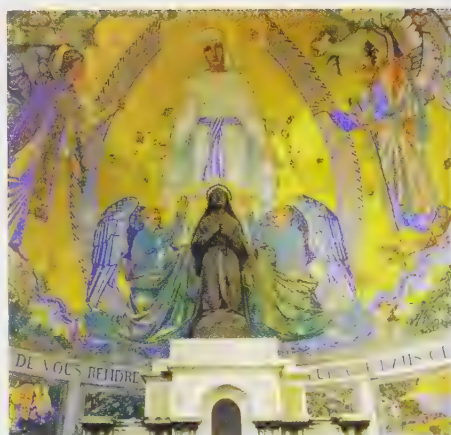


FRANCE CHARTRES CATHEDRAL

35 This triumph of medieval architecture, which lies southwest of Paris, was built between 1194 and 1250, and has remained virtually unaltered ever since. One of Europe's finest examples of Gothic design, its facades are decorated with hundreds of sculptures, and it contains the Sancta Camisa—the tunic that Mary is believed to have been wearing at the birth of Christ.

FRANCE GRANDE SYNAGOGUE DE LYON

36 As the Jewish population of Lyon grew in the mid-1800s, it became clear that a place of worship needed to be constructed. In 1863, on the site of an old salt warehouse on the quai Tilsitt, work began on the Grande synagogue de Lyon. The building, a work of sobriety in the Byzantine Revival style, has a window-encrusted central dome, a reminder that God is the source of all light.



FRANCE SANCTUARY OF OUR LADY OF LOURDES

37 In 1854 in southwest France a young girl named Bernadette Soubirous received 18 visions of the Virgin Mary in a grotto on the outskirts of town. One vision led to her discovering a hitherto unknown spring, which has since become the destination of millions of people who claim it has curative properties.

GERMANY MARTIN LUTHER'S BIRTH HOUSE

38 Luther's birthplace is a pilgrimage site for Protestant Christians. The monk-turned-reformer was born in the German town of Eisleben in 1483 and died there in 1546. Both of the houses he occupied are now museums, with the half-timbered birth house Germany's first memorial museum.

GERMANY MAINZ CATHEDRAL

39 The tenth-century Romanesque-style Mainz Cathedral—embellished over the centuries with various Gothic and Baroque additions—was hit by lightning in 1767, which destroyed its roof; it had a new red marble floor installed in the 1920s after rot had set in; it was hit again several times by Allied bombs during World War II. The German cathedral has weathered it all, and survives as a symbol of Christian endurance.



AUSTRIA MARIAZELL BASILICA

40 This pilgrimage site first began receiving visitors in the 1100s and now hosts more than a million people a year who come to its chapel, the Gnadenkapelle, to see the Magna Mater Austria, a 19-inch-high (48cm) statue of the Virgin Mary in linden wood.

SPAIN THE SHRINE OF OUR LADY OF MONTserrat

41 St. Luke is said to have carved the statue of the Black Virgin that stands in this popular Spanish pilgrimage site.

SPAIN BASILICA DE LA SAGRADA FAMILIA

42 Antonio Gaudí's flamboyant masterpiece, begun in 1882, is predicted to be finally finished by 2026.

SPAIN ÁVILA CATHEDRAL

43 The twelfth-century, fortress-like Ávila Cathedral is a Romanesque and Gothic masterpiece. Its sacristy and the carved stalls of its choir are also highlights.

SPAIN TOLEDO CATHEDRAL

44 Among Europe's great High Gothic structures, this cathedral has remarkable light-filled vaults and was built over the site of a former city mosque.

SPAIN MOSQUE-CATHEDRAL OF CÓRDOBA

45 With a history shared between Islam and Christianity, this building is a triumph of Moorish architecture.

SPAIN

BASÍLICA DE LA MACARENA

46 The patron saint of matadors and particularly beloved by Spanish gypsies, La Macarena is honored in Seville's Basílica de la Macarena. Every year a procession holds aloft Pedro Roldán's seventeenth-century sculpture of the Madonna.

ITALY

BASILICA OF ST. FRANCIS OF ASSISI

48 This was built in honor of the friar Giovanni di Pietro di Bernardone, who is venerated despite never being ordained.

ITALY

ORVIETO CATHEDRAL

49 The townspeople of Orvieto are proud of their fourteenth-century cathedral, built to house a bloodstained cloth belonging to a priest who doubted the bread of Holy Communion could really be the Body of Christ.

ITALY

ST. PETER'S BASILICA

50 One of the most famous buildings in Christendom is a masterpiece of Renaissance architecture. Its massive dome, redesigned by Michelangelo in 1547, dominates the Rome skyline.



ITALY

ST. MARK'S BASILICA

47 St. Mark's Basilica is Venice's most famous church, and its profusion of gold ground mosaics has earned it the nickname "Church of Gold."

SISTINE CHAPEL

51 Located in the Apostolic Palace, the Pope's official residence in the Vatican, this chapel is famed for its magnificent frescoes, in particular the depiction on its ceiling of *The Last Judgment* by Michelangelo. Painted between 1508 and 1512, the ceiling is a landmark of High Renaissance art. Papal conclaves, when a new pope is elected, take place in the Sistine Chapel.



POLAND

CHURCH OF SAINTS PETER AND PAUL

52 Old Kraków's first entirely Baroque building, with its exquisite dolomite facade, is filled with scenes from the lives of Christendom's greatest saints in its aisles, apse, and overhead vaults. The Roman Catholic church was built between 1597 and 1619.

MARS HILL

53 It was on Mars Hill in Athens that the Apostle Paul argued passionately before large crowds during his second missionary journey.

CAVE OF THE APOCALYPSE

54 On this Greek island is the cave where the Apostle John is believed to have received the apocalyptic visions that he recorded in the Book of Revelation.

GREECE

DELPHI

55 There is so much more to Delphi than its justly famous Oracle—the portal through which the gods spoke directly to the people. The Corycian Cave and the many other caves scattered throughout the surrounding hills were sacred places for the worship of Pan, the Greek god of shepherds and of rustic music; and there is the Castalian Spring in nearby Phaedriades ravine, which still has the remains of its fountains that helped bring much-needed water to the temple area.

TURKEY

HAGIA SOPHIA

56 An Orthodox basilica when first built thanks to the labors of 10,000 men under Byzantine emperor Justinian I; when Constantinople was captured by the Ottomans in 1453 it became a mosque and is now a museum.

BLUE MOSQUE

57 The Sultan Ahmed Mosque, known as the "Blue Mosque" because of the blue tiles that decorate its lavish interior, houses the tomb of its founder, Ahmed I.

ORACLE TEMPLE OF APOLLO

58 This ancient Greek sanctuary was run by the Branchids, a priestly caste named after Branchus, a favourite youth of Apollo.

GREAT MOSQUE OF KAIROUAN

59 Founded in 670 CE, this is one of Tunisia's most significant mosques, its massive courtyard surrounded by decorative porticoes and double rows of stone arches.

ST. CATHERINE'S MONASTERY

60 The sixth-century Orthodox monastery of St. Catherine's lies near the base of the biblical Mount Sinai.

BASILICA OF OUR LADY OF PEACE

61 Inspired by St. Peter's Basilica in the Vatican City, the Ivory Coast's grand basilica, designed by Lebanese architect Pierre Fakhoury and built at a cost of \$300 million, is listed in the *Guinness Book of World Records* as the world's largest church.

GREAT MOSQUE OF DAMASCUS

62 One of the Islamic world's oldest and largest mosques, the Great Mosque of Damascus is Islam's fourth-holiest site. It contains the tomb of the conqueror Saladin and, persistent legends claim, it also has, hidden away, the severed head of John the Baptist.

GREAT MOSQUE OF MOSUL

63 This twelfth-century mosque in Mosul, northern Iraq, is renowned for its "leaning minaret," which is several worrying feet out of the perpendicular.

MOUNT OF BEATITUDES

64 A nondescript hill close to the Israeli town of Capernaum near the northwestern shore of the Sea of Galilee has for over 1,600 years been thought to be where Jesus Christ delivered his Sermon on the Mount. The hill is crowned by a Roman Catholic Franciscan chapel.

BASILICA OF THE ANNUNCIATION

65 According to Roman Catholic tradition the Basilica of the Annunciation is where Mary was drawing water from a well when the angel Gabriel appeared and announced that she was to become the mother of the Son of God.

WESTERN WALL

66 Jerusalem's Western Wall at the foot of the Temple Mount is all that remains of the great wall that once encircled the Jewish Temple built by King Solomon in 957 BCE. It is the most significant site in the world for



CHURCH OF THE HOLY SEPULCHRE

67 Venerated as the place where Jesus was crucified, buried, and later resurrected, the Church of the Holy Sepulchre in the Christian Quarter of the Old City of Jerusalem is Christendom's holiest site and has been a place of pilgrimage since at least the fourth century. The site, however, is not without controversy. Some scholars think the Garden Tomb, cut out of a rocky knoll to the north of Damascus Gate, is the real location of the crucifixion, burial, and resurrection. Today the church serves as the headquarters of the Eastern Orthodox Patriarch of Jerusalem and custody of the building is shared by several Christian churches in a complex agreement regulating times and places of worship for each church.

ISRAEL

TEMPLE MOUNT

66 A sacred place for Islam, Christianity, and Judaism, the Temple Mount has been a source of conflict for centuries and remains one of the world's most contested religious sites. It is dominated by three Umayyad structures: the Dome of the Rock, the al-Aqsa Mosque, and the Dome of the Chain.

CAVE OF THE PATRIARCHS

69 This network of underground chambers in Hebron city is believed to be the place where, according to traditions associated with both the Torah and the Koran, the Jewish patriarchs and matriarchs—Abraham, Isaac, Jacob, Sarah, Rebecca, and Leah—are buried.

JEBEL MUSA

70 Jebel Musa is the name given to a mountain (Mount Nebo) to the northwest of the city of Madaba. It is thought by some to be the burial place of Moses, although the church on its summit does not appear in historical documents until the fourth century CE.

THE PROPHET'S MOSQUE

71 Also known as Al-Masjid an-Nabawi, this mosque occupies the site of an earlier one built by the Prophet Muhammad and also houses his tomb.

AL-MASJID AL-HARAM MOSQUE

72 The Al-Masjid Al-Haram Mosque in Mecca is the world's largest mosque and surrounds the Kaaba, the focal point of the Hajj pilgrimage and Islam's most sacred place.

IMAM REZA SHRINE

73 This shrine in Iran's holy city of Mashhad contains the tomb of Imam Reza, the eighth Imam of Twelver Shiites—the largest branch of Shia Islam.

IRAN

FATIMA MASUMEH SHRINE

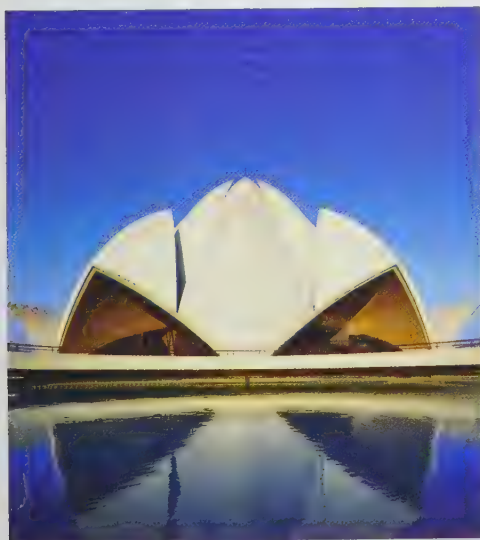
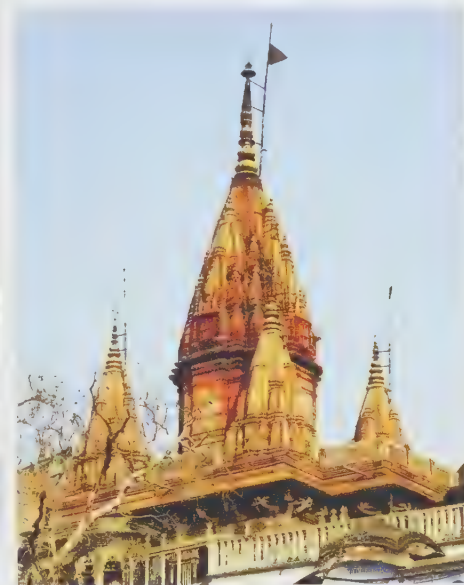
74 This shrine in the city of Qom, Iran, is named after the sister of Ali al-Rida, one of Shia Islam's divinely ordained leaders known as Twelvers, which makes Fatima Masumeh a "Twelver relative" and therefore a saint. The shrine is one of the holiest Shia sites.

SHRINE OF SHAH CHERAGH

75 Originally a tomb but now a mosque, the shrine of Shah Cheragh is Iran's third most revered pilgrimage site.

BADSHAHI MOSQUE

76 Built by the Mughal emperor Aurangzeb and completed in 1673, this is one of the world's largest mosques. It is capable of seating over 150,000 worshippers in its prayer hall and courtyards.



LOTUS TEMPLE

77 The flower-like shape of the Bahá'í faith's Lotus Temple in New Delhi is one of the world's most distinctive buildings. Designed by Iranian-American architect Fariborz Sahba and completed in 1986, the temple is open to people of any faith. A tenet of the Bahá'í religion states that all belief systems are equally valid. The structure is an assembly of 27 freestanding, white marble-clad "petals" that lead to an interior hall capable of seating around 2,500 people.

KASHI VISHWANATH TEMPLE

78 Located on the western bank of the Ganges River in the pilgrimage city of Varanasi—the holiest place for Hindus—the Kashi Vishwanath Temple is one of Hinduism's twelve venerated *dyotirlingas* or "Radiant signs of Shiva"—the holiest of Shiva temples, each of which is considered a manifestation of the god. The temple receives thousands of visitors every day, and if you choose to end your life here, it is believed Lord Shiva himself will whisper the mantra of salvation softly into your ear.



BRAHMAPUTRA RIVER

79 India's Brahmaputra River is one of the country's great and sacred rivers. Its source is in Tibet, to the north of the Himalayan range, and in a nation where the vast majority of rivers are named after females, the Brahmaputra is decidedly male, meaning "Son of Brahma". The wife of Shantanu, an ancient sage who lived on the river, was so beautiful that Lord Shiva himself fell in love with her.

SRI VENKATESWARA SWAMY TEMPLE

80 Sri Venkateswara Swamy Temple in the Indian state of Andhra Pradesh has seven summits, each representing a head of the serpent deity Adishesha, one of Hinduism's primal "creation beings." Between 50,000 and 100,000 visitors a day make it the world's most-visited place of worship.

AJANTA CAVES

81 This arc of 30 ancient Buddhist caves in the Indian state of Maharashtra date to the second century BCE and contain some of the finest examples of Buddhist art including mural paintings, carvings, and sculptures.

TEMPLE OF THE TOOTH

82 Legend says that when the Buddha was cremated his left canine tooth was retrieved from the ashes. The tooth is now safe inside the royal palace complex of the former Kingdom of Kandy.

BOUDHANATH STUPA

83 Tibetan traders and pilgrims have taken refuge in and offered prayers from the Boudhanath stupa in the Nepalese capital of Kathmandu since its construction in the sixth century CE.

MOUNT KAILASH

84 Tibet's Mount Kailash, the legendary abode of Lord Shiva, is sacred to four religions—Buddhism, Hinduism, Jainism, and Bon (the latter a Tibetan religious sect). The act of walking around the mountain's base, which usually takes three days, is thought to bring good fortune. It is, however, a physically demanding act of endurance that requires intense preparation and the ability to endure harsh conditions at high altitude, even though the devout claim it can be walked in one day.



SAMYE MONASTERY

85 The original buildings may now all be gone, thanks to war, fires, and earthquakes, but Samye Monastery can still claim to be Tibet's first Buddhist monastery.

JOKHANG TEMPLE

86 Jokhang, Tibet's most sacred temple, is a place of pilgrimage and the repository of thousands of metal sculptures, painted scrolls, and statuary.

MOGAO CAVES

87 These grottoes in Gansu province, first dug out in the fourth century CE, contain some of the world's finest ancient Buddhist art including wall paintings and sculptures.

TEMPLE OF HEAVEN

88 This medieval temple complex was constructed in the southeastern area of central Beijing in the early 1400s. The triple-gabled, circular Hall of Prayer for Good Harvests was destroyed by fire in 1889 and was rebuilt in the 1890s. It was created, as its name suggests, so that the emperor could go there to pray for a fruitful harvest; its pillars represent the seasons, and its blue roof tiles, the heavens. It is considered a Taoist temple, although heaven worship predates Taoism.

TIAN TAN BUDDHA

89 Known as "Big Buddha," this 112-foot-high (34m) bronze statue completed in 1993, close to Po Lin Monastery on Lantau Island, can be reached by climbing its 260 steps. It symbolizes the harmony between man, nature, and faith.

CHINA

PO LIN MONASTERY

90 Founded in 1906 by three visiting monks, Po Lin Monastery sits amid lush mountain scenery on Hong Kong's Lantau Island. Known initially as "the Big Hut," the Buddhist monastery has attracted more visitors since the large Tian Tan Buddha statue was erected in 1993.

SOUTH KOREA

SEOKGURAM GROTTO

91 Established in the eighth century on Mount Tohamson, the Seokguram Grotto is part of South Korea's sacred Bulguksa temple complex. The grotto is symbolic of a spiritual journey to Nirvana and contains a monumental statue of Buddha facing out to sea.

JAPAN

KIYOMIZU-dera Temple

95 If you survive a jump from the high platform of the Kiyomizudera Temple in Kyoto, you will have a wish granted.

THAILAND

SUKHOTHAI

97 The capital of the thirteenth-century Sukhothai kingdom is now preserved as a historical park, comprising 21 temples amid lotus-covered reflecting pools and tree-lined walkways. The spiritual heart of the park, Wat Mahathat temple, has a central chedi in the shape of a lotus bud surrounded by eight small spires, a design that became the signature mark of Sukhothai architecture.

JAPAN

MEIJI SHRINE

92 Completed in 1921 and located within a 175-acre (70ha) evergreen forest in Tokyo, the Meiji Shrine was built to commemorate the death of Emperor Meiji in 1912. Destroyed during Allied air raids on Tokyo in World War II, the present shrine was finished in 1958 and includes an outer precinct with a picture gallery and murals as well as sports facilities and a memorial hall. An inner precinct includes the central sanctuary where the emperor and empress are entombed, as well as a treasure museum.



JAPAN

MOUNT KAIMON

96 This almost conical volcano on Kyushu Island is home to the gods of passing seafarers. The volcano, which last erupted in 885, is also known as Satsuma-Fuji as it looks similar to Mount Fuji.

INDONESIA

TANAH LOT

98 This is one of seven Balinese temples built to worship the sea gods that live in its waters. Tanah Lot sits on a large offshore rock formation that has been shaped by the tide over the years.

AUSTRALIA

MOUNT WOLLUMBIN

99 Mount Wollumbin in the Australian state of New South Wales has long been a sacred source of spring waters for local Aborigines. Also known as Mount Warning.

SENSŌJI TEMPLE

93 Founded in 645 CE, Tokyo's oldest temple is dedicated to the Bodhisattva, an enlightened being in Buddhism that encompasses the compassion of all Buddhas. Destroyed in World War II, it has become a symbol of regeneration and peace for the Japanese people.

ISE GRAND SHRINE

94 The Ise Grand Shrine complex is a complex consisting of Shinto shrines, the two most significant of which are the Naiku (inner) and Geku (outer) shrines. These shrines are rebuilt every 20 years according to Shinto tradition.

AUSTRALIA

ULURU

100 Uluru, also known as Ayers Rock, is an "island mountain" in central Australia that is of paramount importance in the life and religious beliefs of the Aboriginal Anangu people, the land's traditional owners. Anangu beliefs as to the rock's origin are as rich as they are varied. One myth holds that it was built up by two boys who played in the mud after a period of heavy rains; another says that the rock rose up out of the ground in grief after a bloody encounter between two warring tribes. The vast sandstone rock formation, which glows red at dawn and sunset, is central to dreamtime—the time of creation in Australian Aborigine mythology.



CANADA HEAD-SMASHED-IN BUFFALO JUMP

1 This small 36-foot-high (11m) cliff in Alberta, Canada, was used for 6,000 years by indigenous Plains Indians to herd buffalo over its edge, thus breaking their legs and rendering them immobile.

CANADA DINOSAUR PROVINCIAL PARK

2 This park in Canada's Red Deer River Valley is one of the world's richest fossil locales, yielding 40 dinosaur species and innumerable specimens from microscopic to carnivorous.

CANADA GROS MORNE NATIONAL PARK

3 The eroded mountain range that is Gros Morne National Park on the west coast of Newfoundland provides a fascinating glimpse into the processes of continental drift, with its exposed layers of ocean crust and sedimentary rocks that make up the Earth's mantle.

USA YELLOWSTONE NATIONAL PARK

4 The world's first national park, created in 1872, Yellowstone's inspiring mix of prairie, wild canyons, lakes, mountain ranges, geothermal wonders, and hundreds of animal and plant species make it the "jewel in the crown" of America's parks.

100 UNESCO WORLD HERITAGE SITES

USA GRAND CANYON

5 Almost two billion years of geologic history is exposed in the rock strata of this vast fissure on the Colorado Plateau, shaped by the mighty Colorado River and visited by millions.

USA TAOS PUEBLO

7 Taos Pueblo, an adobe masterpiece of multistoried houses north of Taos in New Mexico on Red Willow Creek, is the ancient home of the Puebloan tribe and part of America's oldest, continuously inhabited community.

USA MAMMOTH CAVE NATIONAL PARK

8 Kentucky's Mammoth Cave is a vast labyrinth of limestone caves beneath a sandstone-and-shale cap, with collapsed sinkholes allowing in water to scour its way through the rock below, creating America's finest caving wonderland.

USA MONTICELLO & THE UNIVERSITY OF VIRGINIA

9 The home of Thomas Jefferson and the neoclassical buildings of the University of Virginia brought European "antiquity" to America.

USA CHACO CULTURE

6 It takes a little effort to get to, but the ruins of Chaco Culture (900-1150) in the San Juan Basin of northwestern New Mexico represent the greatest concentration of pueblo architecture in America's southwest, a treasure trove of pre-Columbian life, history, and culture.

USA EVERGLADES NATIONAL PARK

10 An international Biosphere Reserve and the country's largest tropical wilderness, this Florida park covers the southernmost 20 percent of the Everglades and has the largest mangrove system in the Western Hemisphere.

MEXICO CHICHÉN ITZÁ

11 In the jungles of the Yucatán Peninsula, the Mayan remains of Chichén Itzá date to the Late Classical Period (600-900 CE). The city was a major regional hub, dominating social, political, and economic life in the northern Maya lowlands. The publication of John Stephens's *Incidents of Travel in Yucatán* in 1843 first attracted many visitors to the site.

OLD HAVANA

12 Havana, founded c. 1519 by Spanish conquistadors, has since grown to be a city of more than two million people yet has managed to retain a fascinating mix of Baroque and neoclassical buildings as well as neighborhoods full of ornate private residences.

ALEJANDRO DE HUMBOLDT NATIONAL PARK

13 The most humid locale in Cuba, the 274 square miles (711sq km) of this complex mix of rain forest and lithology—with its wealth of flora and fauna, including 16 of the country's 28 plant species—is the country's most treasured natural environment.

NATIONAL HISTORY PARK

14 Haiti's National History Park comprises the palace of Sans-Souci, the fort of Citadelle Laferrière, and the Buildings of Ramiers—the largest fortress in the Western Hemisphere.

TIKAL NATIONAL PARK

15 Once comprising more than 3,000 structures, the ancient city of Tikal in the tropical rain forests of northern Guatemala was one of the largest cities of the classic Mayan period, now preserved within the boundaries of a national park.

COCOS ISLAND NATIONAL PARK

16 The deep waters and countercurrents of Cocos Island—the only emergent island of the Cocos Plate off the western shore of Costa Rica—boast a breathtaking array of marine life, including one of the world's largest schools of hammerhead sharks.

COFFEE CULTURAL LANDSCAPE

17 The western and central ranges of Colombia's Cordillera de los Andes are home to a unique coffee-growing landscape of small, high forest plots adapted by farmers over generations—an example of sustainable farming—with villages of preserved Antioquian architecture.

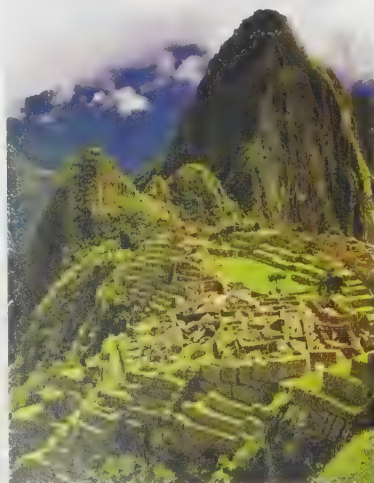
AMAZON BASIN

18 With the Guiana Highlands to its north and the Brazilian Highlands to the south, the Amazon Basin covers around 40 percent of the South American continent—2.5 million square miles (approximately 7 million sq km). A fifth of all the water carried by rivers into the world's oceans exits at its mouth; 1,400 animal species live there, and it contains the world's greatest variety of plant species.



PANTANAL

19 The boundaries of Brazil's tropical wetland treasure—the Pantanal—contains within it the world's largest floodplain, 80 percent of which remains underwater during the rainy season. It has a breathtaking array of aquatic, plant, and animal life including the marsh deer and giant river otter.



MACHU PICCHU

20 Built by the Incas c. 1450, abandoned during the Spanish conquest, and then "rediscovered" by the US explorer Hiram Bingham in 1911, Machu Picchu's polished drystone walls and location 7,970 feet (2,430m) above the Sacred Valley now draws many thousands of visitors.

TIWANAKU

21 Tiwanaku is a pre-Columbian (1500 BCE) archaeological site in western Bolivia. Sadly, no standing buildings survived the Spanish conquest of the mid-1500s.

VALPARAÍSO HISTORIC CENTER

22 Valparaiso's well-preserved historic center, a stopover in the Age of Sail, was once the "jewel of the Pacific."

JESUIT MISSIONS OF THE GUARANIS

23 These Baroque-style Jesuit missions testify to the era of Jesuit expansion in the seventeenth and eighteenth centuries.

ISCHIGUALASTO/ TALAMPAYA NATURAL PARKS

24 Talampaya Natural Park is in Argentina's rarely visited province of La Rioja and holds rich paleontological and archaeological remains that showcase the entire Triassic record. Declared a UNESCO World Heritage Site in 2000 along with neighboring Ischigualasto, the sandstone cliffs, with their numerous caves and shelters—formed over time by the Talampaya River—were occupied from as early as 120 CE and still contain a wealth of engravings and motifs.



COLONIA DEL SACRAMENTO

25 Founded by the Portuguese in 1680 on the banks of the River Plate in Uruguay, Colonia's historic center is one of the most aesthetically pleasing and intact examples of colonial-era, cobblestoned, largely unadorned streetscapes you will find anywhere, with sycamore tree-lined streets providing relief from the summer sun. Its strategic importance saw it often change hands between Portugal and its rival, Spain.

ILULISSAT ICEFJORD

26 The Jakobshavn Glacier at the eastern end of the Ilulissat Icefjord provides it with more than 35 billion tons of calving icebergs a year that float down this ice highway, along Greenland's west coast and into the Atlantic Ocean.

THINGVELLIR NATIONAL PARK

27 The Icelandic Parliament was established at Thingvellir in southwestern Iceland in 930, just 56 years after it was first settled, and remained there until 1271.

BRYGGEN

28 Bryggen is a row of Hanseatic commercial buildings on the east shoreline of Bergen harbor in Norway.

WADDEN SEA

29 The Wadden Sea is a richly biodiverse intertidal ecosystem of wetlands, tidal mudflats, and salt marshes.

SCEILG MHICHÍL

30 Also known as Skellig Michael, this famous pyramidal island off the Kerry coast was settled by Christian missionaries from the sixth to twelfth centuries.



TOWER OF LONDON

31 Established in 1066 by William the Conqueror, London's iconic tower was expanded in the 1220s by King Henry III, Traitor's Gate was added by King Edward I in 1279, Guy Fawkes was tortured there in 1605, and the Crown Jewels were saved from a fire in 1841. Located on the north bank of the River Thames, this repository of English history has been in turn an armory, a treasury, a zoo, a public records office, a grand palace, and a royal residence.

PONT DU GARD

32 After the collapse of the Roman Empire, the three-level, 160-foot-high (48m) aqueduct continued to be used as a toll bridge, thus ensuring its survival. It crosses the river Gardon near Nîmes.

CANAL DU MIDI

33 A great French construction project of the seventeenth century and one of Europe's oldest canals, this waterway runs for 150 miles (241km) through southern France, has 65 locks, and took 14 years to build.

ROMAN THEATER OF ORANGE

34 One of the Roman world's best-preserved theaters, the Roman Theater of Orange in France dates to the reign of Augustus (31 BCE–14 CE) and retains its original stage. It is still used as a theater.



FOUR LIFTS ON THE CANAL DU CENTRE

35 The four hydraulic boat lifts on the Canal du Centre in southern Belgium were built to overcome the difference in water levels between the basins of the Meuse and the Scheldt Rivers. The lift at Houdeng-Goegnies—which opened in 1888—and the remaining three (opened in 1917) still function as they were designed, and although they now only carry small recreational craft they remain intact as high-quality monuments to the Industrial Age.

BAMBERG OLD TOWN

38 One of Germany's most picturesque medieval towns, Bamberg, with its three historical centers—the island town, episcopal town, and market gardener's town—was made a family inheritance in 1007 by Henry II. A new cathedral followed, and for a time the city was the center of the Holy Roman Empire.

SALZBURG HISTORIC CENTER

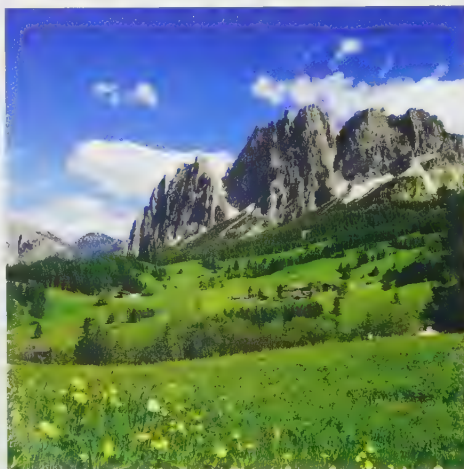
39 One of the best-preserved historic centers north of the Alps, historic Salzburg—the birthplace of composer Mozart—is a hotbed of Baroque architecture. Yet it has also managed to maintain a rich urban fabric spanning many architectural styles. Old Salzburg remains a shining example of the ecclesiastical city-state.

CASA MILÀ

42 Casa Milà, designed to be a spiritual symbol by its Catholic modernist designer Antoni Gaudí, was built for a wealthy Spanish couple between 1906 to 1910 and was the great architect's last civil project

THE DOLOMITES

43 One of the world's most aesthetically stunning and complex mountain ranges, the Dolomites in northeastern Italy are part of the Southern Limestone Alps. So light in color, they were once known as the "pale mountains." The great mountaineer Reinhold Messner simply referred to them as the "most beautiful mountains in the world."



BERLIN MODERNISM HOUSING ESTATES

36 Six Berlin housing estates built from 1910 to 1933 demonstrate how architecture can contribute to a progressive society.

AACHEN CATHEDRAL

37 Europe's oldest cathedral was consecrated in 805, has been a pilgrimage site since 1238, witnessed the coronation of 30 German kings and 12 queens, and houses impressive medieval objects including the Throne of Charlemagne.

TOWER OF HERCULES

40 The Tower of Hercules near Coruña, Galicia, is the only Greco-Roman lighthouse to retain a measure of its original structure.

ROMAN WALLS OF LUGO

41 The third-century Roman walls around Lugo in Spain, built to deter local and Germanic tribes, still remain today.

PIAZZA DEL DUOMO, PISA

44 Pisa's Piazza del Duomo consists of its cathedral, its baptistry, a cemetery, and, of course, the campanile—its "leaning tower."

PIENZA HISTORIC CENTER

45 The Renaissance approach to town planning began in this pleasant Tuscan town, the birthplace of Pope Pius II, in 1405.

ITALY

POMPEII & HERCULANEUM

46 The Vesuvian cities of Pompeii and Herculaneum were destroyed in the eruption of Mount Vesuvius in 79, covered by a choking blanket of ash and pumice.

CZECH REPUBLIC

ČESKÝ KRUMLOV

50 The birth of Český Krumlov, a medieval town nestled in a delicate bend of the Czech Republic's Vltava River, began in the late 1200s and today hosts a wealth of Baroque, Gothic, and Renaissance architecture.

HUNGARY

HOLLÓKŐ

51 Hollókő in northern Hungary represents a complete history of the town's ethnic inhabitants—and is still crowned by the ruins of Hollókő Castle.

HUNGARY

TOKAJ WINE REGION

52 The Hungarian–Slovakian Tokaj wine region consists of some 28 villages with more than 27,000 acres (11,000ha) “under vine.”

CROATIA

DUBROVNIK OLD CITY

53 Damaged by war in the 1990s, the Old City of Dubrovnik, the “pearl of the Adriatic,” has been restored with UNESCO’s help—and was one of the first sites listed on the UN’s original World Heritage List.

ITALY

AMALFI COAST

47 Southern Italy’s Amalfi Coast, settled since the early Middle Ages, is renowned for its adaptive use of land for farming.

POLAND

TORUŃ

48 The medieval old town of Toruń is one of Poland’s oldest cities and is the birthplace of astronomer Nicolaus Copernicus.

CZECH REPUBLIC

JEWISH QUARTER, TŘEBÍČ

49 The Jewish Quarter (including the Basilica of St. Procopius and the network of houses in the former ghetto) in the city of Třebíč in the Czech Republic is one of the best-preserved and largest Jewish quarters in Europe and an example of Jewish–Christian coexistence.



GREECE

ACROPOLIS

54 A universally recognized symbol of civilization, architecture, democracy, enlightenment, and the classical spirit, the Acropolis in Athens is Greece’s gift to the world. Built in the second half of the fifth century on a hill that has been inhabited since the fourth millennium BCE, it is a collection of buildings that includes the Parthenon, the Old Temple of Athena, the Temple of Athena Nike, and various other statues, sanctuaries, theaters, and temples, all spread across more than 7 acres (2.8ha) of the distinctive flat-topped hill that rises above the surrounding city of Athens.

GREECE

RHODES OLD TOWN

55 One of Europe’s best-preserved historic districts, still studded with examples from its golden age when it was home to the Colossus of Rhodes through the days of the Roman era, the Byzantine era, the Knights Templar, and the Ottoman period. It is a delight to get lost in its labyrinthine streets.

TURKEY

PERGAMON

56 Founded in the third century BCE, Pergamon looks down on the Bakırçay Plain in western Turkey. Its human-made terraces, pressured water pipelines, and other structures make it a classic synthesis of Hellenistic and Roman town planning. It was later enlarged by the Byzantines and enhanced by the Ottomans with mosque baths, and bazaa

TALLINN OLD TOWN

57 The historic center of the Estonian capital of Tallinn, still surrounded by its original wall and many of its glorious gates, is a time capsule of authentic Hanseatic architecture and medieval urban planning.

CHURCHES OF IVANOVO

58 The rock-hewn churches of Ivanovo in Bulgaria were used as churches in the twelfth century and are decorated with beautiful fourteenth-century murals.

KREMLIN & RED SQUARE

60 The Kremlin, a citadel in the center of the Russian capital, Moscow, sits today on a hill once occupied by Finno-Ugric tribes in the second century BCE. Together with Red Square and St. Basil's Cathedral, the site represents the very heart of the Russian nation.



GHADAMÈS

64 The "Berber Pearl of the Sahara," the desert town of Ghadamès on the Libyan/Algerian border is perhaps the Sahara's oldest habitable medina, built almost entirely of mud and straw and with a network of narrow streets that provide the town with much-needed shade.

NE SSEBAR

59 The city of Nessebar on Bulgaria's Black Sea Coast began as a Thracian (Indo-European) settlement in the sixth century BCE and boasts more than three millennia of continuous habitation. Its ancient town is nicely ensconced on a tiny peninsula (a former island), now joined to the mainland via a narrow isthmus.



PAPHOS

61 Paphos, on the west coast of Cyprus, is the mythical birthplace of the goddess Aphrodite and was visited by the apostle Paul. The island's capital during the Roman era, it is home to a Roman governor's palace with an exceptional array of mosaics.

UPPER SVANETI

62 The Upper Svaneti in Georgia has a unique blend of mountain landscapes and medieval villages with more than 200 multilevel tower houses, where the Svan people still live in harmony with their surroundings.

WALLED CITY OF BAKU

63 Azerbaijan's walled city reveals a cultural continuity that begins with Zoroastrianism and continues through Sasanian, Persian, Arabic, Ottoman, and Russian.

LEPTIS MAGNA

65 Founded in 1000 BCE and abandoned in the seventh century CE, the city of Leptis Magna on the Libyan coast, east of Tripoli, is one of the most intact Roman ruins in the Mediterranean.

PYRAMIDS AT GIZA

67 The famous pyramids at Giza—the "Giza Necropolis"—includes three pyramid complexes, the Great Sphinx, a collection of cemeteries, an ancient industrial site, and workers' quarters with bakeries, kitchens, and even a hospital. The entire complex was built over 35 to 50 years during the reign of kings Khufu, Khafre, and Menkaure.

EGYPT

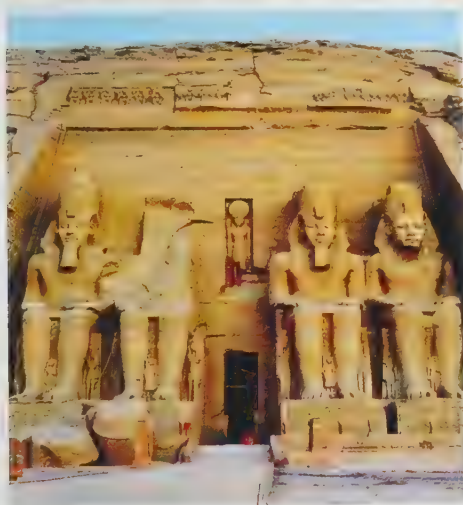
WHALE VALLEY

66 This valley in the Western Desert was named after the fossils it yielded shed light on Archaeoceti—a transitional fossil from the period when whales were evolving from land-based to ocean-going creatures.



ANCIENT THEBES

68 Thebes, the ancient city whose ruins and temples presently lie within the boundaries of present-day Luxor some 497 miles (800km) south of the Mediterranean coast, was known in antiquity as the “city of the Pharaohs.” Luxor now acts as steward to ancient Thebes’s magnificent temples of Karnak and Luxor, Egypt’s gift to humanity, and testimony to a time when the city was one of, if not the world’s most-populated city.



EGYPT

ABU SIMBEL & PHILEA

69 The two enormous Egyptian rock temples of Abu Simbel, completed during the reign of Rameses the Great, together with the Temple of Philea, were the subject of one of UNESCO’s finest moments when in 1959, with the construction of the Aswan High Dam threatening their existence, the monuments were methodically cut, dismantled, and reassembled back from the soon-to-be rising waters.

MALI

TIMBUKTU

70 Established as a trading settlement in the 1100s, Timbuktu had many rulers in the centuries that followed—the Mali Empire, Tuareg tribesmen, the Songhai Empire, Moroccans, and in the nineteenth century the French—but has never lost its timeless allure.

GHANA

ASANTE TRADITIONAL BUILDINGS

71 The Asante Traditional Buildings in Ghana were built as palaces and shrine houses, the “home of men and gods.”

CAMEROON

DJA FAUNAL RESERVE

72 Ninety percent of the Dja Faunal Reserve in Cameroon, almost entirely encircled by the Dja River, still lies undisturbed.

ETHIOPIA

LALIBELA CHURCHES

73 The monolithic twelfth- and thirteenth-century churches of Lalibela were designed to be a symbolic representation of Jerusalem itself, and remain strong examples of engineering and rock-cut architecture.

ETHIOPIA

HARAR JUGOL

74 The fortified, historic tenth-century town of Harar Jugol in Ethiopia is a walled Islamic city, which is considered to be the fourth holiest city in the Muslim world, with more than 80 mosques and 100 shrines.

LOWER VALLEY OF THE OMO

75 Sedimentary deposits in Ethiopia’s Lower Valley of the Omo have led to the discovery of a variety of hominid fossils, including human vertebrae fauna.

GARAMBA NATIONAL PARK

76 A land of savannas, grasslands, swamp-filled depressions, and woodlands, this national park is a sanctuary for the endangered white rhinoceros.

DEMOCRATIC REPUBLIC OF CONGO

OKAPI WILDLIFE RESERVE

77 This reserve in the Democratic Republic of Congo protects a fifth of the Ituri Forest, home to some 5,000 okapi—a forest giraffe with zebra-like markings.

KENYA

LAMU OLD TOWN

78 A small town on Lamu Island in Kenya’s Lamu Archipelago is the oldest inhabited Swahili town in the country. A trading center since the twelfth century, its architecture is pure Swahili characterized by narrow alleyways, multilevel buildings, and intricate carvings on its doors and mosques. The Lamu Society and museum helps to preserve the island’s material culture.

NGORONGORO CONSERVATION AREA

79 The Ngorongoro crater is home to over 25,000 large animals, including the black rhino and wildebeest.

LAKE MALAWI NATIONAL PARK

80 Africa's second largest lake is home to more species of fish than any other lake in the world.

JERUSALEM OLD CITY

81 One of the oldest cities in the world, Jerusalem—the Holy City—is home to the three great monotheistic faiths: Christianity, Judaism, and Islam.

MASADA

82 This plateau-topped rock fortress by the shores of the Dead Sea has cliff faces ranging in height from 295 to 1,300 feet (90–400m). Fortified by Herod the Great, its summit is a mix of palaces, barracks, an armory, water cisterns, storehouses, and casement walls.

PETRA

83 Known the world over for its rock-cut tomb and temple architecture and extensive water conduits, Petra in southern Jordan is one of the world's most precious cultural and historical treasures. Built by the Nabataeans and fed by a natural stream, the city prospered as a "caravan city"—a crossroads between Arabia, Egypt, and Phoenicia.



PERSEPOLIS

84 Founded in 518 BCE by Darius I and constructed on a part-natural, part-artificial terrace, Persepolis, in south central Iran, became the ceremonial capital of the Achaemenid Empire (c. 559–330 BCE). Its wealth of monumental remains, including its wonderful terrace, the Tachara Palace, and its extensive friezes, testify to the Achaemenid love of pomp and ceremony.



HILL FORTS OF RAJASTHAN

85 A collection of forts in the Indian state of Rajasthan, built from the eighth through to the eighteenth century, testify to the wealth of the Rajput princely states. Their ornamentation borrowed ideas from Sultanate and Mughal styles, and complex urban settlements thrived within their extensive walls.

TAJ MAHAL

86 Commissioned in 1632 by Mughal emperor Shah Jahan and finished in c. 1653, the Taj Mahal was—and remains—a mausoleum for his favorite wife, Mumtaz Mahal, who died giving birth to their fourteenth child. An impressive masterpiece of Persian and Mughal architecture, it stands on a square plinth framed by four minarets and the tomb at its center beneath its vaulted dome.

DARJEELING HIMALAYAN RAILWAY

87 This railway—the so-called "Toy Train"—was built between 1879 and 1881 and runs for 48 miles (78km) from New Jalpaiguri to Darjeeling—an elevation change of 6,889 feet (2,100m).

WESTERN GHATS

88 One of the world's eight "hottest hotspots" of biological diversity, this mountain chain has more than 7,400 species of flowering plants and 142 mammal species.

THE GREAT WALL OF CHINA

89 The majority of China's Great Wall was built during the Ming Dynasty (1368–1644), but its earliest remnants date to the seventh century, when walls were built in an attempt to stem incursions from nomadic tribes to the north. Stone, timber, mud, bricks, and in some places an earthen dyke with moats on either side, the wall stretched from Lop Lake in the west to Dandong in the east—a total of 5,500 miles (8,850km).

CHINA

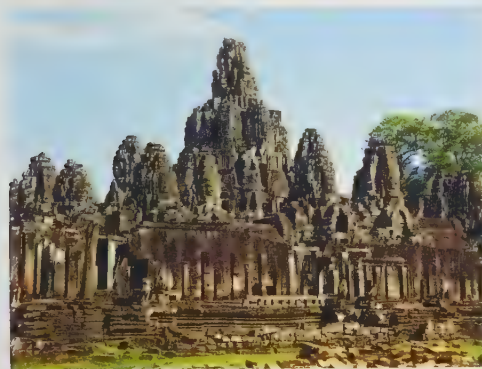
FORBIDDEN CITY

90 From 1420 to 1912, Beijing's Forbidden City—a 180-acre (72ha) complex with 980 buildings, including the Palace Museum—was China's Imperial Palace and is recognized by UNESCO as having the world's largest assemblage of ancient wooden structures.

CHINA

LIJIANG OLD TOWN

93 The Old Town of Lijiang in Yunnan province is famous not only for its timber houses and intricate bird and flower carvings on its windows, but also for its fusion of Han and Nakhi cultures.



CHINA

THE GRAND CANAL

91 Mostly constructed during the Sui dynasty (581–618), this canal is the world's longest artificial waterway (1,104 miles/1,776km), a north–south canal built to bring food from the fertile regions of the Yangtze to Chinese armies and the emperor's royal court.

MONGOLIA

ORKHON VALLEY

94 Orkhon Valley bears witness to nomadic pastoral conditions that have remained unchanged for millennia.

NORTH KOREA

KAESONG MONUMENTS

95 This city in North Korea, with its defensive walls, gates, archaeological and astronomical sites, schools, and bridges, bears testimony to the Koryŏ dynasty.

JAPAN

MOUNT TAISHAN

92 The most revered of all China's sacred mountains, Mount Taishan in Shandong province has been worshipped for three millennia.

YAKUSHIMA

96 Yakushima Island near Kyushu is the North Pacific's largest nesting ground for loggerhead turtles and has no recorded tree cutting in its forested wilderness.

CAMBODIA

ANGKOR WAT

97 Earth's largest religious monument and high point of Khmer architecture, the Buddhist (although originally Hindu and dedicated to Vishnu) temple complex of Angkor Wat near Siem Reap in Cambodia was built in the twelfth century and designed to represent Mount Meru, Hindu's "Home of the Heavenly." At its center is Temple Mountain, renowned for the purity of its design and its extensive narrative bas-reliefs covering entire walls, and its encircling moat representing the ocean.

BOROBUDUR

98 The ninth-century Borobudur temple near Magelang in Central Java, a shrine to Lord Buddha, is adorned with 504 statues of Buddha over nine stacked platforms and decorated with more than 2,600 relief panels.

INDONESIA

KOMODO NATIONAL PARK

99 This national park on Komodo Island in Indonesia's Lesser Sunda Islands was founded to help protect the island's endemic Komodo dragon, a giant monitor lizard that may be a "surviving remnant" of Australia's varanid lizards, which died out during the Pleistocene era.

AUSTRALIA

KAKADU NATIONAL PARK

100 Kakadu National Park in Australia's Northern Territory covers over 7,600 square miles (19,800sq km) and has been home to Aboriginal peoples for more than 40,000 years; approximately half of it is under Aboriginal administration. One of the world's most "weed-free" national parks, it has a monsoonal climate with floodplains that are inundated for several months each year. It is home to 1,700 plant species and 74 species of mammal, including its "emblem"—the saltwater crocodile.





VANCOUVER ISLAND

1 Vancouver Island, part of Canadian British Columbia, is the largest island off the western shoreline of North America and the largest island in the Pacific Ocean, east of New Zealand. First explored by British and Spanish expeditions in the 1770s, it stretches for 285 miles (460km) north to south and is a magnet for kayakers and hikers.

SALT SPRING ISLAND

2 Salt Spring Island is the largest and most visited of the southern Gulf Islands. It has numerous walks, including a great hike to the summit of Mount Erskine (1,446 ft/441m).

FOGO ISLAND

3 Tiny island off Newfoundland's eastern seaboard, Fogo has a craggy shoreline, forests of kelp in its waters, and the amazing modernist cubes of the Fogo Island Inn.

PRINCE EDWARD ISLAND

4 Prince Edward Island (PEI) in the Gulf of St. Lawrence to the west of Cape Breton Island was one of the earliest settled regions of Canada and has a population of French, Celts, and Anglo-Saxon descendants that reflects that early immigration. PEI is surrounded by over 230 smaller islands and has a landscape of outstanding beauty.

SAN JUAN ISLANDS

5 An archipelago of over 400 assorted hilly, fertile islands (most of which are not even named) and rocky outcrops are only a short ferry ride from the Washington State mainland and are famous for their resident pods of orca killer whales.

100 ISLANDS

MOUNT DESERT ISLAND

6 Mount Desert Island (MDI) is the largest island off the Maine coast and is home to Acadia National Park, visited by two and a half million people annually who come to hike its forests of pine, fir, and birch and its famous carriage roads, built from 1913 to 1940 by John D. Rockefeller Jr.

NANTUCKET

8 Nantucket, its name derived from native Algonquin words for "faraway island," lies 30 miles (48km) off the southern shoreline of Cape Cod. By the mid-1600s the tiny, isolated island had become a refuge for displaced Native Americans as traditional lands throughout Massachusetts were being swallowed up by white settlers. In the early decades of the 1700s the island had become the center of an emergent American whaling industry, but now the island is best known for its historic district, tourism, and highly expensive real estate.

LONG ISLAND

9 Extending approximately 118 miles (190km) eastward from New York Harbor to Montauk Point, Long Island is divided into four counties: Kings (Brooklyn), Queens, Nassau, and Suffolk. In the late nineteenth century the North Shore became a fashionable summer resort for the wealthy, who built large and lavish estates. Today, Nassau and Suffolk counties are ranked among the most expensive areas to live in the United States.

PEAKS ISLAND

7 Peaks Island is located in Casco Bay, Maine, and is home to about 900 independence-minded residents who have tried six times since 1883 to secede from the City of Portland.

BARRIER ISLANDS

10 The Outer Banks run almost the entire length of the North Carolina coastline, a 200-mile-long (320km) line of low-lying barrier islands and peninsulas that are unconnected to a reef system and so can suffer heavy erosion from storms.

PAWLEYS ISLAND

11 Known for its cypress-sided cottages that gave it the reputation of being "arrogantly shabby," this laid-back gem on the South Carolina coast, only covering 1 square mile (2.6sq km), remains an upscale retreat and home to the famous Pawleys Island hammocks.

SEA ISLANDS

12 On 100 barrier islands along the coasts of Georgia and South Carolina, where slaves once worked rice and cotton, the African Gullah language is still spoken.

AMELIA ISLAND

12 Amelia Island, one of the country's southernmost barrier islands on the north Florida coast has had eight flags flown over it since the French arrived in 1562, a political tug-of-war without which there would now be no Isle of Eight Flags Shrimp Festival, first held in 1964, which attracts 150,000 people each May.



MAUI

14 The second-largest of the Hawaiian Islands, the two main industries for Maui are agriculture and tourism. Almost three million people a year visit its black sand beaches to surf, windsurf, and snorkel, and to hike its mountainous interior, past waterfalls and on to its dormant volcano Haleakala. The main town of Lahaina has shops, restaurants, and an eclectic wharf precinct.



BIG ISLAND

15 The Big Island of Hawaii is the largest (and southernmost) of the Hawaiian Islands, larger than all other of the islands combined and home to five, overlapping shield volcanoes, two of which are active—Mauna Loa and Kilauea—and the 13,803-foot-high (4,207m) Mauna Kea, the "White Mountain."

BERMUDA

16 The British Overseas Territory of Bermuda is the name given to a grouping of 181 low-lying islands in the hurricane belt of the North Atlantic Ocean, off the east coast of North America. The largest island, Main Island, is sometimes erroneously called Bermuda. Its capital is Hamilton.

SCRUB ISLAND

17 Scrub Island in the British Virgin Islands is best known for the sumptuous Scrub Island Resort, Spa and Marina, built in 2010 with villas and various amenities spread throughout the island's 230 acres (93ha).

ST. JOHN

18 Part of the US Virgin Islands, St. John has no airport, and the only access is via boat from the nearby British Virgin Islands. Almost two-thirds of the island is protected national park, bequeathed to the National Park Service by the US philanthropist Laurance Rockefeller in 1956.

ST. KITTS & NEVIS

19 Two of the first Caribbean islands to be settled by Europeans, St. Kitts and Nevis constitute the tourism-dependent, sovereign, and democratic twin-island federation of the Leeward Islands, located to the east of Puerto Rico.

ANTIGUA

20 The Caribbean island of Antigua is blessed with 365 beaches, a different beach for each day of the year, and its history of slavery means over 90 percent of its people are still of African/mulatto descent.

CAYE CAULKER

21 Nothing much more than a sandbar over a limestone shelf, Caye Caulker off the coast of Belize has only one town and is a prime windsurfing and lobster fishing destination.

JICARO ISLAND

22 This private tropical island in the northwest corner of Lake Nicaragua is home to the Jicaro Island Ecolodge, the country's luxury, all-inclusive, ecoresort, only a quick boat ride from the atmospheric, colonial town of Granada.

COCOS ISLAND

23 Designated as a national park and a UNESCO World Heritage Site, Cocos Island is the only island in the tropical eastern Pacific with a tropical rain forest. Divers rate it as one of the best places in the world to see sea species, including sharks and rays.

PANAMA

SAN BLAS ISLANDS

24 The San Blas Islands are a Panamanian archipelago of almost 400 islands and cays—so far untouched by mass tourism.

COLOMBIA

ISLAS DEL ROSARIO

25 Islas del Rosario is a string of 30 islands in the Cartagena municipality, granted national park status to try to preserve the delicate ecosystem around them.

GALÁPAGOS ISLANDS

26 One of the most biologically diverse and fascinating regions on Earth, the Galápagos Islands are famous for their wealth of endemic species first recorded by the naturalist Charles Darwin in 1835. A biological marine reserve and national park populated by marine iguanas, Galápagos land iguanas, giant tortoises, Galápagos penguins, and over 500 endemic plants, the 18 primary islands and three lesser islands and rocky outcrops that comprise the group—the oldest of which may be up to 90 million years old and the youngest still being formed by the ongoing seismic activity of the Galápagos Triple Junction—straddle the equator.

FERNANDO DE NORONHA

27 This archipelago of 21 islands off the Brazilian coast is the tip of a vast, undersea volcanic formation, supporting an impressive variety of endemic flora and fauna and a breeding ground for migratory seabirds.



EASTER ISLAND

28 This island in the southeastern Pacific Ocean was first settled by Polynesians in the first millennium CE, and today, it remains one of the world's most remote, inhabited places. Famous for the almost 900 massive stone statues—the *moai*—carved out of basalt, obsidian, and easily worked tuff by the Rapa Nui people from the 1100s to the mid-1600s, the island was annexed by Chile in 1888 and has a population of around 6,000.

CHILE

ROBINSON CRUSOE ISLAND

29 Robinson Crusoe Island is part of the Juan Fernández Islands, a sparsely inhabited and mountainous island group in the southern Pacific Ocean, which achieved fame as the home of author Daniel Defoe's fictional marooned sailor, Alexander Selkirk.

FALKLAND ISLANDS

30 The Falkland Islands is a 778-island archipelago with mainly pastoral landscapes, covering 4,700 square miles (12,200sq km) of the South Atlantic Ocean. Flora consists mostly of wind-resistant dwarf shrubs.

SOUTH GEORGIA ISLAND

31 Few islands in the world have the lure of South Georgia. Remote and mountainous, it is famous for its king penguins, whales, seabirds, and flora and fauna. It has one of the planet's highest levels of biodiversity.

BRITISH OVERSEAS TERRITORIES

ASCENSION ISLAND

32 A volcanic peak in the middle of the South Atlantic Ocean, Ascension Island is awash with reminders of its violent birth—lava fields and cinder cones dot the landscape, and 44 dormant craters have, so far, been identified.

FLATEY

33 There are no hills on Flatey, off the northwest coast of Iceland, which is, as its name suggests, very flat. Flatey's tiny population is seasonal, and its single road leads from the wharf to the "old village," which consists of a number of attractive traditional houses.

MYKINES

34 Mykines, the westernmost island in the Faroe archipelago, is only 4 square miles (10sq km) in size but has geology aplenty, with towering sea stacks on its western end and massive basalt columns along its north-facing coast.

SVBALBARD

35 This archipelago in the Arctic Ocean between Norway and the North Pole was likely first located by Scandinavians in the twelfth century and covers 23,561 square miles (61,022sq km). Its largest island, Spitsbergen, accounts for over half its total land area.

JAN MAYEN

36 Jan Mayen is a volcanic island in the Arctic Ocean with an isthmus linking its "north" and "south." It is partly covered by glaciers.

GOTSKA SANDÖN

37 The pine forests and sand dunes of Gotska Sandön in the Baltic Sea have been a national park since 1909.

ÅLAND ARCHIPELAGO

38 An archipelago lying at the entrance to the Gulf of Bothnia in the Baltic Sea, these islands belong to Finland yet are Swedish-speaking. A sunny part of northern Europe, there are many remote, sandy beaches.

BORNHOLM ISLAND

39 East of Denmark and south of Sweden, this rocky Baltic island depends largely on fishing and tourism. Its many hours of sunshine and the pure quality of its light attract many visitors.

SHETLAND ISLANDS

40 The Shetland Islands to the north of Scotland lie on the dividing line between the Atlantic Ocean and the North Sea. Although a part of Scotland since the fifteenth century, the Shetlands were originally settled by Scandinavia. Only a handful of the 100 islands in the group are inhabited, with the only burgh, Lerwick, to be found on the group's largest island, Mainland. Uninhabited Mousa has the wonderful Broch of Mousa, Scotland's finest example of an Iron Age round tower.

ORKNEY ISLANDS

41 First inhabited almost 9,000 years ago, the 70 islands of the Orkney archipelago (only 20 are inhabited) lie to the north of Scotland, off the coast of Caithness, and are spread over two groups—the North and the South Isles. Their most famous landmark is the Old Man of Hoy, a 450-foot (137m) sea stack that has proved popular with climbers since the first ascent of it was made in 1966.



ISLE OF MAN

42 A self-governing British Crown Dependency in the Irish Sea, the Isle of Man is where the Manx language, an offshoot of Gaelic, emerged in the sixth century CE but is now an "endangered" tongue.

ISLE OF WIGHT

43 A traditional holiday destination for British families, the Isle of Wight boasts a 25-mile (40km) shore, lined with beaches, white cliffs, and sand dunes.



BRITISH CROWN DEPENDENCY

CHANNEL ISLANDS

44 The Channel islands—Guernsey, Jersey, Alderney, Sark, Herm, Jethou, and Brechou—are a stone's throw from the French Normandy coast, and the two bailiwicks, Jersey and Guernsey, are locally administered and are not a part of the United Kingdom. The islands boast a mild climate and magnificent scenery.

CORSICA

45 Located off the west coast of Italy, this is the most mountainous island in the Mediterranean Sea, with over two-thirds of its landmass dominated by a chain of peaks that run north-south along almost its entire length and over which passes the GR20, one of Europe's most challenging hiking trails. The island has more than 200 beaches along its coastline.

FRANCE

RÉUNION ISLAND

46 A French overseas department in the Indian Ocean 120 miles (200km) southwest of Mauritius, its giant, restless shield volcano, the Piton de la Fournaise (8,632ft/2,631m), has erupted over 100 times since 1640.

SPAIN

CANARY ISLANDS

50 The Spanish-controlled Canary Islands, formed by the volcanic "Canary hotspot," lie just 60 miles (100km) off the southern coast of Morocco. Their volcanic peaks combine with its beaches and a subtropical climate to attract 12 million visitors a year.

SPAIN

CHINJO ARCHIPELAGO

51 This archipelago to the north of the Canary Islands is a Special Protection Area for birds such as waterfowl, petrels, and birds of prey.

ITALY

ELBA ISLAND

52 Elba Island is the largest island in the Tuscan archipelago and was the place of exile of Napoléon Bonaparte.

ITALY

SARDINIA

53 The second-largest island in the Mediterranean Sea has a high, rocky coastline; deep bays; alluvial valleys, and spectacular promontories.

ITALY

CAPRI

54 A shimmering jewel on the edge of the Gulf of Naples, and a resort since the days of the Roman Republic, Capri is known for being the site of a number of Imperial Roman villas such as the villa of Augustus and several built for Emperor Tiberius, including the Villa Jovis, one of Italy's best-preserved Roman villas.

ITALY

MARETTIMO

55 The 300 residents of tiny Marettimo, off the coast of Sicily, enjoy idyllic lives, augmented by fishing and some low-key tourism.

PORTUGAL

MADEIRA

47 This North Atlantic Ocean island first appeared on maps in 1339 and is a popular resort, receiving around a million visitors annually, including cruise liner stopovers.

PORTUGAL

SÃO MIGUEL

48 The largest of the nine volcanic islands of the Azores. It is also known as "the Green Island" for its lush, verdant landscape.

PORTUGAL

PICO

49 Dominated by the impressive mountain from which it takes its name, Pico is home to volcanic vineyards and one of the world's longest lava tubes.



ITALY

SICILY

56 The Mediterranean Sea's largest island—10,698 square miles (27,708sq km)—Sicily is separated from mainland Italy by the narrow Strait of Messina. Home to Mount Etna, Europe's largest volcano, the island is one of the earliest examples of the ills of human-made deforestation, which occurred under the Romans and is why much of its southwest and central regions are devoid of forests. However, its fertile, volcanic soils and agreeable climate result in abundant wheat harvests, and it is Italy's third-largest producer of wine.

GOZO

57 This tiny Maltese island is home to the world's oldest freestanding structures—the prehistoric Megalithic Temples of Malta.

MALTA

50 Inhabited since the sixth millennium BCE, Malta has a wealth of architectural heritage, and Valletta—the EU's smallest capital.

HVAR

59 Off Croatia's Adriatic coast, Hvar has freshwater springs, a fertile coastal plain, pine forests, and is the self-proclaimed "sunniest spot in Europe."

MLJET

60 The southernmost of Croatia's larger Adriatic islands, almost 85 percent of Mljet is forest over layers of limestone, and there is only one hotel.

CORFU

61 The second-largest of Greece's Ionian Islands was described by Homer as a "beautiful and rich land." Its old town is a cobblestone labyrinth.



CRETE

62 First inhabited in the Paleolithic Age 130,000 years ago, Crete is a mountainous island with some of the deepest and most scenic gorges in Europe, which offer truly spectacular hiking. Home to the Minoans, Europe's earliest recorded, advanced civilization, Crete is Greece's most populated island with an agricultural sector known for its viticulture, olives, and citrus. One of the country's most popular holiday destinations, two million people a year go to Crete to see its Minoan ruins, its beaches, the Venetian city of Chania, and Vai—Europe's largest palm forest.

LEMNOS

63 The isolated Greek island of Lemnos in the northern Aegean Sea is the country's eighth-largest island and has a mostly flat topography (although mountainous in its northwest), which accounts for its more than 30 sandy beaches. A target of Saracen raids in the Middle Ages and an Ottoman possession since the mid-1400s, it became part of Greece during the First Balkans War of 1912, and today, has some 30 villages scattered across its 184 square miles (477sq km). The capital town and port of Myrina is on the west coast of the island.

SANTORINI

64 Located in the southern Aegean Sea, Santorini is part of a circular volcanic archipelago left behind by the Minoan eruption of 3,600 years ago, one of the largest eruptions of all time. Greece's most popular island is a land of 1,000-foot-high (300m) precipices; smooth, shallow beaches; and eternal sunshine.

RHODES

65 Founded by the Greeks in the fifth century BC, this historic island hosted the Romans, the Knights Hospitallers, and the Ottomans.

SOLOVETSKY ISLANDS

66 The six islands of this group in northwestern Russia's Onega Bay are home to the Russian Orthodox Solovetsky Monastery.

FRANZ JOSEF LAND

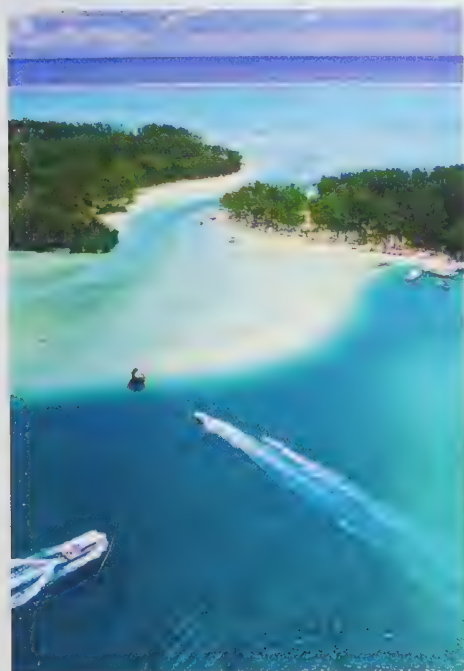
67 One of the last places in the world to be mapped, the uninhabited Franz Josef Land archipelago, deep in the Russian Arctic, was a stepping-stone to the North Pole in the early years of polar exploration. It remains one of the most remote and inaccessible places on Earth, a land of sea ice, flat-topped mesas, polar bears, harp seals, walrus, minke and humpback whales, and more than 40 species of birds.



RUSSIA

WRANGEL ISLAND

68 Almost all of Wrangel Island—probably the last stronghold of the extinct mammoth—on the edge of Russia's East Siberian Sea is a protected nature sanctuary, and so restricts nearly all human activity.



MAURITIUS

MAURITIUS

71 Located 1,200 miles (2,000km) east of the African coast in the Indian Ocean, and uninhabited until the Dutch established a settlement there in 1638, Mauritius is a sovereign island nation with a multiethnic, multicultural population made up of primarily Indian, French, African, and Chinese. Fought over by the Dutch, the French, and the British, this geologically young island, with its vast central plateau and 93 miles (150km) of white sandy beaches, gained independence in 1968 and has since become one of the world's most desirable tourism destinations.

SEYCHELLES

ALDABRA

69 One of the world's most isolated islands, Aldabra, in the Indian Ocean, is the planet's second-largest coral atoll and is home to a high level of endemic species, including approximately 100,000 Aldabra giant tortoises.

INDIA

ANDAMAN ISLANDS

72 This small archipelago in the Bay of Bengal has been inhabited for more than 2,000 years.

VIETNAM

CON DAO ISLANDS

75 You know an archipelago is special if a Six Senses resort opens there. These 16 Vietnamese islands separated from the mainland 15,000 years ago and have never looked back. Two-thirds of them now enjoy national park status.

CAROLINE ISLANDS

PALAU

78 The Republic of Palau is the quintessential tropical paradise, comprising around 250 verdant green jewels in the western Caroline Islands. A diverse wonderland with dozens of vertical drop-offs, underwater caves, World War II wreck sites, stingless jellyfish, giant clams, and the Rock Islands—a 20-mile (32km) stretch of 200 domed, mushroom-shaped limestone rocks, their bases undercut by erosion.

INDIA

RODRIGUES

70 Rodrigues, to the east of Mauritius in the Indian Ocean, is shaped like a whale's back. The island has heavily incised valleys, a labyrinth of limestone caves, and is surrounded by a fringing reef that contains 18 smaller islands of its own.

INDIA

MALDIVES

73 Vulnerable in a world of rising sea levels, these breathtaking tropical islands form a helix-like chain of 26, north-south oriented atolls in the Indian Ocean.

PHILIPPINES

PHI-PHI DON ISLAND

74 An island megastar that has been in movies and commercials, a pedigreed isle of fortress-like limestone cliffs and pristine, white sandy beaches.

PHILIPPINES

PALAWAN

76 In 2007 *National Geographic Traveler* magazine rated Palawan—one of the most biodiverse islands in the Philippines—as the number one island destination in southeast Asia.

GUAM

77 The largest island in the Mariana Islands in the western Pacific Ocean, this is an unincorporated United States territory, claimed by America in 1898, and was the scene of fierce fighting in World War II.



PANGKOR LAUT

79 A tiny island off the west coast of Malaysia, Pangkor Laut is covered by a two-million-year-old virgin rain forest filled with monitor lizards and crab-eating monkeys.

GILI AIR

82 Gili Air is the smallest and most laid-back of the three low-lying Gili Islands off the northwest coast of the Indonesian island of Lombok. Together with nearby Gili Trawangan and Gili Meno, Gili Air is surrounded by fringing reefs, rich in marine biodiversity, and offers exceptional diving in the turtle-filled waters of its east coast.

MABUL

80 Mabul, near the famous dive island of Sipadan—off the east coast of Borneo—has one of the world's greatest examples of a "small marine life" reef.

BALI

81 An Indonesian island off the eastern tip of Java, Bali is an island of predominantly Hindus in an overwhelmingly Muslim nation. Dominated by the towering 9,944-foot-high (3,031m) active volcano, Mount Agung, the island is a magnet for tourism.

LOUISIADE ARCHIPELAGO

83 Idyllic flanking reefs surround the ten volcanic islands and 90 smaller coral atolls of Louisiade archipelago, which covers 10,000 square miles (26,000sq km) of ocean to the north of the Coral Sea.

TETEPARE ISLAND

84 This rugged, uninhabited South Pacific island, with its dense rain forests and diverse reef system, is a conservation success story and the last "wild island" of the Solomons.

ROTTNEST ISLAND

85 Home to the tiny nocturnal quokka, a marsupial/macropod from the same family as the kangaroo, this island off the Western Australian coast is a haven for birds and is a recognized Important Bird Area (IBA).

AUSTRALIA

TORRES STRAIT ISLANDS

86 These are a small group of over 270 tropical islands (only 14 are inhabited) between Australia and Papua New Guinea.

AUSTRALIA

WHITSUNDAY ISLANDS

87 The Whitsundays are Australia's most beautiful and most visited archipelago, a collection of 74 islands 560 miles (900km) north of Brisbane in the Coral Sea. The largest island, Whitsunday, with its gorgeous Whitehaven Beach, was voted by CNN's geographic center in 2010 as the world's most ecofriendly beach. The Whitsundays—which are divided into several groups, including the Lindeman, Northern, and Molle groups—offer a breathtaking variety of isolated, white sand beaches and dense tropical interiors, and their waters are calm and perfect for sailing and kayaking, thanks to the protection afforded them by the Great Barrier Reef to the east. The majority of the islands are uninhabited and offer stunningly secluded coastal hikes—for example, the Ngargu Sea Trail Great Walk—whereas a handful of islands such as Hamilton Island offer 5-star resort accommodation, as well as whale-watching tours and picnics on nearby deserted beaches.



AUSTRALIA

MAGNETIC ISLAND

88 A few miles offshore from Queensland, this island was named because of the strange effect it had on the ship's compass of Captain Cook.

AUSTRALIA

FRASER ISLAND

89 The world's largest sand island, 120 miles (200km) north of Brisbane, also has plenty of rain forest, woodlands, sand dunes, swamps, and mangroves. Inhabited by Aborigines for 5,000 years, it has over 100 freshwater lakes in its 710-square-mile (1,840sq km) interior and a resident population of mostly friendly dingoes.

AUSTRALIA

LORD HOWE ISLAND

90 A volcanic remnant ringed by the world's southernmost coral reef and with a wealth of endemic flora and fauna, Lord Howe Island in the Tasman Sea was once described by Sir David Attenborough as being "so extraordinary it is almost unbelievable."

AUSTRALIA

TASMAN ISLAND

91 Tasman Island is a plateau entirely surrounded by steep dolerite cliffs below the southern tip of the Australian state of Tasmania. Although small, it has an average plateau elevation of 918 feet (280m). Tasman Island Lighthouse, built in 1906, is one of the highest in Australia, and the island is an important nesting ground for its population of 500,000 fairy prion seabirds.

AUSTRALIA

MACQUARIE ISLAND

92 Located halfway between New Zealand and the Antarctic, Macquarie Island is a haven for flora and fauna, and every year at nesting time, is home to the entire world population of royal penguins.

FRENCH POLYNESIA

BORA BORA

98 Settled by Polynesians in the fourth century, Bora Bora in French Polynesia's Society Islands is surrounded by one of the world's most beautiful lagoons. Awash with top hotels, it was home to the world's first "over-water" bungalow resort.



NEW ZEALAND

BAY OF ISLANDS

93 The Bay of Islands in New Zealand's Northland Region has been a popular worldwide big-game fishing and sailing destination ever since the US author Zane Grey first wrote of his visits there in the 1930s. Looking out eastward to the Pacific Ocean, it has a fine natural harbor and several finger-like peninsulas.

NEW ZEALAND

GREAT BARRIER ISLAND

94 New Zealand's sixth-largest island, located off the North Island's east coast, is a land of diverse and biologically rich wetlands; regenerating forests of kauri (a fine, white, straight-grained wood); broad, sandy beaches; and hundreds of small secluded bays and inlets. It has a population of 950 people in its six towns.

NEW ZEALAND

AUCKLAND ISLAND

96 The main island in this subantarctic archipelago, an uninhabited group of eight islands south of New Zealand's South Island with a total land area of 240 square miles (620sq km). It is an Important Bird Area, known for its rugged landscape.

FRENCH POLYNESIA

MO'OREA

99 Mo'orea in French Polynesia lies 11 miles (17km) to the north of Tahiti, and its highest point, Mount Tohivea (3,960 ft/1,207m), can be seen from the Tahitian mainland. A stunning green, mountainous island, Arthur Frommer of *Frommer's Travel Guides* declared it the world's most beautiful island, and few who have been there would disagree.



NEW ZEALAND

STEWART ISLAND

95 New Zealand's third-largest island has a permanent population of under 400, hardly surprising for an island so far south it could almost be termed subantarctic, with its north dominated by the swamps around Freshwater River; the south is an undulating mix of ridges and valleys, ringed by rugged beaches. Most of the island's population are in Oban on the eastern coast.

THE

YASAWA GROUP

97 The Yasawa Group is a chain of 20 volcanic islands to the northwest of the main island of Viti Levu, with limestone caves below and steep topography above, including verdant peaks up to 1,968 feet (600m) high.

FRENCH POLYNESIA

TUAMOTU ARCHIPELAGO

100 The Tuamotus are a chain of low-lying coral islands in French Polynesia that span an area equivalent to that of Western Europe despite having a land area of a mere 345 square miles (885sq km).



CANNON BEACH

1 The water at North America's most mesmerizing beach is often far too cold for swimming, but that hardly matters. Haystack Rock will weave its magic, the water's swell will immerse you in its spray, and you'll soon wonder where the day went.

VENICE BEACH

2 Los Angeles's hub of self-expression, Venice Beach is not only the city's "Muscle Beach"; it also has handball courts, paddle-tennis courts, in-line skating tracks, volleyball courts, cycle trails, and, of course, its famous Ocean Front Walk, the beach-long promenade. The beach's breakwater is a favorite surf spot, and the Venice Fishing Pier is a popular fishing spot when not storm-damaged. It's also good for people watching.

PFEIFFER BEACH

3 Not one of the sweeping Californian beaches you'll find in abundance farther south, this gem on Big Sur is backed by 3,000 feet (914m) of redwood trees and tan oak-encrusted cliffs, and oozes privacy.

SLEEPING BEAR DUNES NATIONAL LAKESHORE

4 If you ever wondered how the Great Lakes earned the description "the third coast," look no further than this beautiful beach on the eastern shore of Lake Michigan.

SOUTH BEACH

5 South Beach on Martha's Vineyard, off the Cape Cod Atlantic coast, is a 3-mile-wide (4.8km) barrier beach of immense natural beauty. It has great surf on one side, and a protected salt pond on the other.

100 BEACHES

USA

OUTER BANKS

6 The beaches on this series of barrier islands off the North Carolina coast are known as "the graveyard of the Atlantic" for their large number of shipwrecks.

MIAMI BEACH

7 North Beach, Mid-Beach, and South Beach comprise what is generally called Miami Beach, a small barrier island with a subtropical climate and wet summers that was cleared of its mangroves in the late nineteenth century. These were replaced by a coconut farm before being made into a city by real estate developers, and transformed into one of America's most popular resorts.

HANAUMA BAY

8 Oahu's Hanauma Bay is a protected marine park set within an extinct volcanic crater.

BIG BEACH

9 Big Beach is a beautiful stretch of white sand on Maui's Makena State Park.

WAIKIKI

10 To combat beach erosion, fresh supplies of "Waikiki sand" are brought in from the shores of California and Australia's east coast. But that hardly seems to matter once you're here, with the city of Honolulu rising up behind you.

JSA

POLIHALE BEACH

11 Polihale on the Hawaiian island of Kauai is wild, remote, and accessible only via an old sugarcane road. The one sole safe beach in the area is a small section of sand known to locals as the Queen's Pond.

PUNALUU BLACK SAND BEACH

12 On the southeast coast of Hawaii's Big Island, Punaluu's jet-black volcanic sands make for an unforgettable sight.

HAPUNA BEACH

13 Hawaii's Hapuna Beach is popular with surfers, but its great waves come with some dangerous rips. A great coastal walk is a safer alternative.

TULUM

14 Tulum, the site of an ancient Mayan city, also has one of Mexico's whitest, purest stretches of Yucatán sand. Its proximity to the well-established travel hub of Cancún has earned the coast in these parts the name "the Riviera Maya." Some of the surrounds are overdeveloped with hotels, but part of the beach is protected for nesting sea turtles.

PLAYA DEL CARMEN

15 The main beach at Playa del Carmen runs the whole length of the city. On it are more than 100 hotels.

ACAPULCO BAY

16 Acapulco Bay has a dozen wonderful beaches, and, if you don't like waves, is also home to two mangrove-fringed lagoon

PINK SAND BEACH

17 One of the world's best colored beaches, Pink Sand gets its hues from calcium carbonates deposited on its coral by tiny marine creatures.

SEVEN MILE BEACH

18 These glistening, crescent-shaped sands have won *Caribbean Travel + Life* magazine's "Best Beach" award.

NEGRIL

19 Located on the westernmost tip of Jamaica, relatively undeveloped Negril often appears in lists of the world's Top Ten beaches.

BAVARO BEACH

20 Bavaro Beach in touristy Punta Cana is an idyllic, white sand beach dotted with palm trees on the "mildly windy" easternmost tip of the Dominican Republic.

TURTLE BEACH

21 Turtle Beach on Buck Island is blessed with some of the world's purest, most powdery sand.

TRUNK BAY

22 The beaches that line Trunk Bay are the major attractions of the much-visited US Virgin Islands National Park.

MAGENS BAY

23 Deep-water Magens Bay on St. Thomas has a beautiful 0.75-mile (1.2km) beach popular with locals and tourists alike.

THE BATHS

24 South of Spanish Town on the island of Virgin Gorda in the Caribbean is a beach famous for its massive, uplifted granite boulders that provide a maze of tidal pools, tunnels, and hidden spaces.



DICKENSON BAY

25 On the northwest coast of the Caribbean island of Antigua, Dickenson Bay has implausibly white sand, and calm, sheltered waters, but it should probably be avoided if you're wanting that secluded tropical feeling. It is already ringed by resorts, and further building is planned, so if it's solitude you're after, you'll need a small boat that will get you to one of the numerous nearby offshore islands, many of which are still blissfully uninhabited.

PLAYA KALKI

26 This coral- and limestone-encrusted beach is heaven for snorkeling and scuba diving.

MONTEZUMA BEACH

28 This village on the Nicoya Peninsula is no longer a secret, but foreign tourists have not yet become too numerous.

IPANEMA BEACH

30 Rio de Janeiro's Ipanema Beach, which is divided into segments known as *postos*, boasts cleaner sand and cleaner water than nearby Copacabana, but take care because it's also more dangerous: large waves often crash onto its sands, and there is a relentless undertow.

PLAYA GRANDE

27 Surf-loving eco-tourists love Playa Grande's big waves, its coastal heathlands, and its leatherback turtle nesting sites.

BAHÍA GARDNER

29 This beautiful long, white sandy beach on Española Island in the Galápagos is home to an astonishing variety of rare and endangered wildlife.





COPACABANA BEACH

31 Bookended by two historic military strongholds—Fort Copacabana (1914) at its southern end, and Fort Duque de Caxias (1779) at its northern extremity—the 2.5-mile (4km) Copacabana is one of the world's great beaches, in spite of the often dubious quality of its water. But that hardly seems to matter, as thousands frolic every day along Rio's powdery "Arc de Triomphe."

BAHÍA INÚTIL

32 The name means "useless bay," but this is a misnomer, because the beach is home to a thriving king penguin colony.

PENTLE BAY

33 The beach looks almost tropical, and, indeed, the waters here on the Isles of Scilly are unusually warm for Great Britain.

WATERGATE BAY

34 The rugged cliffs of the north Cornwall coast are the backdrop to this 2-mile (3km) sandy beach to the north of the town of Newquay. Watergate Bay is a popular sandcastle-building and kite-flying venue.

UK

PORHCURNO

35 Sheltered by Logan Rock headland, the tidal beaches here in Cornwall are often found in Top Tens of the world's most beautiful. They are renowned for their pure sands and deposits of crushed seashells.

UK

SAUNTON SANDS

36 This gem of a beach, with its broad, sweeping sands in North Devon's Biosphere Reserve, is popular with longboard surfers.

UK

WOOLACOMBE BEACH

37 In an Area of Outstanding Natural Beauty in North Devon, these privately owned, broad, and gently sloping golden sands have been voted Britain's Best Beach.

UK

STUDLAND BAY

38 Headlands protect Studland Bay from prevailing winds, and its extensive sand dunes are the result of hundreds of years of deposition.

FRANCE

PLAGE DES DAMES

39 This beach on the island of Noirmoutier, off the west coast of France, has huts, rock outcrops, a long timber pier, and, blissfully, no hotels.

FRANCE

PAMPELONNE BEACH

40 Everyone's idea of the typical St. Tropez beach, featured in the classic French film *And God Created Woman* (1956).

GRÈVE BLANCHE

41 If ever a beach were synonymous with discovery, it is Brittany's Grève Blanche: burial vaults, a necropolis with tombs of medieval knights, and a village beneath the sands, all within walking distance.



SPAIN

PLAYA DE LAS CATEDRALES

42 This lovely beach in Galicia, with its famous natural arches and hidden caves, all exposed during low tide, is also known as the "Beach of the Holy Waters."

SPAIN

CÍES ISLANDS

43 The Romans called them the "Islands of the Gods," and the sheltered and protected beaches of this Galician archipelago are worthy of any and all superlatives.

SPAIN

RIBADESELLA

44 The northern Spanish coast at Ribadesella has every kind of beach you could want, from the soft sands of Vega beach to rock-strewn, horseshoe-shaped Tereñes cove, and Santa Marina Beach promenade.

LA CONCHA BEACH

45 One of Europe's best-known urban beaches, La Concha is known to locals as the "Pearl of San Sebastián."

CANEIROS BEACH

46 This beach on the Algarve coast is encircled, and almost hidden, by a line of stunning pink, ocher, and creamy-white banded rock formations.

CAVALLO

47 The island of Cavallo, between Corsica and Sardinia, has ten main beaches, and waters as clear as glass.



CALA MARIOLU

48 One of the many beaches that line the east coast of Sardinia, Cala Mariolu is considered one of the most beautiful in the Mediterranean; a scant 200 feet (60m) long, and flanked by towering walls of rock, it is ideal for both scuba diving and snorkeling.

RABBIT BEACH

49 This is in a secluded corner of the remote island of Lampedusa, which is closer to Africa than to Europe. But it's not too cut off to have been voted "World's Best Beach" by Tripadvisor.

SAHARUN BEACH

50 Flanked by turquoise waters, this strip of sand lies on the northern tip of the Dalmatian island of Dugi Otok.

MAKARSKA

51 On the coast between Split and Dubrovnik, Makarska Beach is in a deep, sheltered bay backed by scented pine forests in the middle of the Croatian Riviera.

VOUTOUMI BEACH

52 Antipaxos Island in the Ionian Sea has a population of around 60, no shops, and the glowing splendor of this expanse of seaside sand.

KEA

53 Kea Island is blessed with numerous tranquil coves, and 17 private and public beaches.

ELAFONISI BEACH

54 Elafonisi is an island nature reserve that is accessible on foot at low tide from neighboring Crete.

ÇIRALI

55 Çirali Beach in southwest Turkey has a sprinkling of cafés, and its pebble-strewn and coarse sands make it a nesting ground for loggerhead sea turtles.

TERRAZZINA BEACH

56 This is Sharm-el-Sheikh's only water-sport designated beach, and one of the Red Sea resort's most picturesque stretches of sand. It's well built up, but remains relaxing.

WATAMU

57 One of East Africa's premier diving and snorkeling spots, this beach is adjacent to Watamu Marine National Park, a small inlet of the Indian Ocean with over 600 species of fish.

DIANI BEACH

58 This 6-mile (10km) swath of white, sandy, palm-fringed beach has submerged sandbars that allow for serious offshore wading, while farther out to sea there are excellent coral reefs.



ZANZIBAR

NUNGWI

59 Widely regarded as Zanzibar's best beach, Nungwi is not bedeviled by currents or strong tides, and makes an ideal base for honing snorkeling and swimming skills.

MALAWI

CHITIMBA

60 Framed by the Livingstonia mountains, Chitimba Beach lies at the northern end of Lake Malawi.

MOZAMBIQUE

BAZARUTO

61 The beaches of the Bazaruto Archipelago are unspoiled, and a favorite for savvy eco-tourists.

MOZAMBIQUE

SKELETON COAST

63 Known to locals as "The Land God Made In Anger," this stretch of seaboard is notorious for shipwrecks and fog-bound beaches. It has a relentless, heavy surf, and a surface that ranges from soft sands to gravel plains.

MOZAMBIQUE

COFFEE BAY

64 Named for its hundreds of coffee trees, brought in by pirates and numerous shipwrecks, Coffee Bay, between Durban and Port Elizabeth, has great surf beaches and is commercially undeveloped.

MOZAMBIQUE

UVONGO BEACH

65 Uvongo Beach on the Indian Ocean in KwaZulu-Natal is still managing to cling to its "village charm," in spite of a growing number of rich and famous residents.



TOFO BEACH

62 On Mozambique's southern coast, this is an immaculate stretch of white sand, 5 miles (8 km) long, featuring grassy dunes, horse riding trails, a rolling surf that never sleeps, and manta rays, dolphins, and whales in its waters.

SOUTH AFRICA

CAMPS BAY

66 One of Cape Town's more affluent suburbs, Camps Bay has several fine beaches and covered picnic areas.

SEYCHELLES

ANSE SOLEIL

67 Anse Soleil, a tiny cove in the Seychelles, is regarded as one of the world's finest beaches.

MAURITIUS

BELLE MARE

69 Belle Mare on the east coast of these islands in the Indian Ocean is a gorgeous arc of pure white, sheltered by an offshore reef.

INDIA

IFATY

68 This beach remains remote because it's so hard to get to. But it's worth the effort: awaiting you at the end of a bumpy two-hour drive out of Toliara is an aquamarine lagoon bursting with parrotfish, angelfish, and pipefish.



INDIA

OM BEACH

70 This location gets its name from its two crescent-shaped beaches that resemble the religious symbol.

INDIA

PATNEM BEACH

71 Goa's Patnem Beach is a favorite with families because it isn't as busy as neighboring Palolem Beach, and it doesn't get the sea swells associated with the area.

SRILANKA

HIKKADUWA

72 Hikkaduwa Beach on Sri Lanka's south coast offers coral viewing and a pleasant café-lined beach

THAILAND

IHO BEACH

73 Iho Beach on the stunningly beautiful volcanic island of Jeju, off the coast of South Korea, is easily reached from Jeju City, and popular with locals and tourists alike.

THAILAND

PHRA NANG BEACH

74 Surrounded by towering karst formations, Phra Nang, in the far south of the country, is regarded as one of the world's best beaches.

THAILAND

AO TAPAO BEACH

75 Koh Kood Island is the "Paradise of the East Andaman Sea," and its longest beach, gleaming Ao Tapao, is more than half a mile (1km) long, and bordered by coconut plantations and undeveloped forest.



RAILAY BEACH

76 Come to the stunning Railay Beach between Krabi and Ao Nang, and you won't know where to head—straight into its warm waters, or off to climb its world-famous limestone cliffs.

HAAD RIN BEACH

77 Haad Rin—something of a "party beach" on a small peninsula on the Thai island of Ko Pha Ngan—has been taking the overflow from other, more inundated seaside resorts since the 1980s.

THAILAND

MAYA BEACH

78 It's easy to see why director Danny Boyle chose this location for his 2000 film *The Beach*, starring Leonardo di Caprio. The glorious, unspoiled arc of white sand is bordered on three sides by cliffs more than 300 feet (90m) high.

MUI NE BEACH

79 Once upon a time, only backpackers knew about this beach, and they kept quiet about it. But now the secret is out, and the place is being commercialized.

BAI DAI

80 Bai Dai—"Long Beach" in Vietnamese—is lovely, but you'd better see it soon, before the planned development gets going.

WHITE BEACH

81 White Beach, on the island of Boracay, 200 miles (320km) south of Manila, has almost as many hotels as it has tourism awards.

PHILIPPINES

EL NIDO

82 El Nido, a municipality on the northernmost tip of the island of Palawan, is a truly stunning location, with pure white beaches surrounded by an arc of limestone cliffs.



PHILIPPINES

ALONA BEACH

83 This place may be struggling to maintain its "secret" status, as hotels rise up all along its edge, but it is still worth the trip. On the mountainous limestone island of Panglao, the beach's powdery white sands are perfect for unwinding after a hard day exploring the caves and sinkholes of the rocky interior.

INDONESIA

SIPADAN

84 Sipadan Island is encircled by beaches, but most local activity is centered on the beautiful stretch of white sand on either side of the main jetty. Take your snorkel and fins, and swim along its famous drop-off.

TANJUNG RHU

85 Langkawi—an archipelago in the Andaman Sea—has no shortage of fabulous beaches. Tanjung Rhu, the pick of them, is reached only through dense tropical jungle.

INDONESIA

KUTA BEACH

86 Kuta was a tiny village until surfers discovered it in the 1970s. It is now the bustling hub of Bali's tourist trade.

AUSTRALIA

CABLE BEACH

87 If Cable Beach were anywhere other than in the remote north of Western Australia, the whole world would know about it—13.5 miles (22km) of gleaming white, backed by red ochre cliffs so characteristic of the ancient Outback.

AUSTRALIA

WHITEHAVEN

88 Whitehaven Beach on Whitsunday Island is 4.5 miles (7km) of pure silica sand in the center of a magnificent archipelago 500 miles (800km) north of Brisbane.

AUSTRALIA

75 MILE BEACH

89 Queensland's Fraser Island is the world's largest sand island, and has this beach, one of Australia's longest.

AUSTRALIA

BROADBEACH

90 Queensland's Broadbeach is aptly named: a long, wide stretch of ocean-facing sand. Its backdrop of Miami-like high-rise apartments and its year-round cultural events and concerts make it one of the greatest—and noisiest—Aussie beaches.



AUSTRALIA

HYAMS BEACH

91 Hyams Beach is on the coast of New South Wales, facing east into the sheltered waters of Jervis Bay. Nestling between the contiguous Chinaman's Beach and Seaman's Beach, Hyams Beach has, according to the *Guinness Book of World Records*, the whitest sand in the world.

AUSTRALIA

BONDI BEACH

92 There is no beach in Australia quite like Bondi, in Sydney's ocean-facing eastern suburbs. The name is synonymous with the Australian culture of sun and sand.



AUSTRALIA

MANLY BEACH

93 "Seven miles from Sydney, and a thousand miles from care" was the motto coined in the late nineteenth century, and still used today, to describe this iconic New South Wales beach with its rock pools, inlets, and sand as far as the eye can see.



AUSTRALIA

BELLS BEACH

94 One of Australia's most famous stretches of sand, Bells Beach, south of Melbourne, is home to the world's longest-running annual surfing event—the Rip Curl Pro Surf & Music Festival.

NEW ZEALAND

HAHEI BEACH

95 Located on the Coromandel Peninsula, Hahei's stunning pink sandy beach is the gateway to the picturesque Cathedral Cove.

FJI

ROYAL DAVUI ISLAND

96 Sable sands, an outdoor restaurant, and scuba diving are the attractions of this adults-only resort.

FJI

NATADOLA

97 With its vast hills of sand, cobalt-blue water, and waves perfect for body surfing, Natadola is the finest beach on the Fijian island of Viti Levu.

NEW ZEALAND

ONE FOOT ISLAND BEACH

98 One Foot Island—aka Tapuaetai—is an uninhabited *motu* or "islet" to the north of Rarotonga. The second most visited of the Cook Islands, it has twice won the "Best Beach in Australasia" award.

FRENCH POLYNESIA

AROAO

99 Rarotonga's finest beach has the Beachside Inn, one of the world's 50 best "Beach Bars."

FRENCH POLYNESIA

MATIRA BEACH

100 Tahiti's most famous beach on Bora Bora's southern tip is a 1-mile (1.6km) band of exquisite, powdery sand backed by lush palms and tropical hills



USA JANUARY
TOURNAMENT OF
ROSES PARADE

1 The first Rose Parade was organized by members of the Valley Hunt Club in 1890 and has been held every year since on New Year's Day, unless it falls on a Sunday. Its rose-covered floats, marching bands, followed by the Rose Bowl football game, make it one of America's favorite festivals.

PHILIPPINES JANUARY
DINAGYANG
FESTIVAL

2 This festival on the Philippine island of Panay dates back to 1967, when the replica of a wooden image of Senor Santo Niño, first brought to the Philippines by Magellan in 1521, arrived from the nearby island of Cebu, and various festivities grew up around it as a result. Since then, local tribes have joined together annually in a major celebration of dancing, sport, and culture.

USA JANUARY
SUNDANCE
FILM FESTIVAL

3 One of the world's greatest film festivals, Sundance was first established in Utah in 1978 as the US Film Festival. Actor Robert Redford's Sundance Institute took over the running of the festival in 1985, and continues today to showcase the best in American independent cinema.

CHINA JANUARY
CHINESE
NEW YEAR

4 Chinese New Year, or Spring Festival, is celebrated in Chinese communities the world over. A centuries-old festival with its beginnings lost in time, families gather together on the old year's final night for reunion dinners—the Nian Ye Fan—and cleanse their houses of ill-fortune to make way for the good fortune to come.

100 FESTIVALS

CHINA JANUARY TO FEBRUARY
HARBIN
ICE & SNOW
FESTIVAL

5 Every year for a month, starting on January 5, the Chinese city of Harbin hosts the world's most spectacular ice festival, using swing saws to carve ice from the Songhua River into splendid, gargantuan light-filled edifices.

INDIA JANUARY OR FEBRUARY
THAIPUSAM

6 Celebrated by Tamil communities, this Hindu ceremony takes place on the night of the full moon in the Tamil month of Thai. Devotees pierce themselves with hooks as acts of penitence.

INDIA JANUARY OR FEBRUARY
DESERT FESTIVAL
OF JAISALMER

7 Held over three days every January or February, the Desert Festival of Jaisalmer has turban-tying competitions, fire dancers, snake charmers, and all the color and vibrancy of India's exciting desert state of Rajasthan.

USA FEBRUARY TO NOVEMBER
OREGON
SHAKESPEARE
FESTIVAL

9 This annual showcase of repertory theater in Oregon presents 750 to 800 performances of 11 plays by the Bard in three separate theaters over a period from February to November. Throughout its history, the festival has produced all 37 of Shakespeare's works hundreds of times over. The theatrical company of nearly 1,400 people is drawn from throughout the northwest and California, and performances range from traditional productions to versions featuring salsa and hip-hop.

JAPAN 1 - 15 FEB
SAIDAI-JI EYO
HADAKA MATSURI

8 This 500-year-old festival sees crowds of men wearing only loincloths, competing for a pair of sacred sticks tossed into the mob from above by a priest.

USA MARCH - OR EASTER
MARDI GRAS

10 The first New Orleans parade that might be seen as a precursor to today's Mardis Gras took place in 1699. Now, it falls on Fat Tuesday, the final day of the carnival season, in a riot of noise and color.

TRINIDAD & TOBAGO
TRINIDAD
& TOBAGO
CARNIVAL

11 Held annually on the Monday and Tuesday before Ash Wednesday, this exuberant, colorful street parade is especially linked with the calypso music of the islands.

ITALY JANUARY OR FEBRUARY
CARNIVAL OF VENICE

12 Noted for its array of fanciful masks—the gilded white masks of *bauta*, the feathered, gold- and silver-encrusted half-masks of the *Columbina*, and the distinctive long-nosed *Medico della peste*—the Carnival of Venice is a time for celebrating the culture, color, and pageantry of remarkable Venice.



INDIA FEBRUARY OR MARCH HOLI FESTIVAL

13 India's springtime Holi festival, usually held in March but occasionally in February, is a Hindu celebration of new life, color, and sheer exuberance. It is also rich in symbolism, marking the end of winter and the victory of good over evil. It is simply a time to play and to laugh and feel alive. People often chase one another through the streets, armed with dry powder, colored water, and water-filled balloons, with Hindus and non-Hindus alike often the happy targets of their frivolity. Groups of people parade as they drum, dance, and play musical instruments. The festival date, which varies from year to year according to the Hindu calendar, coincides with the coming of the vernal equinox on the Phalgun Purnima (or full moon).

USA FEBRUARY ULTRA MUSIC FESTIVAL

10 Miami's electronic music festival, held every year in Bayfront Park, began in 1999 as a one-day event before expanding to two in 2007 and then three in 2011.

USA MARCH CALLE OCHO

18 Every March, Little Havana in Miami surrenders to its prevalent Latin influences and plays host to a festival that draws a million people to the city's largest party.

USA FEBRUARY SOUTH BY SOUTHWEST

20 The world's largest series of film, interactive, and music festivals and conferences that highlights new directions in film and emergent technologies.

MEXICO MARCH NIGHT OF THE WITCHES

21 Every March the town of Cerro Mono Blanco becomes a haven for the occult. Witches and shamans rid themselves of negative energy.

BRAZIL FEBRUARY OR MARCH CARNIVAL RIO

14 One of the world's largest, most exuberant street festivals, Carnival Rio is a float-and-reveler-filled extravaganza, the culmination of a carnival season that sees local samba schools competing with each other in various categories, including dance, costumes, float design, lyrics, and drumming bands. Street bands called *bandas* flood the streets, with one crowd in 2012 estimated to number some five million people.

TAIWAN FEBRUARY OR MARCH PINGXI INTERNATIONAL SKY LANTERN FESTIVAL

15 Each year the night sky above New Taipei City's Pingxi district fills with lanterns, each one carrying the wishes of the resident who released it. This hypnotic event is watched by thousands who come to see what Discovery Channel called one of the world's best festivals.



GERMANY FEBRUARY OR MARCH COLOGNE STREET CARNIVAL

16 This week-long carnival, also called "the crazy days," is the culmination of a period of merrymaking and masquerading that begins each November.

ITALY FEBRUARY OR MARCH BATTLE OF THE ORANGES

17 Taking place in the northern city of Ivrea, this food fight recalls the town's defense against a medieval tyrant. Participants are arranged into nine teams who hurl oranges at one another in a chaotic, three-day event.

SPAIN MARCH LAS FALLAS DE VALENCIA

22 What began as a traditional feast day for St. Joseph, the patron saint of carpenters, has become Las Fallas ("the fires"), a unique event that sees dolls and puppets—constructed of papier-mâché, wood, and cardboard, known as *ninots*—burned at prearranged sites throughout the city of Valencia.

USA MARCH FROZEN DEAD GUY DAYS

23 This celebration in the Colorado town of Nederland recalls the cryogenic freezing of Bredo Morstøl, a deceased Norwegian brought to the United States by his grandson in 1889 and kept frozen in a shed behind his daughter's house.

IRELAND MARCH ST. PATRICK'S DAY FESTIVAL

24 On March 17 each year, Ireland celebrates its most significant national holiday as the Irish at home and across the world, as well as any and all Irish-minded sympathizers, join together in a sea of green and shamrock-shaped emblems to celebrate St. Patrick's Day, a Christian feast day initiated in the early seventeenth century in honor of St. Patrick, the patron saint of Ireland. It is now used to showcase Irish heritage and culture in general, and in parades and in pubs across the world everyone, it seems, suddenly has an Irish descendant.



JAPAN APRIL KANAMARA MATSURI

29 This festival in Kawasaki is a celebration of fertility that dates from the Edo period. Its focus and reason for being—the male penis.

NETHERLANDS APRIL KONINGS DAG

30 King's Day began as a regal celebration in 1890 in honor of the Princess Wilhelmina; then known as Koninginnedag (Queen's Day).

USA APRIL SANDFEST

31 One of several sand sculpture competitions held along the US coast each year. Port Aransas is the only town on the barrier island of Mustang Island, and its SandFest attracts in excess of 100,000 people.

USA APRIL TO MAY KENTUCKY DERBY FESTIVAL

32 This festival preceding the Derby features hot-air balloon and steamboat racing, and the country's biggest fireworks display.

AUSTRALIA MARCH TO APRIL MELBOURNE INTERNATIONAL COMEDY FESTIVAL

25 Launched in 1987 by comedians Barry Humphries and Peter Cook, the Melbourne International Comedy Festival has grown to almost 6,500 performances by thousands of local and international comedians covering all manner of the art, including stand-up, cabaret, sketches, and improvised theater.

SPAIN MARCH TO APRIL SEMANA SANTA

26 Semana Santa is the Holy Week prior to Easter when brotherhoods and fraternities with medieval origins march in towns and cities across the length and breadth of Spain to commemorate the Passion of Christ.

USA APRIL COACHELLA VALLEY MUSIC FESTIVAL

27 Every April this festival celebrates rock, hip-hop, and electronic music that had its genesis in 1993, when Pearl Jam performed at Indio's Empire Polo Club.

USA APRIL LOS ANGELES TIMES FESTIVAL OF BOOKS

28 The country's largest outdoor celebration of the written word takes place over two days at the University of Southern California campus.

THAILAND APRIL SONGKRAN WATER FESTIVAL

33 Songkran is a traditional Thai festival held each April to coincide with the Thai New Year, in which water is thrown in a symbolic act of cleansing evil or bad spirits. Songkran is billed as the "world's largest water fight" and is celebrated across Southeast Asia, including India and Singapore.

JAPAN APRIL TO MAY ONBASHIRA FESTIVAL

34 Every six years large trees are cut down in a Shinto ceremony in the hills above Nagano's Suwa Taisha shrine. Using special axes, this ceremony is performed to symbolically renew the trees' aging timbers. The festival lasts several weeks and consists of two segments that take place in April and May, respectively. The ceremony was performed as part of the opening proceedings of the Nagano Olympics in 1998.

AUSTRIA APRIL 2011
DONAUFESTIVAL
35 Annual showcase for performance art, avant-garde rock, electronic music, techno, and hip-hop. An “out there” music festival.

NETHERLANDS APRIL 2010/2011
FLORIADÉ GARDEN EXPO
36 Held in the Netherlands only once every ten years, Floriade is a mammoth event involving acrobats, musicians, wine tasting, and, of course, gardens.

USA MAY
BAY TO BREAKERS
37 First held in 1912 the world’s oldest footrace runs 7.5 miles (12km) from San Francisco Bay to the Pacific Ocean.

MOROCCO MAY 2011
WHITE NIGHTS FESTIVAL/SCARLET SAILS
41 Arts festival during the season of the midnight sun. The Scarlet Sails event celebrates the end of the school year.

PHILIPPINES MAY 2011
MAMBUKAL MUDPACK FESTIVAL
44 This annual celebration of man’s oneness with nature was first conceived of in the 1990s by local artists and aims to promote environmentalism. The highlight is a street dance in which the participants wear little else but mud—the local mambukal clay—plastered decoratively on their bodies. The event is held at the height of the monsoon season—hence the mud.



FRANCE MAY 2011
CANNES FILM FESTIVAL
38 From humble beginnings in 1946, when 16 countries came to Cannes for the first awards ceremony, the world’s most famous film festival has grown to become a celebration of cinema from Europe and across the world, covering all genres, including documentaries, as well as the talent both in front of and behind the cameras. The festival lauds the “art” of cinema, with the ultimate prize being the Palme d’Or, awarded for the first time in 1955 for the US movie *Marty* directed by Delbert Mann.

MOROCCO MAY 2011
MAWAZINE
42 Held annually in Rabat, this festival of mainstream Arabic, Moroccan, and Western music aims to present Morocco as a tolerant and accepting nation.

CHINA MAY 2011
DRAGON BOAT FESTIVAL
43 As well as dragon boat racing, this traditional festival involves eating *zongzi* (rice dumplings) and drinking realgar wine, an arsenic sulfide-laced Chinese cereal wine.

UK MAY 2011
COOPER’S HILL ANNUAL CHEESE ROLLING
39 Every year at Cooper’s Hill, a 9-pound (4kg) round of Double Gloucester cheese is rolled down the hill and participants chase after it. First across the finish line wins, but catching the round, which can move at 70 miles per hour (112kph), is another matter.

AUSTRALIA MAY TO JUNE
VIVID SYDNEY
40 One of Sydney’s most popular and anticipated annual festivals engulfs the city skyline, including Sydney Opera House and Sydney Harbour Bridge, in a mesmerizing array of immersive lighting that transforms the buildings around its foreshore into nocturnal canvases of contemporary art. The sails of the Opera House are given new life, and computer-controlled jets of water create “walls” of light.



SWITZERLAND JUNE
ART BASEL
45 This modern and contemporary art fair held every June in Switzerland was founded in 1970 by a group of Basel gallerists. It showcases the work of established and emerging artists from around the world. The event, which is guest curated, includes painting, drawing, sculpture, installation, film, photography, and digital art. Since the 2000s, sister fairs have debuted in Miami and Hong Kong.

USA JUNE
FOOD & WINE CLASSIC

46 For over 30 years inventive chefs and winemakers have made their way to Aspen, Colorado, for this fine food and wine extravaganza.

AUSTRIA JUNE
DONAUIINSELFEST
47 The Danube Island Festival lays claim to being Europe's largest outdoor event. Crowds come annually to Vienna's tiny Danube Island for three days of music, cabaret, and fine food.

PERU JUNE
FESTIVAL OF THE SUN
48 Peru's Inti Raymi is an ancient Incan ceremony in honor of the sun god, Inti, that is theatrically reenacted in Cusco every June 24.

ITALY JUNE
VENICE BIENNALE

50 The Venice Biennale is a biannual art exhibition that began in 1895 purely as a celebration of Italian art, but which has grown increasingly international in its scope and evolved into one of the world's premier cultural institutions, famous for its associated film, art, dance, and music festivals. It is held in the Castello district of the city and attracts around 300,000 visitors.

USA JUNE
SUMMERFEST

51 With its enviable 75-acre (30ha) lakefront location in Milwaukee, Summerfest draws a million people a year, and everyone who is anyone has performed here, starting with Led Zeppelin in its second year in 1969, Bob Dylan, Tina Turner, Britney Spears, James Taylor, and Kayne West to name just a few.



UK
GLASTONBURY FESTIVAL

49 Held every year near Pilton in Somerset on the dairy farm owned by Michael Eavis, the man who organized Glastonbury Fair in 1970, which soon grew into one of the world's most renowned music and performing arts festivals. Held over a five-day period, Glastonbury attracts the finest musicians and is the world's largest "greenfield" festival.

AUSTRIA JUNE TO JULY
WORLD BODYPAINTING FESTIVAL

52 The World Bodypainting Festival celebrates the art of decorating the bodies of unpaid volunteers with brush, sponge, airbrush, and UV effects. This colorful festival was inaugurated in 1998 and attracts artists from more than 40 countries.

CANADA JUNE
CALGARY STAMPEDE

53 The Calgary Stampede is an annual celebration both of the Wild West and of the rural present, attracting over a million visitors a year, who get to see the very best in cowboy skills, including steer-roping, chuckwagon racing, events by First Nations peoples, and, of course, the world's richest rodeo competition and innumerable "stampede parties." The history of the ten-day event goes back to 1886, when the Calgary and District Agricultural Society held its first fair.



USA JULY
GILROY GARLIC FESTIVAL

54 On the last weekend in July you can indulge in anything garlicky at the Gilroy Garlic Festival in California, including garlic ice cream, garlic salmon, garlic popcorn, and garlic fries.

SPAIN JULY
SAN FERMÍN FESTIVAL

55 Pamplona is not only famous for its "bull running"—it is also home to the San Fermín Festival, with its parade of 150-year-old giant figurines and Basque sporting contests.

SERBIA JULY
EXIT MUSIC FESTIVAL

56 This summer music festival takes place at the Petrovaradin Fortress in the city of Novi Sad, Serbia. It was proclaimed the "Best Major European Festival" at the 2014 EU Festival Awards. The Exit festival, which was founded in 2000 as part of the student pro-democracy movement, showcases rock, hip-hop, punk, drum and bass, metal, and electronic dance music.

USA ROSWELL UFO FESTIVAL

57 Every year thousands of people come to Roswell, New Mexico, to celebrate all things extraterrestrial. The site of an infamous UFO "crash" in July 1947, the three-day event is a fun mix of costume contests, an Alien Chase, and lectures in the Robert H. Goddard Planetarium.



PAPUA NEW GUINEA NATIONAL MASK & WARWAGIRA FESTIVAL

58 One of Papua New Guinea's many mask ceremonies is a five-day event in which ancestral and spirit masks are worn by tribal groups whose heavily painted bodies dance to trance-like music. Masks are an important form of cultural expression in the region.

SOUTH KOREA BORYEONG MUD FESTIVAL

60 Every summer, mud is taken to Boryeong, south of Seoul, so revelers can immerse themselves in mud pools and slide down mudslides.

SWITZERLAND JULY PALÉO

61 For six days in late July the sedate Swiss town of Nyon between Geneva and Lausanne is the stage for one of Europe's largest outdoor rock festivals.

RUSSIA MOSCOW INTERNATIONAL FILM FESTIVAL

59 Held for the first time in 1935, MIFF has been an annual event since 1995 and only includes movies and documentaries that have not previously been screened in the Russian Federation. Many previously "unknown" filmmakers have gone on to gain world renown as a result of their success at MIFF.

AUSTRIA JULY PFLASTERSPEKTAKEL

62 For three days each July passersby in the city of Linz in Upper Austria are entertained by the world's finest exponents of street art, including clowns, jugglers, puppeteers, acrobats, and improvisational actors.

USA JULY NEWPORT FOLK FESTIVAL

63 This annual folk music festival started in 1959 as an offshoot of the Newport Jazz Festival. The three-day festival features folk, country, and blues, and has been responsible for introducing new stars to the world, most famously Joan Baez and Bob Dylan.

USA JULY BERKELEY KITE FESTIVAL

64 One of the premier, free, family festivals on America's West Coast, the Berkeley Kite Festival has kite-making contests, an exhibition field, multiline kite flying lanes, and other designated kite-flying areas, and most importantly, every kind of kite you could possibly imagine—parafoil kites, box and cellular kites, and specialty kites.



ITALY JULY & AUGUST PALIO DI SIENA

65 Twice a year, on July 2 and August 16, the magnificent Piazza del Campo in the Tuscan town of Siena is covered in dirt and transformed into a horse track so ten riders can ride bareback for a minute and a half in a spectacle in which riders are thrown from their mounts in a riot of noise and color.

GRENADA JULY TO AUGUST SPICEMAS CARNIVAL

66 Spicemas is Grenada's premier cultural event showcasing calypso and steel pan orchestras, soca bands, fanciful masks, and costumes featuring knee breeches adorned with tiny mirrors meant to deflect one's enemies as part of Grenada's "Shortknee" masquerade tradition. This street carnival takes place across the island's towns and culminates in a two-day public holiday on the second Monday and Tuesday of August.

USA JULY TO AUGUST MAINE LOBSTER FESTIVAL

67 Every summer visitors descend on Rockland, Maine, to celebrate the state's best-known crustacean in a five-day culinary showcase of local seafood.

GHANA JULY TO AUGUST

PANAFEST

68 Since 1992, this festival stages dance, music, and poetry performances in the slave castles along the Ghana coast.

GERMANY JULY TO AUGUST

ANNAKIRMES FESTIVAL

69 This nine-day folk festival takes place in the German state of North Rhine-Westphalia. Events include pop and folk music performances, a cherry-pit spitting contest, fairground rides, and a beauty pageant.

POLAND JULY TO AUGUST

PRZYSTANEK WOODSTOCK

70 Poland's answer to the iconic 1960s rock music festival is a ticket-free maelstrom that attracts over half a million people annually.

USA JULY TO AUGUST

LOLLAPALOOZA

71 Lollapalooza is a celebration of mostly non-mainstream music as well as dance and comedic events packed into one fun-filled weekend in Chicago's Grant Park.

USA AUGUST

ZOMBIEFEST

75 Organized through social media, this began as an underground movement in 2007 that saw 137 people dress up as zombies and walk through the streets of Lincoln, Nebraska. By 2011 that number had grown to around 3,000 "walking dead," and events include the all-important costume parade.

UK AUGUST

EDINBURGH FESTIVAL FRINGE

76 Edinburgh's Fringe is a showcase for the performing arts and is the world's largest performing arts festival. It does not have a selection committee, so anyone can get involved, and it has become a hotbed of experimental acts that might not otherwise find expression.

HUNGARY AUGUST

SZIGET FESTIVAL

77 This weeklong music festival on Old Buda Island in the Danube began as a student-inspired event in 1993 and is now one of Europe's largest cultural and musical celebrations with upward of 400,000 people attending who catch dedicated trains there from all over Europe.



UK JULY TO SEPTEMBER

THE PROMS

72 In Victorian times promenade concerts were held in London pleasure gardens and passersby could stop and listen to orchestras that played simply for the enjoyment of the people. This is the idea behind the Proms, London's glorious eight-week summer series of affordable, classic and modern orchestral concerts that culminates in a Union Jack-waving night at the Royal Albert Hall where Britannia still rules the waves.

BELGIUM AUGUST

INTERNATIONAL BATHTUB REGATTA

73 The International Bathtub Regatta in Dinant, Belgium, began in 1982, when a local trader sold 40 bathtubs at a local market. Today, the race sees up to 50 highly decorative bathtubs race along a 0.6-mile-long (1km) stretch of the River Meuse.

NETHERLANDS AUGUST

GAY PRIDE PARADE

74 Founded in 1996, Amsterdam's Gay Pride Parade is one of the Netherlands's largest public events, with costumed street parades and bands, culminating in the Canal Parade, a boat parade on the first Saturday in August through the canals of the city.



SPAIN AUGUST

LA TOMATINA

78 The world's biggest food fight in the Valencian town of Buñol, Spain, attracts 50,000 people who come every August to throw and be hit by over 100 tons of overripe tomatoes.

JAPAN AUGUST

OBON FESTIVAL

78 This 500-year-old Buddhist custom of honoring the spirits of departed ancestors has evolved into a three-day family reunion festival.

UK

NOTTING HILL CARNIVAL

80 Over a million people attend Europe's largest street parade, which began in West London in 1966.

ITALY

VENICE FILM FESTIVAL

81 Part of the Venice Biennale, the world's oldest international film festival was founded in 1932, and screenings take place on the island of Lido. It now ranks with Cannes as one of the film world's most prestigious events.



GERMANY

OKTOBERFEST

84 Munich's Oktoberfest has been on the Bavarian calendar since 1810 and is a celebration of southern Germanic culture. More than 6.5 million people now attend this 16-day festival each year, the world's largest *Volksfest* ("people's fair"). Events include a horse race with riders dressed in period costumes, and, of course, there is beer—almost 1.5 million gallons (7 million liters) of it.

CHINA

MID-AUTUMN FESTIVAL

85 A harvest festival celebrated across China and Vietnam, the Mid-Autumn Festival is held on the full moon from early September to early October and is seen as a time of thanksgiving for the harvest as well as a period of family gatherings.

MYANMAR (BURMA)

TAZAUNGDAING FESTIVAL

86 Burma's Tazaungdaing Festival marks the end of both the rainy season and of Kahtein, the period in which Buddhist monks may be given new robes and alms. The festival also involves one last flurry of intense robe-weaving competitions that continue for two nights nonstop.

USA

ALBUQUERQUE INTERNATIONAL BALLOON FIESTA

87 The world's largest hot-air balloon festival began in 1972 with 13 balloons and was held in the parking lot of a local supermarket. Since then numbers have increased—over 1,000 balloons turned up in 2000, but now, due to the growth of the city of Albuquerque and a loss of appropriate landing sites, numbers have been capped to 600. What has not been capped, however, is the ingenuity of the balloon owners, with balloons in the shape of bees and other animals, and even a covered wagon.



USA

COLUMBUS DAY HOT-AIR BALLOON REGATTA

88 In the town of Columbus, Kansas, every Columbus Day Eve—October 12—dozens of hot-air balloons fly aloft into the night sky, their propane burners illuminating the dark Midwest sky in a glowing, fiery spectacle. Hot-air balloon races follow the next day. Columbus Day officially commemorates the landing of European explorer Christopher Columbus in the Americas in 1492.

USA

PUMPKIN FESTIVAL

89 For years the town of Keene has held the record for the largest number of lit jack-o'-lanterns—an easy achievement for the people who host an annual pumpkin festival. After college students rioted at the festival in 2014, it has moved from Keene to Laconia in Belknap County, New Hampshire.

USA OCTOBER FANTASY FEST

90 Started in 1972 to stimulate the Key West economy, this fest has quirky floats and the Conch King and Conch Queen, a nod to residents who call themselves "Conchs."

INDIA OCTOBER TO NOVEMBER DIWALI FESTIVAL OF LIGHTS

91 India's annual Diwali Festival is a statement of triumph—of hope over despair, good over evil, and enlightenment over ignorance—all symbolized with the lighting of millions of lamps and candles. Celebrated by Hindus, Sikhs, and Jains across the world and falling between mid-October and mid-November, the five-day festival coincides with the Hindu New Year. It is celebrated with prayers, fireworks, and feasting.



TURKEY NOVEMBER MEVLANA FESTIVAL

97 More than one million people travel to the city of Konya to witness the extraordinary spectacle of the Sufi Mevlevi Order, otherwise known as the Whirling Dervishes.

USA DECEMBER NATCHITOCHES CHRISTMAS FESTIVAL

98 Louisiana's Christmas festival has been held on the first Saturday in December every year since 1927. It culminates with 300,000 lights along the Cane River.

MEXICO OCTOBER TO NOVEMBER DAY OF THE DEAD

92 The Day of the Dead (October 31–November 2) is celebrated mainly in Mexico. Families gather to pray and honor the memory of those who have passed away in a ceremony that can be traced to the Aztecs.

UK NOVEMBER GUY FAWKES NIGHT

94 Guy Fawkes Night (November 5) originated in the United Kingdom in 1605, after Guy Fawkes, an accomplice in the Catholic Gunpowder Plot to overthrow King James I, was arrested while protecting the plotters' store of explosives hidden in the House of Lords. Bonfires were later lit across London to celebrate the plot's failure.

ICELAND NOVEMBER ICELAND AIRWAVES

93 Starting as a one-off event in 1999, Reykjavik's annual five-day musicfest has been described by *Rolling Stone* as "the hippest long weekend on the annual music-festival calendar."



USA NOVEMBER MACY'S THANKSGIVING DAY PARADE

95 One of the most popular festivals in a packed national festival calendar, Macy's Thanksgiving Day Parade in New York City began in 1924 as an expression by the many immigrant employees of Macy's department store of the European traditions they and their parents had left behind on their journey to the United States. The parade's first million-strong crowd was pulled in 1933, and the famous Mickey Mouse balloon made its debut appearance the following year.

THAILAND NOVEMBER MONKEY BUFFET FESTIVAL

96 Prang Sam Yot is a monkey-ridden temple north of Bangkok, and every year locals grill them hundreds of sausages in the annual Monkey Buffet Festival. Fruit, vegetables, and other edible delights are laid out in pyramid style for more than 2,000 macaques to feast on. Locals believe that hosting this unique banquet brings good fortune and prosperity.

BAHAMAS NOVEMBER JUNKANOO

100 A parade that originated in West Africa and then transplanted into the midst of Bahama's black communities, Junkanoo is a brash, costumed street festival with dancing and music, and with competition prizes given for best costumes.

MEXICO DECEMBER NIGHT OF THE RADISHES

99 Giant radishes are carved into human forms in this centuries-old "vegetable festival" in Oaxaca City, Mexico.



VICTORIA

1 Victoria—"City of Gardens" and capital of British Columbia on the southern tip of Vancouver Island—is one of the oldest settlements in the Pacific Northwest. It is noted above all for its wealth of picturesque, historic buildings.

VANCOUVER

2 Canada's third-largest city lies on a beautiful natural harbor. The area has been inhabited for 2,500 years, but the modern metropolis began in the late nineteenth century during the Klondike gold rush. Vancouver celebrated its centenary in 1986.

CALGARY

3 Calgary, Alberta, around 50 miles (80km) to the east of the Canadian Rocky Mountains, is a mixture of pioneering grit and contemporary chic amid foothills and rolling prairies at the confluence of the Elbow and Bow Rivers.

TORONTO

4 Canada's largest city—and the nation's main cultural, financial, and trade center—lies on the north shore of Lake Ontario. It is linked to the Atlantic by the Saint Lawrence Seaway and to the Pacific by rail and highway.

CANADA

MONTREAL

5 At the confluence of the Ottawa and Saint Lawrence Rivers, Montreal is the only New World city in which more than half the population is French speaking.

100 CITIES

CANADA

QUEBEC CITY

6 Quebec City, on the St. Lawrence River in Canada's Quebec Province, is one of North America's oldest settlements, with 400 years of history and a picturesque old neighborhood.

SEATTLE

7 On beautiful Puget Sound, Seattle is best known for its high rainfall and as the home of Boeing, the giant aircraft manufacturer.

PORTLAND

8 Although 65 miles (104km) from the Pacific, Portland is a major port, but it still has an attractive, provincial, rural feel.

SAN FRANCISCO

9 Founded by the Spanish, this city lies on more than 50 hills. Don't miss Alcatraz jail, the Golden Gate Bridge, Chinatown, and Nob Hill.

LOS ANGELES

10 Founded by the Spanish in 1781, Los Angeles is the second-most populous US city. It is home to Hollywood, Venice Beach, Beverly Hills, Bel Air, and more than 80 interconnected neighborhoods and enclaves, with a subtropical Mediterranean climate above ground and the San Andreas Fault below.

SANTA FE

11 At the end of the trail from Franklin, Missouri, which bears its name, this city is a synthesis of Native American and colonial culture, with pueblos, dude ranches, and ski runs all within easy reach.

CHICAGO

12 The site of the nation's first steel-framed high-rise—the Home Insurance Building (1885)—Chicago was the world's first "skyscraper city," and its skyline remains a who's who of great urban architects.

DALLAS

13 This is the largest metropolis in the southern United States, and home to the Dallas Cowboys football team.

ST. LOUIS

14 St. Louis, Missouri, sprawls along the Mississippi River and was once regarded as the gateway to the West.

NEW ORLEANS

15 Established by the French, and given spice by African influences, New Orleans is the home of US jazz.

BOSTON

16 Founded by Puritans in 1630, Boston was at the heart of the American Revolution and was the site of both the Boston Massacre (1770), in which British troops killed five civilians, and the Boston Tea Party (1773), during which protestors threw a shipload of full tea chests into the city harbor.

NEW YORK

17 New York City is the most populous US city, a melting pot of five boroughs—Manhattan, Queens, Staten Island, the Bronx, and Brooklyn—around one of the world's finest natural harbors. The port was instrumental in the city's growth from Dutch outpost to world center of finance, fashion, art, and commerce. The city also houses the HQ of the United Nations.

PHILADELPHIA

18 The city of Philadelphia witnessed the signing of the Declaration of Independence, and was the US capital from 1790 to 1800.

WASHINGTON, DC

19 The US capital is home to all three arms of government: the executive, the legislature, and the judiciary.

CHARLESTON

20 Charleston, South Carolina, is a treasure trove of antebellum homes and stately public buildings.

MIAMI

21 One of the United States's cleanest cities, with good air quality and a wealth of green spaces, Miami lies north-south along a broad plain, with the Everglades to its west and the waters of Biscayne Bay to its east. The city's warm, tropical monsoon climate draws more than 40 million visitors every year.

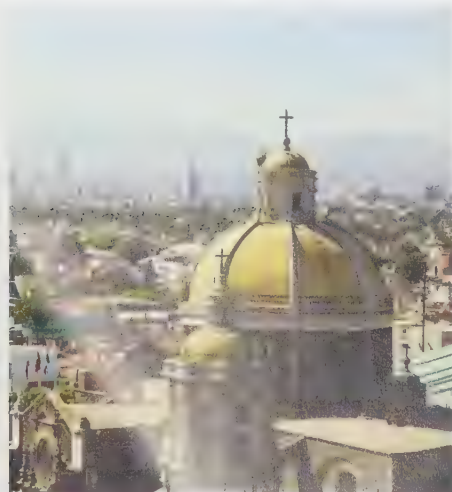


HAVANA

22 Havana was neglected for 30 years after Fidel Castro seized power in Cuba in 1959, as his communists concentrated their resources on the development of the countryside, but the capital has since been restored to much of its former glory.

MEXICO CITY

23 Founded as Tenochtitlán by the Aztecs in 1325, Mexico City is today a metropolis of more than 20 million inhabitants and one of Latin America's most important economic hubs.



QUITO

24 At 9,350 feet (2,800m) above sea level on the slopes of Pichincha Volcano, Quito is the world's highest official capital. The city has one of the least altered old towns in the Americas.

RIO DE JANEIRO

26 This captivating coastal city is one of the world's most dynamic urban centers, encircled by stunning mountain ranges, flanked by the white sands of Copacabana Beach, and dominated by the colossal statue of Christ the Redeemer.

LA PAZ

27 The Bolivian capital is surrounded by the mountains of the Andean Plateau.

SANTIAGO

28 Encircled by the towering Andes, vibrant Santiago has been Chile's capital since the colonial era.

LIMA

25 Lima was founded by Spanish conquistadors in 1535, and today is a vast desert city strung out along cliff tops overlooking the Pacific Ocean.

BUENOS AIRES

29 Sophisticated and European, Buenos Aires is a heady mix of Belle Epoque and early-twentieth-century architecture, the rhythms of the tango, and the world's highest concentration of theaters.

MONTEVIDEO

30 Uruguay's capital city, on the northern shoreline of the River Plate, is a melting pot of neighborhoods reflecting a century of successful immigration.

ICELAND

REYKJAVÍK

31 Reykjavík was founded in 1786 on the site of the island's first permanent settlement in the ninth century. It remains the center of Icelandic life.

NORWAY

BERGEN

32 Established in the eleventh century, Bergen is a major port for cruise ships plying the coastal fjords of Norway. It is also the country's street-art capital.

OSLO

33 Spread out along the northernmost end of Oslofjord, Oslo is hemmed in by steep hills and dense forests. It is one of Europe's most expensive cities.

STOCKHOLM

34 Scandinavia's most populous city, Stockholm is built across 14 islands at the mouth of Lake Mälaren and is home to more than 100 museums.

HELSINKI

35 Helsinki was the World Design Capital in 2012. The city represents a vibrant amalgam of modern architectural chic and neoclassical style.

DENMARK

COPENHAGEN

36 A city that regularly tops surveys of the world's happiest capitals, Copenhagen has a vibrancy that is disproportionate to its small size. Among its main attractions are its bars and the beautiful Tivoli Gardens.

IRELAND

DUBLIN

37 The capital, largest city, and main port of Ireland, Dublin was founded in the year 800 by Vikings from Denmark. Today, it is a major center for banking, computing, and service industries, and a magnet for tourists who come to sample the national drink, Guinness, and to celebrate Bloomsday, the upbeat tribute to author James Joyce, held on June 16 every year.



UK

EDINBURGH

38 The Scottish capital since the fifteenth century, Edinburgh boasts a wealth of historical and cultural events.

BATH

39 Founded by the Romans as a spa town—its hot springs are said to have curative effects—Bath is a treasure trove of neoclassical and Georgian architecture, notably the Abbey and the Royal Crescent.

LONDON

40 From the ashes of the Great Fire of 1666, London has emerged as one of the world centers of art, architecture, and finance, its skyline now being transformed as never before with the construction of hundreds of high-rise towers and office buildings in the city center and surrounding suburbs that will change its appearance forever. London's mix of dense architecture and wide-open green spaces, combined with its overwhelming sense of history—at sites like the Tower of London and Tower Bridge—make it one of the world's truly great cities.



PARIS

41 The thrust of Cole Porter's song "I Love Paris" is that the French capital is adorable all year round. And it's a view that's hard to disagree with. The city is a romantic mix of Gothic, Art Nouveau, and beguiling neighborhoods, such as the Île Saint-Louis, a suburb on one of two natural islands in the Seine River that represents the beauty of Paris in miniature.

LYON

42 Bustling Lyon is France's second-largest metropolitan region and the capital of French gastronomy.

AMSTERDAM

43 What began as a small fishing village in the twelfth century has blossomed into a city of idyllic canals and museums, including the Rijksmuseum.

GENEVA

44 Home to a myriad of international organizations, this truly global city on the shores of Lake Geneva is a cultural and linguistic melting pot of French, English, and German.

ZURICH

45 Zurich is headquarters to many of the world's banking giants. Despite this austere reputation, the city manages to mix business with pleasure, topping the list of *Monocle's* Quality of Life Survey in 2012 as the world's most livable city.



BERLIN

46 Berlin is one of Europe's greenest cities, ringed by forests and lakes, and with the Tiergarten at its heart. It is home to a multitude of museums, and a thriving nightclub scene, with an eclectic skyline that mixes Prussian grandeur with contemporary chic.



FRANKFURT

41 After Berlin, Frankfurt is Germany's largest metropolitan area. Every year its ten enormous convention halls house hundreds of trade exhibitions, including the world's two largest—the motor show and the book fair. The city is also a world financial center. Its Manhattan-like skyscrapers, towering above both banks of the Main River, are unusual for a European city, but leafy nineteenth-century neighborhoods can still be found in its tranquil suburbs.

COLOGNE

47 Reduced to rubble during World War II, this city on the banks of the Rhine River has risen from the ashes, and today, the twin filigree spires of its restored cathedral are known the world over.

DRESDEN

40 The city on the Elbe River, with its stunning array of towers, domes, and spires, is a synthesis of ancient and modern architectural styles.

TOLEDO

54 Toledo is the product of centuries of Christian, Muslim, and Jewish cultural influences.

GRANADA

55 Conquered by the Moors in the eighth century, Granada has a Moorish fortress and the Alhambra Palace.

SEVILLE

58 On the banks of the Guadalquivir River, Seville is a charming labyrinth of lanes and plazas draped year-round with orange blossom.

LISBON

57 Built on seven hills around the estuary of the Tagus River, Lisbon is Europe's westernmost big city and enjoys the continent's mildest nighttime climate.



VENICE

50 Once the capital of the Republic of Venice, there is so much more to the "City of Water" than the Grand Canal, such as art, architecture, music, festivals, and more. The dredging of soil, which began in the Middle Ages, has over the centuries created a complex labyrinth of waterways crossed by more than 400 bridges connecting 118 islands. There is also the ornate Venetian glass, crafted by artisans since the thirteenth century.

VIENNA

50 Full of imperial history and echoes of numerous composers, Vienna is the political and cultural heart of Austria.

SALZBURG

51 The birthplace of Mozart, and one of the locations used in the 1965 movie *The Sound of Music*, Salzburg has one of the best-preserved old towns north of the Alps.

BARCELONA

52 The host city of the 1992 Olympic Games is most famous for the works of architect Antoni Gaudí.

MADRID

53 Madrid's nightlife is legendary. The city also has the Prado Museum and has retained the character of its historic neighborhoods.

ITALY

BOLOGNA

59 A city since the time of the Etruscans, Bologna is noted for its medieval towers and for the grid pattern of its historic center.

FLORENCE

60 The Tuscan city is home to the Duomo, the world's largest brick and mortar dome, and the Ponte Vecchio across the Arno River.

SIENA

61 Siena's Piazza del Campo is the site of the Palio di Siena, a bareback horse race held twice every year: on July 2 and August 16.

NAPLES

63 Naples is one of the oldest continuously inhabited cities in the world and one of the largest metropolises on the Mediterranean. Founded by the Greeks, and later taken over by the Romans, its chaotic streets are filled with wealth, poverty, and more than 100 different cultures, all vying for finite resources in a restricted space. Naples is located in the intimidating shadow of Mount Vesuvius, an active volcano whose eruptions have damaged the city more than once, including on two separate occasions in the twentieth century.

ITALY

ROME

62 Few cities can claim to have amassed the kind of history Rome has since its reputed founding by Romulus in 753 BCE. The Roman Republic and the Roman Empire had their capitals here, and left behind a treasured legacy: the Colosseum, the Forum, Vatican City, and architecture spanning from ancient Rome to twentieth-century Fascism.



PALERMO

64 The Sicilian capital is known for its ornate gardens, palaces, mosques, and Romanesque architecture, and is the island's political, cultural, artistic, and touristic center. Monuments include the Palatine Chapel.

POLAND

WARSAW

65 First established c. 1300, Warsaw became the new capital of the independent Republic of Poland in 1918. It was largely destroyed during World War II, but has since been rebuilt.

POLAND

KRAKÓW

66 Kraków, once the site of a Stone Age settlement on the Vistula River, is now Poland's second-largest city after Warsaw. It is very green, with forests, gardens, and more than 40 parks.

HUNGARY

BUDAPEST

67 The old twin cities of Buda and Pest, on either bank of the Danube River, sit above the world's largest thermal water cave complex, whose springs are the main attractions.

CZECH REPUBLIC

PRAGUE

68 Prague Castle overlooks one of Europe's most beautiful cities, medieval highlights of which include the Charles Bridge over the Vltava River, the Jewish Quarter, and the Astronomical Clock.

CROATIA

DUBROVNIK

69 One of the world's best-preserved walled medieval cities, Dubrovnik on Croatia's Adriatic coast came to prominence as a tourist destination in the late 1890s with the construction of the Hotel Imperial.

GREECE

ATHENS

70 Traditionally billed as the birthplace of democracy, and the cradle of Western civilization, Athens saw the emergence of Plato's Academy (c. 387 BCE) and Aristotle's gymnasium—the Lyceum (c. 334 BCE). The city has a classical legacy that is still evident in the columned perfection of the Parthenon (447–432 BCE)—the world's finest example of Doric architecture—and in lesser, Roman-era relics, such as the Philopappos Monument (114–16 CE). Today, the government buildings are downtown in Syntagma (Constitution) Square, and one of the best districts for food and drink is Kolonaki, on the slopes of Lycabettus hill.



ESTONIA

TALLINN

71 The small but beautiful capital of Estonia has a fairy-tale-like historic center, and well-preserved external medieval walls.

MINSK

72 After the collapse of the Soviet Union, this city was reborn as the capital of a newly independent nation.

KIEV

73 This great city on the Dnieper River is a major industrial center and an important regional and international transport hub. It played major roles in the emergence of Slavic nationhood and in the communist revolution.

ISTANBUL

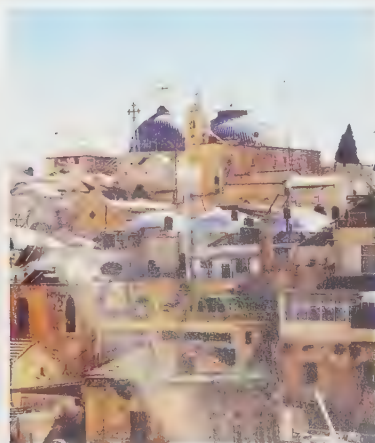
76 Istanbul is Europe's biggest conurbation, with more than 14 million people spread over an area of 1,280 acres (518ha).

JOHANNESBURG

70 "Joburg," in the gold-and-diamond-laden Witwatersrand hills, is South Africa's most populated and most challenging city.

DAMASCUS

80 The Great Mosque is a masterpiece of Umayyad architecture at the heart of one of the world's oldest cities.



ST. PETERSBURG

74 St. Petersburg—"the Venice of the North" along the Neva River on the Gulf of Finland—is one of Europe's urban jewels, with a network of canals and waterways bisecting grand neighborhoods. Founded by Czar Peter the Great in 1703 on the site of a Swedish fortress, the city's must-sees include St. Isaac's Cathedral, the Peter and Paul Fortress, the Hermitage Museum, the Mariinsky Theater, and the Summer Palace.

CAIRO

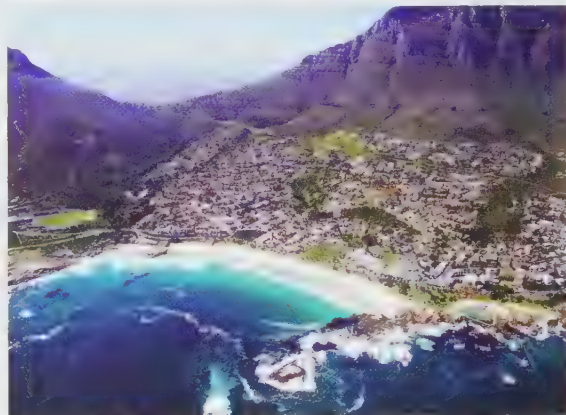
77 The "city of a thousand minarets," strung along the fertile delta of the Nile River, is Africa's second-largest city after Lagos (Nigeria).

CAPE TOWN

79 On the shores of Table Bay, Cape Town spreads out below the soaring Table Mountain. Home to golden beaches, bountiful vineyards, and striking street art, it is South Africa's second-largest city and the country's legislative capital.

MOSCOW

75 There was no overwhelming reason why Moscow should have become the capital of Russia—several other cities had equally good claims, and one of them, St. Petersburg, was indeed the capital at one time—but today, Moscow's preeminence is domestically unchallenged. It has more than ten million inhabitants.



BEIRUT

81 This lovely city has emerged from decades of war to become again a center of culture, finance, and tourism.

TEL AVIV

82 The Israeli city has the world's highest concentration of Bauhaus architecture and is a major center of finance and the performing arts. It is also the "city that never sleeps," a renowned party location, with a dynamic nightlife and round-the-clock lifestyle.

JERUSALEM

83 A holy city in the three great Abrahamic faiths—Judaism, Christianity, and Islam—Jerusalem has been fought over for more than 1,000 years. Yet despite its eternal tensions, the city continues to prosper: the Israel Museum, the Rockefeller Museum, the Palestinian National Theater, and the Islamic Museum on the holy Temple Mount are just some of the renowned institutions that people come from all over the world to visit.

ABU DHABI

84 Abu Dhabi on the Persian Gulf is reinventing itself as a gleaming city of finance and artificial islands.

DUBAI

85 With the world's tallest building, and stunning offshore developments, Dubai is a mecca for the super-rich.

MUSCAT

86 Oman's capital has a beautiful cornice and a slower, more traditional pace of life than its more fancied neighbors in the Arabian Gulf—Bahrain, Qatar, and the United Arab Emirates.

INDIA

NEW DELHI

87 Seventeenth-century landmarks such as the Red Fort are surrounded by all the teeming modernity of a contemporary—and sometimes chaotic—city.

INDIA

JAIPUR

88 The capital of Rajasthan state is sometimes called the “pink city” because many of its buildings are rose-colored. It is constructed on a grid, so it is relatively easy for visitors to navigate.

CHINA

HONG KONG

93 Hong Kong is one of the world’s most densely populated cities, known the world over for its gleaming skyline, which encircles the deep waters of Victoria Harbor.

CHINA

BEIJING

89 The first inhabitants of the region that is now Beijing can be traced to Paleolithic times, and the first walled city, Ji, was erected in the eleventh century BCE, just south of the present-day Beijing West Rail Station. At the heart of Beijing is the Forbidden City, a superb example of traditional architecture. For much of its history, Beijing has been the political and cultural hub of the vast Middle Kingdom. Today, it is a metropolis of more than 20 million people.



XIAN

90 More than 6,000 years of history make Xian one of China’s oldest cities, and home to the Terra-cotta Army.

SHANGHAI

91 China’s most populous city is the world’s busiest container port and an exciting place for modern architecture.

GUANGZHOU

92 Guangzhou is China’s third-most populous city, and a national transportation and trading hub.

CHINA

HONG KONG

93 Hong Kong is one of the world’s most densely populated cities, known the world over for its gleaming skyline, which encircles the deep waters of Victoria Harbor.

CHINA

TAIPEI

94 Taipei has shed much of the ugly architecture of its past to become a dynamic, attractive place that is sometimes known as the “city of the azaleas.”

SOUTH KOREA

SEOUL

95 Its 26 million residents make Seoul, located on the Han River and ringed by mountains and national parks, the world’s second-largest metropolitan area. The city is home to more than 50 percent of the nation’s population.



SYDNEY

99 Sydney is one of Asia-Pacific’s major financial, economic, and leisure centers. It encircles one of the world’s finest natural harbors, the entrance to which is spanned by the graceful Harbour Bridge.

JAPAN

TOKYO

96 Tokyo is the world’s most populated urban area, with more than 37 million inhabitants. Among the biggest of the city’s numerous attractions is its food: it is a world center for fine cuisine and has more Michelin-starred restaurants than any other city in the world.



KYOTO

97 This enchanting city of 1,600 temples and gardens was once Japan’s imperial capital, and remains its spiritual heart.

BANGKOK

98 The city’s Buddhist temples vie with the renowned nightlife for the attention of tourists.

MELBOURNE

100 Often topping various “World’s Most Livable Cities” lists, Melbourne is a city of trams, elm trees, and a wide range of top-class sporting venues.



EDMONTON, CANADA ART GALLERY OF ALBERTA

1 US architect Randall Stout designed this striking gallery, which now houses more than 6,000 historic and contemporary artworks.

TORONTO, CANADA ART GALLERY OF ONTARIO

2 Designed by architect Frank Gehry, this is one of the largest art museums in North America. It houses works from 100 CE to the present.

MONTREAL, CANADA MONTREAL MUSEUM OF FINE ARTS

3 Founded in 1860, the museum houses its collection of more than 41,000 artworks in four pavilions. On display are decorative art objects, sculptures, paintings, and photographs.

SAN FRANCISCO, USA SAN FRANCISCO MUSEUM OF MODERN ART

4 Established in 1935 and one of the first museums to recognize photography as a fine art, SFMOMA exhibits an eclectic collection of artworks by less-established artists alongside those by highly acclaimed modern masters.

100 MUSEUMS & GALLERIES

SAN FRANCISCO, USA DE YOUNG MUSEUM

5 The de Young Museum in Golden Gate Park first opened in 1894. Today, it is the western United States's foremost repository for American art; ancient American, African, and Oceanic art; and textile arts and costumes. A new state-of-the-art building opened in 2005.

LOS ANGELES, USA ACADEMY MUSEUM OF MOTION PICTURES

6 This museum is dedicated to the moving image and housed in a space-age building designed by Renzo Piano and Zoltan Pali.

LOS ANGELES, USA LOS ANGELES COUNTY MUSEUM OF ART

8 This museum is unique for its extensive collection of artworks that encompass the geographic world and the entire history of art.

LOS ANGELES, USA J. PAUL GETTY MUSEUM

7 European masters; sculptures; decorative arts; Greek, Roman, and Etruscan antiquities; and manuscripts—no artistic representation is off-limits here.

DENVER, USA DENVER ART MUSEUM

9 Founded in 1893, the museum now houses ten permanent collections. It is particularly well known for its American Indian Art Collection.

HOUSTON, USA MUSEUM OF FINE ARTS HOUSTON

10 All year around, MFAH exhibits art that embraces every era and facet of humankind from every corner of the Earth.

CHICAGO, USA ART INSTITUTE OF CHICAGO

11 One of the world's premier art collections has expanded eight times since its founding as a fine arts school and museum in 1879.

STOCKBRIDGE, USA NORMAN ROCKWELL MUSEUM

12 Stockbridge is home to the largest assemblage of Norman Rockwell art, and "Is he an artist or illustrator?" will be a moot point as you view the canvases that reflect both sides of the American dream.

NEW YORK, USA METROPOLITAN MUSEUM OF ART

13 Established in 1870 on the eastern edge of Central Park, the MET has a mission to study, preserve, collect, and exhibit the finest examples covering the broadest spectrum of human accomplishment. Admission is "pay what you wish."

NEW YORK, USA AMERICAN MUSEUM OF NATURAL HISTORY

14 One of the world's great museums, New York's AMNH is a vast assemblage of 27 interconnected buildings that catalog the evolution of life on planet Earth.

NEW YORK, USA SOLOMON R. GUGGENHEIM MUSEUM

15 Architect Frank Lloyd Wright's cylindrical building does justice to a world-class collection of Impressionist, Postimpressionist, and contemporary art.

NEW YORK, USA MUSEUM OF MODERN ART

16 New York City's MoMA is one of the world's most influential art museums and home to a 300,000-book archive on contemporary art. It houses a mind-blowing collection of modern and contemporary artworks from the past 100 years.

MUSEUM OF THE CITY OF NEW YORK

17 On Fifth Avenue, in East Harlem, MCNY is dedicated to the preservation of the history of the people and city of New York.

WHITNEY MUSEUM OF AMERICAN ART

18 In addition to its extensive permanent collection of US art, this museum offers a rich and varied program of exhibitions.

BROOKLYN MUSEUM

19 Within this historic building, the public spaces and galleries have been redesigned to offer a world-class museum experience.

DAVID ZWIRNER GALLERY

20 This contemporary art gallery represents more than 40 artists, including Bridget Riley, Jeff Koons, and Wolfgang Tillmans.

ANDY WARHOL MUSEUM

21 Dedicated to the work of a single artist, this gallery houses a film and video collection, as well as an art collection and archive.

PHILADELPHIA MUSEUM OF ART

22 Philadelphia's crown jewel of museums has world-class collections of European and American art.

NATIONAL GALLERY OF ART

24 The collection, including 75,000 prints, traces the growth in Western art since the Middle Ages.

THE SMITHSONIAN

23 Created in 1846 to pursue the "increase and diffusion of knowledge," Washington's Smithsonian Institution—affectionately called the "nation's attic"—holds a staggering 137 million items, everything from Judy Garland's ruby slippers to the 1903 Wright *Flyer* and the *Apollo 11* command module. It is the world's largest museum complex and comprises 19 museums and galleries, as well as a zoo. No admission fee is charged to the 30 million people who visit each year.



SALVADOR DALÍ MUSEUM

25 Home to the largest collection of works by Dalí outside of Europe, the collection began with the purchase of a single painting in 1943 by art collectors Reynolds and Eleanor Morse; it was the beginning of a 40-year fascination with the surrealist master.

HOUSE OF GAGA

26 The House of Gaga (no links to the pop star Lady Gaga) is a small, independent museum that showcases the work of local artists in the vibrant and eclectic nineteenth-century neighborhood of Roma. Although the gallery is relatively new, it is well established and has attracted significant international attention. Represented artists include Sam Pulitzer and José Rojas.

CENTRO CULTURAL BANCO DO BRASIL

27 The CCBB—with branches in São Paulo, Rio de Janeiro, Belo Horizonte, and Brasília—is one of the world's most visited museums. The cultural center in Rio de Janeiro was the first to open, in 1989, and it is the largest space. Housed in an Art Deco building, it includes art galleries, a theater, and a cinema.

OSCAR NIEMEYER MUSEUM

28 This museum in the city of Curitiba, designed by modern architect Oscar Niemeyer, is as famous for its bold geometry and sculptural curves as it is for the world-class artworks that it contains. Also known as the Museum of the Eye, it opened in 2002. The museum collection focuses on art, architecture, and design by Brazilian artists, and includes numerous works by Niemeyer.

JAMES TURRELL MUSEUM

29 Turrell is a leader in the use of light, space, and color. His work dramatically transforms interior spaces and challenges perceptions of places and environments.

PORT LOCKROY MUSEUM

30 One of the most remote museums began as a British research station in World War II and now, fully restored, welcomes visitors with displays of food ration packs, postal-related relics, and its resident gentoo penguins.

SKÓGAR, ICELAND

SKÓGAR FOLK MUSEUM

31 Opened in 1949, this museum is the result of the vision of Thordur Tómasson, whose collection of books, tools, handicrafts, and manuscripts helps to preserve the heritage of southern Iceland.

EDINBURGH, UK

SCOTTISH NATIONAL GALLERY

33 One of the finest collections of fine art from the early Renaissance to the late 1800s is housed here.

NOTTINGHAM, UK

NOTTINGHAM CONTEMPORARY

35 Opened in 2009, this is one of Britain's largest spaces for contemporary art.

LONDON, UK

SIR JOHN SOANE'S MUSEUM

39 The former London home of the great English neoclassical architect contains many of Soane's drawings, paintings, antiques, and models.

PARIS, FRANCE

THE LOUVRE

41 One of the world's largest and most prestigious museums, the Louvre has a daunting collection of Egyptian, Greek, Roman, and decorative and Renaissance art that makes this historic monument the world's most visited museum. Its best-known exhibit is *Mona Lisa* (1503) by Leonardo da Vinci.

DUBLIN, IRELAND

NATIONAL GALLERY OF IRELAND

32 Founded in 1854 and opening its doors a decade later, this gallery is home to more than 14,000 works of Irish and European art, including pieces by Yeats, Monet, and Picasso.

EDINBURGH, UK

NATIONAL MUSEUM OF SCOTLAND

34 This Edinburgh institution combines the best of Scottish antiquities and world history.

LONDON, UK

TATE MODERN

36 The world's most visited modern art gallery houses Britain's premier collection of modern art from 1900 to the present.

LONDON, UK

NATIONAL PORTRAIT GALLERY

37 The National Portrait Gallery's collection of famous Britons, including the Chandos painting of William Shakespeare, is not collated because of the reputation of the artist but for the importance of the sitter.

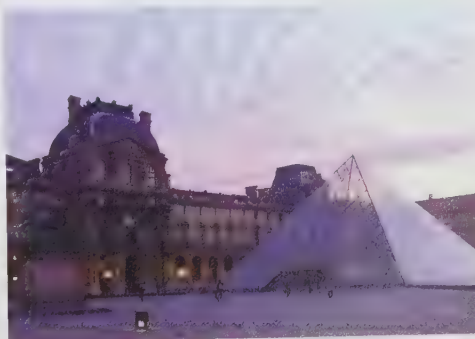


THE BRITISH MUSEUM

38 What began in 1753 with the memorabilia of scientist Sir Hans Sloane (some 71,000 objects) has since grown into a permanent collection in excess of eight million items, covering every aspect of humanity's cultural and artistic development. The controversial acquisitions brought to England by its empire are safely ensconced, thanks to a 1963 law that prevents items being returned to their place of origin.

SAATCHI GALLERY

40 Opened by Charles Saatchi in 1985 to publicly exhibit his collection, the Saatchi Gallery is a champion of the unknown contemporary artist.



MUSÉE D'ORSAY

42 Located in a former railway station on the Left Bank of the Seine, Musée d'Orsay contains mostly Impressionist and Postimpressionist French art, including dozens of works by Paul Cézanne, such as *The Card Players* (1894–95). Other notable works are by Degas, Monet, Manet, Renoir, Gauguin, Seurat, and Van Gogh.

PARIS SEWER MUSEUM

43 The Paris Sewer Museum has been taking people below the streets on its raised platforms since the 1800s.

RIJKSMUSEUM

44 Established in the Hague in 1800 but moved to Amsterdam in 1808, the Rijksmuseum is the national museum of the Netherlands. It has more than one million items from the thirteenth century to the present.

VAN GOGH MUSEUM

45 The world's largest collection of Van Gogh's artworks was passed down through the master's family and Amsterdam's Stedelijk Museum, before finding their permanent home here in 1973.

BELGIAN COMIC STRIP CENTER

47 This museum showcases Belgium's comic legacy, from crime to sci-fi, including Tintin and the world of the Smurfs.

OLYMPIC MUSEUM

49 Located on the shores of Lake Geneva, Switzerland's homage to the Olympic ideal is a fascinating collection of Olympic memorabilia: everything from the gold, silver, and bronze medals of each Olympiad since Athens in 1896 through to flags, torches, javelins, fencing masks, and athletes uniforms and shoes. There is even a 100-meter, three-lane, outdoor running track for public use.



MUSEUM AAN DE STROOM

46 Belgium's Museum at the Stream (MAS) is Antwerp's largest museum. It opened in 2011, and the collections focus on the city's proud maritime and industrial history as a major international port. Information about many of the exhibits is accessible via QR codes.

SAMMLUNG ROSENGART MUSEUM

48 When Angela Rosengart was young, her bedroom was filled with the works of her good friend Pablo Picasso, now for all to see in her purpose-built Lucerne museum.

MUSEUM ISLAND

50 Museum Island is a collection of five world-class museums on the northern tip of Berlin's Spree Island.

JEWISH MUSEUM

51 This museum opened in 2001 and catalogs 2,000 years of German-Jewish history.

NATURAL HISTORY MUSEUM

52 The NHMW has in excess of 30 million objects, including insects, precious stones, fossils, and skeletons.

KUNSTHISTORISCHES

53 The primary exhibits include the art of the Hapsburgs: works by Jan van Eyck, Rembrandt, Vermeer, Raphael, Rubens, and Caravaggio.

GUGGENHEIM MUSEUM, BILBAO

54 Frank Gehry's glass, titanium, and limestone building houses contemporary, site-specific art.

BARCELONA MUSEUM OF CONTEMPORARY ART

56 MACBA opened in Barcelona in 1995 and hopes to create what it calls "a critical memory of art." The collection has grown significantly with the help of the MACBA Foundation.

PICASSO MUSEUM

55 This gallery is home to one of the most comprehensive collections of the master's work.

REINA SOFIA MUSEUM

57 Spain's national museum of twentieth-century Spanish art has an impressive raft of work by Picasso, Dalí, and Miró, as well as an active program of temporary exhibits.



PRADO MUSEUM

58 Spain's national museum houses one of the world's premier collections of European art from the twelfth to the early nineteenth centuries, including more than 7,600 paintings, almost 5,000 prints, and over 8,000 drawings, with thousands more items constantly on temporary loan to institutions around the world.

VALENCIA, SPAIN

INSTITUT VALENCIÀ D'ART MODERN

59 IVAM opened in Valencia in 1989, and its collection of Pop Art, sculptures, media art, drawings on paper, and abstractions have turned it into a prestigious beacon of modernity.

TRENTO, ITALY

MUSE

60 This science museum offers insights into the evolution of the natural world.

VENEZIA, ITALY

DOGE'S PALACE

61 The Doge's Palace became a museum in 1923. Its courtyard, exterior, and apartments are its exhibits.

VENICE, ITALY

PEGGY GUGGENHEIM COLLECTION

62 This canal-side museum was the former home of Peggy Guggenheim, who opened her house every year to show her esteemed collection of Cubist, surrealist, and European abstract painting and sculpture.

FLORENCE, ITALY

PALAZZO PITTI

64 At this great Renaissance palace, you can see some 500 paintings in the Palatine Gallery and its 28 magnificent rooms.

FLORENCE, ITALY

PALAZZO STROZZI

65 This gallery dates back to the late 1400s and has occasional exhibitions and an annual antique show. It also houses the Institute of Humanist Studies.

ROMA, ITALY

MAXXI

66 A showcase of contemporary art, the MAXXI has swooping curves and haunting interiors in homage to art and architecture.

VATICAN CITY, ITALY

THE VATICAN MUSEUMS

67 Located within the Vatican City, the 54 galleries that constitute the Vatican Museums are home to the Sistine Chapel and the Augustus of Prima Porta.

ATHENS, GREECE

NATIONAL ARCHAEOLOGICAL MUSEUM

68 Containing the world's finest collection of Greek artifacts from prehistory through to late antiquity, Athens's National Archaeological Museum is rightly considered to be one of the world's premier museums. Highlights include Kroisos Kouros (c. 530 BCE) and the Pitsa panels (c. 540–530 BCE).

UFFIZI GALLERY

63 One of the world's premier art galleries, the Uffizi on the banks of the Arno River in Florence has plenty of ensconced heavyweights: Botticelli's *Birth of Venus* (1482–86), Caravaggio's *Medusa* (1597), Leonardo da Vinci's *Annunciation* (1472), Titian's *Flora* (1515–17), and Michelangelo's *Doni Tondo* (1506–08), as well as very long queues.

ATHENS, GREECE

THE ACROPOLIS MUSEUM

69 The Acropolis Museum, founded in 2003 and built to house every artifact excavated from the Acropolis of Athens, has more than 4,000 items. Visitors can view the excavation site through the glass floor.

ST. PETERSBURG, RUSSIA

STATE HERMITAGE MUSEUM

70 Considered by many to be Russia's gift to the world, the State Hermitage Museum, one of the world's oldest museums, is a veritable monument to art and culture. Established by Catherine the Great in 1764, it contains Egyptian and classical antiquities, prehistoric art, jewelry and decorative arts, Italian Renaissance and Russian and European fine art, as well as neoclassical, Impressionist, and Postimpressionist collections.



RUSSIAN MUSEUM

71 Housed in the Mikhailovsky Palace is St. Petersburg's largest collection of Russian fine art.

MOSCOW KREMLIN MUSEUMS

72 This includes the Armoury Chamber with a wealth of regalia and Czarist artifacts.

STATE TRETYAKOV GALLERY

73 This fine Moscow gallery houses more than 1,000 years of Russian art, religious and modern, donated to the city in 1892 by the avid art collector Pavel Tretyakov.

WORLD MAMMOTH & PERMAFROST MUSEUM

74 One of the world's most remote museums, this stunning grouping of galleries echoes the power and honors the memory of the great mammoth.



ISTANBUL MUSEUM OF MODERN ART

75 Located in a converted warehouse, Istanbul Modern gives most of its space over to Turkish artists and is the country's first private museum dedicated to contemporary art exhibits.

CHORA MUSEUM

76 Originally built as part of a monastic complex, the Chora Church (or Museum) is one of the world's finest remaining examples of a Byzantine church.

MUSEUM OF CONTEMPORARY ART

77 What was once the home of the British consulate is now Morocco's finest modern art museum, hosting mostly traveling exhibits by contemporary artists.

MUSEUM OF MODERN ART OF ALGIERS

78 What used to be a department store in 2007 is now "MaMa," a bright new light in Algiers's cultural landscape. Its neo-Moorish building is in the heart of the city.

SOUTH AFRICAN NATIONAL GALLERY

79 The collection is a mix of Dutch, British, and French paintings, lithographs, and etchings from the seventeenth to the nineteenth centuries.

NELSON MANDELA METROPOLITAN ART MUSEUM

80 Formerly the King George VI Art Gallery, this museum devoted to South Africa's "Madiba" houses a cross section of South African and oriental art.

MUSEUM OF ISLAMIC ART

81 The glorious building designed by the world-renowned, Chinese-born, American architect I. M. Pei sits on an island at the end of its own purpose-built causeway to avoid encroachment from the burgeoning city around it. It houses one of the Islamic world's finest collections of textiles, manuscripts, and ceramics, which began to be sourced in the 1980s from every corner of the Islamic world.



THE THIRD LINE

82 The gallery promotes Middle Eastern artists, publishes books of their work, and helps to promote artistic dialogue in the region.

ALBERT HALL MUSEUM

83 Construction of the oldest museum in Rajasthan—with its armory, coins, and clay and metal art—was begun in 1876.

ULLENS CENTER FOR CONTEMPORARY ART

84 The UCCA promotes local Beijing artists and acts as a platform, linking them with China's worldwide artistic community.

SHANGHAI MUSEUM

85 Designed in the shape of an ancient Chinese cooking vessel, the Shanghai Museum houses one of the country's finest collections of ancient Chinese art.

NATIONAL MUSEUM OF KOREA

86 South Korea's finest museum is a showcase for the nation's treasures, from ceramics and incense holders to staid government portraits and manuscripts, as well as objects from the Silla dynasty.

SEOUL, SOUTH KOREA
NATIONAL FOLK
MUSEUM OF KOREA

87 In the grounds of Gyeongbokgung Palace, three exhibition halls make use of replica objects to re-create the ancient folk traditions of Korean life.

SEOUL, SOUTH KOREA
NATIONAL MUSEUM
OF MODERN &
CONTEMPORARY ART

88 Opened in 2013, Seoul's new MMCA is a collection of separate sites showcasing post-nineteenth-century, cutting-edge Korean art.



TOKYO, JAPAN
TOKYO
NATIONAL MUSEUM

89 Japan's oldest and largest art museum contains almost 115,000 objects in five buildings. It focuses on ancient Japanese art, Greco-Buddhist art, archaeological objects from Asia, and art from cities along the famed Silk Road.

TOKYO, JAPAN
MORI
ART MUSEUM

90 This gallery makes good use of space in high-rise Tokyo, and houses its collection of contemporary art on the 53rd floor of the Roppongi Hills Mori Tower.

KYOTO, JAPAN
KYOTO INTERNATIONAL
MANGA MUSEUM

92 Located in a former high school where teachers forbade students to read comic books, Kyoto's Manga Museum is a hands-on celebration of all that is great in manga. It also has reading rooms in which to read the books.

BEIJING, CHINA
NATIONAL PALACE
MUSEUM

94 The Palace Museum has one of the world's largest collections of ancient imperial Chinese artifacts, covering more than ten millennia of Chinese history.

LAKE KAWAGUCHI, JAPAN
ITCHIKU KUBOTA ART MUSEUM

91 Itchiku Kubota was a master of the art of "Tsuji-gahana," the color dyeing of kimonos, and this museum is dedicated to his work.

NARA, JAPAN
NARA NATIONAL MUSEUM

93 Established in 1895, the Nara Museum is one of Japan's best-known art museums. It is famous for its extensive collection of Buddhist art.

BANGKOK, THAILAND
MUSEUM OF DEATH

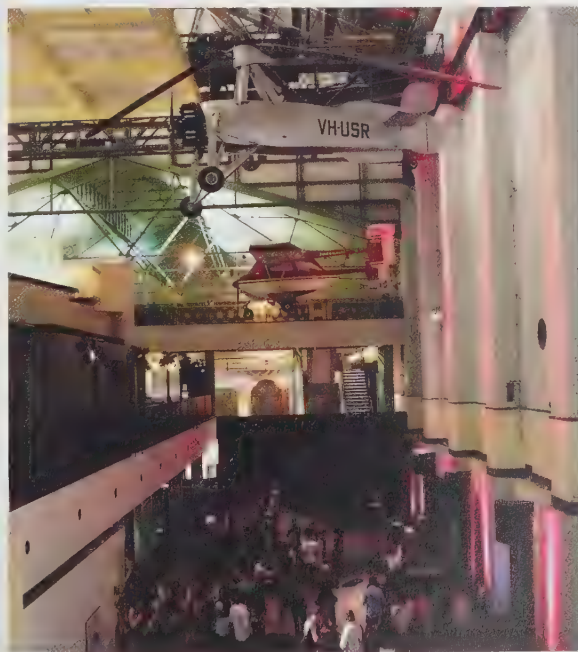
95 This medical museum in Bangkok's Siriraj Hospital contains body parts and a mummified serial killer.

HANOI, VIETNAM
MUSEUM OF HANOI

96 This museum showcases more than 1,000 years of the Vietnamese capital's architecture, heritage, and culture. Within the museum park are reconstructed traditional Vietnamese villages.

SYDNEY, AUSTRALIA
ART GALLERY OF
NEW SOUTH WALES

97 Some 300,000 visitors made the journey here in 1906 to view William Holman Hunt's allegorical painting *The Light of the World* (1853–54).



SYDNEY, AUSTRALIA
POWERHOUSE
MUSEUM

98 Sydney's Powerhouse Museum is one of two branches of the Museum of Applied Arts and Sciences. Although it is often thought of primarily as a science museum, it is anything but. The decorative arts, costumes, and the media are extremely well represented. Steam Locomotive No. 1243, the nation's oldest surviving locomotive, is just one example of this museum's ability to enthrall.

CANBERRA, AUSTRALIA
NATIONAL
GALLERY OF
AUSTRALIA

99 Established in 1967, the nation's largest art museum contains more than 170,000 items.

MELBOURNE, AUSTRALIA
NATIONAL GALLERY
OF VICTORIA

100 Known affectionately as the NGV, this is a treasure trove of local art, from early Aboriginal to late local works, as well as European Impressionists



WICKANINNISH INN
1 The Wickaninnish Inn on the west coast of Vancouver Island on Clayoquot Sound boasts glorious views down Chesterman Beach through the 20-foot-high (6m) windows of its lobby. And the woodwork of accomplished carver Henry Nolla means that there is plenty of beauty inside, too.

SONORA RESORT
2 Bear watching, fly-and salmon fishing, kayaking, or just relaxing indoors sipping herbal tea in the stunning new glass conservatory, Sonora Island is home to Canada's most luxurious eco-adventure resort.

FAIRMONT BANFF SPRINGS HOTEL
3 Constructed in 1887–88 and remodeled in 1911, the Fairmont Banff Springs Hotel, just above Bow Falls in Alberta's picturesque Rockies, is a masterpiece of Scottish baronial architecture and year-round resort.

TIMBERLINE LODGE
4 Set on the southern slope of Oregon's Mount Hood at 6,000 feet (1,800m) above sea level, Timberline Lodge was a Great Depression public works project. It is now a National Historic Landmark, attracting a million visitors a year.

POST RANCH INN
5 Situated on the cliffs above California's majestic Big Sur, the Post Ranch Inn has panoramic ocean views. The Post family have had a ranch in this wild seascape for generations and first opened their doors as a resort in 1992.

100 HOTELS

SAN FRANCISCO, USA
PALACE HOTEL
6 First established in 1875 and renovated in 2015, this historic hotel is located in downtown San Francisco. The jewel in the Palace's crown is the legendary Garden Court; built in 1909, it is topped by a stained-glass dome and flanked with Ionic columns. One of the world's finest hotels.

LOS ANGELES, USA
BEVERLY HILLS HOTEL
8 Affectionately called the "Pink Palace" by legions of loyal clients, the Beverly Hills Hotel is an LA landmark. Its detached bungalows on Sunset Boulevard recall a bygone era of big stars and even bigger studios.

LAS VEGAS, USA
BELLAGIO
9 With nearly 4,000 rooms, this renowned luxury resort hotel and casino is situated on the Las Vegas Strip in Nevada. Built on the site of former legendary hotel Dunes, the Bellagio was inspired by the Lake Como town of the same name in Italy. When it opened in 1998, it was the most expensive hotel ever built. Its most famous feature is the massive dancing water fountain in the 8-acre (3ha) lake between the building and the Strip. Inside, notably, the lobby ceiling is covered in more than 2,000 hand-blown glass flowers designed by the glass sculptor Dale Chihuly.

SCOTTSDALE, ARIZONA
SANCTUARY CAMELBACK MOUNTAIN
10 On the lower slopes of Camelback Mountain outside Scottsdale, Arizona, this luxurious, acclaimed resort with boutique rooms on 53 acres (21ha) combines the best of Asian-inspired spa treatments with views over Praying Monk Rock—and the immense desert beyond.

JACKSON HOLE, WYOMING
AMANGANI
11 In the heart of the American West, Jackson Hole offers some of the best skiing in the Rockies across more than 2,400 acres (1,000ha). Enjoy snowmobiling, snowshoeing, and sleigh rides, or simply experience the wonder of the American wilderness.

WEST VIRGINIA
THE GREENBRIER
12 This grand old hotel, "America's Resort since 1778," just outside the town of Sulphur Springs in West Virginia, has an envious pedigree. Twenty-six presidents have stayed here, and beneath a small hill near the hotel's south wing is a nuclear bunker, built during the Cold War, which was to act as the nation's command center in the event of attack.

SAN FRANCISCO, CALIFORNIA
CAVALLO POINT LODGE
7 Enjoy views of the Golden Gate Bridge and San Francisco Bay in the guest rooms of a former US Army post.

THE PENINSULA

13 Trendy hotel in downtown Chicago close to famous retail street, the Magnificent Mile. Part of an award-winning international chain of ten luxury hotels, which has its flagship in Hong Kong.

WALDORF ASTORIA NEW YORK

14 Hotelier Conrad Hilton once described New York's Waldorf Astoria as "the greatest of them all," and why not? Opened in 1931, this Art Deco landmark in Midtown Manhattan covers an entire city block and was the first hotel to offer room service.

THE POINT

15 When it comes to hotel hideaways, few can match The Point, the creation of William Avery Rockefeller on the shores of upstate New York's Saranac Lake. Built in the tradition of the Great Camp—grand log mansions raised in the Adirondack wilderness in the late 1800s—The Point remains a timber-and-stone remnant of a bygone era of opulence blended with the essence of nature.

THE PLAZA HOTEL

16 A National Historic Landmark and one of America's most lauded hotels, the French Renaissance chateau-style Plaza Hotel was opened in 1907 when rooms cost \$2.50 a night. The hotel has had a succession of owners since, including Conrad Hilton and Donald Trump, but what has not changed is its status as New York City's most desirable temporary address. Located opposite Central Park, the 20-story-high hotel still has its wonderful Palm Court beneath its stained-glass ceiling, and a butler on every floor.



CASA DE CAMPO

19 One of the Dominican Republic's prestigious resorts, built by Gulf & Western founder and CEO, Charles Bluhdorn.

ANSE CHASTANET RESORT

20 Isolated Anse Chastanet Resort on the Caribbean island of St. Lucia is reached via a ten-minute ride along a very bumpy and steep road from the town of Soufrière. Some walls are missing to enhance sea views, and the ocean is its swimming pool. Environmentally conscious resort with a whimsical touch.

PETIT ST. VINCENT RESORT

21 A small (115-acre/46ha) private Caribbean island in the Grenadine island chain is home to the exclusive Petit St. Vincent Resort, a collection of 21 one- and two-bedroom beachfront cottages that are blissfully free of telephones, Wi-Fi, and televisions. Instead there are yoga pavilions, a Balinese spa, and fabulous snorkeling in nearby Tobago Cays marine reserve.



WORLD TRAVEL MAGAZINE
PARA, LUSTIA RICA

NAYARA HOTEL

22 Voted the number one resort in Central and South America by Condé Nasté magazine in 2013, this luxury hotel is perched on a hill overlooking emerald forests and the mighty Arenal Volcano. It also offers atmospheric night forest walks, volcano walks, and trips to the Arenal Hanging Bridges.

CARTAGENA, COLOMBIA

SOFITEL LEGEND SANTA CLARA

23 This former convent with a French colonial feel in the heart of Cartagena's Old Town was the setting for Gabriel García Márquez's novel *Of Love and Other Demons*.

WENTWORTH MANSION

17 Elegant 21-room hotel housed in a historic mansion in downtown Charleston. Blends Southern charm and graciousness with twenty-first-century style and amenities.

THE ONE & ONLY

18 Idyllic Los Cabos resort situated on the tip of the Baja Peninsula where the Pacific Ocean meets the Sea of Cortez. Pristine beaches, azure sea, and top-notch hotel facilities.

CUSCO, PERU

BELMOND HOTEL MONASTERIO

24 This former sixteenth-century monastery in the heart of Cusco became a hotel in 1965 and is a national monument steeped in history. It even has its own art collection.

ISLA SUASI, PERU

CASA ANDINA

25 Isla Suasi is an island in the northeast of Lake Titicaca and reachable by speedboat in about three hours, which is why it sees so few people and also why Casa Andina is so worth the effort of getting to.

RIO DE JANEIRO, BRAZIL

BELMOND COPACABANA PALACE

26 Many consider the Copacabana Palace to be Latin America's finest hotel. Overlooking Rio de Janeiro's famous beach, it was a candidate for demolition in 1985, but when purchased by the Oberoi chain in 1989, was returned to its former splendor.

PUERTO BORIES, CHILE

THE SINGULAR PATAGONIA

27 Built using sustainable materials, the Singular, located deep within Chilean Patagonia, can take you on a day trip to Torres del Paine National Park, kayaking around icebergs, or into the broad, windswept pampas.

STOCKHOLM, SWEDEN

LYDMAR HOTEL

32 This characterful new boutique hotel in the Swedish capital even trumps the Grand Hotel with its views over the water to the city's Baroque palace, the Strandvägen, and historic Old Town.

BUENOS AIRES, ARGENTINA

ALVEAR PALACE HOTEL

28 Buenos Aires's most gilded hotel, the Alvear Palace was built in the 1920s by local businessman and socialite Dr. Rafael de Miero who, having traveled to Paris, wanted to bring an element of Europe's Belle Epoque splendor to his hometown. The lobby literally drips with opulence, and its famous guests in the past include Sean Connery, Nelson Mandela, Arthur Miller, and Sophia Loren.



MISIONES, ARGENTINA

YACUTINGA LODGE

29 Argentina's first eco-jungle resort nestled deep within the Misiones rain forest, Yacutinga Lodge, located just 50 miles (80km) from the famous Iguassu Falls, is a collection of 20 independent accommodation modules spread throughout the surrounding forest that offer equilibrium rather than luxury.

ILULISSAT, GREENLAND

HOTEL ARCTIC

30 The world's most northerly four-star hotel, a few miles north of the mouth of western Greenland's Ilulissat Icefjord (a UNESCO World Heritage Site), has 85 rooms and five aluminum "igloos" from which visitors have magnificent views of giant icebergs floating by on the fjord. The restaurant serves outstanding Greenlandic cuisine.

OSLO, NORWAY

GRAND HOTEL OSLO

31 This grand hotel first opened its doors in 1874 and has witnessed many of the city's defining moments. The great Norwegian writer Henrik Ibsen stayed here, it was virtually polar explorer Fridtjof Nansen's second home, and its guestbook has the status of an historical document, featuring world leaders and Nobel Prize laureates.

FINNISH LAPLAND, FINLAND

HOTEL KAKSLAUTTANEN

33 Located above the Arctic Circle in Finnish Lapland, the Kakslauttanen's glassed-roof "igloos" have their own toilets, double beds, and above (if you are lucky), the beautiful Northern Lights are complimentary. Ideal for lovers of snow, cold, and wilderness, and there is also a gym and spa.

COPENHAGEN, DENMARK

KOKKEDAL CASTLE COPENHAGEN

34 Designed in the Dutch Renaissance style to be a country home, Kokkedal Castle was built in 1746 and remodeled in 1864. The elegant country manor house is set within beautiful rolling green countryside, close to the sea, and has the bonus of its own 18-hole golf course. Located in Hørsholm, about a 30-minute drive from Copenhagen, the hotel is ideally positioned for exploring the city or heading north up the Danish Riviera to Kronborg Castle, immortalized as Elsinore in Shakespeare's *Hamlet*.

LOUGH RYNN CASTLE

35 Lough Rynn Castle opened as one of Ireland's finest luxury hotels in 2006 and is located on 350 acres (141ha) in the midst of lush green pastures on an isthmus between Lough Erril and Lough Rynn, near the town of Mohill. The estate sits on the ancestral lands of the Mac Raghnaill family and has had some interesting stewards, including the Croftons (British settlers), Daniel Clements, an officer in Oliver Cromwell's army, and William Clements, the third Earl of Leitrim.



ASHFORD CASTLE

36 Began in 1228, Ashford Castle on western Ireland's Mayo-Galway border is a crenellated masterpiece of architecture that has kept its aesthetic integrity despite being added to by its various owners down through the centuries.

BALLYNAHINCH CASTLE

37 This eighteenth-century luxe castle sits in the midst of its woodland and river-filled 450-acre (180ha) estate in Galway, overlooking its very own, much-coveted salmon fishery on the Owenmore River.

INVERLOCHY CASTLE HOTEL

38 Inverlochy Castle Hotel is located just 2 miles (3km) from the old Inverlochy Castle, which has remained virtually unaltered since its construction in the thirteenth century. The hotel, a nineteenth-century baronial mansion, was built by James Scarlett, the first Baron of Abinger, in 1863 and became a hotel in 1969. Acknowledged as Scotland's finest luxury hotel, it sits in the foothills beneath Ben Nevis, Scotland's highest mountain in the midst of some of the country's finest, most verdant scenery.



OLD COURSE HOTEL GOLF RESORT & SPA

39 The Old Course at St. Andrews is a golf enthusiast's nirvana and overlooks the famous "Road Hole" on the seventeenth fairway. Its Jigger Inn has remained unaltered since 1850, and the hotel is a Scottish icon.



THORNBURY CASTLE

40 A favorite retreat of King Henry VIII, this Gloucestershire castle (more Tudor-style house than defensible castle) was begun in 1511 and is now a luxury 26-room hotel and restaurant.

LEWTRENCHARD MANOR

41 A Jacobean manor house in Devon with creaking floorboards, acres of gardens, and a 1727 Bible on display.

CLIVEDEN HOUSE

42 This magnificent Italianate mansion, famed as a party and political hub frequented by Charlie Chaplin and George Bernard Shaw, is one of Europe's finest hotels.

CHURCH STREET HOTEL

43 A quirky enclave in south London, this hotel is a playful shrine to Latin American exuberance and eclecticism.

ROUGH LUXE

44 Rough Luxe's refreshing philosophy revolves around redefining how we see "luxury," suggesting it is more about having an enriching subjective experience than simply the soaking up of excessive consumption.

HOTEL 41

45 Located close to Buckingham Palace, this chic, intimate 30-room Edwardian hotel provides personal butlers and 24-hour room service.

LONDON, UK

ST. JAMES'S HOTEL & CLUB

46 Dating from 1857, this five-star boutique hotel and private club, located in a quiet street near Buckingham Palace and Bond Street, has a Michelin-starred restaurant, rooftop terrace, and 60 sumptuous guest rooms.

PARIS, FRANCE

LE MEURICE

47 Enviably located opposite the Tuileries Garden and only a short walk from the Louvre, this luxury Dorchester hotel is ideal for enjoying the city's art, as well as Alain Ducasse's Michelin-starred food.

CHAMPAGNE, FRANCE

CHÂTEAU DES BRIOTTIÈRES

48 In the 1500s, five farms, two estates, and a fiefdom occupied the land where Château des Briottières, being tended to by the sixth generation of the Briottiers, now stands.

TURBIE, FRANCE

CHÂTEAU DE LA VIGNOLE

49 This beautiful manor house eked out of a cliff overlooking the Loire River—just a few miles from Anjou and close to Fontevraud Abbey—dates to the fifteenth century and has troglodytic bedrooms with walls of solid limestone—and a garden and vineyard, too.

BARHOLE, FRANCE

CHÂTEAU DE BAGNOLS

50 Its staff proudly describe it as "the best hotel in the world," and you would be hard-pressed to argue. Built from 1217 to 1222 the castle's brooding volumes are stylistically impossible to fault: it has its own moat and drawbridge, extensive French-style formal gardens, and a Roman pool, to say nothing of its spacious, elegant rooms, which are furnished with antiques and original art. When King Charles VIII stayed here in 1490, its owner had a coat of arms crafted and hung over the fireplace, which remains the largest Gothic fireplace in France. Located close to Lyon and set amid the lush countryside of Beaujolais, this boutique château-hotel is well placed for wine tasting or simply exploring the other delights of the region. Château de Bagnols delivers its guests a quintessentially French experience.



SAINT-ÉMILION, FRANCE

HOSTELLERIE DE PLAISANCE

51 The elegant Hostellerie de Plaisance is situated in the fairy-tale town of Saint-Émilion, which is, as hosts Chantal and Gerard will tell you, part of one of the principal appellations of the Bordeaux region.

CRILLON-LE-VALE, FRANCE

HÔTEL CRILLON LE BRAVE

52 Hôtel Crillon le Brave is more like a communal refuge than a hotel, perched on its own hill northeast of Avignon, it has grown to include over a dozen buildings in what is one of Provence's most charming hamlets. Wine tasting and truffle-hunting events are available.

ZÜRICH, SWITZERLAND

BAUR AU LAC

53 The sumptuous, family-owned Baur au Lac, Zurich's most prestigious hotel, has been opening its doors to visitors for over 170 years. Set in its own private park just a stone's throw from the shore of Lake Zurich and the Alps, its in-house chocolates and 3,000-strong wine cellar might mean you see little of this centuries-old city. It's close to the exclusive shopping street, Bahnhofstrasse.

GRIMMELWALD, SWITZERLAND

3100 KULMHOTEL GORNERGRAT

54 Switzerland's highest hotel (and observatory!) at over 10,000 feet (3,100m) above sea level has a location any hotel would die for—set in the midst of a ring of mighty peaks with the Matterhorn off to one side and the magnificent Monte Rosa Glacier on the other.

BERLIN, GERMANY

DAS STUE

55 Built in the 1930s in Berlin's diplomatic quarter, this enclave of Dutch classicism and prewar cocktails is also possibly Berlin's most refined boutique hotel.

LISBON, PORTUGAL

OLISSIPPO LAPA PALACE

56 Located in Lisbon's diplomatic quarter, on a hilltop overlooking the Tagus River, this hotel has three wings and 109 rooms. For originality, try the Palace Wing, with its Juliet balconies and marvelous river views.



HOTEL GRITTI PALACE

58 One of Europe's most pedigreed hotels, the Gritti Palace on Venice's Grand Canal—a few minutes' stroll from the Piazza San Marco—was built in 1525 as the residence of the doge of Venice, Andrea Gritti.

BELMOND HOTEL SPLENDIDO

57 A former Benedictine monastery abandoned in the sixteenth century after constant raids by Saracen pirates, the Belmond Hotel Splendido is set in the hills overlooking the exquisite town of Portofino and is one of Europe's most desirable hotels. Go on the water in the hotel's motorboat, or soak up the poolside atmosphere like Clark Gable, Ava Gardner, and Groucho Marx once did.

HOTEL IL PELLICANO

60 On the tip of a peninsula at the end of a seriously winding road, the Hotel Il Pellicano tumbles down its terraced hillside overlooking the waters off Tuscany's Argentario coast. They called it "barefoot luxury" when built as a club for the friends of its original American owners in the 1960s. The atmosphere is still barefoot, with service so impeccable it is invisible.



HOTEL CAESAR AUGUSTUS

61 Perched triumphantly on a Capri hilltop, the exquisite Hotel Caesar Augustus has sweeping views across the Bay of Naples to Mount Vesuvius.

FOUR SEASONS HOTEL GRESHAM PALACE

62 This towering Art Nouveau gem sits at the end of Budapest's Chain Bridge, with views of the Danube.

AENAEON VILLAS

63 Located on one of Santorini's most view-laden escarpments, the five-star Aenaon Villas look out over the caldera, the volcano, and endless setting suns.



GRACE SANTORINI

64 The Grace Santorini is minimalism at its purest and most elemental, a hotel seemingly hewn out of Santorini's rock and tumbling down its cliff-top escarpment on the island's west rim, overlooking its ancient, water-filled crater. The rooms are stylistically perfect, and most have private balconies.

ELOUNDA GULF VILLAS & SUITES

65 There is even more to Elounda than its 18 pool villas and ten suites—its private beach is ten minutes away, and a day trip to the uninhabited island of Kolokytha can even be arranged.

FOUR SEASONS HOTEL LION PALACE

66 It can lay claim to being St. Petersburg's finest hotel, a former nineteenth-century palace still guarded by its two marble lions located just a couple of blocks from everything you want to see—the Hermitage Museum, the Admiralty district, and Nevsky Prospekt.

CAPPADOCIA CAVE RESORT & SPA

67 Set in the surreal, lunar-like landscape of Cappadocia, this impressive Anatolian resort resembles a traditional village in the midst of the region's fairy-like tufa. You can explore the troglodyte architecture on a hot-air balloon ride across the valley.

MARRAKECH, MOROCCO

THE CAPALDI

68 Set in the foothills of Morocco's Atlas Mountains, the Capaldi is a veritable oasis with 23 rooms and suites set in 10 acres (4ha) of gardens a 30-minute drive from Marrakech.

CAIRO, EGYPT

MENA HOUSE

69 Set almost within the shadows of the Giza pyramid, this historic hotel, first built in 1869, is surrounded by 40 acres (16ha) of verdant greenery.

MAASAI MARA WILDLIFE RESERVE, KENYA

COTTAR'S 1920s SAFARI CAMP

70 It just may be the perfect African camp—ten private, five-star raised tents (some with fireplaces) on the edge of the Maasai Mara ensconced within its own 6,000-acre (2,400ha) reserve and still run by the Cottar family, who first came to Africa from the United States in 1909, established Cottar's Safari Service, and never left.

NGORONGORO CRATER, TANZANIA

NGORONGORO SERENA SAFARI LODGE

71 This lodge clings to the rim of Tanzania's famous crater, overlooking the unsurpassed beauty of one of the world's great wildlife sanctuaries.

SELINDA LAGOON, BOTSWANA

ZARAFKA CAMP

72 The four immense tents of Botswana's Zarafa Camp in the massive Selinda Reserve occupy an island in the wildlife-rich floodplains of the Zibadianja Lagoon.

SANDHILL NATIONAL PARK, SOUTH AFRICA

SINGITA EBONY LODGE

73 The 12 secluded suites of the Singita Ebony Lodge are the epitome of elegance, deep in the heart of the privately owned Singita Sabi Sand—"big cat country"—on the banks of South Africa's Sand River, adjacent to Kruger National Park.

FRÉGATE ISLAND

75 Accommodation does not come much more exclusive than on this private island in the Seychelles, with its 16 hand-crafted residences (each with its own pool), a regenerating forest, thousands of Aldabra giant tortoises in its waters, and more than 100 tropical birds in its trees. The island also has an airstrip, tree houses, hiking trails, wine cellar, boathouse, children's playground, and a daily serving of high tea—all you need for that perfect island getaway.



CAPE GRACE

74 Situated on the waterfront of Cape Town's working harbor, this hotel is surrounded on three sides by water.

DESERT ISLANDS RESORT & SPA

76 This Anantara property is tucked away on Sir Bani Yas Island just off the Abu Dhabi coast in the Arabian Gulf. From this luxurious five-star island resort visitors can explore the local wildlife and landscape or simply indulge themselves in the hotel's shoreline, infinity-edged swimming pool, or spa.



EMIRATES PALACE

77 This was the most expensive hotel ever built when it was completed in 2005, and to call it a landmark is merely to state the obvious: over 110 domes standing up to 262 feet (80m) high, almost 400 rooms and suites, 1,000 Swarovski chandeliers, more than 8,000 transplanted palm trees, 210 acres (85ha) of gardens, almost a mile of exclusive Emirates Palace beachfront, and it has 2,000 staff—five employees for every room.

BURJ AL ARAB

78 Designed to resemble an Arabian sail, the Burj Al Arab in Dubai is one of the world's most recognizable and beautiful hotels, set at the end of its very purpose-built causeway. Dubbed "the world's only seven-star hotel

RITZ-CARLTON, ALMATY

79 Kazakhstan's breathtaking Alatau Mountains are prime hiking and trekking territory, and now—thanks to the towering Ritz-Carlton, Almaty—there is a hotel capable of taking your mind off those aching feet.

UMAID BHAWAN PALACE HOTEL

80 Is it a hotel or is it a palace? Actually, it is both—the maharaja lives in one wing while lucky guests inhabit the rest.

OBEROI UDAIVILAS

81 Voted Asia's best resort four years straight by the readers of *Travel + Leisure*, the Oberoi Udaivilas on the shore of Udaipur's Lake Pichola stunningly re-create a bygone era of excess.

VICEROY MALDIVES

82 You could not design a set of human-made islands as superb as this glorious arc of Maldives luxury set over turquoise waters filled with over 1,000 species of reef fish, a resort with 31 over-the-water bungalows in the lagoon and 29 on the beach.

MAALIFUSHI

83 The Maldives to open up to the Thaa Atoll, Maalifushi gives guests to a string of unspoiled islands with barely a tourist in sight.

THE PENINSULA

84 Sitting above Shanghai's historic Bund, looking across the Huangpu River, the Peninsula Shanghai has a colonial-looking exterior and an interior of classy Art Deco. The rooftop bar is one of the city's chicest and provides some of the best views you can get over this striking city.

PARK HYATT TOKYO

85 Even if the 2003 movie *Lost in Translation* had not been filmed here, this sumptuous, sleek, Tokyo landmark, with its floor-to-ceiling windows would still be famous. Beautiful views out to Mount Fuji or to the lively cityscape of Shinjuku.

THE PENINSULA

85 Regularly topping lists of the world's finest hotels, the Peninsula Hong Kong has legendary status within the hospitality industry. Hong Kong's oldest hotel first opened its doors in 1928, and the number of antiques and historical objects and documents this "Grande Dame of the Far East" contains would fill a small museum. You can't miss its fleet of "Peninsula Green" Rolls-Royces, and its restaurants—from Japanese (the Imasa) to Swiss (the Chesa), French (Gaddi's), and modern European (the Felix)—help maintain the hotel's gastronomic edge and its age-old axiom that only here in Hong Kong will you find "the finest hotel east of Suez."



HIIRAGIYA RYOKAN

87 One of Japan's finest and most traditional *ryokans*, Hiiragiya was established in 1818 and has been in the same family for six generations. In the heart of Kyoto, it has 28 individually designed rooms, including the room once taken by Charlie Chaplin. The Japanese Imperial family have also stayed here, and the traditional *Kaiseki* food is served on the finest lacquerware.



CHIIORI (HOUSE OF THE FLUTE)

88 Purchased by an American writer in the 1970s, this 300-year-old thatched farmhouse in Shikoku now accepts guests to its tranquil hilltop enclave.

VANA BELLE

89 The resort of Vana Belle on the Thai island of Koh Samui is tucked neatly into its own secluded cove, with stunning views over the Gulf of Thailand. Each of the 80 suites and villas has its own personal plunge pool.

SIEM REAP, CAMBODIA

AMANSARA SIEM REAP

90 This former royal guesthouse, where Jackie Kennedy once stayed, is a perfect base for a visit to Angkor Wat.

HOI AN, VIETNAM

NAM HAI

91 This all-suite hotel on unspoiled Hoi An beach has an 18-hole golf course, spa, fine cuisine—and luxury aplenty.

BORACAY, PHILIPPINES

DISCOVERY SHORES

92 Discovery Shores on Boracay Island is a chic resort with 88 suites and a bevy of beachside butlers.

AYERS ROCK, AUSTRALIA

AYERS ROCK RESORT

96 Ayers Rock Resort is happy to play second fiddle to the vast sandstone rock that the Aborigines call Uluru, the “inselberg” (island mountain) that everyone comes here to see and that every Australian must visit at least once in their lifetime.

HOBART, AUSTRALIA

ISLINGTON HOTEL

97 An award-winning blend of old Regency and cutting-edge contemporary architecture, Hobart's Islington Hotel began as a private home in 1847 in a very class-conscious city and is now one of Australia's finest properties. There are 11 guest rooms, and antiques galore adorn its public rooms. Guests fly to Hobart just to stay here, and to breakfast in its glassed-in conservatory is a memorable, luxuriant experience.

CAMERON HIGHLANDS RESORT

93 Set high in the temperate forests of the Genting Highlands to the north of Kuala Lumpur, this beautiful, elegant hotel sits in Malaysia's most extensive hill station and was once a British colonial retreat.



RAFFLES

94 Few hotels anywhere can bring to mind the colonial era of the British Empire quite like Singapore's Raffles, still an institution even though the city of which it has always been a part has grown up so spectacularly around it. Famed since 1887 for its Singapore Sling cocktails and celebrity guests.

OBEROI LOMBOK

95 The first five-star resort to be built on Lombok, this pioneering hotel has it all: superb cuisine, detached villas all with tantalizing ocean views and most with their own impeccably trimmed and buffed courtyards, hundreds of feet of untrampled beachfront, and a hotel boat whenever you want it to take you to the snorkeling haven of the Gili Islands just 20 minutes away, and then pick you up again when you're done. Paradise perfected.

KAURI CLIFFS, NEW ZEALAND

THE LODGE AT KAURI CLIFFS

98 Not many hotels can boast their own award-winning international PGA golf course, but when you have 6,000 acres (2,400ha) on New Zealand's North Island overlooking stunning Cape Brett to fill up, anything is possible.

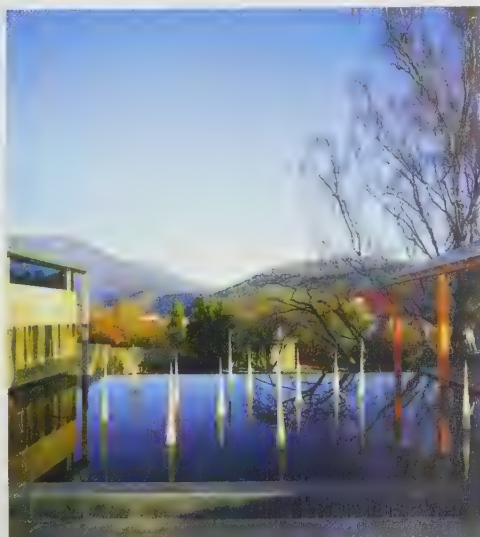
NANUKU, FIJI

NANUKU RESORT & SPA

99 Located on the southern coastline of the main Fijian island of Viti Levu, Nanuku Resort & Spa overlooks a coral-fringed lagoon, and the floor-to-ceiling windows of your sumptuous villa will never let you forget it

FOUR SEASONS RESORT

100 Situated on the island of Bora Bora in French Polynesia, voted “best island in the world” by *US News*, this landmark over-the-water resort reaches out into the stunning Ruahatu (God of the Ocean) Lagoon





BUTCHART GARDENS

1 Located near Victoria, at the bottom tip of Canada's Vancouver Island, on the site of a former quarry, Butchart Gardens is known throughout the world for its dramatic floral displays and its mature trees, which offer wonderful views over nearby Tod Inlet as you make your way along its network of paths, past the Star Pond, the Sunken Garden, the Italian Garden, various bronze statues, and the sublime beauty of the ever-changing Ross Fountain.

UNIVERSITY OF BRITISH COLUMBIA ROSE GARDEN

2 A parking lot rooftop may seem an odd place for a rose garden, but roses were first planted at this Vancouver university way back in 1949.

MONTREAL BOTANICAL GARDEN

3 Just minutes from the downtown area, the city's botanical garden has more than 22,000 plant species, ten exhibiting greenhouses, and an "insectarium," where insects and anthropods are displayed in vivariums.

PORTLAND JAPANESE GARDEN

4 This is really five gardens in one: the dry landscape Flat Garden; the upper and lower ponds of Strolling Pond Garden; the reflective beauty of the Tea Garden; the dense green of the Natural Garden; and the contemplative Sand and Stone Garden.

100 GARDENS

USA

INTERNATIONAL ROSE TEST GARDEN

5 Portland is home to North America's oldest public rose test garden, which stands on terraces overlooking the Willamette River.

USA

BOTANICAL GARDENS AT HUNTINGTON LIBRARY

6 The gardens of the Huntington Library enthrall and inspire. The Australian Garden, the Japanese Garden with its ceremonial teahouse, and the Jungle and Subtropical Gardens all help to make it one of the nation's most diverse landscapes. Opened in 1928, it has had in excess of 20 million visitors.

FILOLI

7 A short drive south of San Francisco is Filoli, a grand estate constructed in 1915, but with a garden that only began to rise to worldwide prominence after the house was purchased by the Roth family in 1937. The 654-acre (265ha) site is now a California State Historical Landmark, and its extensive gardens still deliver the impression of a "new Eden." Its Gentlemen's Orchard has North America's largest collection of heirloom fruit, and don't leave without seeing its southern magnolias.

TOHONO CHUL PARK

8 The philosophy of Tohono Chul is a simple one: to enrich with the bounty and wonder of nature the lives of those who go there. There are the desert honeysuckles and willows of the Hummingbird Garden, the desert palms, rock fig, and sea grapes of the Desert Palm Oasis, and the Garden for Children, where little ones are free to explore the desert environment that surrounds them.

DESERT BOTANICAL GARDEN

9 Phoenix's Desert Botanical Garden has more than 55 acres (22ha) under cultivation; it showcases more than 50,000 desert plants and is maintained by 1,100 volunteers.

MISSOURI BOTANICAL GARDEN

10 Opened in 1859, the Missouri Botanical Garden was the vision of Henry Shaw. It currently comprises 79 acres (32ha) of displays and a research center, and maintains a commitment to conservation.

GARDENS OF THE AMERICAN ROSE CENTER

11 The largest rose park in the United States, Shreveport's gardens contain an astonishing 20,000 varieties of the flower in more than 60 separate gardens.

FREDERIK MEIJER GARDENS

12 These gardens in Grand Rapids opened in 1995. Their 71 acres (29ha) contain the state's largest tropical conservatory, a Japanese garden, and an arid room for desert plants.

CHANTICLEER

This garden in Wayne, Pennsylvania, was planted on the grounds of an old estate. You can just about see the imprint of the tennis court where garden beds now lie; the 100,000 daffodils on the Orchard Lawn are not so easy to miss.

LONGWOOD GARDENS

One of the finest botanic gardens, Longwood, started by Quaker farmers in 1798, is a glorious mix of woodlands and heated greenhouses, including the Orchid House—11,000 types of trees and plants.

HIGH LINE

A former elevated railway line, the High Line now carries walkers instead of trains and has been planted with wild grasses and shrubs to make it a green ribbon above the streets of the Chelsea district.



INNISFREE

Once on the list of the world's ten best gardens, Innisfree in Millbrook combines modernism with traditional Japanese and Chinese themes in a glacially carved landscape of wood, rock, and water.

BROOKLYN BOTANIC GARDEN

Cherry trees (more than 200 of them), the Japanese Hill and Pond Garden, the Shakespeare Garden, and the Cranford Rose Garden make this one of New York's most tranquil green spaces.



KYKUIT GARDENS

The gardens and world-class art exhibits of Kykuit Gardens in the grounds of the Rockefeller Estate will dazzle you. Among its outstanding features are the Adam and Eve fountain, the terraces filled with classical and modern statuary, and an Italian garden with brooks and an open lawn.

WAVE HILL

Overlooking the Hudson River in the Bronx, this estate has numerous botanical attractions, by no means the least of which is 10 acres (4ha) of native forest.

NEW YORK BOTANICAL GARDEN

This much-visited slice of countryside in the city boasts a crystal palace greenhouse, a rock garden, an extensive conifer collection, and a herbarium with seven million botanical specimens.

COASTAL MAINE BOTANICAL GARDENS

Set in 270 acres (109ha) of coastal tidelands, this is a wonderland of magnolias, irises, spring bulbs, lavender, water lilies, roses, berries, and tall grasses as well as botanical art by New England artists.

NAUMKEAG

The gardens surrounding the shingle-style estate of Naumkeag are as inspiring as the house. The gardens are varied—a rose garden, a Japanese garden, hedges, and lovely Blue Steps fountain.

DUMBARTON OAKS

Given over in 1940 to Harvard University by the last private owners—the diplomat and philanthropist Robert Bliss and his wife, Mildred—the estate of Dumbarton Oaks in the Georgetown suburb of Washington, DC, is famous for its stunning landscape garden of terraces, vegetable beds, orchards (it even has a tennis court), and, at its edges, meadows and a stream—a rambling wilderness. The garden was designed in 1921 by Beatrix Farrand, one of the founders of the American Society of Landscape Architects.



USA

HILLWOOD MUSEUM & GARDENS

24 With an English garden walk, a rose garden, and a French parterre, you might think you were in Europe until you happened upon one of the United States's finest orchid collections.

USA

CALLAWAY GARDENS

27 These 6,500 acres (2,630ha) in Pine Mountain have two golf courses and Robin Lake Beach, the world's largest human-made white-sand beach.

MEXICO

LAS POZAS

28 The creation of eccentric Englishman Edward James in the 1940s, the extraordinary sculpture garden we see today near Xilitla began to be planted in 1962 after a freak frost destroyed fields of hand-planted orchids.

USA

BILTMORE ESTATE

25 The Biltmore Estate in Asheville features a mix of formal and informal gardens and North America's first managed forest, designed by Frederick Law Olmsted, creator of Central Park, New York.

USA

FAIRCHILD TROPICAL BOTANIC GARDENS

29 In the heart of Miami, this 83-acre (34ha) site was laid out by landscape architect William Lyman Phillips. It features numerous exotic plant species, including a giant African baobab tree.

USA

ANDROMEDA BOTANIC GARDENS

29 What began as a private garden has become a wonderful, and public, mix of flowering and tropical trees, with more than 600 species of plants.

COSTA RICA

LA PAZ WATERFALL GARDENS

30 This is Costa Rica in a nutshell: five waterfalls, a cloud forest, miles of hiking trails, a frog exhibit, a butterfly observatory, toucan feedings, and orchid and bromeliad exhibits in more than 70 jungle-draped acres (28ha).

MEXICO

FRANCISCO ALVARADO PARK

31 At more than 5,577 feet (1,700m) above sea level, the ornamental topiary garden in Francisco Alvarado Park in the city of Zarcero, better known for its dairy and organic agriculture, is a pleasure to behold, a series of dreamlike, abstract, and bizarre shapes, cut from conifer cypresses designed by landscape designer Evangelisto Blanco.

COLOMBIA

BOGOTÁ BOTANICAL GARDEN

32 Colombia's largest botanical garden was established in 1955 in honor of the nation's premier botanist, José Mutis (1732–1808). The garden has almost 20,000 plants from every region, and every altitude and climate, including medicinal and aquatic plants.

BRAZIL

SÍTIO ROBERTO BURLE MARX

33 Named in honor of the man who brought modernist landscaping to Brazil, Sítio Roberto Burle Marx showcases his ideas—mass plantings, imaginative use of lighting, and reflections—and his stricture that you should never mix your colors. More than 3,500 plant species—including some discovered by and named for Marx—can be found here.

BRAZIL

BOTANICAL GARDEN OF CURITIBA

34 The Botanical Garden in Curitiba, the capital and largest city of the southern Brazilian state of Paraná, is laid out in a French style. It was opened in 1991 and has extensive water features, as well as a native forest ideal for strolling, an Art Nouveau-style greenhouse, a native flower garden, and a great museum that contains the world's fourth-largest herbarium.



FLOATING GARDENS, AMAZON RIVER

35 New "floating garden beds" at strategic points along the Amazon River are providing alternative food platforms for indigenous people.



ARCTIC-ALPINE BOTANIC GARDEN

36 The coastal town of Tromsø, Norway, is home to the world's most northerly botanic garden. While it majors in plants from the polar extremities, it has species from all over the world.

POWERSCOURT GARDENS

37 The gardens of Powerscourt in County Wicklow were built to blend in with the surrounding landscape. They were started in the 1730s, but it wasn't until the late 1850s that the addition of terraces, ironwork, and statuary to the specimen tree planting of beech, fir, spruce, dawn redwood, and Torrey pine turned the space into "Ireland's Garden."

MOUNT STEWART

38 Once home to the Stewart family, who bought the estate in 1744, the gardens around Mount Stewart in County Down today boast luxurious plantings, formally clipped edgings, an impressive lake, a sunken garden, an Italian garden, a shamrock garden, terraces, huts, fountains, and meandering paths through its idyllic Lily Wood.

GARDEN OF COSMIC SPECULATION

40 A garden that has more to do with math and science than with horticulture, the Garden of Cosmic Speculation near Dumfries has gardens inspired by fractals and black holes, where plants are seen, not in their traditional groupings, but are chosen only if they, in combination, create certain geometrical shapes. There are fewer plants here than one might expect, but those that are there will impress with their ability to convey the beauty and complexity of the universe.



LITTLE SPARTA

39 This small garden near Edinburgh is a piece of Scottish whimsy in the best traditions of landscaped gardens.

BODNANT

41 The formal gardens, rose gardens, and ornamental ponds around Bodnant House are surrounded by woodlands featuring stunning Californian redwoods.

POWIS CASTLE

42 Laid out in the shadows of the fortress, the clipped yews and seventeenth-century terraces of this Italian-French-styled garden are renowned the world over.

ALNWICK CASTLE GARDEN TUNNEL

43 To walk the ivy-clad Alnwick Garden Tunnel, the "Poison Garden," is an unforgettable experience.

LEVENS HALL

44 The topiary gardens designed by French gardener Guillaume Beaumont at this manor in Cumbria have remained largely intact since the late 1600s.

HAREWOOD HOUSE

45 The 100 acres (40ha) of gardens at this stately home near Leeds include a famous bird garden with its resident penguins, flamingos, and parrots.

CROOME PARK

46 Once faded and neglected, the whole of eighteenth-century Croome Park in Worcestershire—the lake, the follies (including a magnificent rotunda), the woodlands, the gatehouses, and the grottoes—has been inspiringly restored to its pristine glory.



HIDCOTE MANOR

47 Raised when the Arts and Crafts architectural movement was at its peak, the garden at Hidcote Manor, near Chipping Campden, Gloucestershire, is a botanical interpretation of the style, with series of connected “rooms,” hedge walls, and generous plantings of rare trees, together with the sort of perennial herbaceous borders that were common in the Victorian era.

STUDLEY ROYAL WATER GARDEN

48 This garden in Ripon, North Yorkshire, includes the ruins of the twelfth-century Cistercian Fountains Abbey. Created in 1718, it is one of England’s most intact examples of a Georgian water garden.

ROUSHAM

49 The gardens around Rousham House in Oxfordshire were laid out in the 1600s, but it wasn’t until the 1700s that they were transformed into the current beguiling mix of streams, groves, Romanesque statuary, cascades, and porticoes above the River Cherwell.

ROYAL BOTANIC GARDENS, KEW

50 Where do you start when visiting Kew Gardens, one of the world’s leading botanical research institutes? Do you begin at the Fungarium, the Herbarium, or the Arboretum? Do you stroll the Daffodil Promenade or immerse yourself in the two million crocuses of the Crocus Sea? Thank goodness there’s a map.



STOWE LANDSCAPE GARDENS

51 In the grounds of Stowe school in Buckinghamshire, these are among the finest examples of the English-garden style and were the first gardens in England to have had their own guidebook.

STOURHEAD

52 The magnificent gardens of Stourhead, which first opened in the 1740s, have been described as a “living work of art.” The garden’s 2,650 acres (1,072ha), with lake, grottoes, exotic trees, and Greco-Roman temples at its heart—also contain chalk downs, dense ancient woodlands, and farmlands.

SISSINGHURST CASTLE GARDEN

53 The world-famous gardens around Sissinghurst Castle were created in the 1930s by Vita Sackville-West, then the gardening correspondent of *The Observer* newspaper. Now managed by the National Trust, Sissinghurst was designed to be like a series of rooms, with walls of clipped hedges.

HESTERCOMBE

54 Owned in the eleventh century by Glastonbury Abbey, the lakes and ponds, formal gardens, and woodlands at Hestercombe House in Somerset are visited by some 70,000 people a year.

HEVER CASTLE ROSE GARDEN

55 Laid out from 1904 to 1908, the water features, 38-acre-wide (15ha) lake, herbaceous borders, and the 4,000 blooms in its rose garden are a joy to behold.

PETWORTH

56 The gardens around this house in Sussex are among England’s finest, thanks to current owner Caroline Egremont.

PAINSHILL

57 One of England's finest examples of an eighteenth-century landscape park, Painshill in Surrey began to take shape in the 1730s. Today, it covers some 158 acres (64ha). At its heart is a meandering, serpentine lake, which is surrounded by wooded avenues, specimen trees, and an impressive range of classical buildings.



GARDENS OF VERSAILLES

58 Perhaps the most famous gardens in the world, begun in the reign of Louis XIII—yet all-but ignored during the Napoleonic era—the 800 acres (323ha) of classical French landscapes to the west of the Palace of Versailles near Paris have undergone five complete replantations since its inception in the 1630s. It is home to grottoes, lakes, bosquets, manicured lawns, and a wonderful array of fountains.

CLAUDE MONET'S GARDEN AT GIVERNY

59 The gardens of the Impressionist have two complementary parts: the flower garden of Clos Normand, and a Japanese-themed water garden—a world of fruit and ornamental trees, climbing roses, long-stemmed hollyhocks, and simple, everyday flowers such as daisies and poppies.

PARC DE BAGATELLE

60 Queen Marie Antoinette bet the Count of Artois that he could not create a park in 64 days. She lost; he won; this is it, in Paris.

COURANCES

61 Despite their classic geometry, the gardens around the moated Château de Courances feel more like a family hangout than a national showpiece.

ROSERAIE DE L'HAÏ

62 Once described as the world's finest rose garden, the Roseraie de L'HaÏ was begun in 1892 by Jules Gravereaux, who brought roses from across Europe—8,000 varieties by 1910—to his property on the then-outskirts of Paris.

CHÂTEAU DE VAUX-LE-VICOMTE GARDENS

63 The Château de Vaux-le-Vicomte and its gardens mark the first example of the then-emergent "Louis XIV" style of design.

CHÂTEAU DE VILLANDRY

64 This is one of France's most-visited chateaux. Its renaissance-style gardens are constantly evolving, though still firmly rooted in their time.



VILLA EPHRUSSI DE ROTHSCHILD

65 The nine gardens surrounding the Ephrussi de Rothschild Villa on the Côte d'Azur began to be laid out in 1905 and took seven years to complete, and no wonder—the site was a rocky, windswept promontory, its ground requiring dynamiting to make it accommodate the Japanese-, Florentine-, rose-, exotic-, and French-style gardens, pavilions, and bridges that now adorn it.

URBAN CACTUS

66 An urban housing project in Rotterdam's Vuurplaat district, this residential apartment building is characterized by its irregular terraces, which give it a "thorny" exterior, and provide extensive sunlit areas for trees and shrubs.

HET LOO

67 Het Loo is Holland's most beautiful palace, and its low-lying grounds and natural springs make it ideal for fountains and other water features.

BELGIUM

COLOMA CASTLE

68 Coloma Castle, just outside Brussels, is the site of one of Europe's largest rose gardens, with more than 30,000 bushes showcasing 3,000 botanical species.

GERMANY

BERLIN-DAHLEM BOTANICAL GARDEN

69 This Berlin garden was built between 1897 and 1910 and designed to store the exotic plants that were being collected in Germany's overseas colonies.

GARDEN KINGDOM OF DESSAU-WÖRLITZ

70 An English-style park in the heart of Germany, this is one of the finest examples of landscape design to emerge from the Age of Enlightenment. Developed in the seventeenth century, the park covers an astonishing 54 square miles (140sq km), and contains an abundance of ornamentation—palaces, fountains, terraces, bridges, grottoes, and statuary.

BAMBERG ROSE GARDEN

71 Laid out in 1733, the Bamberg Rose Garden, with its border of clipped lime trees, has around 4,500 roses in 70 flower beds.

MIRABELL GARDENS, SALZBURG

72 A horticultural masterpiece, the gardens of the Mirabell Palace were remodeled in 1730 and opened to the public in 1854 by Emperor Franz Joseph. The Pegasus Fountain was added in 1913.

UNIVERSITY OF INNSBRUCK BOTANICAL GARDEN

73 First planted in 1911, the Botanical Garden of the University of Innsbruck today contains more than 5,000 species of plants from around the world, including medicinal and culinary plants, a "touch and fragrance" section, and more than 1,000 species of Alpine plants.



CAIXA FORUM VERTICAL GARDEN

74 Patrick Blanc has designed a number of vertical green walls throughout Europe, and one of his finest creations clings to an exterior wall of a former power station in Madrid. The wall, which is four stories high, has around 15,000 plants representing 250 species. And they are flourishing.

BOSCO VERTICALE

77 Bosco Verticale, the "Vertical Forest," is two residential towers in Milan. Horticulturalists and botanists contributed to the design so that it could sustain more than 700 trees, as well as shrubs, perennials, and groundcovers on the specially designed facades. The trees, up to 20 feet (6m) high, will sit in steel-reinforced balconies and increase oxygen levels, reduce city smog, alleviate traffic noise for residents, and moderate the building's internal temperature, thus reducing the need for air-conditioning.



ALHAMBRA GARDENS

75 The celebrated Alhambra Palace in Granada is encircled by Europe's finest medieval castle garden, among whose numerous eastern Mediterranean-inspired highlights are the beautifully proportioned, detailed Court of the Pool and the eleventh-century Lion Fountain. Everywhere you are reminded that the knot and parterre gardens of northern Europe may well have Moorish ancestry.

MADEIRA

REID'S PALACE

76 A nineteenth-century historic hotel in Madeira, Reid's Palace is on an elevated site overlooking Funchal Bay. It has some wonderfully sloping gardens filled with flame trees, jacarandas, and rosewoods; the sort of exotic mix one gets at the crossroads of Europe and the tropics.

ITALY

VILLA LANTE

78 The Mannerist phase is considered a high-water mark in the evolution of garden design, and the gardens at Villa Lante, near Viterbo, are one of the period's finest examples, with their Palladian square and circle, their Water Chain (a stepped cascade), and their subdivided square terrace.

ISOLA BELLA

The ten sumptuous garden terraces and open-air theater on this Lake Maggiore island, despite being inaugurated in 1671, were not completed until well into the nineteenth century.

GIARDINO GIUSTI

Verona's Giusti Garden, once visited by Goethe and Mozart, was designed in Renaissance style in the 1500s and transformed into an English garden in the 1800s. It is alive with imposing Greco-Roman statuary, gargoyles, and secluded grottoes, and remains one of Italy's finest gardens.

VILLA D'ESTE, TIVOLI

The unabashed masterpiece of Italian gardens, the Villa d'Este, Tivoli—with its massed concentration of fountains, its 500 water jets, its secluded grottoes, its terraces upon terraces, its stone nymphs, and its ambient music—is one of Europe's most inspirational, and most copied, gardens. Its water features are supplied by the nearby Aniene River, diverted along a series of underground pipes that are a marvel of Renaissance engineering.



TAROT GARDEN

The Tarot Garden in Capalbio, Tuscany, created by Niki de Saint Phalle and opened in 1998, contains a series of sculptures based on the 22 major arcana of the tarot: "A small Eden," says the artist, "where man and nature meet."

GARDEN OF NINFA

Created in 1921, the landscaped Garden of Ninfa in central Italy is 20 acres (8ha) of cypresses, poplars, oaks, meadows, and the remains of several scattered medieval ruins.

MAJORELLE GARDEN

Water lilies, lotus flowers, bubbling streams, and exotic plants—the garden of French painter Jacques Majorelle in the heart of Marrakech is an architectural pastiche, with touches of Moorish charm alongside brassy Art Deco, and everywhere the vibrant colors of the nearby Atlas Mountains.

KIRSTENBOSCH NATIONAL BOTANICAL GARDEN

One of the world's truly great botanic gardens sprawls across the lower eastern slopes of Table Mountain in Cape Town. It was created in 1913 to help conserve the diverse flora of southern Africa.

WALTER SISULU NATIONAL BOTANICAL GARDEN

Established in 1982 in the midst of the Rocky Highveld Grassland, and backing onto the Witpoortjie Falls on the outskirts of Johannesburg, this is home to a succulent and cycad garden.

BRENTHURST GARDENS

Brenthurst Estate in Johannesburg has long been one of the residences of the wealthy Oppenheimer family. It is also home to Brenthurst Gardens, which date to the 1890s, and include a rose garden, a Japanese garden, and a garden highlighting some of the native grasses of southern Africa.

THE MASTER OF THE NETS GARDEN

The Master of the Nets in Suzhou was begun in the twelfth century by a government bureaucrat, Shi Zhengzhi—who named it in honor of a fictional Chinese fisherman—in a timeless combination of art, architecture, and nature.



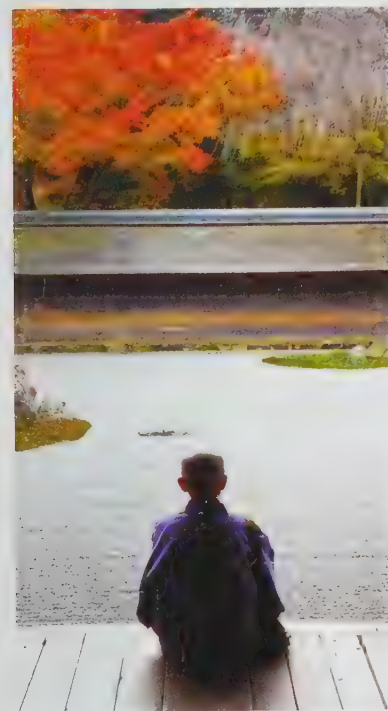
NANJING BOTANICAL GARDEN, MEMORIAL SUN YAT-SEN

Created in 1929, this was China's first national botanical garden. It contains more than 3,000 plant species in its ten luxuriant featured gardens, as well as a massive herbarium, which holds in excess of 700,000 specimens. It has become a leading center of research into the protection of plant resources.

CHINA

LION GROVE GARDEN

90 The Lion Grove in Suzhou was built in 1342. It is famous in the garden world for its ornamental, lion-shaped *taihu* rocks.



SOUTH KOREA

CHANGDEOKUNG PALACE GARDEN

91 The Rear Garden in the grounds of one of South Korea's Five Grand Palaces is an oasis of ponds, pavilions, and trees.

KOREA

SOSWAEWON GARDEN

92 Created during the Joseon dynasty in the early 1500s, this is a garden in harmony with nature in the best Korean traditions.

JAPAN

RYŌANJI TEMPLE GARDEN

93 Japan's most famous garden, Ryōanji—Peaceful Dragon Temple—contains a traditional stone and sand garden with raked sand in a rectangular space 78 feet (24m) long and 30 feet (9m) wide, and interspersed by 15 stones set in five separate clusters. The sand, representing the ocean, encircles the rocks, which are islands, and the total absence of trees or flora is reminiscent of modern abstract art.

NEZU MUSEUM GARDEN

94 Once the private residence of industrialist Nezu Kaichiro, the rather hilly gardens at Tokyo's Nezu Museum are a soothing synthesis of streams, ponds, garden lanterns, memorial stones, teahouses, and paths.

JAPAN

BYŌDŌIN

95 The Byōdōin Temple in Uji, built in 998 during the Heian period, is the most famous surviving example of the Paradise Garden, or "Pure land" style, introduced to Japan by Buddhist monks in the tenth century. Once a rural villa, the transformation of Byōdōin into a temple started with the construction of the Phoenix Hall in 1053. Today, you can see the Byōdōin Temple Bell, one of the country's most famous bells, in one of the nation's most historic gardens.



JAPAN

KENROKUN-EN GARDEN

96 This beautiful garden has an artificial pond once likened to an "open sea," cherry blossoms in spring, and year-round tranquility.

THAILAND

JIM THOMPSON'S GARDEN

97 This garden in Bangkok is a dense world of tropical greenery with brick paths, terraces, and a Thai shrine.

AUSTRALIA

ROYAL BOTANIC GARDENS, SYDNEY

98 Opened in 1816, these gardens on the city harbor foreshore are the nation's oldest scientific institution.

AUSTRALIA

ROYAL BOTANIC GARDENS, MELBOURNE

99 These gardens are world-renowned for their mix of native and exotic plants, including the lovely Fern Gully.

NEW ZEALAND

AYRLIES GARDEN

100 Verdant lawns and undulating terrain make this Auckland garden the quintessence of the country.





SPORT & LEISURE

This section lists the greatest athletes of all time, the challenges they faced, their victories, and their defeats. It is where you can read about the best goals ever scored, the secrets of top teams, and relive some of sport's most enthralling moments, from how Jesse Owens undermined the Nazi myth of Aryan supremacy to when Diego Maradona cited "the hand of God" as a helper. In addition, for the adventurous we select the Top 100 Extreme Sports from zorbing to volcano boarding, while for those who prefer more leisurely pursuits, we highlight the most popular games from old favorites like Scrabble to newcomers such as Minecraft.

◀ Jamaica's Usain Bolt wins the men's 100m final at the Beijing Olympic Games in 2008.



1840-1911

W. G. GRACE

1 Grace was a doctor from Bristol who, during a 44-year career as an amateur cricketer, scored nearly 55,000 runs, including 126 centuries (100 runs in a single innings), and took more than 2,800 wickets. He played county cricket for Gloucestershire, and test cricket for England, winning 22 caps for his country between 1880 and 1899.

1868-1917

TY COBB

2 Detroit Tigers's "Georgia Peach" was one of baseball's best batters, and his offensive style was matched by his abrasive personality. He had an average of .367 (hits per throw) over a long career (1905-26), and his hits record of 4,189 lasted until 1985, when it was broken by Pete Rose.

1888-1953

JIM THORPE

3 One of the greatest all-round athletes, Thorpe won Olympic gold medals in pentathlon and decathlon and played professional American football, baseball, and basketball, but he died in poverty.

1895-1941

BABE RUTH

4 George Herman Ruth Jr., aka "Babe" and "the Sultan of Swat," was perhaps baseball's greatest-ever player. The affable orphanage boy was a record-breaking pitcher and batter with the New York Yankees between 1919 and 1935, and one of sport's most colorful off-field celebrities. His posthumous reputation has been undiminished: Americans still apply the term "Ruthian" to outstanding achievement in sport.

1894-1993

PAAVO NURMI

5 Nurmi was a Finnish athlete who dominated long-distance running in the 1920s, capturing nine gold and three silver medals at three Olympic Games (1920, 1924, and 1928). For eight years (1923-31) he held the world record for the mile: four minutes and 10.4 seconds. During his long career, he set or broke 25 world records.

100 SPORTING HEROES

1874-1942

JAMES J. BRADDOCK

6 The "Cinderella Man" rose from poverty, financing himself by working in New York's docks and fighting—in spite of hand injuries—before winning the world heavyweight title as a 10-1 outsider, outpointing Max Baer. The champion promptly repaid the welfare money from the government and regularly invited the homeless to meals with his family.

1908-1992

DON BRADMAN

7 The great Australian cricketer began the last of his 52 test matches needing four runs for a career average of 100. He scored nought, but his average of 99.94 is almost 40 more than the next highest.

1909-95

FRED PERRY

8 The first winner of all four Grand Slam tennis titles was a working-class Englishman who emigrated to the United States to escape snobbery at home.

1908-1995

JUAN MANUEL FANGIO

9 The greatest motor racing driver of all time won almost half of all his races. The well-mannered Argentine was already in his forties when he began Formula One racing and was often the oldest driver on the grid. Yet he won the World Drivers' Championship five times—in 1951, 1954, 1955, 1956, and 1957—with four different manufacturers—Alfa Romeo, Mercedes-Benz, Ferrari, and Maserati—an unrivaled feat. He also won the 12-hour sports car race in Sebring, Florida, in 1956 and 1957. After Fangio retired from motor racing, he worked for Mercedes-Benz.

1910-88

BABE DIDRIKSON ZAHARIAS

10 Nicknamed "Babe" for her baseball prowess as a child, Didrikson won Olympic golds in hurdles, javelin, and high jump before becoming golf's greatest female player.

1913-92

JESSE OWENS

11 The black American athlete from a poor Alabama family is renowned for undermining the Nazi myth of Aryan supremacy at the 1936 Berlin Olympics by winning gold medals in the 100m, long jump, 200 m, and 4x100m relay.

1914-1999

GINO BARTALI

12 In the 1930s, Bartali won the Giro d'Italia twice and the Tour de France once. During World War II he joined the Italian resistance and risked his life to hide Jews. In 1946 he won the Giro again. Two years later, his second Tour triumph boosted Italian morale as the nation teetered on the brink of civil war.

JOE LOUIS

The "Brown Bomber" escaped poverty in Alabama to win the world heavyweight boxing championship and retain it for a record 12 years through 25 successful title defenses.

JOE DIMAGGIO

Baseball star DiMaggio played for only one team: New York Yankees. His batting record included 56 hits in consecutive games, and nine World Series titles. The son of a poor Sicilian fisherman, DiMaggio became a star and married Marilyn Monroe.

STANLEY MATTHEWS

Europe's first Footballer of the Year was a speedy right winger. He was never booked in a career that lasted until he was 50 years old.

MAN O' WAR

This great American thoroughbred chestnut stallion won an impressive 20 of his 21 races.

FANNY BLANKERS-KOEN

Written off as "too old" at 30 years of age, the Dutch mother of two won four golds on the track at the 1948 Olympics.

JACKIE ROBINSON

Robinson helped to reduce racial segregation in postwar US sports, becoming the first black Major League Baseball player for 60 years. Despite abuse from crowds, opponents, and even teammates, he was a star performer, going on to play in six World Series and six All-Star Games; in 1949 he won both Rookie of the Year and Most Valuable Player of the Year. When he finished playing, his shirt number 42 was retired across all Major League teams. Later, Robinson became an effective civil rights' campaigner and a pioneering TV baseball pundit.

SUGAR RAY ROBINSON

Fast, skillful, and intelligent, Robinson won 175 fights, including the world welterweight and middleweight boxing titles, and led a colorful lifestyle.

EMIL ZÁTOPEK

Having won gold in the 5,000m and the 10,000m at the 1952 Helsinki Olympics, the Czech decided to enter the marathon, a distance he had never run before. He won the race in record time.

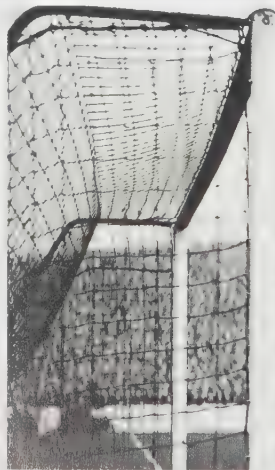
CLIFF YOUNG

In 1983, at the age of 61, Australian farmer Young was the unexpected winner of the first Sydney-to-Melbourne 544-mile (875km) ultra-marathon. Despite his slow pace, Young kept running while professional rivals slept, and ended up winning by ten hours. He wore a homemade running outfit with holes cut for ventilation, but removed his false teeth. Young attributed his win to spending a lifetime rounding up sheep on foot.



ROCKY MARCIANO

The US boxer won all of his 49 professional fights, all but six by a knockout. The Rock was short but brave and tough. He had a simple, wild-swinging technique. His brutal knockout punch helped him to become the smallest-ever heavyweight world champion from 1952 until he retired in 1956. After his death in a plane crash, he inspired the *Rocky* series of films.



BERT TRAUTMANN

Goalkeeper Trautmann broke his neck during the 1956 FA Cup final but carried on making saves for the remaining 17 minutes of the match. He helped his team, Manchester City, to beat Birmingham 3-1 in the days before substitutes were allowed. Trautmann had come to Britain as a prisoner of war after he had been awarded the Iron Cross by his native Germany. At the end of the conflict he opted to stay in England. He signed for City, despite fans' nationalistic protests, and became a club legend.



1924-2014

ALFREDO DI STÉFANO

24 As center forward of a Real Madrid soccer team that won five consecutive European Cups, Di Stéfano made telling contributions all over the pitch. Players had previously stuck to their positions. The Argentine scored 216 goals in 282 league games.

1925-1994

LARISA LATYNINA

27 Gymnast Latynina's record of 18 gold medals over three Olympics (1956, 1960, and 1964) established Soviet dominance in the sport. After retiring, she coached Soviet women's gymnasts to win team gold at the 1968, 1972, and 1976 Games.

LESTER PIGGOTT

28 From a family that had been jockeys for 200 years, Piggott helped horse racing to shed its upper-class image. At the age of 12 he rode the first of 4,493 winners on the flat.



1931-1986

JIM BROWN

29 As an explosive running back, Brown was strong and direct. He led the NFL rushing tables in eight seasons, averaged 104 yards a game, and never missed a game in his nine-year Cleveland Browns' career. At the age of 30, Brown held the all-time total record for yards rushed and number of touchdowns, but unexpectedly retired while at his peak to concentrate on race relations work.

1928-2013

GORDIE HOWE

25 One of ice hockey's greatest players, Howe won four Stanley Cups, was leading scorer in six seasons, and played into his eighth decade.

1932-2011

GARY SOBERS

30 Known as "the three in one," cricket's most acclaimed all-rounder became in 1968 the first batsman to score six sixes in an over, on his way to a career total of 28,000 first-class runs. As a bowler he took more than 1,000 wickets by bowling fast or slow, as the occasion demanded. The Barbadian was also a renowned fielder and West Indies's captain for seven years.



1933-2011

BOBBY CHARLTON

31 Charlton survived the 1958 Munich air crash that killed eight of his Manchester United teammates. The elegant midfielder with an accurate long-range pass and ferocious shot helped to rebuild the United soccer team. In 1966 he starred in England's World Cup victory and then captained United's European Cup-winning team in 1968.

1938-2013

BERYL BURTON

32 Britain's greatest female cyclist, Burton won seven world titles and was the best British all-rounder for 25 years. In 1967 she beat the men's world 12-hour time trial record with a distance that was unsurpassed for two years.

STIRLING MOSS

28 This competitive but gentlemanly motor racer has been described as "the greatest driver never to be world champion."

1924-2011

ROD LAVER

33 Tennis star Laver was world number one for seven years and won more singles titles than any other player of the time. The Australian leftie used a fierce serve-and-volley game to overpower opponents. He twice won all four Grand Slam titles in a year.

1939-2012

JACKIE STEWART

34 Three-time world champion, Stewart wore a helmet featuring his Scottish tartan. He led a campaign to improve Formula One safety.

ROBIN KNOX-JOHNSTON

35 The first person to sail nonstop around the world, the English yachtsman later became the oldest person to complete a solo marine circumnavigation of the globe.

JACK NICKLAUS

36 The "Golden Bear" was famous for his long, straight hitting and for winning 18 major golf titles.

PELÉ

37 The young Pelé learned to play soccer with a ball made from a sock stuffed with rags. He scored his first professional goal at age 15, played for Brazil aged 16, and scored twice in the World Cup final as a 17-year-old. He played for Santos for 20 years and helped Brazil to win three World Cups in 1958, 1962, and 1970. He scored a career total of 1,281 goals in 1,363 games.



PETER ROSE

38 Fans' favorite "Charlie Hustle" holds the all-time baseball records for hits, at-bats, singles, and outs but remains an uncelebrated figure because of his history of gambling on games, and tax evasion.

BOBBY MOORE

39 England's 1966 World Cup-winning captain was an unlikely defender. He was composed, generous, and sporting; rarely fouled opponents; and was never booked in 108 England games. Moore's passing and tackling were globally renowned, and opponents often cited him as the best defender they had ever faced.

EUSÉBIO

40 Portugal's "Black Panther" soccer star had an awesome scoring record and a likable personality, playing with a smile and applauding his opponents.



MUHAMMAD ALI

41 The self-proclaimed "greatest" heavyweight boxing champion, Cassius Clay became Ali on converting to Islam. He tackled the white US establishment head-on. His title was stripped after he refused to enlist for the Vietnam War. Successfully appealing the decision took four years of his prime. Tall, fast, and skillful, Ali eventually won the world title three times. He was unpopular at first, but his entertaining style, in and out of the ring, made him a global hero.

BILLIE JEAN KING

42 The dominant woman tennis player of her generation, King battled for sexual equality, famously winning a televised "Battle of the Sexes" against Bobby Riggs, a male ex-champion who claimed the woman's game was inferior.

ARTHUR ASHE

43 The black American tennis star campaigned for racial equality and awareness of AIDS, the disease that killed him.

EDDY MERCKX

44 Five-time Tour de France winner and three-time world champion, the Belgian was a perfectionist who would stop midrace to adjust his seat and still go on to win.

BARRY JOHN

45 In an age when rugby union was still amateurs-only, the Welsh fly half with a fast, swerving run was one of the game's first celebrities.

GEORGE BEST

46 Northern Irish soccer player Best became a sixties' icon, with his long hair, pop-star lifestyle, and spectacular dribbling skills. The star scored 253 goals in his career. As European Footballer of the Year, Best helped Manchester United to win the 1968 European Cup, but his career was ended prematurely by alcoholism. His funeral attracted more than 100,000 mourners, Belfast airport was renamed in his honor, and commemorative banknotes were issued.

JOHAN CRUYFF

47 The king of the fluid Dutch "total football" tactic, Cruyff was the greatest player of his generation. He was three-times European Footballer of the Year and gave his name to a dribbling trick, the "Cruyff turn." Later, he became a successful manager and helped to build soccer pitches for youngsters in 22 different countries.

ALEX HIGGINS

48 Snooker's bad boy, Alex "Hurricane" Higgins played at a uniquely fast pace, dashing around the table. The two-time world champion's volatile personality helped to popularize the sport.

SHUN FUJIMOTO

49 The Japanese gymnast broke his knee landing heavily during the floor exercise at the 1976 Olympics. He kept going, and helped his team to gold.

BARRY SHEENE

50 England's two-time world motorbike champion, Sheene was renowned for surviving high-speed crashes and for his showbiz lifestyle.

MARK SPITZ

51 Californian Spitz entered seven Olympic swimming events in 1972, and won them all in record times. His mustache was supposedly a "good luck charm"; he shaved it off as soon as he retired from swimming, shortly after the Games.

JACK YOUNGBLOOD

52 In 14 years this NFL defender played 201 consecutive games for LA Rams. His hard-man reputation was enhanced when he played the entire 1979 play-offs with a broken leg in a cast, and in 1984 he played despite a ruptured spinal disk. Off the field, he faced down a gunman who pushed a pistol in his eye and pulled the trigger. The gun failed to go off, so Youngblood knocked his assailant out.



NIGEL MANSELL

53 The only racing driver to be both Formula One and Indy Car champion simultaneously, the Englishman had a crowd-pleasing driving style: all-out attack. Mansell continued driving despite numerous crashes and injuries, including a broken back and a broken neck.

DALE EARNHARDT

54 The aggressive driving style of "the Indimidator" won him seven NASCAR Winston Cups and \$30 million. The self-styled bad-boy of motorsport died in a last-lap crash in 2001.

VIV RICHARDS

54 One of cricket's best batsmen, the West Indian refused to wear safety helmets. The physically ferocious batsman with a crowd-pleasing swagger took a principled stand against South African apartheid and also played international soccer for Antigua.

IAN BOTHAM

56 Botham became an English cricketing hero for his fiery all-rounder displays, including beating Australia almost single-handedly in 1981. "Beefy" admitted smoking cannabis, and once ran out teammate Geoff Boycott because he was scoring too slowly. After retirement, Botham became a prolific fund-raiser and was knighted for his efforts.

EDWIN MOSES

57 This science major used his knowledge to perfect his hurdling technique; he dominated the 400m for a decade.

OLGA KOR BUT

58 The Soviet gymnast won four Olympic golds and charmed everyone on both sides of the Iron Curtain.

b. 1956

MARTINA NAVRATILLOVA

59 Martina started playing tennis at age four and won the national title of her native Czechoslovakia at age 15. She later became a US citizen. She won 167 singles titles and is an indefatigable campaigner for gay and animal rights.

JOE MONTANA

60 Star NFL quarterback Montana won the Super Bowl four times with the 49ers. Yet he was only a third-round draftee and wasn't rated until he became a team regular. Montana was renowned for his calmness under pressure and accurate long-range passing. In the closing seconds of the 1981 NFC Championship game, Montana threw one of the most famous touchdown passes in football history, a match-winning play usually called "the Catch."



BJÖRN BORG

61 One of the greatest tennis champions of all time, the long-haired Swede still has the highest winning percentage of Grand Slam singles matches. Between 1975 to 1981, for example, he didn't lose a match at Wimbledon. Borg was known for his icy-cool temperament and a unique style of playing mostly from the baseline, a tactic that has since become commonplace.

NICK FALDO

63 Faldo was world number one for two years, the first non-American to be PGA Player of the Year. He won six majors, making him Britain's best-ever golfer. He has since become a TV pundit.

DALEY THOMPSON

64 One of the best decathletes, Thompson won every event he entered for ten years. He failed to win his third gold at the 1988 Olympics when his vaulting pole snapped.

AYRTON SENNA

65 Three-times world F1 champion Senna was killed while leading the San Marino Grand Prix in 1994. The tragic death of the Brazilian led to major safety improvements that, belatedly, reduced the number of racing fatalities.

SEBASTIAN COE

62 Coe's rivalry with British middle-distance runner Steve Ovett was compulsive viewing in the 1980s. Coe won the 1,500m Olympic gold and set world records before becoming a politician.

ERIC HEIDEN

65 The amateur speed skater won an unprecedented five golds in every possible distance in the 1980 Winter Olympics. He was a hero to skaters globally for being equally dominant in both sprinting and long distance. Later, Heiden turned to cycling, becoming US Road Race Champion. After retiring, he became a medical doctor.



DIEGO MARADONA

67 Attacking Argentinian midfielder Maradona was one of the world's greatest soccer players, but he was dogged by controversy, including a suspension for drug abuse.

B. 1960

PHIL TAYLOR

68 Phil "the Power" Taylor is widely judged the best darts player in history. He has won 81 major titles, including 16 world championships. The former factory worker was spotted by darts star Eric Bristow in a pub. The still unknown Taylor later thrashed the Crafty Cockney to win his first world crown.



B. 1961

WAYNE GRETZKY

69 Is Gretzky ice hockey's finest player? The average-build Canadian still holds most of the records for NHL performance, thanks to his unique ability to read the game. Gretzky introduced teamwork and finding space to a sport that had previously relied on individual brilliance.

B. 1941

CARL LEWIS

70 Sprinter and world record-breaking long jumper Lewis won ten Olympic medals (nine of them gold) during a dominant 17-year career in which he helped athletics to move from the amateur age into the professional era.

B. 1941

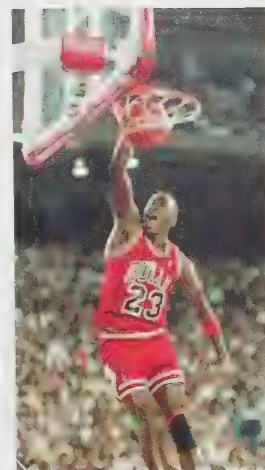
JERRY RICE

71 Often judged history's best wide receiver, Rice still holds records for touchdowns, receptions, and yards. In his 20 NFL seasons, the player won three Super Bowls, and to date is the only nonkicker to have scored more than 1,000 points.



STEVE REDGRAVE

72 This giant—6 feet 5 inches (1.95m) tall—English oarsman battled against serious illnesses to become one of his nation's Olympic heroes. Redgrave grew up alongside the Thames River in Marlow and began rowing at school. The single-minded athlete won the gold medal at five consecutive Olympic games between 1984 to 2000 and dominated coxless pairs and fours for a generation. He was knighted in 2001 and has become a popular public figure in the charity and media worlds.



MICHAEL JORDAN

74 He took the Chicago Bulls to six national basketball championships and is often judged the sport's greatest player.

MARIO LEMIEUX

75 Despite health problems, including Hodgkin's disease and a spinal hernia, the Canadian was one of the greatest ice hockey players, and a successful celebrity golfer.

B. 1944

LENNOX LEWIS

76 The British/Canadian three-time world heavyweight champion was an intelligent and graceful fighter who lost only twice in his career, and knocked out former world champion Mike Tyson in 2002.

B. 1966

MIKE TYSON

77 This bad boy of boxing was one of the hardest-hitting world heavyweight champions. Tyson's career was dogged by scandals: he was jailed for rape and disqualified from a fight for biting Evander Holyfield's ear.

B. 1961

SHANE WARNE

78 The colorful Australian cricketer revived the art of legspin bowling to become one of the game's legends. His highlights included his first ball in the 1993 Ashes series—which became known as "the ball of the century"—and the hat trick (three wickets with consecutive deliveries) that he took against England at the Melbourne Cricket Ground in 1994.

JANSHER KHAN

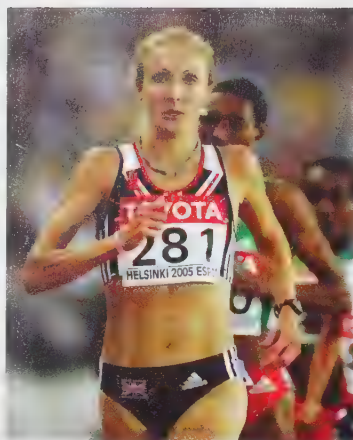
79 Pakistani Khan won the World Squash Open title a record eight times. He became world number one at the height of the sport's popularity, after beating Jahangir Khan. He kept playing after being diagnosed with Parkinson's disease.

MICHAEL SCHUMACHER

80 The ruthless German racing driver was seven-times world Formula One racing champion.

KELLY SLATER

81 Surfer Slater won five consecutive world championships, retired, then returned to win five more.



PAULA RADCLIFFE

82 Radcliffe overcame asthma and anemia to become a world record-breaking marathon, half-marathon, and cross-country runner. She has also been European 10,000m champion, and won silver in the 10,000m at the 1999 world championships. She won the London and New York marathons three times each and was the 2002 Commonwealth champion at 5,000 m. Her winning comebacks after major injuries helped her to become BBC Sports Personality of the Year in 2002.

SACHIN TENDULKAR

83 Superstar cricketer Tendulkar has scored 100 centuries and more than 30,000 international runs. While it is hard to compare players of different ages, some commentators have suggested that he was the greatest batsman since Don Bradman.

CATHY FREEMAN

84 The Australian Aboriginal sprinter overcame racial prejudice to become a national hero by winning the 400m at the 2000 Sydney Olympics. In her space-age body suit, Freeman danced a victory lap, waving Australian and Aboriginal flags together as a symbol of national unity.

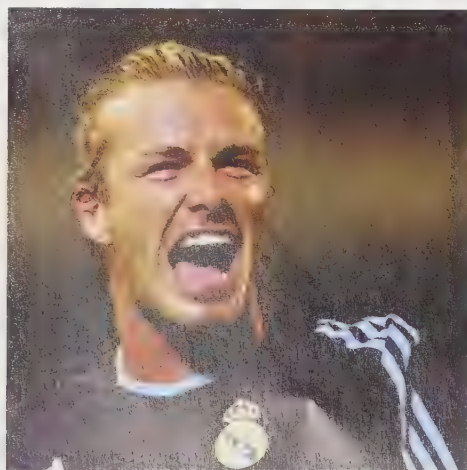
HICHAM EL GUERROUJ

85 In the 1996 Olympic 1,500 m, the young Moroccan collided with the leader, fell over, and finished last. Morocco's king rang him immediately afterward, saying: "You are the best." The inspired runner then went on a winning streak of 20 races, breaking records, becoming two-time World Athlete of the Year, and later bagging two Olympic golds.



JONAH LOMU

86 Rugby's first world superstar, New Zealand's 6-foot-5-inch (1.96m) winger set a record for World Cup tries—15 in two tournaments. The youngest-ever All Black was renowned for his unstoppable combination of speed, strength, and size throughout 63 full internationals over a 14-year career.



DAVID BECKHAM

87 The former England captain overcame hostility for a red card that contributed to England's World Cup exit in 1998 to become a national hero and global celebrity, more thanks to his marriage, modeling, and showbiz lifestyle than his accurate passing and free kicks on the field. Beckham did, however, win league titles in four different countries.

TIGER WOODS

88 Child golf prodigy Woods enjoyed unprecedented amateur success before becoming the sport's highest-paid professional during a decade of domination. He seemed unbeatable until 2011, when his ranking plummeted during acrimonious divorce proceedings.

CHRIS HOY

89 The 11-time world champion track cyclist has won seven Olympic medals (six gold), making him the most successful Olympic cyclist ever. On retirement he took up professional GT motor racing.

HASSANI DJAE AHAMADA

90 The Comoros's only competitor at the 2012 Paralympics in London was disqualified for a false start. But, having traveled 5,000 miles (8,000km) from his homeland in the Indian Ocean, Hassani Djae Ahamada was determined to complete the course, so he dodged officials trying to prevent him from taking any further part in the 50m freestyle and swam a length of the pool. He came last, of course, but he was grinning from ear to ear as he finished, and received a warm ovation from a house of spectators who evidently realized that there's more to sport than winning and losing.

DAVID WEIR

91 Wheelchair racer Weir has won six Paralympic gold medals and six London marathons. Born without the use of his legs, he set new British records in every wheelchair racing distance.

BRADLEY WIGGINS

93 In 2012, his *annus mirabilis*, Wiggins became the first Briton to win the Tour de France. He capped this achievement with gold in the time trial at the London Olympics.

SERENA WILLIAMS

96 Together with her sister Venus, Serena has dominated women's tennis.

ASHLEY MARTIN

97 In 2001, Martin became the first woman to play—and score—in top-level American college football.

LIU XIANG

98 China's hurdling star was Olympic and world champion, and world record holder in the 110m.

MICHAEL PHELPS

99 By 2012, swimmer Phelps had the biggest-ever Olympic haul: 22 medals, 18 of them gold.



VALENTINO ROSSI

92 Perhaps the most successful motorcycle racer of all time, the Italian is a nine-time world champion. The son of GP racer Graziano, Valentino began kart racing at the age of five and won his first four-wheeled regional championship at the age of 11. The prohibitive cost of karting made him switch to motorcycles, and he became the youngest-ever 125 GP champion at age 16. Not long afterward he became the youngest-ever winner of the 250 title and followed that with the 500cc crown. Rossi dominated the new MotoGP from its launch in 2002, winning the event in each of its first four years.

VENUS WILLIAMS

94 Venus rose from a poor Los Angeles childhood to become world tennis number one and four-time Olympic champion.

ROGER FEDERER

95 The Swiss tennis star set a new record for the most weeks at number one, and by the end of 2015 had won 17 Grand Slam singles titles, more than any other man in the history of the sport.

USAIN BOLT

100 Tall sprinters are traditionally thought to be at a disadvantage, but this 6-foot-5-inch (1.95m) Jamaican became the fastest man in history in 2008 when he broke both the 100m and 200m world records at the Beijing Summer Olympics. He was also the first athlete to win six Olympic sprint gold medals, and the first to retain both the 100m and 200m titles at consecutive Olympics. His domination of sprint events—and his trademark “lightning bolt” celebration—helped to make him the sport's first global celebrity and the focus of numerous big-budget advertising campaigns.





SAILING 1076

JOSHUA SLOCUM'S SOLO CIRCUMNAVIGATION

1 Slocum was a writer and seaman from Nova Scotia who spent three years sailing single-handedly around the world. He had rebuilt *Spray*, his 37-foot-long (11m) oyster boat himself. After his return, in 1898, he wrote a best-selling book about the pioneering feat.

BOXING

JEFFRIES V. JOHNSON: FIGHT OF THE CENTURY

2 Jack "Galveston Giant" Johnson, angered America's openly racist society by becoming the first black world heavyweight champion. Ex-champ Jim Jeffries was persuaded out of retirement to face him but was well beaten by round 15, prompting riots across America.

RUNNING

ERIC LIDDELL WINS 400M

3 Christian sprinter Liddell would not enter an Olympic race on a Sunday. So he switched to the 400m and won in world-record time.

100 GREAT SPORTING MOMENTS

SWIMMING 15

GERTRUDE EDERLE SWIMS CHANNEL

4 The 20-year-old US Olympic champion was the first woman to swim the English Channel.

BASEBALL 1897

BABE RUTH HITS 60 HOME RUNS IN A SEASON

5 "The Sultan of Swat," Babe Ruth was trying to beat his own previous world record of 59 home runs in a season. In his last innings of the last game, against Washington, the Yankees' star needed just one more and smashed Tom Zachary's left-handed pitch right into the stands.

AMERICAN FOOTBALL

"WIN ONE FOR THE GIPPER" SPEECH

6 Coach Knute Rockne's rousing halftime speech to his team became a Hollywood cliché.

CRICKET 1900

BRADMAN SCORES 334 AT HEADINGLEY

7 The new 21-year-old Australian batsman belted the previously confident English bowlers to every part of the Headingley Ashes Test ground. He notched a century before lunch, a record-breaking 309 runs in the first day, and a total of 334 before being caught the next morning.

ATHLETICS

JESSE OWENS WINS FOUR GOLDS

8 African-American sprinter Owens punctured Nazi myths of Aryan supremacy by winning gold in 100m, 200m, long jump, and 4x100m relay at the Berlin Olympics.

BASEBALL 1908

JOHNNY VANDER MEER THROWS TWO NO-HITTERS

9 Cincinnati Red's young left-handed pitcher Vander Meer achieved a unique feat: denying the whole opposing batting team a hit of the ball in two consecutive games.

BOXING

JOE LOUIS BEATS SCHMELING

10 Democracy v. fascism? Whatever the symbolism, Louis demolished the German heavyweight in the first round.

BASEBALL

LOU GEHRIG'S "LUCKY MAN" SPEECH

11 When 36-year-old baseball star Lou Gehrig was forced to retire with a rare debilitating disease, he made a memorable and moving farewell speech to 61,808 fans at Yankee Stadium. The Yankees' first baseman said: "Today, I consider myself the luckiest man on the face of the Earth. I might have been given a bad break but I've got an awful lot to live for." Gehrig went on to say that he felt lucky to have played baseball for 17 years and to have always felt the love and support of the fans. He died two years later.

SOCCER

URUGUAY 2, BRAZIL 1

12 Brazil had already proclaimed their team the "world champions" when the outsiders shocked the host nation to win the World Cup in front of over 200,000 spectators



MOUNTAINEERING HILLARY & TENZING SCALE EVEREST

13 It was 11:30 a.m. on the morning of May 29 when quiet New Zealander Edmund Hillary, a professional beekeeper, and local Nepalese Sherpa Tenzing Norgay reached the summit of Mount Everest. They were the first humans to stand on the peak of the world's highest point, 29,035 feet (8,848m) above sea level. Theirs was the ninth expedition to attempt the ascent. At the summit, Hillary photographed Tenzing holding flags, and buried a crucifix in the snow. They were part of a British expedition, and the news of their success reached the world on June 2, the day of Queen Elizabeth II's coronation.

RUNNING ROGER BANNISTER'S FOUR-MINUTE MILE

14 Medical student and amateur athlete Roger Bannister achieved a target he had set himself years before, by running the world's first sub-four-minute mile on a track in Oxford. Some experts had claimed the time was "humanly impossible" to achieve.



BASEBALL

BILL MAZEROSKI HITS OVER THE FENCE TO WIN THE WORLD SERIES

15 The greatest home run ever. Maz of the Pittsburgh Pirates hit the bottom-of-the-ninth, out-of-the-stadium match winner in game seven of a tied World Series.

BASKETBALL

WILT CHAMBERLAIN SCORES 100 POINTS

16 Chamberlain's points haul in a match for Philadelphia Warriors against New York Knicks remains the single-game NBA scoring record. The 7-foot-tall (2.1m) center smashed the previous record, set by himself, of 78 points in a game. The record is credited with changing the fortunes of the NBA league.

SOCCER

PUSKÁS GIVES SHIRT TO EUSÉBIO

17 Benfica's young star Eusébio scored two as they beat the great Real Madrid in the European Cup final and then ran to swap shirts with 35-year-old legend Ferenc Puskás.

BOXING

HENRY COOPER FLOORS ALI

18 The popular British cockney heavyweight floored the odds-on world champion. Ali recovered to win after his corner stalled for time, "searching for replacement gloves."

SOCCER

NORTH KOREA BEATS ITALY

19 The unknown Koreans beat the former world champions 1-0, knocking them out of the World Cup. They became the first non-European/US team to reach the second round.



SOCCER

GEOFF HURST'S HAT TRICK

20 Hurst was an unpopular replacement for English national hero Jimmy Greaves, but he justified his place by scoring the first hat trick in a World Cup final.

SOCCER

CELTIC WINS EUROPEAN CUP

21 Celtic became the first British team to win the European Cup with a widely acclaimed victory for their sporting attacking play against a cynically defensive Inter Milan.

SOCCER

MANCHESTER UNITED WINS EUROPEAN CUP

22 The win against Benfica claimed the first European Cup for an English club. Coach Matt Busby and two key players had survived an air crash that wiped out United's team ten years before.

CRICKET

GARY SOBERS HITS SIX SIXES

23 West Indies and Nottinghamshire captain and all-rounder Sobers became the first batsman to hit six sixes in the consecutive balls of an over. The last hit cleared the stadium and ended in a nearby garden.

LONG JUMP BOB BEAMON'S LONG JUMP

24 US athlete Robert Beamon's first long jump in an Olympic final was so exceptional, it broke the existing world record by almost 2 feet (60cm). When he heard his distance, Beamon collapsed with shock and was helped to his feet by rival athletes, including the defending champion Lynn Davies who told him: "You've destroyed this event." Beamon's record stood for almost 23 years.

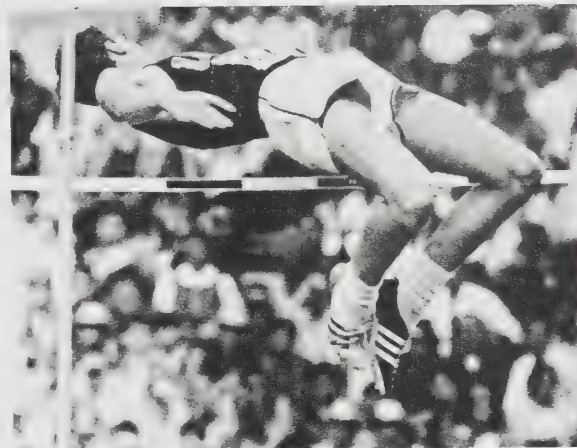


RUNNING "BLACK POWER" SALUTES

25 African-American athletes Tommie Smith and John Carlos made controversial raised-fist "Black Power" salutes from the Olympic medal podium as their national anthem was played. The athletes claim it was a "human rights salute" and all three medalists were wearing human rights badges.

HIGH JUMP THE FOSBURY FLOP

26 Little-known American athlete Dick Fosbury had privately invented a new style of clearing the high-jump bar. During the Mexico Olympics of 1968, the unconventional athlete slept in a campervan. When he started jumping, the crowd laughed but eventually cheered when his "flop" propelled him to the gold medal. The flop style has dominated high jumping ever since.



AMERICAN FOOTBALL JOE NAMATH'S GUARANTEE

27 Jets quarterback Namath publically "guaranteed" victory against the Colts in the Super Bowl three days later. Jets delivered, and Namath was named Most Valuable Player.

SOCCER BANKS SAVES SHOT FROM PELÉ

28 The world's greatest player Pelé seemed to have scored with a powerful header, but England goalkeeper Banks dived from nowhere to scoop the ball over the bar. The save is remembered more than the World Cup game, which England lost 1-0.

TABLE TENNIS US TABLE TENNIS TEAM VISITS CHINA

29 After 25 years of no official contact, Chinese and US politicians were at a standoff. Many predicted war. Somehow, the innocent visit of the American table tennis team to China started a thaw and began a period of "ping-pong diplomacy," which ended with President Nixon and Chairman Mao shaking hands in Beijing.

AMERICAN FOOTBALL THE IMMACULATE RECEPTION

30 It was one of the great American football plays of all time: Steelers' fullback Franco Harris caught a long pass for a game-winning, last-second touchdown.

BASKETBALL USA V. USSR OLYMPIC FINAL

31 At the Cold War peak, the all-conquering US basketball team was so shocked by the last-ditch single-point Soviet Olympic victory, the players refused their silver medals.

TENNIS BILLIE JEAN KING BEATS BOBBY RIGGS

32 Former Wimbledon champion Bobby Riggs, aged 55, claimed women were inferior and he could still beat any woman player. King took the "Battle of the Sexes" challenge and, in a live televised one-off match, won three sets to love.

HORSE RACING SECRETARIAT WINS BELMONT BY 31 LENGTHS

33 The thoroughbred won the Triple Crown by taking the Belmont Stakes and proved his dominance with a 31-length victory, which remains the fastest 1.5-mile performance ever.

BARBARIANS TRY AGAINST NEW ZEALAND

34 The greatest try ever? Playing the great All-Blacks, Gareth Edwards finished a stunning seven-man move covering the whole field with a diving touchdown in the corner

BOXING

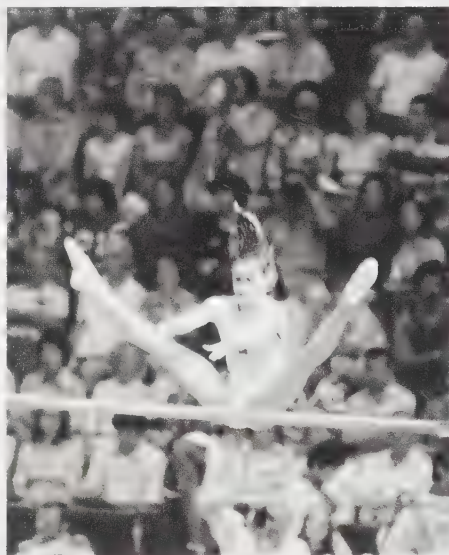
THE RUMBLE IN THE JUNGLE

35 The world heavyweight fight between Muhammad Ali and George Foreman held in the African state of Zaire was promoted as "The Rumble in the Jungle." The powerful 25-year-old Foreman was champion, and the 32-year-old Ali was trying to regain the title that had been stripped from him when he refused to join the US Army. Foreman bombarded Ali until the eighth, when Ali finally countered with a combination that floored Foreman.

GYMNASTICS 1976

NADIA COMĂNECI'S PERFECT SCORE

36 Fourteen-year-old Romanian gymnast Comăneci was the first competitor awarded a perfect ten by judges for her performance on the uneven bars. She scored six more tens in the 1976 Olympics for her flawless routines. The scoreboard could only display her score as "1.00," as a fourth digit had been deemed unnecessary because a 10.00 was thought impossible.



HORSE RACING

RED RUM WINS THIRD NATIONAL

37 Experts thought him too old to win, but the 12-year-old racehorse's third Grand National triumph is a record that still stands. Ridden by jockey Tommy Stack, he sailed to victory by 25 lengths.

AMERICAN FOOTBALL THE CATCH

42 It was the NFC Championship Game between the Dallas Cowboys and the San Francisco 49ers—a contest that represented a turning point in the fortunes of both sides. Only 51 seconds were left when under-pressure 49ers quarterback Joe Montana backpedaled, fainted, and then hurled a huge pass to the end zone, where receiver Dwight Clark ran clear to make a perfect midair catch and touchdown. The successful kick won the game for San Francisco, who went on to take the Super Bowl, too. "The Catch" is widely regarded as one of the most memorable events in NFL history.



ICE HOCKEY 1980

MIRACLE ON ICE

38 The Soviets were the world's dominant hockey team while the underdog Americans were mostly young college amateurs. The *New York Times* said Russia would win barring "a miracle." America won 4–3, so it was duly dubbed "the Miracle."

TENNIS

MCENROE V. BORG AT WIMBLEDON

39 In a sizzling "fire-versus-ice" classic Wimbledon men's singles final, the cool Swede Borg beat the volatile American McEnroe.

DURAN TELLS LEONARD "NO MAS"

40 Sugar Ray Leonard won this world title rematch bout when Roberto Duran reputedly told the referee "No mas"—no more.

HORSE RACING

BOB CHAMPION WINS NATIONAL

41 Popular jump jockey champion overcame treatment for cancer to return to racing. He won the Grand National riding chestnut gelding Aldaniti, who had similarly recovered from chronic leg injuries.

AMERICAN FOOTBALL 1981

THE PLAY

43 Stanford led the college football game 20–19 with just four seconds left, but somehow California Bears strung together five lateral passes as they ran right through the Stanford defense. The Stanford band was already in the end zone, ready to start their celebratory march when Kevin Moen received the final pass and ran through band members to a touchdown, crashing into the trombone player.

SAILING

AUSTRALIA BEATS USA IN AMERICA'S CUP

44 The New York Yacht Club had successfully defended the Cup for 132 years until *Australia II*, a new type of winged-keep yacht, skippered by John Bertrand, finally took the trophy 4–3. The dramatic 41-second margin ended the longest unbeaten run in sports.

FIGURE SKATING 1994

TORVILL & DEAN'S BOLÉRO

45 The UK figure skaters won the highest-ever Olympic scores for their routine to Ravel's *Boléro*.

SNOOKER 18.5 MILLION WATCH LAST-BALL WIN FOR TAYLOR

46 Snooker became the most popular TV show as the world final reached an amazing climax. Three-time champion Englishman Steve Davis was winning 8-0 when Northern Ireland's underdog Dennis Taylor began a stirring comeback. After a marathon 15-hour final, it all rested on the black ball. Both players missed before Taylor potted to win.



GOLF 1986 NICKLAUS WINS MASTERS

48 The 46-year-old American won a record sixth Masters title after a thrilling comeback in a final round in which five different players held the lead.

GOLF 1987 MIZE CHIPS IN FROM 140 FEET TO WIN

49 Local golfer Larry Mize beat Greg Norman in the Augusta Masters playoff, winning the title with an incredible sand-wedge chip into the hole from 140 feet (42m).

TENNIS 1991 PAT CASH CLIMBS INTO THE STANDS

50 Australian Cash beat world No. 1 Ivan Lendl in the Wimbledon final and then celebrated by clambering up the stands to where his family and coach sat.

BASEBALL 1981 KIRK GIBSON'S HOBBLING HOME RUN

51 Gibson insisted on hobbling out to bat in the World Series, despite a serious hamstring injury. He hit the match-winning home run, famously stumbling round the bases.

BOBSLED 1988 JAMAICA COMPETES AT THE WINTER OLYMPICS

52 The unlikely presence of a determined Jamaican bobsled team at the Calgary Winter Olympics inspired a successful Hollywood movie, despite them finishing last.

RUNNING 1984 BEN JOHNSON'S 100M OLYMPIC GOLD

53 The Canadian sprinter won an Olympic final with a new 100m world record but was then disqualified for failing a drug test. Other finalists were later found to be using drugs. The race was dubbed "history's dirtiest race" and marked a turning point in sports' attitude to performance-enhancing drugs.

AMERICAN FOOTBALL SAN FRANCISCO 49ERS WIN SUPER BOWL IN LAST MINUTE

54 Down 16-13 in the fourth quarter of a tense Super Bowl, the 49ers came back to beat the Cincinnati Bengals with a last-minute touchdown, thanks to star quarterback Joe Montana's pass to John Taylor.

BASKETBALL 1989 MICHAEL JORDAN'S LAST-SECOND WINNER

55 Some simply call it "the Shot." In the fifth game of a thrilling Eastern Conference series, Cleveland took a 100-99 lead with three seconds left. However, Chicago worked the ball to Jordan, who hit a shot from the foul line over a defender and into the basket just as the buzzer sounded. A classic clutch moment.

SOCCER MARADONA'S CONTROVERSIAL GOAL

47 Four years after the Falklands War between the nations, Argentina's Diego Maradona scored a famously controversial goal to help beat England 2-1 in the World Cup quarterfinals. Officials failed to spot that he illegally punched the ball into the net. He later said it was scored "by the hand of God."

SOCCER ARSENAL WINS LEAGUE IN LAST MINUTE

56 In the final match of the English football season, leaders and hot favorites Liverpool were at home to their nearest rivals Arsenal and would take the title unless the visitors won by two goals. Arsenal's Michael Thomas scored a solo last-minute goal to win the match 2-0 and take the championship.





CYCLING GREG LEMONDS WINS TOUR DE FRANCE BY EIGHT SECONDS

57 It was the closest Tour de France in history. Popular Californian LeMond was trailing French two-time former champion Laurent Fignon by 50 seconds as the final stage's time trial began. The two had been within a minute of each other for the whole race. LeMond's extraordinary burst of speed (an average 34.093mph/54.55 kph) gave him the final stage and overall Tour victory by only eight seconds.

TENNIS
MICHAEL CHANG BEATS IVAN LENDL
58 The unfancied 17-year-old Chinese American beat world No. 1 Ivan Lendl on his way to winning the French Open.

WAYNE GRETZKY SMASHES SCORING RECORD
59 Los Angeles King Gretzky broke the 1,850 NHL points scoring record—then added another goal to win the game.

AMERICAN FOOTBALL
"YOU DON'T LIVE IN CLEVELAND" SPEECH
60 Cincinnati Bengals's coach Sam Wyche stopped crowd trouble with nine words: "You don't live in Cleveland, you live in Cincinnati."

BOXING
BUSTER DOUGLAS BEATS MIKE TYSON
61 Outsider Buster Douglas was a 42-1 underdog against the undefeated world heavyweight champion Mike Tyson, but the fight was a classic. Douglas was floored in the eighth but recovered to knock Tyson down for the first time in his career. The champion famously fumbled groggily for his gum shield on the canvas before the referee counted him out.

BASKETBALL LAETTNER'S BUZZER BEATER

62 The lead changed to-and-fro in one of the greatest college basketball games ever. With only two seconds of overtime left, Duke were losing to Kentucky. But they worked one last desperate play to Christian Laettner, who dribbled, twisted, and sunk a 17-foot (5m) jump shot to beat the buzzer, winning the game and the East Regional Championship.

ATHLETICS DEREK REDMOND FINISHES WITH HIS FATHER'S HELP

63 British athlete Redmond collapsed with a pulled hamstring in a 400m Olympic race but continued hobbling in agony. His father ran to the track and helped him finish.

BASEBALL JOE CARTER'S WINNING HOME RUN

64 Toronto's Carter hit a dramatic three-run home run in the ninth inning to seal a comeback World Series victory against Philadelphia.

HIGH JUMP JAVIER SOTOMAYOR CLEARS 8 FEET

65 Cuban track-and-field athlete Sotomayor is, to date, the only high jumper to clear 8 feet (2.4m). He broke that record in 1989 and raised it by half an inch in 1993. Sotomayor has retired, but his world record still stands.

CRICKET SHANE WARNE'S FIRST "BALL OF THE CENTURY"

66 They still call it the "ball of the century." Australian spin bowler Shane Warne jogged up to bowl his first-ever ball in an Ashes test at Old Trafford against the fierce rivals England and produced an attacking, unplayable delivery. It started straight, drifted to the leg side, bounced wide but spun viciously back to clip the stumps. England batsman Mike Gatting simply stared at the pitch in disbelief before walking off, shaking his head. Australia went on to win the series 4-1.



FIGURE SKATING NANCY KERRIGAN WINS SILVER DESPITE ATTACK

67 American figure skater Kerrigan was attacked after a practice session by a stranger wielding a baton who seriously injured her knee. Incredibly, it turned out the disabling attack was planned by the ex-husband of her US skating rival, Tonya Harding. Kerrigan was too injured to compete in the US championships but was picked for the Olympic team, along with Harding. Kerrigan produced a silver-medal-winning performance. Harding was eighth.

RUGBY 1994

THE TRY FROM THE END OF THE WORLD

69 Jean-Luc Sadourny's diving finish ended a move covering the length of the field and gave visitors France victory over New Zealand.

BASEBALL 1995

CAL RIPKEN'S CONSECUTIVE GAME RUN

69 "The Iron Man" played his 2,131st consecutive game, creating a new record—and hit a home run to celebrate.

RUGBY 1995

NELSON MANDELA WEARS SOUTH AFRICA RUGBY SHIRT

70 The ultimate peace-making statesman seized the opportunity of South Africa winning the World Cup to unite his country. Rugby was previously seen as a white-only elitist sport despised by the black majority. Yet 70-year-old Mandela took to the field after the final wearing a Springbok's jersey and baseball cap to celebrate.

OLYMPICS 1996

MUHAMMAD ALI LIGHTS OLYMPIC FLAME

71 Ali had been suffering with Parkinson's disease for 12 years. When he was chosen to light the Olympic flame for the 1996 Atlanta games, his determined, if shaky, movements touched the world.

SOCCER 1996

SUB SCORES TO WIN AFRICA CUP OF NATIONS

72 Second-half substitute Mark Williams scored twice to win the Africa Cup of Nations for post-apartheid South Africa.

SOCCER 1994

STUART PEARCE'S PENALTY

73 Pearce roared with relief after scoring a vital penalty to exorcize memory of an earlier World Cup penalty miss.

GYMNASTICS 1996

KERRI STRUG'S VAULT

74 Teenage US gymnast Strug badly injured her ankle on her first attempt at the Olympic vault. The team's gold medal depended on her taking another attempt. She bravely did, collapsing in pain when landing. America won the gold.

HORSE RACING 1995

FRANKIE DETTORI WINS SEVEN RACES IN ONE DAY

75 Popular Italian jockey Dettori won all seven races on British Champions' Day at Ascot. Casual racegoers bet on the famously smiley jockey so bookmakers made huge losses, and Dettori bought the final winning horse as a family pet.



GOLF 1997

TIGER WOODS BECOMES YOUNGEST MASTERS CHAMP

76 Young Californian golfer Tiger Woods had been a very promising amateur college player and turned professional at the unusually early age of 20. Within a year he had won his first major title, the 1997 Masters. Woods beat the experienced field by 12 strokes, winning almost half a million dollars, and became the youngest-ever champion of a major tournament. He was also the first nonwhite winner. Within two months he was golf's world No. 1.



SNOOKER 1994

RONNIE O'SULLIVAN'S FASTEST 147 BREAK

77 At the world championship, Ronnie O'Sullivan made the maximum possible break of 147 points in the fastest-ever time: five minutes and 20 seconds. This equates to less than nine seconds per shot.

MOTORSPORT 1994

EARNHARDT WINS DAYTONA AT LAST

78 After 19 failed attempts at Daytona and a 59-race winless streak, popular NASCAR driver Dale Earnhardt won one of the fastest-ever 500s. All the rival pit crews ran out to congratulate him.

SOCCER

MANCHESTER UNITED COMEBACK IN LAST MINUTE

German champions Bayern Munich were cruising to a 1-0 win in the Champions League final with 90 minutes up and only three minutes of injury time to play. But United substitutes Sheringham and Solskjaer scrambled in goals from quickly taken corners to seal a sensational last-gasp turnaround.

SOCCER

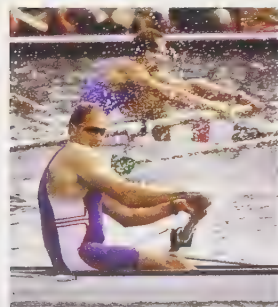
GOALIE SCORES LAST-MINUTE GOAL TO SAVE TEAM

Bottom-of-the-table Carlisle needed to win the last match of the season to stay in the league. With ten seconds left, goalie Jimmy Glass raced up to join the attackers and volleyed home a spectacular winning goal, prompting wild celebrations.

SKATEBOARD

TONY HAWK LANDS THE 900

"The Birdman" became the first to manage a 900—a 2.5-times aerial spin.



SWIMMING

IAN THORPE'S AIR GUITAR CELEBRATION

Australian swimmer "Thorpedo" celebrated winning the Olympic 4x100m final by playing air guitar to the crowd.

ROWING

STEVE REDGRAVE WINS FIFTH GOLD

Four years after promising he would never row again, Redgrave slumped over his oars with exhaustion after winning his fifth Olympic gold in consecutive games. His British coxless fours team had beaten Italy by only half a second in the final.

GOLF

TIGER WOODS WINS ALL MAJORS

In 2000 and 2001, Tiger Woods was at his peak. He entered the planet's four biggest tournaments—the Masters, PGA, US Open, and the British Open—and won them all. At the US Open in particular, Woods stormed the field, winning by a huge 15-stroke margin at 12 below par. At one point he had won six tournaments in a row. The Californian was only 24 years old. Commentators called it "the greatest year in golf ever."

TENNIS

WILDCARD IVANIŠEVIĆ WINS WIMBLEDON

Croatian tennis star Ivanišević—a runner-up in 1992, 1994, and 1998—had not qualified for Wimbledon and was ranked 125th in the world. He managed to secure a "wildcard" to allow him to enter the tournament. He battled through the rounds, sometimes helped by rain stops, and beat favorite Pat Rafter in a stormy five-set final in front of one of the noisiest-ever Wimbledon crowds. Ivanišević slumped to the turf as he became the only wildcard and the lowest-ranked player to have won Wimbledon.



SOCCER

GERMANY 1, ENGLAND 5

Michael Owen's hat trick helped England to thrash their long-standing rivals in a World Cup qualifier in Munich.

SPEED SKATING

STEVEN BRADBURY'S UNLIKELY SKATE WIN

Placed last on the final lap, Bradbury won Australia's first Winter Olympic gold after everyone else collided and fell.



RUGBY

JONNY WILKINSON'S DROP GOAL

A tense Rugby World Cup final in Sydney between Australia and England went into overtime with scores at 14 all. The scores were still tied as the game reached the last frantic minute. With only 26 seconds left, the ball fell to Wilkinson, who immediately lofted a long dropkick to score the vital cup-winning points. England won their first World Cup title 20-17.

CRICKET 2004

BRIAN LARA 400 NOT OUT

West Indies fans went wild when their captain, Lara, set a new Test Match record by scoring an imperious 400 not out against England. The Trinidadian had faced 582 balls and hit 43 fours and four sixes before declaring at a massive total of 751-5.

SOCCER 2005

LIVERPOOL WINS CHAMPIONS LEAGUE

90 At halftime in the Champions League final, six-time winners and clear favorites Milan were cruising at 3-0 against Liverpool. Liverpool's captain Steven Gerrard inspired a spirited three-goal comeback in the second half. It went to penalties, and Liverpool won.

RUNNING 2008

USAIN BOLT WINS 100M GOLD

93 At the 2008 Olympics in Beijing, the charismatic Jamaican sprinter Usain Bolt put on a show as he lined up for the 100m final. He danced around and struck his trademark "archer" pose. At the gun, Bolt seemed to win the 100m gold and break the world record with ease. He even appeared to slow down toward the tape, lowering his arms and breaking technique. In the 200m final, expectations were high, and Bolt did not disappoint. He exploded away from the rest and again broke the world record. It was the beginning of Bolt's domination of world sprinting.



SWIMMING 2008

MICHAEL PHELPS WINS EIGHT GOLDS

94 US swimmer Phelps won a record-breaking eight golds at the Beijing Olympics, including setting seven new world records. Phelps said: "I am in a dream world."

MOTORSPORT 2008

LEWIS HAMILTON BECOMES YOUNGEST-EVER F1 CHAMP

95 At 23, Hamilton became F1's youngest world champion after a dramatic last-lap overtaking move in the Brazilian Grand Prix.

CRICKET

ENGLAND WINS THE ASHES

91 Andrew Flintoff fired England to a 2-1 Ashes Series triumph against the firm favorites, Ricky Ponting's world-No. 1 side Australia.

CRICKET

SOUTH AFRICA WIN GREATEST-EVER ONE-DAY INTERNATIONAL

92 Was this the greatest one-day cricket match ever? Australia posted the record-breaking score of 434 for 4 but, with Gibbs scoring 175, South Africa managed to overhaul that massive total in a final nerve-tingling over.

TENNIS 2008

FEDERER'S 23RD CONSECUTIVE GRAND SLAM SEMI

96 Federer won the Australian Open in 2008 but even more remarkable was his semifinal appearance—his twenty-third consecutive Grand Slam semi.

CYCLING 2008

CADEL EVANS WINS TOUR & GIVES FRENCH SPEECH

97 The first Australian to win the Tour de France greeted Paris crowds with a thank-you speech in his best schoolboy French.

CYCLING

BRADLEY WIGGINS WINS TOUR & OLYMPICS

98 Wiggins "perfect year" included becoming the first Briton to win the Tour de France, winning Olympic time-trial gold, being voted BBC Sports Personality of the Year, and awarded a knighthood. During the Tour a protestor threw tacks on the road. When several rivals suffered punctures, Wiggins slowed down to let them catch up.

SOCCER 2008

AGÜERO WINS LEAGUE IN LAST MINUTE

99 Fans were in tears as nervous leaders Manchester City were losing the title-deciding game at home to lowly QPR. But injury time goals from Džeko and Agüero turned the game around, snatching the title from local rivals, United.

TENNIS 2008

ANDY MURRAY WINS WIMBLEDON

100 Scot Murray ended Britain's 77-year wait for its own Wimbledon champion with a decisive three-set victory over world No. 1 Djokovic. Murray dropped his racket and punched the air with both hands.



SOCCER 1984

PRESTON NORTH END

1 Preston's Invincibles ran away with the title in the first season of the world's first national soccer league. Helped by center-forward John Goodall's 22 goals, they finished 11 points clear and were unbeaten all season. The same year they also won the FA Cup, becoming the first club to achieve the "Double."

CROQUET 1900

FRANCE

2 Croquet has only appeared at the Olympics once—in the 1900 Paris Games, France, with all ten competitors naturally scooping all three gold medals. The event was not considered a success. Only one person turned up to watch—and he was English. Croquet was hastily dropped as an Olympic sport.

BASEBALL 1907

CHICAGO CUBS

3 The Cubs blitzed the National League 107–45 to face Ty Cobb's Detroit Tigers in the World Series. Chicago won 4–0 (with one tie), only allowing the Tigers three runs in total. Pitcher Mordecai "Three Finger" Brown's unique curve balls were due to losing two digits in a farming accident.

TENNIS 1920

USA'S DAVIS CUP TEAM

4 Is this the best-ever Davis Cup team? Certainly Big Bill Tilden and Little Bill Johnston dominated international tennis in the early 1920s. In the 1920 tournament they toured the world and didn't lose a single rubber in singles or doubles.

BASEBALL 1901

NEW YORK YANKEES

5 Considered one of the best baseball teams in history, the fearsome Yankees batting lineup of the late 1920s was nicknamed "Murderers' Row." The squad included seven future Hall of Famers. Babe Ruth hit 60 home runs and Lou Gehrig got 47, and the team won the American League and World Series.

100 WINNING TEAMS

BASEBALL 1929

PHILADELPHIA ATHLETICS

6 The As beat the Chicago Cubs 4–1 to win the World Series, thanks to a stellar squad including Lefty Grove and Al Simmons.

GAELIC FOOTBALL 1930

KERRY

7 Kerry's 1930s team was almost unbeatable. The 1932 championship win over Mayo was their fourth All-Ireland final victory in a row, and they took the crown five times in the decade.

TENNIS 1936

BRITAIN'S DAVIS CUP TEAM

8 Fred Perry and Bunny Austin led Britain to victory in a tournament featuring 32 other nations, beating France in the Paris final.

BASEBALL 1939

NEW YORK YANKEES

9 Center fielder Joe DiMaggio helped the Yankees become the first team to win the World Series four times in a row.

SOCCER 1954

HUNGARY

10 Puskás's free-flowing Hungarians created a new "modern" playing style. They were unbeaten in 32 games but lost the World Cup final.

WATERPOLO 1956

HUNGARY

11 The men's team won every game on the way to Olympic gold, including the Blood in the Water battle against USSR, which was at the time invading Hungary.

SOCCER 1958

MANCHESTER UNITED

12 After the Busby Babes were decimated by the Munich air disaster, reserves and youth players bravely completed the season, finishing ninth.

SOCCER 1960

REAL MADRID

14 Madrid had won the previous four European Cup finals when they faced Eintracht Frankfurt at Hampden Park in Glasgow, Scotland. With Puskás scoring four and Di Stéfano three, the Spaniards won 7–3 to lift a unique, fifth, successive European crown. The flair and teamwork of Madrid prompted many to call it the best club team in soccer history. The fluid Madrid style influenced a generation of coaches, including a young Alex Ferguson, who was among more than 127,000 fans at the game.

BASEBALL 1954

NEW YORK YANKEES

15 Was this the greatest team in baseball history? With stars like Whitey Ford, Yogi Berra, Roger Maris, and Mickey Mantle, Ralph Houk's Pinstripers won an American League title and then defeated Cincinnati 4–1 in the World Series.

AMERICAN FOOTBALL 1956

GREEN BAY PACKERS

16 A formidable defense, with five Hall of Famers, helped the Packers remain unbeaten at home all season and to win the NFL world championship.

RUGBY LEAGUE 1958

ST. GEORGE DRAGONS

13 In the middle of an astonishing run of 11 consecutive premierships and 12 seasons unbeaten at home, the Sydney-based Dragons enjoyed an unbeaten season in 1959. The secret was an invincible defense built around players imported from England.

SOCCER SANTOS

17 Pelé's South American champions thrashed Benfica 8-4 on aggregate to become the top international club team.

SOCCER ENGLAND

21 The host nation won its only World Cup, beating West Germany 4-2. Manager Alf Ramsey's winning team included Bobby Moore, Geoff Hurst, and brothers Jack and Bobby Charlton. The well-organized England side conceded only one goal—a penalty—en route to the final.

SOCCER TOTTENHAM HOTSPUR

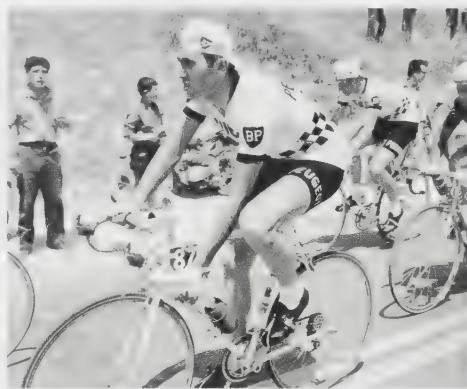
18 England's Double winners became the first British club to win a European trophy: the UEFA Cup Winners' Cup.

BASKETBALL BOSTON CELTICS

19 Ranked one of basketball's greatest-ever teams, the Celtics took the NBA championship for the seventh year in a row, boasted a winning record of 62-18 and had five Hall of Famers in their ranks.

HORSE RACING ARKLE & PAT TAAFFE

20 Irish thoroughbred Arkle and jockey Taafe dominated National Hunt racing in the mid-1960s, winning three consecutive Gold Cups.



CYCLING PEUGEOT

22 With star riders Eddy Merckx and Roger Pingeon, the Peugeot team were a major force in road bicycle racing. It won the Tour de France and the World Road Race championship in 1967. Pingeon won the Tour in 1967, followed by Merckx in 1969.

SOCCER CELTIC

23 The Lisbon Lions from Glasgow became the first British team to win the European Cup. In a bruising encounter in Portugal, attacking soccer finally triumphed over defensive style as manager Jock Stein's Scottish champions deservedly came from behind to beat Italy's Internazionale 2-1.

SOCCER BRAZIL

24 The final goal in Brazil's 4-1 World Cup final resounding victory over Italy summed up the style of one of the greatest ever international teams. The glorious move involved eight Brazilians, starting near their own penalty area, including a dribble through four Italians from Clodoaldo, a defense-splitting pass from Rivelino, and a sublime lay-off from Pelé. Captain Carlos Alberto finished with a blistering shot. Brazil won the Cup for the third time, meaning they kept the trophy forever.



BASEBALL BALTIMORE ORIOLES

25 Baltimore's finest all-round team won the World Series from Cincinnati's Big Red Machine as part of a great run of 318 victories over three seasons.

BASKETBALL HARLEM GLOBETROTTERS

26 The flamboyant basketball team combined stunning skills with theater and comedy to chalk up a 2,495-game winning run in one-off exhibition games around the world. They didn't play in any leagues, but up to 1971, the Globetrotters lost only three times in 5,983 games over 50 years.

BASKETBALL UCLA BRUINS

27 Head coach John Wooden's Bruins took their eighth championship in nine years, winning 30 games and losing none. The team won its games by an average of more than 30 points and the season was part of a record 88-game winning run for the Bruins.

SOCCER 197 AJAX

28 With star man Johan Cruyff, the Dutch club won the European Cup with their brand of "total football."

AMERICAN FOOTBALL MIAMI DOLPHINS

29 Coach Don Shula's Dolphins won their second consecutive Super Bowl and finished the previous season with an unbeaten 17-0 record.

SOCCER WEST GERMANY

30 With Paul Breitner, Sepp Maier, Franz Beckenbauer, Berti Vogts, and Gerd Müller, the '74 German team were reigning European champions and defeated the much-fancied Dutch to take the World Cup trophy, too. They even made the Euro '76 final.

SOCCER 1974

BAYERN MUNICH

31 Bayern duplicated the success of Germany's national team, winning the European Cup for the first of three consecutive years.

SOCCER 1974

NETHERLANDS

33 The influential style of "total football"—involving stars like Cruyff, Rep, and Neeskens constantly interchanging positions— took them to two World Cup finals in a row.

ICE HOCKEY USSR

35 The Soviet hockey team dominated the ice for 40 years and won their fourth consecutive Olympic Gold medal in Austria in 1976.

HURLING 1977

KILKENNY

38 During the 1970s Kilkenny was hailed as the best-ever hurling team with five provincial titles and five consecutive All-Ireland finals.

SOCCER 1980

CLOUGH & TAYLOR

42 Manager Brian Clough and sidekick Peter Taylor transformed two unfashionable teams, taking Derby to the First Division title, then Nottingham Forest to double European Cup wins. Yet both were flops when working separately.

RUGBY LIONS

32 Willie John McBride's combined nations were unbeaten in southern Africa, thanks to teamwork and meeting physical intimidation head-on, often literally.

BASEBALL

CINCINNATI REDS

34 Sparky Anderson's Big Red Machine dominated the 1975 baseball season, winning the National League West 108–54, the Championship Series 3–0, and the World Series 4–3. It was part of a four-year run of success when the Reds averaged 100 wins a season.

ICE HOCKEY

MONTREAL CANADIENS

36 The Canadiens embarked on a run that saw them win four consecutive Stanley Cups. This record-breaking season involved Le Bleu-Blanc-Rouge amassing the highest-ever points total (132) and the lowest number of defeats (eight). The records still stand.

SOCCER

LIVERPOOL

39 The Reds were the dominant club in Europe in the 1970s, winning two European Cups in succession, two UEFA Cups, and one European Super Cup. They also won four English First Division titles.



GYMNASTICS

JAPAN'S MEN'S OLYMPIC TEAM

37 The Japanese team won gold medals in parallel and horizontal bars, but it was their victory in the all-round competition that hit the headlines. One of the team of six, Shun Fujimoto, fell awkwardly in the first event, the floor exercises. He broke his kneecap. Despite wincing from the pain, Fujimoto completed his routines in the rings and pommel horse for fear of letting his team down.

HORSE RACING

CAUTHEN & AFFIRMED

40 Steve Cauthen was the youngest jockey to win the USA's Triple Crown, on thoroughbred Affirmed. He also became the first to win \$6 million in a season. Cauthen moved to the UK, becoming Champion Jockey three times.

SOCCER

ARGENTINA

41 César Menotti's Argentina won the World Cup in their own country with an exciting team that included Mario Kempes, Ossie Ardiles, and Daniel Passarella.



CRICKET

WEST INDIES

43 Clive Lloyd's West Indies were a fearsome team at their height. Employing a powerful array of fast bowlers, the touring Windies thrashed England 5–0—a home test whitewash that has never been duplicated.

TENNIS

NAVRATILOVA & SHRIVER

44 Martina Navratilova and Pam Shriver were one of the most successful women's doubles teams, winning 79 titles. In 1984 they won all four major world tournaments in a 109-match unbeaten run.

ICE HOCKEY EDMONTON OILERS

45 Wayne Gretzky's young Oilers were one of hockey's best-ever teams: the Stanley Cup winners broke their own league record by scoring 446 goals in a season.

FIGURE SKATING TORVILL & DEAN

47 The judges gave the British pair the highest figure-skating scores in Winter Olympic history after their charismatic, technically perfect performance to Ravel's *Boléro* in Sarajevo.



AMERICAN FOOTBALL CHICAGO BEARS

48 Was this the best season of all time? The almost-perfect Bears' 15-1 regular season was followed by two record-breaking play-off victories, both won without conceding a point. Coach Mike Ditka then led his team to a 46-10 Super Bowl triumph against the Patriots, a record-breaking margin at the time.

SOCCER 1984 LIVERPOOL

46 Liverpool, under new boss, Joe Fagan, were the first team to win three trophies, bagging the European Cup, League Cup, and their third First Division title in a row.

SOCCER 1991 JUVENTUS

49 The Italians ended Liverpool's domination in a European Cup final marred by the Heysel tragedy. They went on to win their domestic league for the second time in three years, conceding 17 goals in the season.

JULY 1980 EUROPE'S RYDER CUP TEAM

50 Tony Jacklin's team outplayed the Americans for their first-ever win, starting a run of three consecutive victories.

VOLLEYBALL US MEN'S TEAM

51 The US men's volleyball team dominated the 1980s. They beat the Soviets to take the world championship for the first time in 1986 and won the Olympic gold medal in 1984 and 1988.

RUGBY ALL BLACKS

52 The dominant force in international rugby, the New Zealand All Blacks won the sport's first World Cup, beating France 29-9 in the final.

AMERICAN FOOTBALL 1997 SAN FRANCISCO 49ERS

55 After crushing the rest of the National Football League West in a 14-2 regular season, the Joe Montana-inspired 49ers play-off run was even more convincing: a total score of 126-26 in their favor. The Super Bowl win involved a 55-10 demolition of the Broncos.

SOCCER NETHERLANDS

53 The Dutch finally won the trophy that they had long deserved at Euro '88 in Germany. Rinus Michels's team beat the Soviet Union 2-0 in the final, with goals by Ruud Gullit and Marco van Basten.

LACROSSE 1990 SYRACUSE

56 Many believe this was the greatest lacrosse team ever. In 1990, the stylish university team won their third consecutive championship, although the trophy was later controversially confiscated on a tiny technicality.

CRICKET AUSTRALIA

54 Allan Border captained one of the great Australian teams. The tourists beat England 4-0 to regain the Ashes.

ROWING 1990 REDGRAVE & PINSENT

57 Through the 1980s and 1990s Sir Steve Redgrave and Sir Matthew Pinsent were part of a dominant British rowing squad. As a coxless pair the duo were practically unbeatable, winning two consecutive Olympic golds and four consecutive world championships.



SOCCER AC MILAN

58 Milan's Dutch trio van Basten, Gullit, and Rijkaard helped them win their second consecutive European Cup. Other stars included world-class defenders Maldini and Baresi. With Silvio Berlusconi providing the money, and Arrigo Sacchi the management, some rate this team—the last to win back-to-back European Cups—as one of the best club teams of all time.

BASKETBALL 1991 CHICAGO BULLS

59 The Chicago Bulls won the first of three consecutive NBA titles. With the help of star player Michael "Air" Jordan, the Bulls were embarking upon a period of domination that lasted throughout the 1990s.

AMERICAN FOOTBALL 1981 WASHINGTON REDSKINS

60 Joe Gibbs's Redskins stormed the NFL, narrowly losing only two games, winning 14, and scoring 485 points. Powered by quarterback Mark Rypien, victories in the play-offs and Super Bowl followed.

SOCCER 1991 US WOMEN'S TEAM

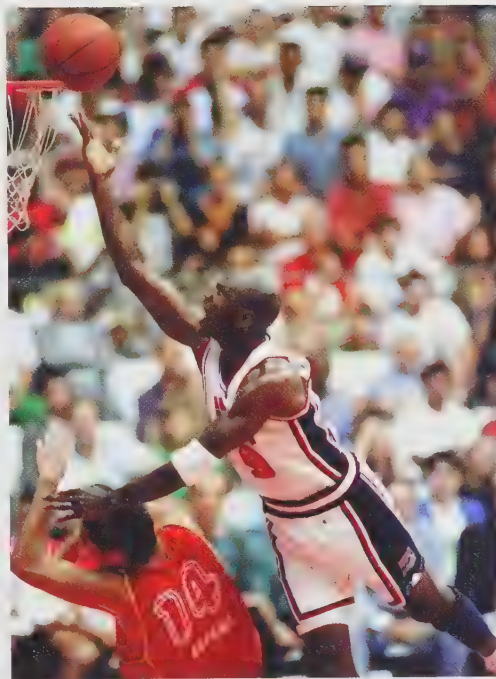
61 The US women's soccer team won the inaugural FIFA Women's World Cup in 1991 and the third in 1999.

TENNIS 1999 WOODBIDGE & WOODFORDE

70 Todd Woodbridge and Mark Woodforde—known as "the Woodies"—were one of tennis history's most successful doubles pairings. Woodbridge was the fast volleyer at the net while Woodforde was reliable at the baseline. The Australian duo won 61 tournaments, an Olympic gold medal, and 11 Grand Slam doubles titles during the 1990s. The pair also helped Australia win the Davis Cup for the first time in 1999.

BASKETBALL 1992 US MEN'S OLYMPIC TEAM

62 The Dream Team was the first Olympic squad to feature active NBA stars. With Michael Jordan, Magic Johnson, Larry Bird, Patrick Ewing, and Charles Barkley, the team waltzed through the Barcelona Olympics, winning their games by an average of 44 points. The gold medal came after beating Croatia in the final. Eleven of the 12 US team members have been inducted to the Hall of Fame. Thanks to the stars taking part, world interest in basketball soared after the tournament.



VOLEYBALL 1990 ITALY'S MEN'S TEAM

66 Italy's national team bossed men's volleyball through the 1990s, winning seven world league titles, three world championships, and the 1995 World Cup.

CYCLING 1990 MAPEI

67 This Italian road racing team was a formidable force in the 1990s. At their peak they won the Giro d'Italia, Paris-Roubaix, World Road Race championships, and Road World Cup in 1995.

BASEBALL 1996 NEW YORK YANKEES

68 After a record-breaking 114–48 American League season, the Yankees swept to a World Series title, too.

SOCCER 1992 MANCHESTER UNITED

63 The newly founded English Premier League kicked off and Alex Ferguson's Manchester United claimed their first title for 26 years.

AMERICAN FOOTBALL 1981 SAN FRANCISCO 49ERS

64 The 49ers became the first NFL team to win the Super Bowl five times.

RUGBY LEAGUE 1980 WIGAN WARRIORS

65 After winning four consecutive UK titles, Wigan beat Brisbane, becoming the world's best.

SOCCER 1998 FRANCE

69 France hosted the World Cup and beat Brazil 3–0 in the final. France's "golden generation" team featured stars such as Zidane, Vieira, Petit, Deschamps, and Desailly.

AMERICAN FOOTBALL 1997 ST. LOUIS RAMS

71 With their "greatest show on turf" offense, St. Louis Rams dominated the NFC and won their first Super Bowl.

SOCCER 1999 MANCHESTER UNITED

72 United were the first to win the treble: the Premier League, FA Cup, and UEFA Champions League.



GOLF 1999 TIGER WOODS & STEVE WILLIAMS

Woods hired New Zealander Williams as his caddy in 1999, starting a 13-year relationship. Tiger won titles while his caddy defended him from overzealous fans.

SOCCER BRAZIL

A 2-0 win over Germany in the final sealed Brazil's record-breaking fifth World Cup win. Captain Cafu made a unique third consecutive appearance in World Cup finals and striker Ronaldo won the Golden Boot.

CRICKET AUSTRALIA

Ricky Ponting's team completed their domination of world cricket by winning every game in the World Cup to lift the trophy, and winning two test series against England and the West Indies. Stars included Adam Gilchrist and Shane Warne.

RUGBY ENGLAND

English rugby's greatest moment: Jonny Wilkinson's extra time drop goal defeated host Australia and allowed a powerful and determined England to become the first Northern Hemisphere team to win rugby's World Cup.

RUGBY AUSTRALIA

After having to qualify for the tournament, Australia won the Rugby World Cup, becoming the first team to win it twice.

VOLLEYBALL 2000 CUBA'S WOMEN'S TEAM

Cuba's women's team broke the USSR and Japan's domination of their sport by winning the world championship a staggering eight times during the 1990s. Their finale was taking the Olympic gold in 2000—for the third Games in a row.

BASKETBALL 2001 LA LAKERS

Shaquille O'Neal and Kobe Bryant's Lakers dominated the play-offs with the highest winning percentage of all time, winning their second championship final in a row.



SOFTBALL US WOMEN'S OLYMPIC TEAM

It was one of the most overwhelming runs by any team in any sport. When the US women's national softball team won the Olympic gold medal in Athens by beating Australia 5-1, they were partially disappointed—because that was the first time in nine games that an opponent had managed to score a run against them. It was also the women's third consecutive Olympic gold medal. The US women have had a commanding position within the sport of softball in modern times, including enjoying a staggering 185-match unbeaten run from 2005 to 2008.

SOCCER ARSENAL

Arsène Wenger's Invincibles uniquely played the whole English Premiership season without losing a game. The title-winning team was built on an impregnable defense featuring Sol Campbell and Ashley Cole, combative midfield with Patrick Vieira and Freddie Ljungberg, and strikers Thierry Henry and Dennis Bergkamp.

MOTORSPORT SCHUMACHER & BRAWN

Schumacher won his fifth consecutive Formula One title in 2004, but behind the German driver was a Ferrari team led by technical director Ross Brawn. The British mechanic-turned-race-strategist had previously helped Schumacher win two titles with Benetton and later formed his own winning team.

SOCCER CHELSEA

The team that won their second consecutive Premiership was the most efficient British team in history, according to a Royal Statistical Society study.

SOCCER BARCELONA

This flamboyant team won the Spanish League, Super Cup, and European Cup, thanks to stars like Ronaldinho.

CRICKET AUSTRALIA

Ponting's Australia reached their world-dominating peak, thrashing England 5-0 in the Ashes and winning the World ICC Trophy.

BADMINTON ROBERTSON & EMMS

British pair Nathan Robertson and Gail Emms dominated mixed doubles badminton, winning the European, World, and Commonwealth titles in the 2000s.

BEACH VOLLEYBALL 2008
MAY-TREANOR & WALSH

87 In their 108th win in a row, US duo Misty May-Treanor and Kerri Walsh became the first beach volleyball team to win consecutive Olympic golds.

BASKETBALL 2009
CONNECTICUT HUSKIES

88 The UConn women's team enjoyed the longest winning streak in college basketball: 90 games. They were champions five seasons in a row.

SOCCER 2010
SPAIN

89 With its unrivaled passing game, Spain dominated world soccer during this period and won the World Cup, two years after winning the European crown.

SOCCER
BARCELONA

90 The Champions League-winning club team formed the heart of Spain's national team with the added brilliance of Argentina's Lionel Messi. Manager Pep Guardiola's "tiki-taka" style of maintaining possession and flexible positioning made Barca the world's best club.

SOCCER 2011
JAPAN'S WOMEN'S TEAM

91 The highly organized Japanese women's team won the Women's World Cup by beating USA in the final, becoming the first Asian team to win any major FIFA tournament. The Nadeshiko women also won the Asian Cup in 2014 for the first time and finished second in the 2015 World Cup.

CRICKET 2011
ENGLAND

92 Long-suffering England cricket fans were finally rewarded when Andrew Strauss led the team in a year of triumph that included winning the Ashes, beating Australia 3-1 away, and beating Sri Lanka and India in both test series and one-day internationals.

SEPAK TAKRAW 2011
THAILAND

93 Popular Southeast Asian sport, likened to "soccer volleyball," held its first world championship with 36 countries. Thailand won both men's and women's titles.

BASKETBALL
DALLAS MAVERICKS

94 A quarter of a million fans lined the Dallas streets to celebrate after the Mavericks came back to beat favorites Miami Heat and take their first NBA Championship.



SOCCER
REAL MADRID

99 Carlo Ancelotti's Los Merengues won the Spanish league and Champions League. Madrid edged ahead of rivals Barcelona as Iberian soccer continued to lead the world. Madrid's expensive lineup of superstars included Ronaldo, Benzema, Di María, Modrić, and Bale. Real also won the Club World Cup, European Super Cup, and the Copa del Rey. Soccer statisticians rated Madrid's overall performance for the year as the best club team in the world . . . ever.

POLO 2011
ARGENTINA

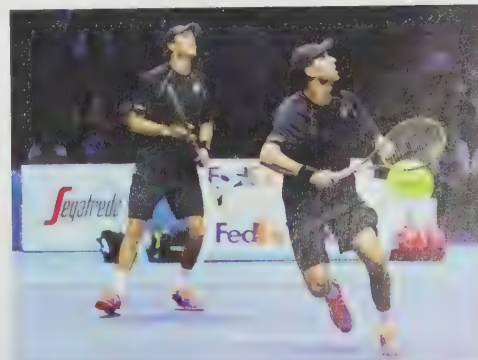
95 By winning their fourth FIP World Polo championship, Argentina's men's national team emphasized its domination of the sport. The country has by far the most professional players and enthusiastic fans. Matches are broadcast live on TV.

OLYMPICS 2012
TEAM GB

97 With 65 medals, the British team exceeded expectations in the London Olympics, finishing an impressive third in the medal rankings. Britain excelled in cycling, equestrian, triathlon, boxing, and rowing.

TENNIS
BOB & MIKE BRYAN

100 America's identical Bryan twins are the most successful tennis duo of all time. At the time of writing the brothers had been rated world number one doubles team for more than eight years. Right-handed Mike and left-handed Bob complement each other for perfect court coverage.



SOCCER
CHELSEA

96 After seven months in charge, caretaker manager Roberto Di Matteo led the Blues to win both the Champions League and the FA Cup.

ICE HOCKEY
CANADA'S WOMEN'S OLYMPIC TEAM

98 The dominant nation in women's ice hockey, Canada won its fourth Olympic gold in a row. Three team members became the first athletes to win four Olympic ice hockey gold medals.



SOCCER 1885

ARBROATH 36 BON ACCORD 0

1 Arbroath's record-breaking demolition of Bon Accord in the Scottish Cup first round could have been worse. The referee disallowed seven goals for offside.

CRICKET

SIDE GIVES AWAY 286 RUNS FROM ONE BALL

2 In Bunbury, Australia, a Victoria batsman smashed his first ball into a tree and amassed 286 runs while fielders tried to chop it down.

RUNNING

DORANDO PIETRI'S MARATHON FLOP

3 Italian runner Pietri finished first in the London Olympic marathon but was disqualified as marshals helped him up when he collapsed on the last lap.

BASEBALL

ALLAN TRAVERS STEPS IN AS HOPELESS PITCHER

4 In his first major league appearance, pitcher Travers gave up 26 hits, 24 runs, seven walks, and one strikeout. He didn't appear again.

CYCLING

EUGÈNE CHRISTOPHE MENDS BIKE & BLOWS TOUR

5 Christophe carried his broken bike 9 miles (14km) to a forge to repair it, but marshals penalized him because a boy pumped the bellows.

100 SPORTING DISASTERS

AMERICAN FOOTBALL 1911

CUMBERLAND BULLDOGS' LOSS

6 Georgia Tech avenged a defeat earlier that year by running up a record-breaking 222-0 score against the hapless Bulldogs.

BASEBALL 1919

RED SOX SELL BABE RUTH

7 Boston Red Sox sold baseball star Ruth to the New York Yankees for \$25,000. Ruth became the greatest slugger ever, and the Sox suffered the "Curse of the Bambino"—an 86-year failure to win a World Series.

BASEBALL

WHITE SOX THROW WORLD SERIES

8 Chicago lost the 1919 World Series to the Cincinnati Reds after eight of their disgruntled players arranged to throw the game in return for payoffs from gamblers. The signal to throw the game came when pitcher Eddie Cicotte delivered a throw that struck a Cincinnati hitter on the back. The Series was littered with White Sox poor performances. Later, the fix was exposed and the eight players were banned for life. Chicago didn't win a World Series until 2005.

TENNIS 1927

BILL TILDEN'S WIMBLEDON SEMIFINAL COLLAPSE

10 US star and favorite "Big" Bill Tilden was two sets up and winning the third 5-1 when Frenchman Henri Cochet suddenly turned the game around and went on to win.

BOXING

JACK DEMPSEY GOES TO WRONG CORNER

9 Popular heavyweight Jack Dempsey floored the champion with a flurry of punches in round seven. Gene Tunney looked beaten. But Dempsey retired to the wrong corner as the referee started the count. Referee Dave Barry had to stop counting and usher Dempsey into a neutral corner. This prolonged the count to around 13 seconds—giving Tunney time to recover, get up, and win.

BOXING 1934

BOXER EATS TOO MUCH TO FIGHT

11 Thomas Hamilton-Brown went on an eating binge to ease his disappointment after losing his Olympic first-round bout. By the time judges discovered a scoring error and reversed the verdict, he was too heavy to join the next round.

AMERICAN FOOTBALL

MANAGER GOADS RIVAL TEAM AND THEN LOSES 73-0

12 The Washington Redskins owner called the Chicago Bears "crybabies" and "quitters" before their championship game. The enraged Bears beat the Redskins by a record margin.

ICE HOCKEY 1944

DETROIT BLOW STANLEY CUP LEAD

13 The Detroit Red Wings were winning 3-0 in the best-of-seven Stanley Cup final when Toronto won the fourth 4-3. It inspired the Maple Leafs to win the remaining games for a record-breaking turnaround.



HORSE RACING

DEVON LOCH JUMPS NONEXISTENT FENCE

15 Devon Loch was heading for victory in the UK's top jump race, the Grand National. The favorite had fallen and only nine other horses were left. Just 40 yards (37m) from the winning post, however, the Queen Mother's horse mysteriously jumped in the air and landed on its belly, allowing the rest of the field to pass.

BASEBALL 1964

PHILADELPHIA PHOLD

19 The "Phold" was one of baseball's most memorable collapses ever. The Phillies had led the National League for the whole season. World Series press previews already featured Philadelphia's stadium on the cover. They had a six-and-a-half game lead with 12 to play—but suddenly, in a fortnight, they lost ten in a row, handing the pennant to the St. Louis Cardinals.

SOCCER 1954

HUNGARY ENDS WINNING STREAK... AT WORLD CUP FINAL

14 Hungary was undefeated for four years and beat West Germany 8-3 in the World Cup group stages. They met again in the final, and Hungary was two up after eight minutes but lost the game, and cup, 3-2.

SOCCER 1951

CHARLTON 7 HUDDERSFIELD 6

16 Huddersfield were 5-1 up at ten-man Charlton with just 27 minutes left—but still somehow lost the English Second Division game 7-6.

RUNNING

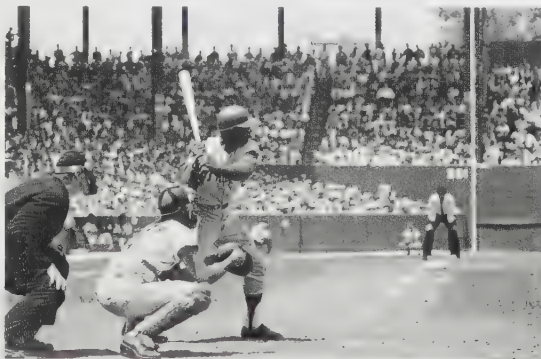
WIM ESAJAS SLEEPS THROUGH OLYMPIC RACE

17 Esajas was the first-ever Olympic qualifier from the South American country Suriname but was given the wrong race time and slept through it.

AMERICAN FOOTBALL 1944

JIM MARSHALL RUNS THE WRONG WAY

18 Disoriented college player Jim Marshall grabbed a loose ball and sprinted 66 yards (60m) to the touchdown zone at the wrong end of the field.



SOCCER 1984

GARY SPRAKE THROWS INTO HIS OWN NET

20 Playing against Liverpool, Leeds's goalkeeper tried to throw the ball to a nearby defender but mistakenly swept it backward into his own net.

GOLF 1964

ROBERTO DE VICENZO'S SCORECARD MISTAKE DASHES MASTERS

21 Argentine golfer Vincenzo entered a mistaken scorecard at the end of his round, accidentally adding a stroke and dashing his chance of tying the Masters.

RUNNING 1972

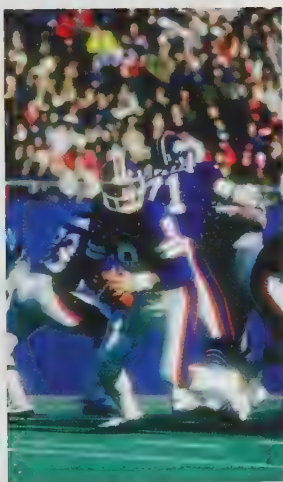
EDDIE HART & RAY ROBINSON MISS THEIR OLYMPIC RACE

22 US sprint hopefuls easily won their Olympic heats but mistook the time and missed the quarterfinals.

ROWING 1978

CAMBRIDGE SINK

23 The 124th annual boat race between Oxford and Cambridge on the river Thames ended on the last bend when Cambridge turned into the headwind and sank. Bad weather had made the water choppy and Cambridge's boat had no splashboards.



AMERICAN FOOTBALL 1995 MIRACLE AT THE MEADOWLANDS

24 There were just 20 seconds remaining on the clock. The Giants were leading 17-12 and needed to run out the last seconds for a great surprise win. But somehow they fumbled a pass, and Eagles cornerback Herman Edwards picked up the football and ran 26 yards (24m) for a winning score.

MOTORSPORT 1995 ELISEO SALAZAR TAKES OUT NELSON PIQUET

25 F1 driver Salazar accidentally crashed into his friend, race leader Piquet, pushing him off the track and knocking him out of the German Grand Prix.

SOCCER 1991 EL SALVADOR MAKE THE WORLD CUP FINALS... AND LOSE 10-1

26 Central America's smallest country El Salvador qualified for the World Cup finals in Spain but lost their first game by a record margin, 10-1 to Hungary.

GOLF 1981 HALE IRWIN MISSES PUTT

27 It was a simple one-inch tap in. Irwin casually approached the ball, which was almost hanging over the hole, knowing it would give him a play-off opportunity to win the British Open. But he tried to backhand the putt into the hole, scuffed the turf, and his putter bounced in the air and then missed the ball completely. Irwin went on to lose by a shot.

RUNNING 1984 BUDD/DECKER 3,000M FINAL

28 Controversial South African barefoot runner Zola Budd collided with local hero Mary Decker, knocking her out of the Olympic 3,000-m final. The US crowd booed 18-year-old Budd, who finished a distraught seventh.

BASKETBALL 1982 PORTLAND DECLINE MICHAEL JORDAN

29 In the NBA annual draft of the best college players, Portland Trail Blazers declined Jordan. Instead of the future Hall of Famer, Portland chose injury-prone Sam Bowie, who is 7 feet 1 inch (2.2m) tall, as they wanted a bigger man.

TENNIS 1983 JOHN MCENROE SCREAMS AT CAMERAMAN

30 The volatile US player had not lost a game all year. He played newcomer Ivan Lendl in the French Open final and quickly won the first two sets. But in the third set McEnroe lost his temper, walked over, and screamed into a cameraman's headset. The crowd took Lendl's side and helped him come back to win.



MOTORSPORT 1988 NIGEL MANSELL'S BLOWOUT

31 Mansell was leading the World F1 Championship with one race left. He only needed to finish third to take the title, but 18 laps from the end his tire exploded at 180 miles per hour (290kph), and he finished with nothing.

BASEBALL 1986 BILL BUCKNER'S ERROR

31 It was Game 6 in the World Series, and the Mets's Mookie Wilson hit a slow ball to Boston's Bill Buckner at first base, but it slipped through his hands and into right field, allowing New York to score the winning run.

ICE HOCKEY 1987 STEVE SMITH'S DECIDING OWN GOAL

32 Canadian hockey star Smith was playing for the Oilers in Game 7 of the division final against their biggest rivals Calgary. The score was tied 2-2 when Smith tried to hit a clearance but blasted it into his own goal via his goaltender instead.

SKI JUMPING 1988 EDDIE THE EAGLE'S SPECTACLES MIST UP

34 Bespectacled Briton Eddie Edwards became a hero as a brave and determined underdog. The part-time plasterer was the UK's first competitor at Olympic ski jumping, funding himself. His glasses steamed up in the snow, making him blind during jumping. He came in last in every event, but his popularity only grew.

SWIMMING

MATT BIONDI MISJUDGES DISTANCE TO FINISH

35 US swimming star Biondi misjudged his distance in the Olympic 100-m butterfly final. After his last stroke he hadn't touched the wall and glided along while a rival beat him to the finish.



BASEBALL

EARTHQUAKE STALLS WORLD SERIES

36 The crowd was waiting for fierce local rivals Oakland Athletics and San Francisco Giants to start Game 3 of the World Series, dubbed "the Battle of the Bay." Less than 30 minutes before the scheduled start, a 6.9-magnitude earthquake struck both Oakland and San Francisco. It damaged the stadium, caused a power outage, and postponed the game for ten days. Oakland finally won the Series 4-0.

AMERICAN FOOTBALL

LEON LETT FUMBLES ON ICE

41 Dallas were celebrating as they had possession with 15 seconds left. But Lett slipped on the icy pitch, handing possession to the Dolphins, who scored a match-winning field goal.

AMERICAN FOOTBALL

OILERS LOSE BIGGEST-EVER LEAD

42 Houston Oilers were 35-3 up at Buffalo, and home fans were leaving. But they missed an extraordinary lapse, as the Bills fought back to win 41-38.

SOCCER

FRANCE'S WORLD CUP QUALIFYING DISASTER

43 France needed a draw at home to qualify for the World Cup but contrived to lose to Bulgaria by giving the ball away in injury time.

SOCCER

LEE DIXON LOBS HIS KEEPER FROM 35 YARDS

37 English champions Arsenal were renowned for their watertight defense, which made this memorable goal all the more unlikely. A few minutes into Arsenal's home game against Coventry, fullback Dixon decided to give his goalkeeper, David Seaman, an early touch of the ball and lobbed it back to him from 35 yards (32m) out. But Dixon hadn't noticed Seaman was off his line and the ball sailed over his head and into the goal.

RUGBY

GAVIN HASTINGS MISSES PENALTY

38 The scores were tied as Scottish star Hastings was heavily tackled against England in the World Cup semifinal. He received treatment as the referee awarded a penalty right in front of the posts. Scotland would probably make the Cup Final if he scored—but Hastings's injured leg gave way, and he skewed the kick wide.



DECATHLON

DAN O'BRIEN NEEDS TO CLEAR ANY HEIGHT BUT FAILS

39 O'Brien, the world's top-rated decathlete, failed to qualify for the Olympics after a disaster at the US trials. O'Brien was leading and only needed to clear any height in the pole vault. He chose to jump at a relatively undemanding 15 feet 9 inches (4.8m) but failed three times, scored nil, and finished twelfth.



AMERICAN FOOTBALL

LEON LETT SLOWS BEFORE TOUCHDOWN

40 Dallas Cowboys defender Letts made an impressive run toward the goal line. Confident in his imminent touchdown, he slowed to see himself on the giant TV screen, allowing a Bills player to catch up and knock the ball from his hand.

BASKETBALL

MICHIGAN'S FALSE TIME-OUT

44 Michigan's Chris Webber called for a time-out when his team had none remaining, scoring a technical foul for opponents North Carolina. Carolina won and Webber cried.

CRICKET

SURREY COLLAPSE TO LANCASHIRE

45 The one-day cup game saw Lancashire bat first and score 236. Surrey were cruising at 212 for 1 with time to spare when suddenly they collapsed to 230 all out.

SNOKER 1999

JIMMY WHITE FLUFFS FINAL BLACK

46 At the end of the deciding frame, White missed a simple black, handing Stephen Hendry the world title.

SOCCER 1996

DIEGO MARADONA'S DRUG FUELED CELEBRATIONS

47 Maradona's hysterical goal World Cup celebration raised suspicion, and he failed a drug test.

RUGBY LEAGUE 1995

NOTTINGHAM CITY O BARROW 138

48 Barrow's thrashing of Nottingham is rugby league's highest-ever victory margin. Eleven of Barrow's 13 players scored tries.

SOCCER 1997

DIANA ROSS'S WORLD CUP PENALTY

49 Motown singer Ross ceremonially launched the World Cup, singing "I'm Coming Up." The finale was supposed to be her burying a penalty kick, but she scuffed the shot hopelessly wide, and the makeshift goal promptly collapsed.

SOCCER 1994

BARBADOS 4 GRENADA 2

50 Barbados required a two-goal victory to make the Caribbean Cup finals. With five minutes left, it was only 2-1, so Barbados deliberately scored an own goal to force extra time, hoping to give themselves longer to score the goals required. Meanwhile, Grenada realized a single-goal victory would eliminate Barbados, so tried to score an own goal too. This forced Barbados to defend both goals. Somehow they succeeded and won in overtime.



SOCCER 1995

ERIC CANTONA'S KUNG-FU KICK

51 Manchester United's talismanic but temperamental French striker Cantona was sent off for a bad foul in an away match at Crystal Palace. As he left the field, a home fan ran down 11 rows of stairs to shout abuse at the player. Cantona responded by launching a flying kung-fu kick into the crowd, followed by a flurry of punches. Cantona was arrested and served 120 hours of community service, as well as an eight-month ban from soccer.

SOCCER 1998

ALI DIA PRETENDS TO BE AN AFRICAN STAR

52 Senegalese Dia was signed by Southampton claiming to be an international striker—he wasn't. Dia appeared as a Premier League substitute but was so bad he was substituted too.

GOLF 1996

GREG NORMAN CHOKES ON LAST HOLE

53 Erratic Australian Norman was six shots up on the final day of the Masters but somehow lost his lead to Nick Faldo. The two players embraced emotionally at the eighteenth green.

SOCCER 1996

NEWCASTLE LET 12-POINT LEAD SLIP

54 By January, Kevin Keegan's exciting attacking Newcastle team had a 12-point lead at the top of the Premier League with just 15 games to go. But after a home defeat to the more worldly wise Manchester United, Newcastle slipped into a dreadful run of results, were overtaken by Alex Ferguson's side, which won the title by four points, and Newcastle finished second.

RUNNING 1996

ABDUL BASER WASIQI FINISHES AT CLOSING CEREMONY

55 The only Afghan competitor at the Olympics, 20-year-old Wasiqi pulled a hamstring before his marathon race, the last event of the games. He was determined to compete nevertheless and limped the whole 26-mile (42km) course. He reached the empty stadium an hour and a half after the second-to-last competitor with the slowest-ever Olympic marathon time.

AMERICAN FOOTBALL 1987

GUS FREROTTE HEAD-BUTTS A WALL

56 Washington Redskins's quarterback Frerotte was delighted to score a touchdown against the New York Giants. He ran through the end zone to celebrate, charged up to the padded wall at the end of the pitch, and gave it a hefty head-butt with his helmet. Frerotte was visibly hurt by the impact and tried to tear off his helmet. He missed the second half and had to be taken to the hospital for treatment on a sprained neck, later leaving wearing a neck brace.



BOXING MIKE TYSON BITES OFF RIVAL'S EAR

57 Self-styled Mr. Nasty of heavyweight boxing, Tyson bit off part of Evander Holyfield's ear in a clinch. The piece of ear fell onto the table in front of the ringside judges. The ear was sewn back on; Tyson was disqualified.

GOLF JOHN DALY HITS 18 FOR ONE HOLE

58 Daly's 18 strokes for the par-5 sixth hole at Bay Hill is the worst single-hole score in PGA history and included six shots into the water.

SOCCER JAMIE POLLOCK'S OWN GOAL

59 Manchester City's Pollock cleverly flicked the ball over an attacker and then headed it over his own keeper, scoring a spectacular own goal that relegated his team.

GOLF JEAN VAN DE VELDE MESSES UP OPEN ON LAST HOLE

60 The French underdog needed a double bogey 6 on the final hole to take the Open title but shot 7, including bouncing off the grandstand railings.

CRICKET HERSCHELLE GIBBS CELEBRATES BUT DROPS BALL

61 South Africa's Gibbs caught Australia's Steve Waugh, only to drop the ball as he tried to throw it up in celebration. Australia went to the World Cup final.

BOXING DES SOWDEN KNOCKED OUT WITH FIRST PUNCH

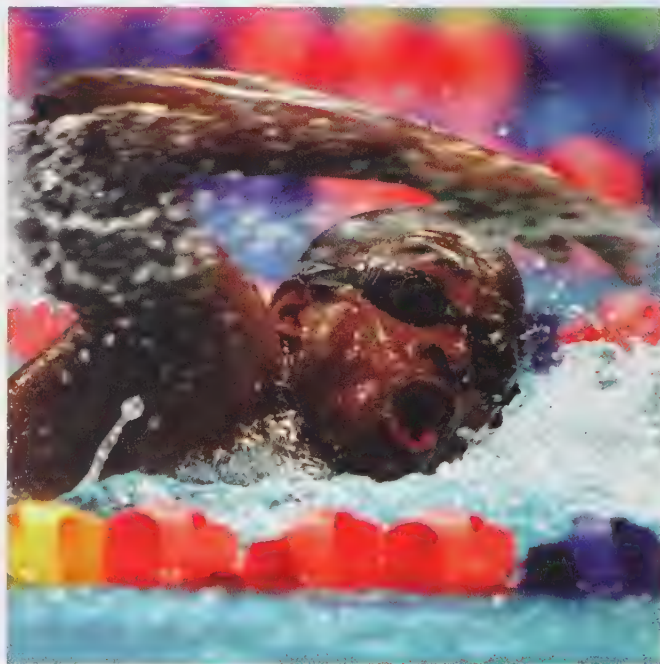
62 This British welterweight fight ended with the first punch as Welsh fireman Russell "Ducky" Rees floored the hapless Sowden after only four seconds.

CANOEING PAUL RATCLIFFE CAPSIZES BEFORE FINISH LINE

63 Ratcliffe was feet away from winning Britain's first-ever Olympic canoeing gold medal when he capsized. Nevertheless, Ratcliffe righted himself just in time to take the silver medal.

SWIMMING ERIC MOUSSAMBANI'S SLOWEST-EVER SWIM

64 The young student from Equatorial Guinea, nicknamed "Eric the Eel," had only learned to swim eight months previously, had never seen a 160-foot-long (50m) Olympic-size pool or swum a 100-m race. After everyone else was disqualified, officials insisted Moussambani swim his 100-m freestyle heat alone. Despite the crowd's roaring support, he just made the distance without drowning. His winning time was the slowest in Olympic history ... but a personal best.



SOCCER AMERICAN SAMOA FLOP 31-0

65 American Samoa went to Australia for a World Cup qualifier with a makeshift team due to passport problems. Some had never played a full 90-minute game before, and they had the worst-ever international defeat.

SOCCER SOUTHAMPTON LOSES THREE-GOAL LEAD TO TRANMERE

66 In this FA Cup last-32 tie, Premiership Southampton were winning 3-0 at halftime against the poorest team in the league below, but a hat trick by 36-year-old Paul Rideout inspired Tranmere to a 4-3 win.

SOCCER MADAGASCAN TEAM SCORE 149 OWN GOALS

67 Stade Olympique de L'Emyrne players were incensed by refereeing decisions going against them in the four-team play-off for their national title. As a protest, instead of trying to win their next game, the defending champions deliberately scored in their own net. They racked up 149 own goals against AS Adema, who won the championship.

SPEED SKATING 1,000M SPEED SKATING OLYMPIC FINAL

68 The 1,000-m speed skating final at the Salt Lake City Olympic Games opened with a strong start from America's Apolo Anton Ohno, who forged ahead of his rivals. However, an overambitious overtaking maneuver by China's Lia Jiajun on the last curve caused a collision that brought down four of the five finalists. Australian Steven Bradbury, who was 49 feet (15m) behind everyone with 164 feet (50m) to go, cruised on to win gold.



SOCCER 2001 ASTON VILLA CONCEDES THROW-IN OWN GOAL

69 Keeper Peter Enckelman missed his kick and allowed a back-pass throw-in to bounce into his net.

BASEBALL FAN RUINS MATCH-WINNING CATCH

70 A Chicago Cubs outfielder missed a vital catch when a fan tried to grab the ball too. The Cubs lost.

SOCCER TOTTENHAM 3 MANCHESTER CITY (TEN MEN) 4

71 Tottenham were leading 3-0 at halftime in the FA Cup's fourth round. City's Joey Barton had been sent off as the players left the field at the interval. Victory looked assured, but somehow, ten-man City, with one win in their last 18 games, found a miracle in the second half: scoring four goals—including a winner in stoppage time.

BASKETBALL MALICE AT THE PALACE NBA BRAWL

72 In the last minute of the tense Detroit Pistons v. Indiana Pacers game at the Palace of Auburn Hills, a minor foul sparked a brawl between players. One was hit by a plastic cup of Diet Coke thrown from the crowd, and ran into the stand, starting a second fight between spectators and players.

SOCCER ZINEDINE ZIDANE'S HEAD-BUTT

73 The French captain would retire after the World Cup final against Italy. First, he scored a disputed penalty after a Marco Materazzi foul. Then Materazzi equalized. Later the two players exchanged words and, bizarrely, Zidane suddenly head-butted Materazzi in the chest, knocking him over, and souring his finale with a disastrous sending off. Italy won on penalties.



GOLF PHIL MICKELSON HITS BALL INTO TRASH CAN

76 Mickelson's form collapsed as he targeted his third Major in a row. His US Open shots hit the hospitality tent roof, a tree, and worst of all, landed in a trash can on the eighteenth.

SOCCER 2000 CHRIS BRASS'S OWN GOAL

74 York City defender Brass tried to hook the ball clear but volleyed it into his own face so hard, it rebounded past his keeper for an own goal.

ICE HOCKEY NICLAS WALLIN PASSES, NOT REALIZING GOALIE ISN'T THERE

75 Wallin scored an own goal with a long-range back pass to a nonexistent keeper.

AMERICAN FOOTBALL GOLDEN GOPHERS BLOW 38-7 LEAD

77 Minnesota Gophers dramatically blew a 38-7 lead in the final 20 minutes of the Insight Bowl. The record-breaking comeback by Texas Tech Raiders was the biggest in a series of second half collapses by the Gophers, and coach Glen Mason was fired soon after.

SNOWBOARDING 2006 LINDSEY JACOBELLIS'S SHOWBOATING BLUNDER

78 US snowboarder Jacobellis was the clear leader in the Winter Olympic final. She confidently tried showing off on the final jump by grabbing her board acrobatically but failed, crashed, and lost the gold medal.

ICE HOCKEY

PATRICK STEFAN FALLS OVER WITH OPEN GOAL

79 Stefan faced an open goal in the last minute to seal victory but slipped, fell, and gave the ball away. Edmonton raced down the other end and scored with two seconds remaining, forcing overtime.

BASKETBALL

JULIAN WRIGHT DROPS BALL ON DUNK

80 Kansas's Wright ran and jumped for a spectacular slam dunk on a breakaway against Colorado but dropped the ball as he leaped and stumbled in humiliation to the floor under the basket.

MOTORSPORT

LEWIS HAMILTON BLOWS 17-POINT LEAD IN TWO RACES

81 Hamilton was 17 points clear in the World F1 Championship with two races left. In the first he skidded into a gravel trap; in the second he slid into the run-off area.

RUGBY

ALL BLACKS BLOW 13-0 LEAD IN WORLD CUP

82 Favorites New Zealand rested some stars for the World Cup quarterfinal and raced into a big lead at halftime. But in the second half they collapsed as France seized the initiative and won 20-18.

SOCCER

FABIÁN ESPÍNDOLA BREAKS LEG CELEBRATING NON-GOAL

83 Fabián Espíndola thought he'd scored with a header in a MLS game against David Beckham's star-studded LA Galaxy. He celebrated with a spectacular running backflip but landed badly and broke his leg—unaware that meanwhile the goal was disallowed for offside.



MOTORSPORT

FELIPE MASSA DRIVES FROM PITS WITH FUEL LINE

84 F1 race leader Massa stopped for a refuel, but someone in his Ferrari pit crew pressed the release light too soon. Massa pulled away with the fuel hose in his tank, dragging it down the pit lane, and injuring the crew. Massa eventually rejoined the race in last place and finished 13th, losing crucial world championship points.

AMERICAN FOOTBALL

DETROIT LIONS' IMPERFECT SEASON

85 The Lions were celebrating their seventy-fifth anniversary but suffered one of the worst seasons by any team in any sport. The NFL team lost all their 16 games, conceding 517 points.

AMERICAN FOOTBALL

DESEAN JACKSON'S TOUCHDOWN BEFORE THE LINE

86 Jackson of the Washington Redskins raced to score his first touchdown but casually flipped the ball down prematurely at the one-yard line. He celebrated in the end zone, but the score was disallowed.

SOCCER

ADRIÁN BASTÍA SENT OFF FOR TRIPPING PITCH INVADER

87 Bastía was playing in the Greek Super League for Asteras Tripolis against Panathinaikos. He helped gain a draw by scoring and then assisted ground stewards by tripping a pitch invader. The referee disapproved and sent him off.



SOCCER PAUL ROBINSON'S AIR-KICK

88 England lost a Euro qualifier in Croatia after Gary Neville passed back to goalkeeper Robinson, who swung his foot wildly at the ball, missed completely, and watched it trickle into the net. As Croatia celebrated, Robinson stared down at the uneven grass that had made the ball bobble over his foot.

AMERICAN FOOTBALL 2008

PLAXICO BURRESS ACCIDENTALLY SHOOTS HIMSELF

89 New York Giants's wide receiver Burress took his pistol to a New York nightclub in the pocket of his jeans. When he reached down into his pocket to rearrange the gun, he accidentally pulled the trigger and shot himself in the thigh.

SOCCER 1997

DARREN BENT'S BEACH BALL GOAL

90 Liverpool fans threw a red beach ball on the pitch, but a Sunderland shot hit it. The confused Liverpool goalkeeper tried to save the red ball, while the real one deflected into the net.

BASKETBALL 1998

NIKE MISSPELLS KENTUCKY ON UNIFORM

91 Star John Wall appeared for a photoshoot in the team's new Nike uniform with the team name spelled "Kentucky." Luckily, the error was spotted in time.

SKATING 1980

SPEED SKATER IN WRONG LANE

92 Dutch skater Sven Kramer started celebrating what he thought was his Olympic gold victory before hearing he'd been disqualified for skating in the wrong lane.

MOTORSPORT 2011

J. R. HILDEBRAND LEADER CRASHES JUST BEFORE FINISH LINE

93 Rookie US racing driver Hildebrand was leading the Indianapolis 500 by four seconds on the last turn when he slipped off the racing line and crashed into the track wall. He wasn't hurt, but it allowed Dan Weldon to pass him and take the race.



GOLF 1997

US TEAM BLOW IT ON LAST DAY OF RYDER CUP

94 The US team was cruising toward victory on the final day. They led 10-6 and only needed to score 4.5 points of the 12 points on offer to win. But the Europeans produced their biggest-ever comeback, winning eight of the day's games and drawing one to win 14.5-13.5.

MOTORSPORT

ITALIAN RIDER MISCOUNTS LAPS

95 Bike racer Riccardo Russo stood up on his pedals and pumped his fist into the air in celebration of his championship win, but he was a lap too early. The Italian rider had miscounted the number of laps, and as he celebrated, rival bikes roared past, leaving him to finish fourteenth.

ROWING

HAMADOU DJIBO ISSAKA LOSES BY HUGE MARGIN

96 Issaka, a 35-year-old gardener from the landlocked nation of Niger, took up rowing three months before the Olympics and trained in an old fishing boat. He finished last but received a rapturous ovation.

YACHTING

NEW ZEALAND LOSE AMERICA'S CUP BY 44 SECONDS

97 New Zealand were winning 8-1 in the first-to-nine series but allowed the United States to claw their way back from almost certain defeat, winning the final race by just 44 seconds and the Cup.

ICE HOCKEY

GOALIE LETS IN GOAL WHILE CHATTING TO FANS

98 Utah goaltender Keegan McHenry chatted to fans in the corner during a face-off. He realized the game was back on too late. Despite a despairing dive, Denver won with a long shot into the empty net.



SOCCER 1982

WORLD CHAMPIONS SPAIN THRASHED 5-1

99 World champions Spain took an early lead in this first-round game through a dubious penalty. They were seeking a fourth consecutive international trophy. But the Dutch scored five goals in the second half to humiliate the favorites.

SOCCER

BRAZIL 1 GERMANY 7

100 The home crowd expected a tense World Cup semifinal. Both teams were unbeaten and previous multiple winners of the trophy. But Brazil collapsed from the kickoff and were 5-0 down by halftime leaving their passionate fans in tears.



CYCLING WORLD CHAMPIONSHIP 100KM

1 Long-distance races on the fashionable new bicycles were all the rage. The pioneering international professionals met in Cologne, Germany, to compete in the first 100km Open Professional World Championships. The winner was the diminutive 18-year-old Welsh cycling star Jimmy Michael, who finished in a time of 2 hours, 24 minutes, and 58 seconds—3 miles (4.8km) ahead of a Belgian—to become Britain's first world champion.

CYCLING TOUR DE FRANCE

2 The first Tour de France was a promotional idea in a cycling magazine war. *L'Auto* sponsored a six-stage 1,509-mile (2,428km) race, won by Frenchman Maurice Garin. It was so successful that *L'Auto's* circulation increased more than sixfold, and rival magazine *Le Vélo* went out of business.

CYCLING OLYMPIC MEN'S 660-YARD SPRINT

3 In the 1908 London Olympics, cyclists raced on a special cycling track constructed outside the running track at White City Stadium in London. After 16 heats and four semifinals, Britain's Victor Johnson beat three other riders on a single lap of the track to take gold in 51.2 seconds.

RUNNING OLYMPIC MEN'S 5,000M

4 Stockholm hosted the first-ever 5,000m Olympic race, with 31 runners from 11 countries. Hannes Kolehmainen from Finland and Frenchman Jean Bouin led for the whole race. Kolehmainen ran on the outside of Bouin, at his right shoulder, throughout the entire race, with the Finn breaking away in the last few meters to win the gold and smash the world record by 23 seconds.

100 GREAT RACES

POWERBOATING BOAT V. TRAIN

5 US entrepreneur Gar Wood raced the Havana Special train 1,250 miles (2,010km) from Miami to New York in his *Gar Jr.* powerboat. Wood won by 12 minutes.

RUNNING 1928

NEW YORK CITY TO LOS ANGELES

6 The first Trans-America Foot Race from Los Angeles to New York was a big media event and attracted a field of 199 runners. The 84-day race was held to celebrate the opening of the Route 66 highway. The distance of 3,423 miles (5,508km) took just over 573 hours. Oklahoma Cherokee Andy Payne was the first to arrive at the finish line at Madison Square Garden. He had averaged 6 miles per hour (7kph) for the whole race. Payne won the prize of \$25,000, which he used to pay off the mortgage on his father's farm.

AIR RACING SCHNEIDER TROPHY

7 Half a million spectators watched Supermarine seaplane pilot John Boothman win the twelfth Schneider race, claiming the trophy outright for three-time winners Britain.

ROWING 1936 OLYMPIC MEN'S EIGHTS

8 An underdog US team of working-class students beat elite Nazi rowers by one second in front of Adolf Hitler in Berlin.

HORSE RACING GOLD CUP

10 Irish thoroughbred Golden Miller won his fifth successive Cheltenham Gold Cup—an unmatched feat.

HORSE RACING AGUA CALIENTE HANDICAP

9 Popular thoroughbred Phar Lap from Australia was shipped to compete in North America's richest race, Mexico's \$100,000 Agua Caliente. Despite a huge handicap, Phar Lap won in record time.

HORSE RACING MATCH OF THE CENTURY

11 The undersize, knock-kneed bay Seabiscuit became a symbol of hope for the underdog during the Great Depression. After a headline-grabbing run of victories, Seabiscuit met his uncle, War Admiral, the US Horse of the Year and 4-1 favorite in the head-to-head race. Around 40 million listened on the radio as Seabiscuit overtook War Admiral to win by four lengths.

CYCLING TOUR DE FRANCE

12 Italian teammates Fausto Coppi and Gino Bartali helped each other to stage victories. Then Coppi waited when Bartali fell, but their team leader sent him ahead to win the race.

RUNNING 1948 OLYMPIC MEN'S MARATHON

17 Czech Emil Zátopek won 5,000m and 10,000m golds. At the last moment he entered his first marathon and won.

RUNNING 1948 EMPIRE GAMES MILE

14 The first two sub-four-minute-mile runners met. Australian world-record holder John Landy was 10 yards (9m) ahead on the last lap, but Briton Roger Bannister won with a final sprint.

FORMULA ONE 1957 GERMAN GRAND PRIX

17 Argentine Juan Fangio's Maserati raced into a clear lead, but a chaotic pit stop left him back in third, almost a minute behind Mike Hawthorn's Ferrari. Fangio broke the lap record nine times clawing his way back, overtaking Hawthorn with two wheels on the grass. The win is one of the greatest-ever motor races and gave Fangio his fifth World F1 Championship.



RUNNING OLYMPIC MEN'S MARATHON

15 Unfit Emil Zátopek defended his title. His friend French-Algerian Alain Mimoun ran his first marathon and won. He waited to tell Zátopek, who rewarded him with a salute, which Mimoun said was "better than the medal."

RUNNING OLYMPIC MEN'S 10,000M

14 Russian Vladimir Kuts and Briton Gordon Pirie dominated the race, and Kuts won.

HORSE RACING KENTUCKY DERBY

10 Champion jockey Bill Shoemaker was leading the 1957 Kentucky Derby on Gallant Man. At the last post Shoemaker thought he had already won the race and stood up in his stirrups to celebrate, slowing his mount. But he was a few seconds too early and misjudged the finish line. His mistake allowed the chasing Bill Hartack on Iron Liege to overtake him and win the race by a nose. It is often called the greatest blunder in racing history.

CYCLING 1964 OLYMPIC MEN'S INDIVIDUAL ROAD RACE

21 The Tokyo Olympic individual 195km road race was held in heavy rain, which slowed down the peloton and left the riders grouped together throughout. The course failed to separate riders, and the race was so close that the first 99 riders crossed the line in one solid group, separated by a few fractions of a second. The gold medal was eventually given to Italy's Mario Zanin, who won by 0.02 seconds.



FORMULA ONE MEXICAN GRAND PRIX

22 In the final race of the season three drivers had a chance of the title. Jim Clark, Graham Hill, and John Surtees all led at different times, but Surtees won after his teammate Lorenzo Bandini let him pass.

CYCLING TOUR DE FRANCE

19 Charly Gaul won a Tour in which a record 11 different riders wore the yellow jersey.

HORSE RACING GRAND STEEPLE-CHASE DE PARIS

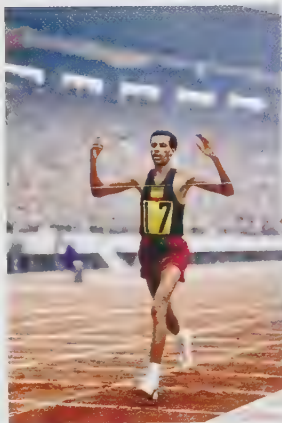
20 British jockey Fred Winter won the richest and most prestigious French jumps race on Mandarin, despite breaking the horse's bit early on, leaving him with little control over steering.

RUNNING OLYMPIC WOMEN'S 800M

23 British sprinter Ann Packer entered an unfamiliar event, was trailing for much of the race but won with a devastating fast finish in world-record time.

HORSE RACING CHELTENHAM GOLD CUP

24 Millions watched the meeting between the previous year's winner, Mill House, and the upcoming Arkle. Pat Taaffe's popular Irish mount overtook Mill House with one to jump and went on to win by five lengths. Arkle returned to win the next two Gold Cups too.



RUNNING 1964 OLYMPIC MEN'S MARATHON

25 Recovering from an appendix operation 40 days before, Ethiopian Abebe Bikila surprised everyone by entering the marathon. He won by more than four minutes in record time and then entertained crowds with stretching exercises.

CYCLING 1961 WORLD CHAMPIONSHIP ROAD RACE

26 Tom Simpson became the first Briton to be crowned world cycling champion, beating his friend German Rudi Altig by three bike lengths in a final sprint to the line.

HORSE RACING 1961 GRAND NATIONAL

27 The entire field fell or collided at the twenty-third fence, leaving the trailing 100-1 outsider Foinavon to win.

MOTORBIKES 1967 ISLE OF MAN TT

28 Mike Hailwood's and Giacomo Agostini's tense neck-and-neck title duel on Man's mountain course ended with a record-breaking win for Hailwood.

SKIING 1968 OLYMPIC MEN'S DOWNHILL

29 The event was so close that French skiing superstar and defending champion Jean-Claude Killy won the gold medal by just 0.08 seconds.

CYCLING TOUR DE FRANCE

30 The young Eddy Merckx achieved a unique whitewash: he won the general overall race by 18 minutes and won the mountain class and the points class, and his team won the combination class.

MOTORSPORT 24 HOURS OF DAYTONA

31 Accidents and breakdowns removed all the big-team favorites, allowing Roger Penske's Lola, driven by Mark Donohue and Chuck Parsons, to win by 30 laps.

RUNNING OLYMPIC MEN'S 10,000M

32 Munich's 10,000m Olympic final featured an extraordinary comeback by Finland's Lasse Virén. He collided with another runner, falling off the track but recovering to catch the leaders. Virén overtook them all, winning with a new world record.

HORSE RACING GRAND NATIONAL

33 Red Rum trailed to Crisp by 15 lengths at the final fence but sprinted home to win by three-quarters of a length in a breathtaking finish. Red Rum went on to win two subsequent Grand Nationals.

HORSE RACING KING GEORGE VI & QUEEN ELIZABETH STAKES

34 Pat Eddery on Grundy was favorite for this prestigious annual flat race at Ascot, UK. But rival Bustino's stablemates set a fierce pace to wear down the favorite early. Finally, Joe Mercer's Bustino took the lead himself. Mercer was four lengths clear and entering the home straight when Grundy made his charge. Eddery caught Mercer and, in a final sprint, the lead switched to and fro. At the line, Grundy won, breaking the race record by almost 2.5 seconds. Both horses seemed exhausted, and Bustino never raced again.





NASCAR 1976 DAYTONA 500

35 Was this NASCAR's greatest finish ever? Richard Petty was leading on the last lap when David Pearson passed him. The cars collided and span onto the grass. Petty span way ahead of Pearson just a few yards from the finish but could not restart. Pearson kept his engine running and managed to struggle over the line to win.

SKIING 1976
OLYMPIC MEN'S DOWNHILL
36 Franz Klammer's 64 miles per hour (103kph) run beat the world and Olympic champions.

HORSE RACING
BELMONT STAKES
37 Affirmed beat Alydar by a head to take the Triple Crown.

SWIMMING OLYMPIC 100M FREESTYLE

43 US teammates Nancy Hogshead and Carrie Steinseifer were neck and neck as they approached the finish. Commentators were unable to tell who had touched first and the crowd hushed as they awaited the judges' verdict. Then it was announced: "A tie for first place." Both women hugged each other as for the first time, a swimming gold medal was awarded to both competitors, and there was no silver medalist.



FORMULA ONE FRENCH GRAND PRIX

70 The battle for second was a mesmerizing duel of overtaking, wheel-touching driving between Gilles Villeneuve and René Arnoux. Villeneuve triumphed.

RUNNING OLYMPIC MEN'S 800M

40 Two British rivals came face-to-face. Both had broken world records but had avoided racing each other. In the Olympic 800m final, Steve Ovett won, with Sebastian Coe second. In the 1,500m, Coe won and Ovett was third.

RUNNING COMMONWEALTH GAMES MEN'S MARATHON

41 Australian Robert de Castella won after overhauling two Tanzanians who led by hundreds of yards.

MOTORSPORT DAYTONA 500

72 Richard Petty's win was eclipsed by the spectacle of two competing drivers running each other off the track, jumping from their cars, and trading blows.



MOTORBIKES 1983 SWEDISH GRAND PRIX

42 Freddie Spencer and Kenny Roberts were neck and neck in the championship entering the last race. On the penultimate corner of the last lap, Spencer tried to pass on the inside. Both veered off the track, but Spencer recovered first to win.

NASCAR TALLADEGA 500

44 Dale Earnhardt won after the lead changed 68 times during a race of accidents and mechanical failures.

CYCLING TOUR DE FRANCE

45 US cyclist Greg LeMond became the first non-European winner after a battle with French teammate Bernard Hinault.

HURDLES 1987
WORLD CHAMPIONSHIP
MEN'S 400M

46 Ed Moses won his 122nd consecutive race in a photo finish against Danny Harris and Harald Schmid.

CANOEING 1988
OLYMPIC MEN'S 1,000M KAYAK SINGLES

47 After an exciting sprint finish, Australian kayaker Grant Davies and US kayaker Greg Barton seemed to have tied for the gold medal. But the scoreboard gave it to Davies, and Australian fans began celebrating. Then the finishing photos were examined, and the gold was awarded to Barton by just 0.005 seconds.

CYCLING
GIRO D'ITALIA

48 The fourteenth stage was one of cycling's most memorable. The Gavia Pass in the Alps was hit by a dramatic snowstorm in which US cyclist Andy Hampsten built up a winning lead.

CYCLING 1989
TOUR DE FRANCE

49 It was the closest-ever Tour. As they began the last stage, France's Laurent Fignon was leading America's Greg LeMond by less than a minute after 2,000 miles (3,218km) of cycling. Then LeMond rode one of the fastest-ever Tour stages to snatch the title by eight seconds.

HORSE RACING
BREEDERS' CUP DISTAFF

50 It was a heartbreaking finale to the \$1 million race. The filly Go For Wand was holding off Bayakoa in the final yards of the race when she collapsed with a shattered right foreleg. She bravely rose and tried to continue but crumpled again. She was destroyed by injection while handlers, rivals, and fans wept openly.

RUNNING
OLYMPIC
WOMEN'S
100M

51 The women's Olympic sprint finish ended with five runners apparently crossing the line together. After studying photos, the judges placed hot favorite Merlene Ottey of Jamaica fifth. US outsider Gail Devers took gold by 0.01 seconds.



INDYCAR
INDY 500

52 Ten former winners entered, but after a race punctuated by mechanical failures and crashes, outsider Al Unser Jr. won, beating Scott Goodyear to the flag by 0.043 seconds, Indy's closest-ever winning margin.

FORMULA ONE
HUNGARIAN GRAND PRIX

53 Nigel Mansell needed one more win to clinch the championship. Dogged by mechanical problems, he was sixth with 16 laps left but worked through the field to finish second, which was enough to take the title.

FORMULA ONE 1992
MONACO GRAND PRIX

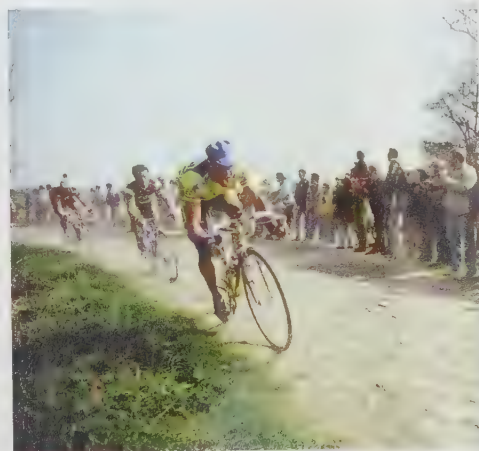
54 Brazilian Ayrton Senna beat Briton Nigel Mansell after an exciting close-fought battle through the streets of Monaco.

FORMULA ONE
EUROPEAN
GRAND PRIX

55 In one of his greatest performances, Ayrton Senna won after passing four rivals in one lap during heavy rain, taking a shortcut through the pit lane to set the fastest lap, and lapping the entire field except one.

CYCLING 1996
PARIS-ROUBAIX

56 The Italian Mapei team dominated the race and had three riders at the front approaching the finish. Spectators and TV audiences could hear the trio arguing about who would be allowed to win, including arguments with the following team car. The team boss chose Belgian Johan Museeuw to win, with his two Italian colleagues second and third.



CYCLING HOUR RECORD

57 Who could cover the greatest distance in one hour? British rider Chris Boardman tackled the challenge with the high-tech Lotus 108 bike and an unusual "Superman" riding position with both arms stretched out in front and his back as flat as possible. He broke the record with a distance of just over 35 miles (56km).



FORMULA ONE SPANISH GRAND PRIX

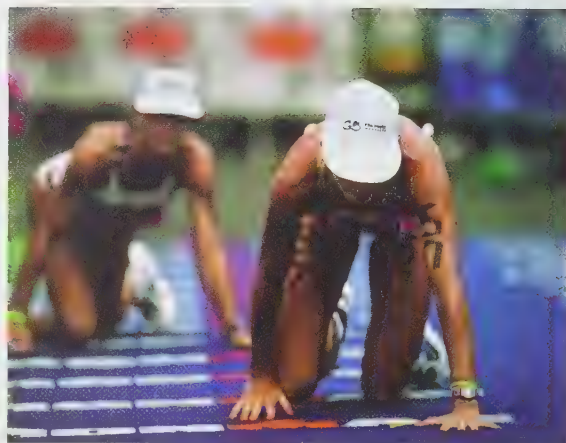
58 Michael Schumacher's first victory in a Ferrari was a brilliant display of driving despite heavy rain on the Barcelona Circuit.

RUNNING LONDON MARATHON

63 Local hero Paula Radcliffe stormed to victory, finishing with a sprint. She smashed her own women's marathon world record by almost two minutes. No other woman has come close to breaking it. Her physiotherapist said: "She went to Mars and beyond."

RUNNING WOMEN'S IRONMAN TRIATHLON WORLD CHAMPIONSHIP

59 Although battling for a seemingly unimportant fourth place, after more than 140 miles (225km), exhausted Sian Welch and Wendy Ingraham staggered toward the finish. Both ended up crawling. Ingraham made the line first and turned to help Welch.



RUNNING ADELAIDE 24-HOUR RACE

60 Greek ultrarunner Yiannis Kouros ran the equivalent of seven consecutive marathons in his 188-mile (303km) feat to break the record by 17 miles (27km).

RALLYING RALLY PORTUGAL

61 Colin McRae's Subaru managed to pip Carlos Sainz's Toyota by 2.1 seconds after racing across 236 miles (380km). It was the closest-winning margin in World Rally Championship history.

FORMULA 1 HUNGARIAN GRAND PRIX

62 Ferrari's team and fans went wild as Michael Schumacher drove a virtuoso race to catch and overtake the McLarens of Mika Häkkinen and David Coulthard.

SKIING OLYMPIC MEN'S GIANT SLALOM

67 Hermann "the Herminator" Maier narrowly beat his biggest rival and fellow Austrian Stephan Eberharter to the Winter Olympic gold.

RUNNING OLYMPIC MEN'S 10,000M

64 Ethiopian Olympic champion Haile Gebrselassie hung on to his title in a scintillating finish, beating race leader Kenyan Paul Tergat with a dramatic final sprint. The winning margin was only 0.09 seconds.



NASCAR DARLINGTON

66 In one of NASCAR's closest-ever checkered flags, Ricky Craven beat Kurt Busch in a side-touching-side finish. His winning margin? Just 0.002 seconds.

ROWING THE BOAT RACE

67 It was the closest finish in the 150-year history of the university rowing race. The lead changed repeatedly over the 4-mile (7km) River Thames course before the Oxford boat beat Cambridge by 12 inches (30cm).

HORSE RACING BREEDERS' CUP

88 High Chaparral and American Johar produced an exhilarating finish to the Breeders' Cup Turf. The colts hit the finishing line together and could not be separated. A dead heat was declared for the first time.

FORMULA ONE SUZUKA GRAND PRIX

71 McLaren's Kimi Raikkonen started at seventeenth on the grid but worked through the field to overtake Renault's race leader Giancarlo Fisichella on the last lap to win.

MOTORBIKES SPANISH GRAND PRIX

72 Italian Valentino Rossi overtook Spain's Sete Gibernau on the last corner. Rossi barged past, the bikes touched, and the Spaniard veered off the track.

SWIMMING OLYMPIC MEN'S 4X100M FREESTYLE RELAY

76 Michael Phelps gave the US team a great start, but they had fallen behind by the third leg. France had a clear lead and world-record holder Alain Bernard was swimming their last leg. Somehow, Californian Jason Lezak overhauled the French lead of a body's-length to finish first and win gold, thanks to the fastest ever-leg in the event.

RUNNING OLYMPIC MEN'S 5,000M

89 The race was dominated by two running stars: Morocco's experienced champion Hicham El Guerrouj and Ethiopia's newcomer Kenenisa Bekele. The youngster led in the final straight, but El Guerrouj recovered to win in the final stride by 0.2 seconds.

MOTORBIKES SPEEDWAY WORLD CUP HEAT 19

70 The lead changed repeatedly, and riders burst from last to first in a classic speedway race. Poland's Marcin Rempala beat Britain's Gary Havelock to the tape.

MOTORBIKES PORTUGUESE GRAND PRIX

73 One of the most dramatic MotoGP races reached a climax in a last-lap showdown between Kenny Roberts, Valentino Rossi, and Toni Elías. Rossi needed to win to keep his title hopes alive, and championship leader Nicky Hayden crashed out in lap five. The lead changed several times in the final lap, but Elías just edged Rossi by 0.002 seconds.

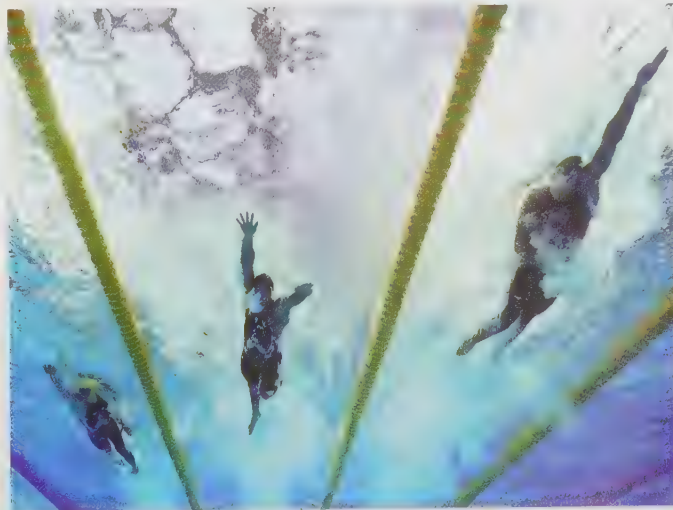
DRAG RACING NHRA FINALS

74 In the final race of the season, Tony Schumacher came back from apparent defeat to clinch his third consecutive title by winning and setting a new speed record. The victory is known by fans simply as "the Run."



SAILING FASTNET RACE

75 The race had a record 300 entrants, but two-thirds dropped out during the event, which was held despite gale-force winds. Notwithstanding the conditions, Mike Slade's ICAP Leopard 3 broke the Fastnet record by almost nine hours.



SWIMMING OLYMPIC MEN'S 100M BUTTERFLY

77 Serbia's Milorad Čavić said it would be better for sport if America's Michael Phelps lost. Phelps had his revenge, beating Čavić by 0.01 seconds.

CYCLING OLYMPIC MEN'S INDIVIDUAL SPRINT

78 Chris Hoy beat Jason Kenny in an all-British final.

CYCLING TOUR DE FRANCE

79 Popular German rider Jens Voigt crashed on a mountain stage, destroying his bike. He was covered in cuts and bruises but was determined to finish the stage. The broom wagon was offering to pick him up as a race dropout, but instead he managed to borrow a bright-yellow child's bike equipped with old-fashioned toe clips. It was many sizes too small, but he rode it for just over 9 miles (15km) and finished 30 minutes behind the leaders.

HORSE RACING DUBAI WORLD CUP

80 After the \$10 million race's close finish, jockey Kevin Shea punched the air in celebration, but judges awarded it to a 16-1 outsider instead. Winner Tiago Pereira said: "The other jockey started celebrating so I kept quiet and waited for the photo."



SKIING 2010 OLYMPIC MEN'S DOWNHILL

81 This was the closest finish in the history of the event. Only 0.09 seconds separated gold medalist Didier Défago from Bode Miller in third place.

RALLYING JORDAN RALLY

82 Finland's Jari-Matti Latvala was leading going into the final stage, but France's Sébastien Ogier closed the gap and won by just 0.2 seconds.



CYCLING OLYMPIC MEN'S KEIRIN

83 Britain's Chris Hoy seemed to be boxed in at a critical stage in the race but broke free and powered ahead to win on the line in front of a partisan home crowd. Hoy, the defending champion and the British team's flag bearer at the opening ceremony for the London games, broke into tears on the medal podium. It was his sixth gold medal, making him the most successful British Olympian of all time.

RUNNING 2012 OLYMPIC MEN'S 10,000M

84 The British crowd celebrated as home favorite Mo Farah dominated the race and became the first Briton to win the event. After the race his seven-year-old daughter ran onto the track to congratulate him.

RUNNING OLYMPIC MEN'S 4X100M RELAY

85 Sprint champion Usain Bolt was slightly behind when he grabbed the baton for the last leg. But Bolt overhauled the US sprinters to win the gold for his Jamaican team and smash the world record, too.

YACHTING VOLVO OCEAN RACE

86 Thousands of miles of ocean racing came down to a difference of minutes between four boats. "This is my dream," said winning skipper Franck Cammas.

RUNNING OLYMPIC WOMEN'S TRIATHLON

87 Sweden's Lisa Nordén and Switzerland's Nicola Spirig crossed the finish line running side by side. The sprint finish was the most exciting ever, and the two women's times were identical. Judges studied photographs and finally gave the gold to Spirig.

HORSE RACING GRAND NATIONAL

88 It was the closest-ever finish. After a frantic final sprint, the gray Neptune Collonges ridden by Daryl Jacob overtook Sunnyhillboy to win by a nose.

ROWING THE BOAT RACE

89 After a protester swam in front of the boats and the crews clashed oars, Cambridge won by more than four lengths.

RUNNING 2012

PARALYMPIC MEN'S 200M T42

90 Double-amputee Richard Whitehead had a terrible start and slipped. The field raced away from him. But suddenly, he got in his stride, powering through the field to win gold and set a world record.

ROWING 2012

OLYMPIC WOMEN'S LIGHTWEIGHT DOUBLE SKULLS

91 The home crowd went wild as British outsiders Katherine Copeland and Sophie Hosking defied the odds to take gold.

ADVENTURE BIKING

DAKAR RALLY

92 Throughout 43 hours of racing, KTM biking teammates Cyril Despres and Marc Coma were separated by just minutes. The lead changed repeatedly until Frenchman Despres finally took his fourth title.

YACHTING

AMERICA'S CUP

93 Helmsman Jimmy Spithill of Team USA's *Oracle* was ridiculed when his boat was losing 1-8 to New Zealand and he said they would still win. But after an amazing comeback, he steered *Oracle* to victory in the last race by 44 seconds.



AIR RACING

ROVINJ RED BULL AIR RACE

94 The second round of the annual high-speed race championship, held in Croatia, was the most exciting so far, with the leading five pilots separated by only a second. Eventually, Austrian Hannes Arch won.



RUNNING

WORLD CHAMPIONSHIP WOMEN'S 400M

94 Jamaican Natasha Hastings, Francena McCorory from America, and defending champion Amantle Montsho from Botswana were well ahead of Britain's Ohuruogu coming out of the final turn. But the London athlete put in a devastating spurt as the rest seemed to be going backward. She appeared to have matched Montsho by the time they reached the line together. Both runners posted identical times, but after studying photos, judges gave the gold to Ohuruogu, who dipped across the line to win by 0.004 seconds.

MOTOR RACING

FIRESTONE INDY

95 After 100 miles (160km) of racing, four cars crossed the line side by side and were only separable by photographs.

CAMEL RACING

CAMEL CUP

96 Thousands cheered as first-time cameleer Hannah Purss won Australia's Camel Cup final race.

CYCLING

PARIS-ROUBAIX

97 Dutch track specialist Niki Terpstra was hanging on to the back of the leading peloton of 11 riders but made a brave move with less than 4 miles (6km) left of this 160-mile (257km) race. He raced to the front while the race favorites hesitated, and the tactic paid off as he went on to claim his first major title by 20 seconds.

FORMULA ONE

BAHRAIN GRAND PRIX

98 One of the most thrilling Grand Prix races saw drivers battling for positions all over the track and ended with a ten-lap battle for first place. Lewis Hamilton just managed to hold off Mercedes teammate Nico Rosberg, who had faster tires.

RUNNING

WORLD CHAMPIONSHIP MEN'S 100M

100 It was a showdown between current two-time Jamaican world champion Usain Bolt and US sprinter Justin Gatlin, who went to the final on a 28-race unbeaten run. Bolt, written off by many commentators, led from the start and held off Gatlin's late charge to win by 0.01 seconds.





HUNGARY V. ENGLAND FERENC PUSKÁS

1 Modern soccer finally reached Wembley. The best goal in Hungary's 6-3 win came when Puskás sidestepped England captain Billy Wright to smash home.

BLACKPOOL V. BOLTON WANDERERS BILL PERRY

2 At 3-3, in the last minute of the greatest-ever FA Cup final, Stanley Matthews crossed for Perry to shoot Blackpool's winner from 12 yards out.

WEST GERMANY V. HUNGARY HELMUT RAHN

3 Rahn's left-foot shot was the World Cup final winner, completing West Germany's comeback from two goals down against the favorites and sparked a belated revival in national morale after World War II.

BRAZIL V. WALES 1958 PELÉ

4 Wales's World Cup final debut ended when a then-unknown 17-year-old with his back to the goal flicked the ball over a defender, turned, and volleyed home.

BRAZIL V. SWEDEN PELÉ

5 For Brazil's third goal in their World Cup final victory, Pelé received the ball on his chest near the penalty spot, turned his marker, chipped the next defender, and shot into the bottom corner of the net.

REAL MADRID V. EINTRACHT FRANKFURT ALFREDO DI STÉFANO

6 Madrid's midfielder scored a hat trick in their 7-3 victory. For his third, Di Stéfano ghosted past defenders and hit the bottom corner from 25 yards.

100 GREAT GOALS

BRAZIL V. BULGARIA GARRINCHA

7 Brazil's Garrincha scored one of the goals of the year's World Cup finals with a swerving free kick hit ferociously into the top corner with the outside of his right foot.

ENGLAND V. MEXICO 1966 BOBBY CHARLTON

8 The England midfielder received the ball in his own half and then ran at the heart of the retreating Mexican defense before hitting an unstoppable cannonball shot from 30 yards. The quality of Charlton's strike got England's World Cup campaign going after a goalless first game against Uruguay.

ENGLAND V. WEST GERMANY GEOFF HURST

9 "They think it's all over... It is now." The immortal commentary and World Cup final drama have overshadowed what was a superb counterattacking goal. Hurst's match-winning hat trick was sealed in overtime when he collected Bobby Moore's long pass and ran into the box to hit a thunderous shot.

TOTTENHAM HOTSPUR V. MANCHESTER UNITED PAT JENNINGS

10 The big moment in this Charity Shield game (the annual season opener between the League Champions and the FA Cup winners) came when Spurs' goalkeeper punted the ball upfield and it bounced over his opposite number's head and into the United goal.

BRAZIL V. ITALY CARLOS ALBERTO

11 This iconic World Cup final move involving eight Brazilians began at the edge of their own area. Defender Clodoaldo dribbled around four Italians before Rivelino split the defense with a pass for Jairzinho on the left wing. His center found Pelé, who seemed to hesitate for a second, but was, in fact, merely waiting for support to arrive. When it came he nonchalantly rolled the ball to his right, into the path of fullback Carlos Alberto, racing up to join the attack. The Brazilian captain met the ball at full speed with a flying first-time strike that tore into the far corner of the net to seal a 4-1 victory and Brazil's third triumph in four tournaments.

COVENTRY CITY V. EVERTON ERNIE HUNT

12 Coventry's Scottish midfielder Willie Carr masterminded this uniquely inventive free kick by gripping the ball between his heels and flicking it up behind him, where Hunt was waiting to smash a volley into the top right-hand corner. The disgruntled Everton manager called it "something out of a circus," and the move was subsequently banned by soccer's authorities. But the fans' verdict was clear: they voted the cleverly worked set piece England's first-ever official Goal of the Season.



BULGARIA V. PERU DINKO DERMENDZHIEV

13 An elaborate free kick, repeatedly rehearsed in training, worked perfectly in this World Cup group match. For Bulgaria's slick set piece, two attackers ran at the ball. One played the ball short to another teammate while the other attacker, Dermendzhiev, kept running and took the return pass behind the defensive wall before flicking the ball over the keeper.

HEREFORD UNITED V NEWCASTLE UNITED RONNIE RADFORD

15 A long-range screamer gave nonleague Hereford a famous FA Cup victory over top-flight opponents.

BRAZIL V. EAST GERMANY RIVELINO

16 At a free kick during this World Cup second-round game, the Brazilian Jairzinho took up a position in the middle of the East German defensive wall. From the edge of the "D," Rivelino smashed the ball straight at his teammate. Jairzinho dived out of its way, and it flew through the gap thus created straight into the East German net. Final score: 1-0.

BRAZIL V. POLAND ROBERTO DINAMITE

17 Brazil hit the post twice and the bar once before Roberto (real surname de Oliveira) found the net.

ARSENAL V. TOTTENHAM HOTSPUR LIAM BRADY

18 Brady's left foot curler sealed Arsenal's 5-0 win. The TV commentary was simply: "Look at that!"

SCOTLAND V. NETHERLANDS ARCHIE GEMMILL

19 The midfielder's mazy solo dribble and perfect finish salvaged Scots' pride from a disastrous World Cup.

MANCHESTER UNITED V. TOTTENHAM HOTSPUR GEORGE BEST

14 Best's exquisite finish sealed a 2-1 league victory for United. The Old Trafford pitch was rough and muddy, and the ball bounced around in a frantic penalty box melee, but when it dropped to the Northern Irishman's feet, he seemed calm, almost casual. He simply lifted the bouncing ball over the attackers, defenders, and the Spurs goalkeeper into the far top corner of the net, as if it was the easiest thing in the world.



BRAZIL V. ITALY NELINHO

20 In the World Cup third-place play-off, Brazilian fullback Nelinho cut down the right wing and then, from beyond the side of the penalty box, hit a powerful cross shot that curved over Italian keeper Dino Zoff and into the far corner of the net.

TOTTENHAM HOTSPUR V. MANCHESTER CITY RICARDO VILLA

22 During overtime in the FA Cup final replay, the big Argentine collected the ball 30 yards out and ran straight for goal. His sensational twisting dribble took him through the heart of the defense to score the decisive goal in a 2-1 victory for Spurs.

TOTTENHAM HOTSPUR V. MANCHESTER UNITED 1979 GLENN HODDLE

21 The free kick reached Hoddle outside United's box. He slipped it first to Osvaldo Ardiles and then ran for the lofted return. It needed a flying volley to connect, but Hoddle's execution was perfect, and the ball screamed into the net.

SAN JOSE EARTHQUAKES V. FORT LAUDERDALE STRIKERS GEORGE BEST

23 "The greatest soccer goal I've ever seen," gasped the commentator after Best's virtuoso dribble through the entire Lauderdale defense and cool finish past a despairing keeper. It is often judged the best-ever goal scored in the North American Soccer League.

BRAZIL V. USSR

SÓCRATES

24 The ball broke to the midfielder who sidestepped two challenges and unleashed a rocket of a shot from outside the box.

TOTTENHAM HOTSPUR
V. WATFORD

GLENN HODDLE

25 Closely marked, with his back to the goal, he turned a defender, chipped the keeper, and scored in the far corner.

BRAZIL V. ENGLAND

JOHN BARNES

26 The England winger jinked from the halfway line, and beat five defenders to score in the Brazilians' fortress Maracanã Stadium.

BORUSSIA DORTMUND V. BAYER LEVERKUSEN

DANIEL SIMMES

27 Dortmund's 18-year-old striker slalomed around five Leverkusen defenders (one of them twice) in an unstoppable 70-yard run from his own half. It was the youngster's first Bundesliga strike and that season's German goal of the year.

ARGENTINA V. BELGIUM

DIEGO MARADONA

28 The unstoppable Maradona dribbled 20 yards to score his second goal for Argentina in this World Cup semifinal.

REAL MADRID V. CÁDIZ

EMILIO BUTRAGUEÑO

29 The striker known as the Vulture skillfully skipped along the crowded goal line to score at the near post.

ARGENTINA V. ENGLAND

DIEGO MARADONA

30 The two nations had a long, bitter rivalry, and this World Cup quarterfinal came only four years after a war between them over the Falkland Islands (Las Malvinas). The first of Maradona's brace demonstrated the controversial side of his character when he illegally used his hand to score. The second decisive goal showed his other side, the soccer genius. He ran from his own half, on the wing, leaving three England players in his wake before shooting past keeper Peter Shilton.



MEXICO V. BULGARIA

MANUEL NEGRETE

31 Often judged one of the greatest World Cup goals, Negrete's spectacular flying scissor kick helped Mexico to a 2-0 victory in this second-round tie. The striker juggled a bouncing ball on the edge of a crowded penalty area, played a one-two with teammate Javier Aguirre, and then ran on into the box to meet the return pass with a midair flying volley that sped into the far corner of the Bulgarian net.



NETHERLANDS V. USSR MARCO VAN BASTEN

32 Van Basten met a deep cross with a first-time volley from an acute angle that sailed over the keeper into the far side of the net. The sensational strike in the final of Euro '88 helped the Netherlands to win their first major trophy. Van Basten was the tournament's top scorer, with five goals.

ITALY V. CZECHOSLOVAKIA

ROBERTO BAGGIO

33 When Baggio made his first World Cup start, he ran from his own half, shimmied through the Czech defense, and scored the goal of the tournament.

SOUTHAMPTON V.
NEWCASTLE UNITED

MATT LE TISSIER

34 His first touch was a flick with his heel, the next two touches were chips over a brace of defenders, and the fourth was a composed side-foot finish.



SAUDI ARABIA V. BELGIUM SAEED OWAIRAN

35 A shocking World Cup win put the Saudis into the second round for the first time. The victory came thanks to an amazing goal from a little-known midfielder. Five minutes into the game, Owairan ran from deep in his own half, skipping through challenges, before blasting home.

LEEDS UNITED V. SHEFFIELD
WEDNESDAY 1991

TOMAS BROLIN

30 Every goal counts: in this case, Brolin fell over with the goal at his mercy, but a defender's clearance ricocheted off the Swede's head and into the net.

MANCHESTER UNITED
V. SUNDERLAND 1996

ERIC CANTONA

37 Cantona dribbled from halfway, played a one-two with Brian McClair, and finished with a gracious chip. He celebrated by standing stock-still.

MANCHESTER UNITED V. WIMBLEDON

DAVID BECKHAM

38 The young midfielder first became a household name by scoring with this shot from the halfway line on the opening day of the season. Beckham had noticed the keeper off his line and floated the shot over his head.

ENGLAND V. SCOTLAND

PAUL GASCOIGNE

39 Gazza chipped a defender, ran on to finish calmly, and sank England's old enemy in this Euro '96 confrontation.

NEWCASTLE UNITED V. FERENCVÁROSÍ TC

DAVID GINOLA

40 After the ball bobbled to the edge of the box, Ginola juggled it around the Hungarian side's defenders and volleyed home.

BARCELONA V.

SD COMPOSTELA

RONALDO

41 With strength, speed, and skill, Barcelona's Ronaldo took the ball from his own half—evading a shirt pull, a trip, and flailing tackles—before twisting in the box and planting a shot into the net. The goal was later used in a Nike ad.

AC MILAN V. HELLAS VERONA

GEORGE WEAH

42 The Liberian forward intercepted a Verona corner outside his own six-yard box. He then ran the length of the field—using pace, power, and footwork to beat all the defenders—and finished with a low drive into the corner of the net. All done in 12 touches.

BRAZIL V. FRANCE ROBERTO CARLOS

44 It's one of the most stunning free kicks ever. Brazilian fullback Roberto Carlos placed the ball with great care, fully 38 yards from the French goal. His run-up began in the center circle, and he caught the ball perfectly with great power. An in-line camera shows the ball bend around the French wall, way beyond the goal, and then bend back to sneak in off the post.

REAL MADRID V. ATLETICO MADRID 1997

CLARENCE SEEDORF

43 Amid the tension of the Madrid local derby, Seedorf suddenly hit a wonder strike from more than 40 yards, making the ball swerve and dip into the net.



REAL MADRID V. CD TENERIFE

ROBERTO CARLOS

45 The ball to overlapping fullback Roberto Carlos was too strong. At full speed he was almost at the byline, about 25 yards from a goal, when he reached the ball. Amazingly, Carlos hit it in the air the first time, rocketing a shot into the Tenerife goal from a seemingly impossible angle.

ENGLAND V. ARGENTINA

MICHAEL OWEN

46 The little-known 18-year-old striker stunned England's archenemies with one of his team's best-ever World Cup goals at the end of a swerving run from almost the halfway line.

NIGERIA V. SPAIN

SUNDAY OLISEH

47 World Cup outsiders Nigeria came from behind to beat fancied Spain, thanks to an explosive strike from 30 yards by their defensive midfielder.

NETHERLANDS V. ARGENTINA

DENNIS BERGKAMP

48 Bergkamp elegantly controlled a long punt into the Argentine box, turned inside his marker, and nonchalantly flicked the ball past the keeper.

MANCHESTER UNITED V. ARSENAL

RYAN GIGGS

49 During overtime in an FA Cup semifinal against one of United's biggest rivals, the score was 1-1 with United down to ten men. Giggs picked up the ball in his own half, danced past Patrick Vieira, swerved between onrushing defenders, and blasted a shot into the roof of the net.

ACF FIORENTINA
V. BARCELONA

MAURO BRESSAN

50 The little-known Fiorentina midfielder scored one of the most memorable Champions League goals in this 3-3 draw with Barcelona. He scored only 23 goals in his entire 20-year career, but this one was very special. The ball bounced to Bressan with his back to the goal, 25 yards out and surrounded by opponents. With perfect timing and execution, he bicycle kicked a fierce shot into the top corner, leaving Francesc Arnau, the Barca keeper, flailing helplessly in the back of his net.



PORTUGAL V.
ENGLAND 2000

LUÍS FIGO

51 Figo struck when Portugal were 2-0 down in this vital Euros match. Running at speed from center spot, he shot from 30 yards past England's keeper and sparked a comeback. Portugal won 3-2.

HIBERNIAN V. DUNDEE

DIDIER AGATHE

52 Hibs' French striker dribbled from his own half, cut through the Dundee defense, and slipped the ball past the approaching keeper with the outside of his boot.

ARSENAL V. MANCHESTER UNITED

THIERRY HENRY

53 Back to goal, 25 yards out, Henry needed just two touches—one to flick the ball up, the other a swiveling volley.

HIBERNIAN V. RANGERS 2001

ALAN ORMAN

54 A teammate's clever back heel put the ball into space 30 yards out; Orman took a run-up, and his shot almost burst the net.

BARCELONA V. VALENCIA CF RIVALDO

55 The closely marked Brazilian took a pass on his chest with his back to the goal on the edge of the penalty area and then delivered a sensational bicycle kick just inside the post to complete a match-winning hat trick. The first goal had been a hard, swerving shot from a free kick; the second was a dribble that ended with a 25-yard scorcher. It was the last game of the season, so these goals took Rivaldo's final goal total to 23. They also secured Barcelona a place in the following season's Champions League.

NEWCASTLE UNITED V. EVERTON

ALAN SHEARER

56 With six minutes left, a long ball forward was headed clear but only as far as Shearer. From 25 yards out, the Newcastle striker immediately volleyed a thunderous shot across the goalkeeper and into the net. The strike sparked a comeback against high-flying Everton, and Newcastle won 2-1.

ENGLAND V. GREECE
DAVID BECKHAM

57 England had to score from a stoppage time free kick in order to secure their place in the World Cup finals. Beckham stepped up to bury it when it really mattered.

REAL MADRID V. BAYER LEVERKUSEN
ZINEDINE ZIDANE

60 A long passing move led to Roberto Carlos crossing for Zidane on the edge of the box. He met the ball the first time, volleying it into the roof of the net.

AFC AJAX V. FEYENOORD 2003
RAFAEL VAN DER VAART

61 In the fourth minute of a UEFA Cup tie, a deep cross was knocked back into the six-yard box, where van der Vaart scored with an improvised flying overhead back heel.

ARGENTINA V.
SERBIA & MONTENEGRO 2006
ESTEBAN CAMBIASSO

65 This was the best of Argentina's six goals without reply in a World Cup finals group match. It came at the end of a 25-pass move, which suddenly exploded with a devastating interchange that left Cambiasso with a shot from 12 yards.

BARCELONA V. VILLARREAL 2006
RONALDINHO

66 Barcelona's Brazilian forward collected a long ball over the defense by controlling it on his chest inside the penalty box. He then swiveled and directed an outrageous bicycle kick into the far corner.

ARSENAL V. NEWCASTLE UNITED
DENNIS BERGKAMP

63 With his back to the goal, the Dutchman flicked the ball to one side of the defender in close attendance behind him and then skipped around his other side to retrieve it and tuck it past the keeper and into the net.

AFC AJAX V. NAC BREDA
ZLATAN IBRAHIMOVIĆ

62 The Swedish striker got the ball 30 yards out and swiftly withstood a strong challenge. Then he twisted back inside, dribbling and dummying defenders, twice shaping to shoot, but switching feet instead. Then, with keeper and last defender prostrate, he stroked the ball home with his fourteenth consecutive touch. Of the previous 13, every alternate one had deceived or evaded an opponent.

BRAZIL V. TURKEY
RONALDO

55 In this World Cup semifinal, the Brazilian striker burst through the defense and surprised the keeper with a sudden toe-poke shot into the far corner.

MANCHESTER UNITED V. NEWCASTLE UNITED
WAYNE ROONEY

53 Newcastle were 1-0 ahead, and a frustrated Rooney had just been booked for a late challenge on James Milner, when the ball bounced toward the Manchester United striker, 25 yards out from goal. He let fly at once with a full-blooded, furious volley with the outside of his right foot that sent the ball swerving into the Magpies' net beyond a helpless Shay Given. The Red Devils went on to win 2-1.

LIVERPOOL V. WEST HAM UNITED
STEVEN GERRARD

64 In the FA Cup final, West Ham were 3-2 ahead in the dying seconds of injury time when the Liverpool captain unleashed a 35-yard screamer that took the match into overtime. Liverpool eventually won on penalties.

BARCELONA V.
GETAFE CF
LIONEL MESSI

67 In the Spanish Cup semifinal, Barca's young Argentine received a pass on the touchline in his own half. He skipped inside an immediate challenge and then nutmegged another tackler. He sped into the opposition half, leaving Getafe players helpless in his wake. At the edge of the penalty box, he swerved at speed among three defenders and then skipped around the onrushing goalkeeper and finished by chipping over a defender from a tight angle.



USA V. MEXICO 2007

LONDON DONOVAN

68 Donovan collected the ball in his own half, turned, and accelerated. He raced between the two central defenders before they could close him down, sprinted through the Mexican half, rounded the keeper, and slotted home.

VFL WOLFSBURG V.
BAYERN MUNICH

GRAFITE

72 The highlight of Wolfsburg's 5-1 thrashing of Bayern was voted Germany's Goal of the Season. The Brazilian cut in from the wing, slalomed between two defenders, dribbled past the keeper, and deceived three covering defenders with a cheeky backheeled finish that trickled over the line.

AL HILAL V. AL SHOALAH

NAWAF AL ABED

73 Professional soccer's fastest goal was scored in this cup game in Saudi Arabia. Al Abed shot from the halfway line, catching Al Shoalah's keeper unprepared, two seconds after the whistle blew.

MANCHESTER UNITED V. PORTO FC

CRISTIANO RONALDO

74 This massive strike flew in from 40 yards and sent United through to the Champions League semifinal.

RUBIN KAZAN V. BARCELONA 2009

ALEKSANDR RYAZANTSEV

75 Barca were playing the ball across the back on the edge of their area when Ryazantsev nipped in and shot from 30 yards.

BRAZIL V. USA 2007

MARTA

85 Brazil's Women's World Cup striker—Marta Vieira da Silva—tricked past her marker, who tried to pull her back by the arm, sidestepped another defender, and scored in the bottom corner.

ATLÉTICO MINEIRO
V. CRUZEIRO

VANDERLEI

70 Having let in a goal, Cruzeiro's keeper was still retrieving the ball from his net when play was restarted with another one. Vanderlei scored while he had his back turned.

RANGERS V. SPORTING LISBON

STEVEN WHITTAKER

71 After a 0-0 draw in Glasgow in the first leg of the UEFA Cup quarterfinal, Rangers went ahead on the hour through Jean-Claude Darcheville and then hung on until the final minute, when Whittaker's run with the ball from the halfway line made the tie safe.



TURKEY V. KAZAKHSTAN

HAMIT ALTINTOP

76 The corner was slightly too high, and the ball flew over the players in the box to the far corner of the penalty area. But that's where Turkey's midfielder, Altintop, was waiting. He hit the ball the first time while it was still in the air, and his perfect strike rocketed into the top corner of the net.

GLENTORAN V.
PORTADOWN

MATTY BURROWS

77 The score was 0-0 after 92 minutes of a Northern Ireland premiership league match. As injury time ticked away, the ball was crossed in toward Glentoran's striker Burrows. It was an awkward height, and Burrows was just inside the penalty box. Somehow, he met the ball with an acrobatic and unique flying backheeled volley that blasted into the top corner of the net beyond a desperate dive from the keeper. Anyone who scores with his or her back to the goal has to be a bit lucky, but this was more genius than chance. A video of the goal became an Internet sensation, with millions who had never seen Irish league soccer watching Burrows's spectacular score on YouTube.

BAYERN MUNICH V. MANCHESTER UNITED

ARJEN ROBBEN

78 As Franck Ribéry took a corner, Robben signaled from the far edge of the box. The ball duly arrived, and Robben volleyed it straight into the net.

NETHERLANDS V. URUGUAY 2014
GIOVANNI VAN BRONCKHORST
 79 Everyone expected a cross, but the veteran Dutch captain and fullback unleashed a rocket shot from 35 yards out on the touchline.

GRENLAND V. TROMSØ IL 2011
JONE SAMUELSEN
 80 Tromsø's keeper was stranded after joining the attack for a corner. The quick-thinking Samuelson, in his own half, powered a 60-yard header into the unguarded net.

SANTOS V. FLAMENGO 2011
NEYMAR
 81 Neymar seemed safely shackled by two opponents on the touchline, but he tricked his way between them, did a one-two with a teammate, beat the last defender, and slotted home for Santos.



INTER MILAN V. SCHALKE 2009
DEJAN STANKOVIĆ
 82 After just 20 seconds of a Champions League tie, Schalke's keeper dramatically cleared a ball outside his box with a powerful diving header, but it flew straight to Milan's Stanković on the halfway line. He promptly volleyed it straight back into the net.

CITIZEN AA V. SUN HEI 2009
FESTUS BAISE
 83 One of soccer's most spectacular own goals, this flying reverse scorpion kick from the left-hand corner of the penalty area flew into Baise's own net past a horrified keeper from Hong Kong.

SWEDEN V. ENGLAND 2002
ZLATAN IBRAHIMOVIĆ
 84 The Swedish striker capped his single-handed four-goal destruction of England with a strike voted FIFA's Goal of the Year. When England's keeper headed the ball away from outside his box, Ibrahimović followed its flight and launched into an overhead bicycle kick from 30 yards that flew over the stranded keeper and into the net.



NEWCASTLE UNITED V. CHELSEA 2002
PAPISS CISSÉ
 85 From beyond the corner of the penalty box, Cissé volleyed this bending bullet for his second goal in a surprise win.

METALIST KHARKIV V. ROSENBERG BK 2006
TAISON
 86 Taison watched carefully as the cross curved toward him before cracking in this rocket volley from an acute angle.

FENERBAÇE V. GENÇLİRBİRLİĞİ 2001
MIROSLAV STOCH
 87 Voted FIFA's Goal of the Season, Stoch's sublime first-time volley from 20 yards astounds you every time you see it.

INDEPENDIENTE V. PATRONATO 2011
MARCELO VIDAL
 88 Vidal won this Argentine league match in the 87th minute by blasting a free kick from inside the center circle in his own half. The keeper was on the edge of the six-yard box, but couldn't stop the perfectly placed strike.



SANFREECE HIROSHIMA V. SAGAN TOSU 2015
HISATO SATO
 89 The J-League star scored this outrageous volley after chasing what seemed an innocuous bouncing ball near the corner of the penalty area. Sato seemed to turn and shoot in midair, curling the ball over and around the keeper into the far corner of the goal.

ARSENAL V. NORWICH CITY JACK WILSHERE

90 Arsenal's midfielder began the move deep in his own half. He kept running forward, amid a slick sequence of passes. The final pass was a backheel by Olivier Giroud that split the center of Norwich's defense for Wilshere to run on and place the ball past the keeper.

ESPÉRANCE DE TUNIS V. STADE TUNISIEN

AHMED AKAÏCHI

91 The cross was too low for a header, so Akaïchi jumped in the air and came up with an ingenious flying backheel from about eight yards that gave the open-mouthed Stade Tunisien keeper no chance.

BAYERN MUNICH V. BORUSSIA
MÖNCHENGLADBACH

FRANCK RIBÉRY

92 Bayern's second goal in this cup semifinal victory came from an arrow-straight volley struck on the edge of the "D" by the French international.

LYON V. REAL MADRID

CLÉMENT GRENIER

93 The Lyon striker ran into the box to meet a cross, but it arrived just behind him, so he flicked it over his shoulder and into the top corner of the net.

LIVERPOOL V. NORWICH CITY

LUIS SUÁREZ

94 Suárez scored three hat tricks against hapless Norwich City, and they included this soaring shot from the halfway line.

PAÇOS DE FERREIRA V. AROUCA

BEBÉ

95 Bebé backheeled an awkward through ball over his head; as it fell in front of him, he volleyed home.

ECUADOR U16 V. PARAGUAY U16

FABIÁN TELLO

96 Tello's dribble through ten challenges in a youth international has been called one of the greatest-ever solo goals.



REAL MADRID V. BARCELONA GARETH BALE

97 Speed, strength, and skill; this winning goal in the Spanish Cup final demonstrated all Bale's qualities. He began his sprint 65 yards from goal in his own half, pushing the ball ahead of a Barca defender who tried to block him. Incredibly, Bale ran off the pitch and looped around to collect the ball on the other side of the defender, who was left facing the wrong way. Bale continued his gallop into the box and, as defenders converged on him, tucked the ball home neatly between the keeper's legs.

AUSTRALIA V. NETHERLANDS

TIM CAHILL

98 Cahill was marked by two defenders as a long hopeful punt dropped over his shoulder, but he shocked the fancied Dutch by hitting a screaming left-foot volley into the top of the net.

NETHERLANDS V. SPAIN ROBIN VAN PERSIE

99 Van Persie's goal was the standout in a surprise World Cup victory over the reigning world champions. A long, diagonal ball from the wing seemed ambitious, but Van Persie sprinted ahead of the defense into the Spanish box. He threw himself forward and met the ball perfectly with a full-length diving header from 15 yards that rocketed past the Spanish keeper. The goal equalized a Spanish penalty and inspired the Netherlands to score four more.

CHELSEA V. STOKE CITY

CHARLIE ADAM

100 Stoke City's Scottish midfielder shocked league leaders Chelsea by beating Belgium keeper Thibaut Courtois with a daring long-range shot from 65 yards, well within his own half.



AIRPLANE RACING

1 In the world's fastest motorsport, pilots compete to be the quickest to fly a single-seater plane around a course marked by pylons. In some classes, the planes reach 500 miles per hour (805kph). What could possibly go wrong? Events such as the Reno Air Races in the United States and the global Red Bull Air Race World Championship attract huge crowds, both live and on television. Despite constantly updated safety rules, the dangers are obvious. In 2011 one crash in Reno not only killed the pilot but ten spectators, too.

BASE JUMPING

2 Is this sport for the foolish or the brave? Is the immense adrenaline rush experienced when BASE jumping worth the potential perils of parachute entanglement, limited time for chute deployment, and uncertain landing areas? Although 230 deaths have been attributed to BASE jumping since 1981, huge audiences have watched these jumps online and at amazing locations. These have included the Eiffel Tower, El Capitan mountain in California, and the Whispering Gallery in St. Paul's Cathedral, London. BASE stands for "building, antenna, span, and earth"—the four categories of launchpad from which jumpers leap into the void and, hopefully, descend safely by parachute.

SLACKLINING

3 Unlike old-fashioned tightropes, slacklines are loose and bouncy cables made of webbing, usually an inch wide. Participants balance and perform acrobatic tricks that are impressive a few feet from the ground, entertaining above water, and boldly death-defying when the line is strung across a yawning mountain chasm.

100 EXTREME SPORTS

WINGSUIT FLYING

4 Is this the closest thing to human flight? A wingsuit is a jumpsuit that resembles a bat costume, with material between the legs, and the arms and the torso, like the webbing between a duck's toes. Fliers leap from aircraft or BASE jump from mountains and attempt to glide freely until they open their parachute. Expert wingsuit flights can travel almost 5 miles (8km) from the jumping point.

FREEFLYING

5 If parachuting is not thrilling enough, try a form of skydiving in which participants free fall for long periods and open their parachutes at the last moment. The minutes in free fall can be spent admiring the view or performing tricks and maneuvers. Expert free fliers can even twist into vertical positions in order to increase their falling speed.

HANG GLIDING

6 First, you need the nerve to hold on to a wing made of synthetic sailcloth and jump off something tall. After that you will need the skill to control the hang glider. Experts can soar among thermals for hours, twisting acrobatically and covering huge distances.

GLIDER SOARING

10 Launched by a catapult or another aircraft, engineless gliders soar on thermals and currents. Experts perform acrobatics and travel hundreds of miles.

PARAGLIDING

7 Participants are towed by a vehicle or run into the wind to launch a wide, curved, fabric wing into thermals and air currents. Pilots sit on cables beneath the wing and can perform spectacular acrobatics if they are skilled and daring enough.

SKY SURFING

8 Only the most experienced skydivers can ride on a surfboard while free falling. And only a very select few have managed to complete surfing-style turns, somersaults, and spins at the same time.

MICROLIGHT FLYING

9 This aircraft has a small engine that is capable of around 60 miles per hour (100kph). However, flying a microlight or ultralight aircraft is still a dangerous, demanding, and nerve-tingling experience with high accident rates.

NIGHT PARACHUTING

11 Only specialist skydivers jump in the dark. They use flashlights to check their canopy deployment and lights to prevent collisions.

ZIP-LINING

12 Hanging from a pulley as it rolls down a steel cable is exhilarating when it zips across a rain-forest canopy.

PARKOUR

13 Elite military units have employed free-running experts in their training because the acrobatic sequences of running up walls, leaping between buildings, somersaulting off railings, and cartwheeling along bridges make this a challenging way of getting from A to B. Parkour is the ultimate extreme sport because it does not need any fancy kit or purpose-built courses: all that is required is the ability to see your environment as an obstacle course and to have the confidence, skill, and fitness to enjoy it.



RAPPELLING

19 Using ropes for controlled descents gets more hard core if you tackle the side of a tall building. For bigger thrills, try roping down a huge chimney.

COMBAT PAINTBALL

20 Dress as Rambo and crawl around the woods to wipe out your pals. Paintball provides the thrills of military combat without the risks.

XPOGO

14 Pogo sticks are for kids right? Not these xpgos. They can bounce up to 10 feet (3m) high, enabling users to perform backflips, stick grabs, and twists in midair.

MULTI MARATHON RUNNING

15 Running one marathon is tough, but tackling several on consecutive days is much tougher. Completing a marathon every day for a year, as some people have, is almost superhuman.

SHIN KICKING

16 This mysterious English traditional rural sport involves grabbing your opponent and trying to kick their shin before they manage to kick yours.



FREE SOLO CLIMBING

17 Who needs ropes and pitons? Why not tackle daunting cliffs using only your courage, strength, and skill? Soloing up a rock face is very dangerous, but it is faster, plus, the adrenaline rush is massive.

SANDBOARDING

18 No decent waves? Head inland to find a huge sand dune instead. Surfing down the steepest side of a monster dune is a guaranteed pleasure, with soft sand to cushion even the worst wipeout.

CAVING

21 If you do not think caving is extreme, try crawling through a narrow tunnel hundreds of feet underground or exploring a new cave system where no one has ever been. Cavers, or spelunkers, need serious nerve, suppleness, fitness, and reliable equipment. Highs include discovering subterranean waterfalls; hazards include getting lost or stuck.

TWIN TOWER BUNGEE JUMPING

22 You do not always need something to jump off. For this sport, you are attached by cables to two pylons and catapulted vertically skyward. The two angled cords prevent jumpers hitting either pylon and create seriously stomach-churning bounces.

EXTREME HORSEBACK RIDING

23 Forget the local gymkhana. The latest extreme horseback riding tricks range from rodeo-style acrobatics in the saddle to standing with one foot on the backs of two different horses while they tow skateboarders at speed.

LAND

CHESSEX BOXING

24 You might have a good left hook, but are you any good at using your bishops? Chess boxing is a competitive sport, with its own world championships, involving alternate rounds of chess and boxing. Players can win by a knockout or a checkmate.

LAND

MOUNTAINEERING

25 Fancy sleeping while hanging from a pin jammed into a mile-high vertical rock face? Or would you rather scramble up ice slopes while gasping for oxygen at high altitude? Mountaineering is clearly not for softies.

MOUNTAIN BIKING

26 You could test your shiny new mountain bike on a pleasant cruise to the local shops. Alternatively, take the plunge down a category black downhill section with heart-stopping drops on either side. Mountain biking can be as gentle or as hard core as you make it. At one extreme are expert mountain bikers who can achieve downhill speeds of more than 100 miles per hour (160kph) and complete jumps of more than 100 feet (30m). Elite bikers tackle off-road races thousands of miles long, terrifying trails down mountains, and urban routes that involve stairs, drops, and hairpin turns.



LAND

ZORBING

27 Rolling down a hill inside a transparent plastic orb turns out to be amazing fun. Just not straight after a meal though.

LAND

VOLCANO BOARDING

28 Volcanic slopes are composed of ash and shale: the sort of slippery surface that is perfect for surfing. The problem is you have to keep climbing back to the top.

WIFE CARRYING

29 Blame the Vikings. This Scandinavian sport, in which a man carries a female partner through an obstacle course, dates back to wife-stealing raids. Amazingly, it has spread globally, and annual world championships have been held in Finland since 1997.

BULL RUNNING

30 This is one of the most traditional and dangerous dares: at festival time, bulls charge down streets, and revelers try to outrun them.



EXTREME ENDURANCE RACING

31 Running long distances on consecutive days is hard, but the extremists do it in competitive races. These can be across polar ice or mountains, through dense jungle, or, toughest of all, across the Sahara Desert in the 156-mile (251km) Marathon des Sables.

BUNGEE RUNNING

32 Run along an inflatable track while attached to a bungee cord until *twang*, you are hurtled backward.

BOULDERING

33 See that 20-foot-high (6m) lump of rock? Now go and climb it without using any ropes or a harness.

AIRSOFT

34 Heavy machine guns lay down covering fire as your squad advances with assault rifles. Simulated combat with airsoft guns is even more realistic than paintballing, and the little plastic pellets have a longer range but do not hurt participants or make a mess. It is no surprise that this battlecraft sport from Asia is gradually invading the West.

LONG-DISTANCE WILDERNESS HIKING

35 For some hard-core hikers, "going for a walk" involves following trails for several days across wild mountains, jungles, and deserts, carrying all their own food and supplies.

EXTREME IRONING

36 This sport would be laughable if its locations were not so hard core. Extreme ironers take their boards up sheer rock faces, on underwater dives, and snowboard with them down mountains.

EXTREME RODEO

37 In addition to cowboys hanging on to bucking broncos, there is now freestyle and backward bull riding, bull dodging, and even bull-pulled chariot races.

CHEESE ROLLING

38 Competitors chase a rolling cheese down steep, uneven slopes in the Cotswolds, UK. The winner gets the cheese; losers often get twisted ankles.

FELL RACING

39 Runners race up and down steep fells (hills in northern England). One challenge involves running up 42 fells in 24 hours. Gradients are so demanding that racers have occasionally died.

ICE DRIVING

40 Frozen lakes and rivers become winter roads in many polar regions, and they are brilliant for practicing car-rally skills, too. Adventurous drivers perform slides, spins, skids, and handbrake turns. The bravest ones race each other on ultraslippery temporary racing circuits across the ice.

SNOWMOBILE RACING

41 With some machines topping 200 miles per hour (320kph), racing snowmobiles, or Ski-Doos, has grown into a sensational sport. The fastest riders tackle snowmobile drag racing on snow or even tarmac. The most extreme compete in the annual 2,031-mile (3,269km) Iron Dog Race in Alaska.

FREE SKIING

42 Forget tightly regulated downhill skiing on marked runs; free skiers prefer to perform big jumps and impressive tricks. The sport is all about style and technique, not speed. The coolest skiers are usually the most creative and courageous, too. Some stick to special free-ski terrain parks at mountain resorts; others head off-piste. The most spectacular—and the biggest risk-takers by far—are the big mountain skiers, who tackle the loose powder slopes of large steep mountains with all the perils of potential avalanches, unexpected drops, and hidden rocks.



HELI-SKIING

43 Want to tackle wild off-piste slopes? This is a dangerous sport and one that is deliberately not very accessible. The point is to ski or snowboard across remote terrain, accessed by a helicopter not a ski lift.

ICE CLIMBING

44 If climbing smooth rock faces is tough, vertical sheets of ice are surely impossible. Well, not if you fit crampon spikes to your boots and wield an ice ax in each hand. Skilled ice climbers spider upward by swinging axes into the ice above their heads and kicking with their crampons. Additional dangers come from the variations in ice conditions. Sometimes it is strong enough to screw in rope pegs; other times it is too soft to hold the ax points.

EXTREME DOG SLEDDING

45 Hurtling across snow pulled by a team of excited dogs can be laugh-out-loud thrilling, but sledding experts take the sport much further. In fact, these dedicated "mushers" ride the sleds for hundreds of miles, competing in dog sled races up to 1,000 miles (1,600km) long, crossing mountain ranges and frozen lakes as well as navigating through polar forests.

SNOW

OFF-PISTE SKIING

46 Off-piste skiers forego regulated ski runs and head into the untamed mountains to find solitude and pristine snow, as well as hidden rocks and avalanches.

SNOW

FREESTYLE SNOWBOARDING

47 Imagine the coolest skateboarding tricks, twists, and turns, but performed on a snowboard instead.

EXTREME TOBOGGANING

48 This sport involves tobogganing deep in the mountains and forests to jump chasms and experience steep drops.

EXTREME ICE-SKATING

49 Tricks, shapes, jumps, spins, and moves: the only limits to the new skating extremes are your imagination, bravery, and proficiency on the ice.

BODYBOARDING

50 Hold tight! Surfers lie facedown on their boards in order to facilitate greater control when performing exciting tricks riding both small and large waves.

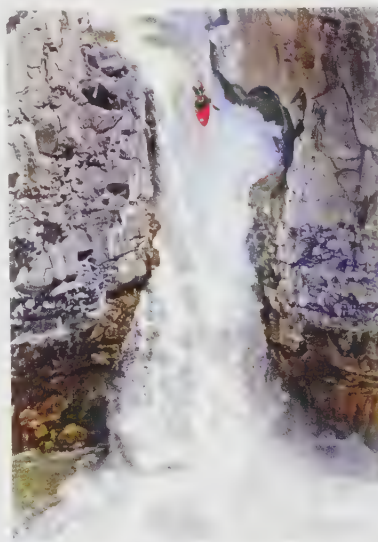
WATER

CANYONING

51 You can stand and admire the view of a deep narrow gorge, complete with frothing rivers and waterfalls, or you can get right in and have some serious fun. The fast-growing sport of canyoning involves trying to progress along a steep-sided rocky river using any techniques that fit the situation. So expect a bit of abseiling, climbing, jumping, scrambling, and even swimming. Be sure to wear a wet suit and helmet and prepare to finish the day exhausted, exhilarated, and soaking wet.

COASTEERING

52 Experts call the impact zone where waves smash against the rocks a "high-energy environment." The sport of coasteering involves traveling along this jagged shoreline, clambering over rocks, jumping in the sea, wading, climbing, diving, and swimming. Do not expect sandy beaches or scenic coastal trails: everyone is going to get very wet.



CREEKING

53 Creeking takes you beyond normal white-water kayaking and into the mad, bad world of severe rapids and waterfalls. Hard-core creekers wear full-body protection, including helmets, face masks, and elbow pads. They need it. They are going to paddle off the lip of a vertical waterfall and into a rocky tumult below. The elite sportsmen head for drops that have never been attempted before. Hazards include "sieves," where white water disappears underground. You do not want to go there.



BIG-WAVE SURFING

54 You will need an extra large surfboard to catch these mega waves. Only crests of more than 20 feet (6m) qualify, and the stars go for the 50-foot-high (15m) monsters. Some get Jet Ski tow-ins, whereas others paddle out the hard way. Some surfers use leashes; others think they are too dangerous. Whatever you prefer, big-wave wipeouts can push you 50 feet (15m) under. That is where water pressure starts to hurt, and you have to get back to the surface fast, before the next wave hits.

FREE DIVING

55 Free divers descend hundreds of feet without any breathing apparatus. However, hours of training are needed to be able to hold your breath for minutes at a time. The record is currently an extraordinary 22 minutes.



WAVESKI SURFING

56 Here, the tricks and turns of surfing meet the control and power of kayaking. The "board" resembles a sit-on kayak. Experts strap themselves in so that they can roll right over in the water and in midair.

HORSE SURFING

57 This unusual combination sport is one of the latest seaside crazes. The horse gallops along the sea's edge, towing a surfer behind. The surfer can pull jumps and tricks as they speed through the shallows.

BAREFOOT WATERSKIING

58 Waterskiing used to be one of the craziest sports around. Now it is nothing special unless you can do it without a ski. One warning: the boat has to go much faster to keep you upright.



UNDER-ICE SCUBA DIVING

59 Saw a hole through the ice and jump in. The ice looks amazing from underneath, but obviously it is extremely cold. The risk of hypothermia means that divers need special exposure suits, safety tethers, and rescuers on hand. There is also the risk of being crushed by moving ice.

UNDERWATER HOCKEY

60 As in ice hockey, two opposing teams try to knock a puck along the ground with a stick in an attempt to score a goal. However, this crazy sport happens at the bottom of a swimming pool, and all the players are holding their breath.

CLIFF DIVING

62 People have always jumped off rocks and into the sea, but now it is an official sport. Red Bull's World Series pits the most daring global divers against daunting drops of almost 100 feet (30m) from vertical cliffs.

ICE CANOEING

65 When water is too frozen for ferries to pass but not frozen enough to make an ice bridge, how do you get across? Paddle through unfrozen sections and then push the canoe across the ice chunks, of course. Hardcore Canadians have turned this into a sport.

WHITE-WATER KAYAKING

67 Simply surviving the roaring, churning, frothy water that rushes between jagged boulders is tough enough, but elite kayakers race against each other through the toughest sections of the rapids. The most creative and skilled even do acrobatic somersaults and twists in their boats as they slalom through the courses. Helmets, life jackets, and noseclips are normal safety gear.

POWERBOATING

61 Reaching speeds of 250 miles per hour (400kph), powerboat racing is elitist, expensive, highly dangerous, and one of the most thrilling ways of traveling on water. Smaller boats race around tight circuits close to the shore in front of huge crowds; bigger monster powerboats battle each other farther out in the ocean. Unfortunately, serious accidents are common.

KITE SURFING

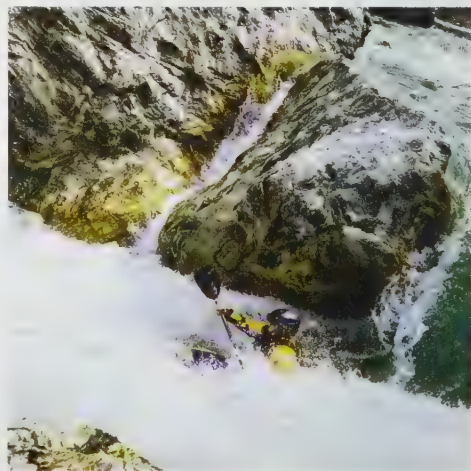
63 In this sport a curved power kite tugs a surfboard rider through the waves. After that it is up to you to speed, race, jump, or freestyle as much as you want.

LONG-DISTANCE OPEN WATER SWIMMING

64 Bored with lengths at the local pool? Why not try the Cook Strait (14 miles/22km) or the English Channel (21 miles/33km)?

WHITE-WATER RAFTING

66 Participants desperately hang on to an inflatable raft that tosses them in all directions as it travels through furious white-water rapids. Although there is a party atmosphere on board, do not be fooled: plenty of battered passengers will testify that this is a dangerous sport.



WATER

ICE SWIMMING

68 From China to Scotland, ice swimmers brave subzero conditions for the thrill, invigoration, and claimed health benefits. There are hazards, however: some Arctic swimmers have suffered frostbite in the water; others have died from shock or a heart attack.

WATER

SURF KAYAKING

69 Paddle out; surf back in. That's the idea, anyway. You have more control and range than on a board but wipeouts still happen.

WATER

EXTREME SAILING

70 This is the ultimate sailing spectacular: world-class sportsmen race high-speed carbon catamarans tipped almost onto their sides.



WATER

CAVE DIVING

71 Exploring water-filled cave systems with scuba gear is eye-poppingly thrilling but hideously dangerous. Divers discover beautiful underwater chambers, but caves can extend for many miles underground, so groups must leave a guide cable that they can follow back to open water, in case of an emergency. Other common hazards include serious decompression problems.

STORM CHASE WINDSURFING

72 Towering waves and 80 mile-per-hour (130kph) winds are no problem for windsurfers competing in the Red Bull Storm Chase. These experts travel the world seeking wild weather to push their skills to the limit. Waves and winds above storm force ten power huge jumps, which means more time for the tricks.

WATER

SNOWMOBILE WATERCROSS

74 Although snowmobiles are designed to be ridden on snow, some riders can hurtle them across water, too. The machine would normally sink, but if you hit the water fast enough and keep it on full throttle, you can hydroplane across the surface. The record distance is more than 100 miles (160km).

WATER

EXTREME JET SKI

76 Riding on Jet Skis may start with a few thrilling little jumps over waves, but before you know it you are flying upside down, holding on with one hand. The secret is turning fast to hit your own wake. Experts bounce their Jet Skis so high that there is time to perform freestyle stunts such as backflips.



WATER

PARASAILING

75 Participants are towed through the water until their curved sail or kite lifts them skyward. Experts can be cut loose to control their own descent.

WATER

LONG-DISTANCE SEA KAYAKING

75 Sea kayaking can be a nice, gentle way of exploring a coastline, or it can be turned into a long-distance sport. For example, a team paddled around Great Britain in 67 days, and another kayaked across the Atlantic in 99 days.

WATER

SKIMBOARDING

77 This sport started out as a simple, safe version of surfing: run with a thin flat board, jump aboard, and ride along the shallows. Then riders started heading out to meet incoming waves. Someone learned a few tricks, and a whole new sport was born. Now, there are competitive leagues and competitions. Experts skim out to big breaks and then flip and twist their way back to shore, or speed across the wet sand, performing skateboarding tricks.

WATER

WAKEBOARDING

78 Combine the skills of waterskiing, snowboarding, and surfing, and you are getting close to the booming new extreme sport of wakeboarding. Board riders hang on to a cable while they are towed behind a speeding motorboat. They use the waves in the boat's wake to perform jumps, rolls, and twists. For expert participants, ramps and obstacles add to the creative possibilities.

FLOWRIDING

72 Surfers do not need open water. Climb into one of these machines for a high-powered water flow and a perfect constant ride.

OFF-ROAD RACING

100 A route comprising of thick mud, water, ruts, and steep inclines—great! This is where off-road racers test their four-wheel-drive skills.

MOTOBALL

01 Teams maneuver motorbikes while kicking a football at each other's goal. It is noisy, chaotic, and ever so slightly dangerous.

EXTREME UNICYCLING

112 Riding a bike with one wheel is not easy, but riding it across mountains, obstacle courses, and over jumps is extremely difficult.

DRAG RACING

113 Two hot rod cars or bikes accelerate side by side on a straight track from a standing start. Forget normal acceleration—top drag machines reach 60 miles per hour (100kph) in only 0.3 seconds and 330 miles per hour (530kph) by the end of the 0.25 mile (0.4km) track.

FMX FREESTYLE MOTOCROSS

04 The most extreme riders drive their bikes full throttle up a ramp in order to gain maximum air time. They then use their midair moments to perform the most outrageous stunts you can think of while the crowds in the stands hold their breaths wondering if the rider is going to end up in a crumpled heap. Pretty outrageous. But what about jumping over a group of other riders while letting go of the bike, doing a backward somersault, and landing back on the bike? Or standing on one hand on the bike saddle in midair? Long-distance jumping is also a favorite, with riders attempting gaps of more than 300 feet (90m). They are always trying new death-defying tricks, despite a long list of injuries and expensive repairs.



WHEELS

MOUNTAIN BOARDING

05 On this sophisticated skateboard, mountain/dirt board riders tackle the off-road courses and wild trails meant for mountain bikers. Proper pneumatic tires and steering enable them to reach 60 miles per hour (100kph). Elite riders perform tricks along the way.

WHEELS

ROLLER DERBY

07 Two teams of five skaters speed around a track on roller skates, trying to lap one another and block moves. Dainty it is not. Expect to see all skaters wearing helmets, wrist guards, knee pads, and elbow pads, as well as boxing-style mouth guards.

WHEELS

SKATEBOARDING

08 At least 11 million skateboarders around the world practice hard to get their thrills from this simple board on wheels. Straightforward jumps and flips come first and then more extreme stunts. The elite boarders tackle tricks such as the airwalk, 360 hardflip, and nosegrind.

QUAD BIKING

06 Theoretically, these four-wheel motorbikes should be safer and more stable, except riders keep devising crazy things to do on them. These include tilting the quad bike and riding on only two wheels or racing on a hard-core off-road course with jumps.

EXTREME FREESTYLE BMX

09 Forget racing: extreme freestyle BMX display riders take their time to get seriously airborne for bike somersaults and backward twists on the bars. They also tackle huge jumps, creative flips and balances, and synchronized team bounces.

WHEELS

STREET LUKE

90 Street luge riders lie flat on their boards, hovering only a few inches above the ground, and steer simply by leaning. On a downhill street course, speeds can reach up to 100 miles per hour (160kph), and there are no brakes. Not surprisingly, helmets, gloves, and tough race suits are the norm, as are frequent injuries.



LAWN MOWER RACING

91 Take the blades off a ride-on lawn mower and you have a budget-priced, off-road, miniracer. Some extremists take it further with epic 12-hour endurance races and blistering 115-mile-per-hour (185kph) supermowers.

HOVERCRAFT RACING

92 Imagine traveling inches above the ground at around 50 miles per hour (80kph) in a vehicle with no brakes. Hovercraft are the ultimate all-terrain racers—crossing water, mud, and ice—but steering is an acquired skill.

UNICYCLE HOCKEY

93 Five-a-side indoor hockey may not sound extreme, but try playing while riding a unicycle. It is thrilling to play and watch, and the sport now has leagues, rules, and an international governing body.



SUPERKARTING

94 This is no seaside pleasure-park ride: with aerodynamic bodies and full-size racing circuits, superkarts are more like proper open-wheeled racers. The sport is definitely not for amateurs, because superkarts reach 0 to 60 miles per hour (100kph) in three seconds and achieve top speeds of 155 miles per hour (250kph).

KITEBOARDING

95 Curved kites can tow an oversized skateboard along the ground at up to 80 miles per hour (130kph).

WHEELS

SPRINT GO KARTING

96 Short, fast races on dedicated indoor or outdoor circuits decide who is the fastest. It is fiercely competitive and one of the cheapest ways into motorsport.

WHEELS

LONGBOARDING

97 Longboards are up to 5 feet (1.5m) in length, with soft, smooth wheels. Riders can cruise for long distances, and some even use longboards to commute to work.

WHEELS

FREESTYLE SCOOTERING

98 Kick scooters used to be preserved for prebike kids. Today, a new breed of more sturdy scooters is the focus of a growing hard-core group of freestyle street stars who use them to perform stunts that are similar to skateboarding and BMX tricks, including barspins, flips, and slides. Some scooter riders tackle off-road dirt jumps; others stick to skate park obstacles.

AGGRESSIVE INLINE SKATING

99 Special extreme skates have "blades," or wheels set in a single line. Skaters or bladers perform freestyle stunts at skate parks or around urban obstacles. Typical moves include high jumps and grinds along the top of railings.

MINI MOTO

100 Minibikes with engine sizes from only 38cc up to 125cc may look like toys, but they have formed a cheap and exciting new branch of motorsport. Even the smallest mini moto machines reach a scary 80 miles per hour (130kph) on kart tracks.



ST. GEORGE'S GOLF & COUNTRY CLUB

This highly regarded course was created in 1929 by renowned Canadian architect, Stanley Thompson. It hosted the PGA Tour's 2010 RBC Canadian Open.

CABOT LINKS

This provides classic oceanfront golf. It is one of ten courses on scenic Cape Breton Island. Every hole has an ocean view, five of which play adjacent to the beach.

BANDON DUNES

Opened in 1999, this is now a four-course golf resort, but the original is still the best, meandering in the rugged sand formations along the Oregon coastline.

OLD MACDONALD

Another course from the Bandon Dunes resort, this has been designed in such a way that it appears to have grown out of the land rather than been placed artificially in it.

PACIFIC DUNES

This unbelievable jewel was the second of the four courses built at the Bandon Dunes resort, and it immediately shot up the rankings, surpassing even its older sister. Both courses are constructed on roughly the same terrain, but Pacific Dunes requires different shot-making on the naturally rolling fairways. Designed by Tom Doak, and opened in 2001, Pacific Dunes quickly established itself as—and remains—a connoisseur's favorite.

100 GOLF COURSES

PEBBLE BEACH GOLF LINKS

One of the world's most famous golf courses, where countless PGA Tour events have been held, Pebble Beach is renowned for its winds, which can make a three-iron shot one day into an eight-iron shot the next. It looks exclusive, but it's a public course.

CYPRESS POINT

Just down the road from Pebble Beach, Cypress Point was designed by Alister MacKenzie and opened in 1928. It offers unspoiled natural beauty that is not overpowered by his "interference"; rather he allowed the course to take shape "organically." The sixteenth hole requires a 231-yard (211m) shot over a jutting inlet of the Pacific.

OAKMONT

Oakmont has hosted multiple US Opens, US Amateurs, PGA Championships, and US Women's Opens. It features 210 bunkers, slick greens, and tight fairways.

SAN FRANCISCO GOLF CLUB

At this traditional golf club with no gimmicks, the course was created in the early stages of the career of architect A. W. Tillinghast. Some consider it his finest work.

CHICAGO GOLF CLUB

Built in 1892 by Charles Blair Macdonald, this was the first 18-hole course in the United States. There are few trees, and the wind is troublesome on virtually every shot. CGC was redesigned in 1923 by Seth Raynor.

LOS ANGELES COUNTRY CLUB (NORTH)

Hugh Hefner's Playboy Mansion is near the thirteenth green of the north course, which is filled with rolling terrain, barrancas, and rugged-edged bunkers.

RIVIERA

Major championship winners here have included Ben Hogan, Sam Snead, Tom Watson, Nick Faldo, and Fred Couples. After winning his first US Open here in 1948, Hogan said: "Some of my most pleasant memories and thoughts are of this wonderful club and magnificent course."

OLYMPIC CLUB (LAKE)

The multisport Olympic Club is the oldest athletic club in the United States. The lake course hosted the 2012 US Open.

BALLYNEAL

The course here is a true test of inland playing skill. It's reminiscent of Scotland: pure duneland golf.

SHOREACRES

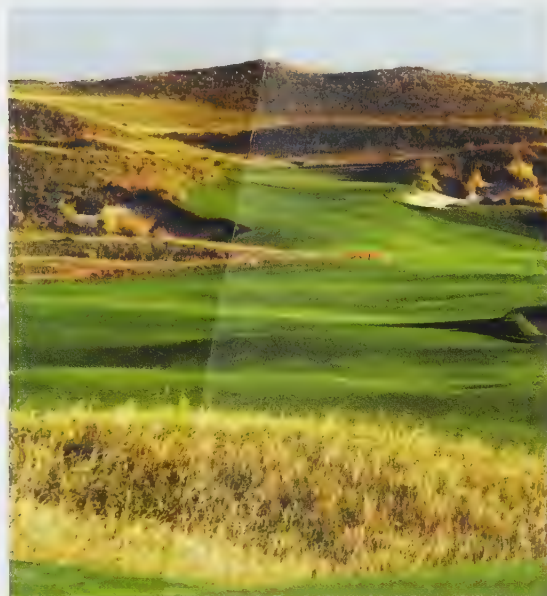
The construction of some courses requires the movement of tons of earth, but here the ravines are all natural.

MEDINAH (NO. 3)

No. 3 is the jewel in the crown of the club. The course was updated by Rees Jones in 2003.

SAND HILLS

17 A round of this wondrous golf course would be a perfect day out for any golfer, but unfortunately, you have to be a member, accompanied by a member, or sponsored by a member to play. Upon completion, Sand Hills was instantly billed as a classic. Bill Coore and Ben Crenshaw created 18 holes from rolling sand hills, scattered prairie grass, and natural sand traps. The fourth, the thirteenth, and the eighteenth are considered the best of the best.



PRAIRIE DUNES

18 Many people drive through Kansas and complain that there is nothing to see. Not those who drive through Hutchinson, though, and lay their eyes on the spectacular site that is Prairie Dunes. Kansas is the last place you'd expect links golf, but it's links golf at its finest. Perry Maxwell designed Prairie Dunes in 1935, and it stands as a regal golf picture today.

SOUTHERN HILLS

Perry Maxwell designed Southern Hills, and the country club opened in 1936. It still stands today as a beautiful place to play.

WHISTLING STRAITS (STRAITS)

20 The Straits has hosted four major championships to date. This Pete Dye design features windswept terrain on an open and rugged track.

OAKLAND HILLS (SOUTH)

21 Walter Hagen, a multiple major champion, was the club's first head pro, and the south course has played host to 16 major championships and the 2004 Ryder Cup.

CRYSTAL DOWNS

22 Designed by Alister MacKenzie and Perry Maxwell, this course opened in 1931. It offers great views of both Lake Michigan and Crystal Lake. It is in a remote location, but it's well worth the effort to get to.

MUIRFIELD VILLAGE

23 This course was the dream of Jack Nicklaus, winner of 18 majors, who wanted to build a world-class course in his home state. He, along with Desmond Muirhead, did just that in 1974. It plays host each year to the PGA Tour's Memorial Tournament in aid of the Nationwide Children's Hospital and other charities.

INVERNESS

24 Founded in 1903, in 1920 this course hosted its first US Open, which saw the debut of Bobby Jones.

THE GOLF CLUB

25 With ponds, sod-faced bunkers, slick greens, and stacked stone walls, the Golf Club is a stiff challenge.

MERION (EAST)

27 The east course at this club in Haverford Township, Delaware County, has hosted more USGA Championships than anywhere else, and Bobby Jones and Ben Hogan are among those who made history here.



WINGED FOOT (WEST)

28 A. W. Tillinghast designed the west course in 1923. To date, it has hosted the US Open five times. The signature hole is the 190-yard (174m), par-three tenth, which Ben Hogan once described as "a three-iron into some guy's bedroom window," a reference to the house that is located immediately behind the spectacular green.

OAK HILL (EAST)

29 Said pro star Ernie Els: "It is the best, fairest, and toughest championship golf course I've ever played."

CAMARGO

26 Opened in 1926, Camargo was designed by Seth Raynor and redesigned by Tom Doak. It is very private

QUAKER RIDGE

30 It was here that Byron Nelson won his first significant professional victory in the 1936 Metropolitan Open.

GARDEN CITY GOLF CLUB

31 In spite of early-twenty-first-century renovations, the original 1917 design of this course remains substantially intact.

BETHPAGE (BLACK)

32 This is no ordinary municipal golf course: the 1930s design hosted the 2002 and 2009 US Opens.

FRIAR'S HEAD

33 Take a great location—Friar's Head, Long Island—hire two great designers—Bill Coore and Ben Crenshaw—and you get a great golf course.

MAIDSTONE

34 This is less well known than the other Tony Hamptons clubs (the National and Shinnecock Hills), but in no way inferior to them.

SHINNECOCK HILLS

35 Opened in 1891, Shinnecock Hills was one of the founding members of the USGA. The first incarnation was a relatively modest 12-hole course designed by Willie Davis. It wasn't until 1895 that it was transformed into an 18-hole track. The course fits naturally and beautifully into its surrounding area, whose resemblance to the British Isles, though vague, is often remarked on. Several major events have been held at Shinnecock Hills, including the 1977 Walker Cup and the 1995 US Open, the latter won by Corey Pavin.



NATIONAL GOLF LINKS OF AMERICA

36 If this course reminds you of the British Isles, there's a reason why. Charles B. Macdonald studied the courses of England and Scotland before he set to work on designing something that transported their spirit to Long Island, and even replicated some of their finest holes.

FISHERS ISLAND CLUB

37 This links-style course is situated on an island that is 8 miles (13km) long and 2 miles (3km) wide, but that's more than enough room to house one of the world's great courses.

THE COUNTRY CLUB

38 It took the creators of this primarily equestrian and social club 11 years after its opening in 1892 to incorporate golf, and players ever since have been grateful for this wonderfully designed course.

OLD SANDWICH

39 Designed by Bill Coore and Ben Crenshaw, this course in the pine hills south of Plymouth was opened in 2004 and immediately entrenched itself in the fabric of New England golf.

SOMERSET HILLS

40 Built in 1917, this traditionalist, conservative club course—set among rolling hills in equestrian terrain near Bernardsville—is a golfing idyll.

PINE VALLEY

41 Be in no doubt: this course is tough. There are steep slopes that lead nowhere; enough water to make you yearn for drought; thick trees, sand, natural grasses; and more. It's almost impossible to avoid all the hazards; your score is going to suffer as sure as winter follows fall. However, there are major compensations: the course-side scenery is some of the most beautiful anywhere in the world.



BALTUSROL (LOWER)

42 Jack Nicklaus calls this one of his favorite courses: it should be; he won the US Open there twice.

KIAWAH ISLAND (OCEAN)

44 The Ocean Course has more seaside holes that any other in the Northern Hemisphere—ten on the Atlantic, and eight parallel to them.

PINEHURST NO. 2

43 There are nine courses on the Pinehurst property, but only one Pinehurst No. 2. It stands as an icon in US golf, and the resort proclaims it as "Donald Ross's Masterpiece." Here's a true testament to what the higher-ups in golf think of Pinehurst No. 2: in consecutive weeks in 2014, the US Open and the US Women's Open were both held there.

HARBOUR TOWN GOLF LINKS

45 Harbour Town was built on Hilton Head Island soon after a bridge linked it to the mainland. Pete Dye's golf course here hosted the Heritage Classic from 1969.

TPC SAWGRASS (PLAYERS STADIUM)

47 The annual PGA Tour's Players Championship and the seventeenth island green are the trademarks, but only a complete round captures the full flavor.

SEMINOLE

48 This Atlantic-abutting course has always had a reputation as a reserve of the corporate elite. It has changed little since it was completed in 1929 by E. F. Hutton at the behest of Donald Ross.

AUGUSTA NATIONAL

46 Designed by Bobby Jones and Alister MacKenzie, this is the iconic gem of US golf. The US Open, the PGA Championship, and the British Open all rotate courses each year. Augusta is the only course that hosts the same tournament every year—the US Masters. The organizers knew they had it right the first time they held it there in 1934. The maintenance is beyond compare, particularly when the azaleas are blooming. And Amen Corner—holes 11, 12, and 13—are world renowned.



CABO DEL SOL (OCEAN)

49 This world-famous Jack Nicklaus design earns its place in our top 100 because of its location on the rugged coast at the tip of Baja California.

DIAMANTE

50 There are two seaside courses here at the Cabo San Lucas resort: the original, the work of Davis Love III, and a new one that is Tiger Woods's first excursion into design.

CASA DE CAMPO (TEETH OF THE DOG)

51 This track is said to be the best course in the Caribbean. Tricky doglegs and obstacles add to the challenge that is tough enough already because of the wind.

PORTMARNOCK (OLD)

52 The great amateur golfer Bernard Darwin said of this unforgettable Irish links course: "I know of no greater finish in the world than that of the last five holes at Portmarnock."

LAHINCH (OLD)

53 Phil Mickelson is American, but he loves Lahinch so much that he's a full member there. The club opened in County Clare in 1892, making it one of Ireland's oldest golf courses.

BALLYBUNION (OLD)

55 Members at Ballybunion say the Old Course used to be a relatively unknown treasure waiting for the world to discover it. It was founded in 1893, and when architect Tom Simpson was hired in 1936 to spruce up the course, he called it the best piece of property he had ever seen. Thereafter, it was unknown no longer.

ROYAL COUNTY DOWN

58 This championship course is located in Murlough Nature Reserve, one of the planet's most beautiful settings. There are several links holes along Dundrum Bay, and they each give a different view of the Irish Sea from every hole. On the landward side there is the spectacular backdrop of the brooding Mountains of Mourne.

EUROPEAN CLUB

54 This 1987 track, 35 miles (56km) south of Dublin, is one of just 160 true links courses in the world, and 51 of those courses are in Ireland.

WATERVILLE

56 Some say golf at Waterville is "mystical." You're playing a course more than 100 years old on dunes, native grass, sod-faced bunkers, and firm fairways. Tons of fun.

ROYAL PORTRUSH (DUNLUCE)

57 In 1951 this beautiful and challenging course became the only one in Ireland ever to host the British Open, which was first held in 1860.



ROYAL DORNOCH (CHAMPIONSHIP)

59 The Royal Dornoch course is more than a match for its magnificent surroundings—rolling hills and the Dornoch Firth's sandy beaches.

CASTLE STUART

60 This course has so many links features—rumpled fairways, sod-laden bunkers, infinity-edged greens, and landscape mosaics—that players get an introductory movie before they go out.

CRUDEN BAY

61 Throughout its clubhouse, there are proclamations of the high praise Cruden Bay has received from various rankings publications, and they all are well-deserved.

TRUMP INTERNATIONAL GOLF LINKS SCOTLAND

62 This course follows two out-and-back loops of nine holes through dunes to views of sea and coastline. Six tees per hole make it playable for all levels.

MACHRIHANISH

63 The first hole requires you to carry the jutting Atlantic Ocean, which can be treacherous, especially if it is windy. The fifth, the tenth, and the fifteenth are no less demanding.

CARNOUSTIE (CHAMPIONSHIP)

64 Carnoustie is one of the world's greatest golf courses. By 2015 it had hosted the British Open seven times since 1931.

LOCH LOMOND

65 Unlike many Scottish courses, this is not a links. It is a 7,100-yard-long (6,492m) parkland golf course created by Jay Morrish and Tom Weiskopf.

KINGSBARNs

66 Kingsbarns is a breathtaking 18 holes of links golf along the North Sea coastline. Golf has been played on the site since 1793. The course was redesigned by Kyle Phillips in 2000.



ST. ANDREWS (OLD COURSE)

67 Widely known as "the home of golf," this is not only one of the oldest courses in the world—it has been in regular use since at least the fifteenth century—but also one of the most beautiful and most challenging. A public course built on common land, one of its most readily recognizable features is the 700-year-old Swilcan Bridge, which all players must cross as they play the eighteenth hole. The Old Course has held the British Open Championship 29 times; winners to date have included the amateur Bobby Jones (1927), Sam Snead (1946), Jack Nicklaus (1970 and 1978), Severiano Ballesteros (1984), John Daly (1995), and Tiger Woods (2000 and 2005).

NORTH BERWICK (WEST)

68 These picturesque links, in operation since the seventeenth century, command sweeping vistas of the Firth of Forth. The fifteenth hole—a 190-yard-long (174m) par-three—has been replicated on hundreds of other courses worldwide.

MUIRFIELD

69 Within a year of its opening in 1891, Muirfield had hosted a British Open. It might have been tempted to rest on its laurels, but it has always stayed ahead of the game. In 2010 and 2011, alterations were made to 15 holes to make sure that Muirfield remained a challenge for the top players in the world. The most significant changes were championship tees to increase the course length to 7,245 yards (6,625m).

ROYAL TROON (OLD)

70 Precision shot-making is imperative here to enable players to deal with cavernous rough and broom and gorse. The wind on the back nine is a beast.

TURNBERRY (AILSA)

71 Among the ragged rocks and sandy hillocks, holes four to eleven are the biggest challenge, especially in wind blowing off the isle of Ailsa Craig.

GANTON

72 This golfing shrine between York and Scarborough has held the Ryder Cup, the Curtis Cup, and the Walker Cup. It's open to anyone with a handicap. There are three short par-fours and more than 100 bunkers, some of which are breathtakingly large.

ROYAL LYTHAM & ST. ANNES

73 This golf course has remained largely unchanged for more than a century. And why should it be altered when it's been good enough to host four British Opens?



ROYAL BIRKDALE

74 This repeat winner of the vote for Britain's finest golf club was chosen to host the hundredth British Open in 1971. It was also the venue for the 1969 Ryder Cup, as well as numerous other prestigious events.

ROYAL LIVERPOOL

75 In 2006, Tiger Woods said that this was a course where golf was played as it was meant to be played. In 2014, Rory McIlroy won the British Open there.

WOODHALL SPA (HOTCHKIN)

76 A heathland experience, and one of the finest you'll find. Beauty, bunkering, and precision together in the heart of Lincolnshire.

SWINLEY FOREST

77 No tournaments here because of its short, 6,000-yard (5,486m), par-68 length. But don't be fooled. Architect Harry Colt considered this his finest work.

SUNNINGDALE (OLD)

78 Willie Park Jr. was a course architect at the beginning of the twentieth century and also a great golfer. He twice won the British Open. He then designed Sunningdale Old. This course has blind shots, pesky bunkers, and imaginative par-threes. Park was a visionary.

WALTON HEATH (OLD)

79 This course in Surrey has hosted many events, including a Ryder Cup. Bernard Darwin said of it: "If there is something that golfers do not get [here], I do not know what it can be."

RYE

80 A wonderful private golf course on the English south coast. All play is two-ball, and no tee time is operated.

ROYAL ST. GEORGE

81 What more can you say about a course that has hosted the British Open 14 times and started hosting top professional and amateur tournaments in the 1880s? Here's what: they promise you a warm, friendly handshake and a welcome to play what is a semiprivate course. They provide undulating fairways and fast, true greens for a fair and challenging round. The course gets tweaked and changed to stay true to all level of handicaps.



ROYAL PORTHCAWL

82 There are no sandhills on the course, and the links slope to the shore, so every hole has sea views.

MORFONTAINE

83 In 2005 the French made a good course great by asking Kyle Phillips to create a new green for the twelfth hole and a new back tee.

VALDERRAMA

84 The top course in continental Europe, it certainly helped its reputation by holding the 1997 Ryder Cup. It's in Sotogrande, Andalusia, near Gibraltar.

OITAVOS DUNES

85 A new landing area on the eleventh, and new tees on the seventh and ninth, made Paul McGinley predict that it might become the best course in Europe.

DURBAN COUNTRY CLUB

86 When the club flooded during the 1918 South African Open, the course was rapidly rebuilt on higher land.

SHANQIN BAY

Even though golf is officially banned in China, courses are being built at a steady rate (as the current volume went to print, the nation had approximately 400 of them). The best is this one on Hainan Island, a tropical paradise.

KAWANA (FUJI)

With Mount Fuji as a backdrop, the course is beautiful and challenging enough to have hosted the Fuji-Sankie Ladies Classic.

ROYAL ADELAIDE

This is an open links course 20 minutes by road from downtown Adelaide, and only just over 1 mile (1.6km) from the coast.

NEW SOUTH WALES

With two holes alongside Botany Bay (the other 16 are on inland heath), this course in the suburb of La Perouse has been captivating golfing Sydneysiders since 1928.

BARNBOUGLE DUNES

The older sister at Barnbougle, this course offers traditional links golf at its finest. On the front nine, you play through woodland shelters that help you to orientate yourself. The back nine holes are more scenic but have fewer landmarks that can be used for triangulation.

NINE BRIDGES

Beautiful Jeju Island separates Nine Bridges from the North Korean mainland, and the golf course resembles a North American parkland design. It's a peaceful place to play.

TOKYO GOLF COURSE

Located in Sayama City, Tokyo Golf Course was designed in 1940 by Komei Ohtani. It has hosted the Japan Open Golf Championships, the Japan Amateur Golf Championships, and many international events.



ROYAL MELBOURNE (WEST)

This was the first of two courses on the Royal Melbourne property. Alister MacKenzie was hired to design it, and he quickly enlisted the help of champion player, Alex Russell, and head greenkeeper, Mick Morcom. Work began in 1926, and the course opened for business five years later. Judging by the results of satisfaction surveys, and the number of prestigious tournaments played here—including two Presidents Cups (1998 and 2011)—they seem to have got it right.

HIRONO

Said to be one of the best par-fives in the world, hole 12 here is 550 yards (503m) long from a tee box on the inlet of a lake.

ROYAL MELBOURNE (EAST)

Although partially eclipsed by its sister course, the East Course is nevertheless well worth playing.

KINGSTON HEATH

This course uses all manner of devious dips, and curious curves, to alter the path of your ball, and if you don't anticipate them, there is nothing you can do to stay out of their clutches. Always up for a challenge. Tiger Woods played Kingston Heath and said he loved the course.

BARNBOUGLE LOST FARM

Remarkably, this course has 20 holes rather than the usual 18.

KAURI CLIFFS

Fifteen of the holes overlook the Pacific Ocean, and six of them are along cliffs that plunge into the sea.

CAPE KIDNAPPERS

Cape Kidnappers promotes itself as the greatest modern marvel in golf, and this is one advertising claim that is hard to argue with. The design, by Tom Doak, fits the course against a backdrop of cliffs and the Pacific Ocean. And there's only one word for the turf—immaculate.

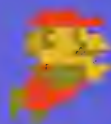
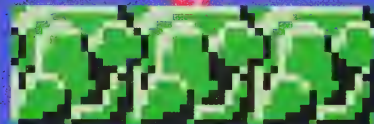


10
400

WORLD
2-2

TIME
353

x72



TENNIS FOR TWO

1 Having helped to develop the first nuclear bomb, physicist William Higinbotham went on to create the first interactive computer game, *Tennis for Two*, played on a Donner analog computer and an oscilloscope. A simple tennis simulation, it took Higinbotham four hours to design and a technician two weeks to build. He never made a penny from the game.

SPACEWAR!

2 Steve Russell's PDP-1 game was the first shoot 'em up. Two players each take control of a starship and attempt to destroy one another.

PONG

3 The first standalone arcade machine, Atari's tennis simulation was also the first video game to reach mainstream popularity. Players score points when their opponent misses the ball. It was almost certainly copied from a game included in the first commercial home video game console, the Magnavox Odyssey.

ZORK

4 From the superbrains at MIT, *Zork* draws on the first interactive fiction game, *Colossal Cave Adventure*. The word "zork" was hacker slang for an unfinished program. Despite that name, *Zork* was smart and sophisticated, with a rich, funny story, presaging modern adventure games.

SPACE INVADERS

5 Everyone knows the iconic imagery created by Tomohiro Nishikado and inspired by the arcade game *Breakout*. Players control a mobile gun fighting off a descending invasion of aliens.

100 VIDEO GAMES

MUD

6 MUD was developed by Roy Trubshaw, a student at Essex University, UK, based on the adventure game *Zork*. As a "Multi-User Dungeon," it was the first massively multiplayer game—albeit as a text adventure—allowing users to fight and cooperate online.

ROGUE

7 In this game participants play an adventurer attempting to journey to the bottom of a dungeon. Simple enough, but *Rogue* was the first game to use procedural generation heavily, meaning that it had infinite replay value. It inspired games such as *NetHack*, *Below*, and *Diablo*.

PAC-MAN

8 Toru Iwatani's iconic creation broke the growing arcade monopoly of the space shooters and tennis games. Players control the titular character as he flees ghosts and eats pac-dots, sometimes turning the tables on his pursuers.

POLE POSITION

9 Designed by *Pac-Man*'s creator Toru Iwatani, *Pole Position* focused on a realistic F1 driving experience. It was released on home computers, consoles, and in the arcades.

TETRIS

10 This game's haunting music and perfect endless puzzles meant that it was the game chosen to ship with the first Game Boys. As Alexey Pajitnov developed it in the USSR, the original Western versions were, strictly speaking, all pirated.

ELITE

11 Following the path of *Star Trader*, released a decade earlier, David Braben and Ian Bell's space game was notable for several reasons: its open-ended gameplay; the possibility of success through trading, piracy, or bounty-hunting; its procedurally generated galaxies to explore; and even an included novella. A sequel, *Elite: Dangerous*, was released in 2014 for PC and Oculus Rift.

SUPER MARIO BROS.

12 Mario first appeared in 1981 in *Donkey Kong*, but it was this eponymous game that launched the scrolling platform game series. Participants play as Mario the plumber, avoiding obstacles, jumping on monsters, and growing larger by eating mushrooms, in a race to save Princess Peach from the evil Bowser. The game has more than 200 sequels, including the racing game *Super Mario Kart*, the RPG *Paper Mario*, *Super Mario Galaxy*, *Mario Golf*, and many more. The franchise is valued at more than \$10 billion.



THE LEGEND OF ZELDA

13 This was Nintendo's second huge series, and the 17 games have so far sold more than 67 million copies. Zelda is a princess in need of rescue by a young hero, Link, who must acquire a range of objects to save her and often the world, too. The combination of puzzles, exploration, and action, as well as the hugely varied settings, have thrilled players for nearly 30 years.

METROID

14 Whereas Mario and Zelda are fantastical, Metroid is Nintendo's science-fiction franchise. Unusually, it has a female lead character, Samus, a bounty hunter exploring a non-linear action-adventure world. The exceptional *Prime* spin-off series had a first-person twist.

NINJA GAIDEN

15 This player-versus-AI action game borrowed the combo-heavy sensibilities of fighting games, such as *Street Fighter*, and foreshadowed others such as *Devil May Cry*.

PRINCE OF PERSIA

16 Jordan Mechner brought rotoscope animation and permadeath to platformers with his Arabian Nights-themed game, in which the titular prince must save the princess.

SIMCITY

17 Subtly educational, Will Wright's seminal city-builder requires players to manage a city: balancing its budgets, keeping the citizens happy, building utilities, and zoning areas for development.

MINESWEEPER

18 Given away free with Windows, Minesweeper was an entry point for many gamers. The simple puzzle game requires players to mark mines in a field using mathematical indicators.

THE SECRET OF MONKEY ISLAND

19 *Monkey Island* was the first adventure game that was out-and-out funny and also charming. Follow-ups *Sam & Max* and *Day of the Tentacle* drove the point home.

PILOTWINGS

20 The Super Nintendo's only flight sim let players fly, hang glide, and parachute through a range of targets. Simple but beautiful and challenging, *Pilotwings* established an entirely new form of challenge game.

JOHN MADDEN FOOTBALL

21 While the rest of the world loved *FIFA* and *Football Manager*, the Americans' obsession with their homegrown sport led to the ever popular Madden.

WING COMMANDER

22 Chris Roberts's cinematic space combat games took inspiration from *Star Wars*. Appropriately, later titles in the series featured the voice of Mark Hamill (Luke Skywalker) as hero Christopher Blair.



CIVILIZATION

23 One of the few series to be associated with a single designer, *Civilization* was based on a board game of the same name, but took the strategy concept a great deal further. The player's task is to guide a tribe from the Stone Age all the way into the near future, exploring the world, expanding cities, researching new technology, and dealing with other civilizations diplomatically or militarily. The series has sold more than eight million copies.

1991 SONIC THE HEDGEHOG

24 Spiky and blue, Sonic introduced fluid movement, rotation, and great speed to the relatively static platformer genre. This classic video game established Sega as a major player in the gaming industry and spawned an enduring franchise centered around the character.

1991 STREET FIGHTER II

25 Although *Mortal Kombat* was graphically stunning, it swapped tactical depth for gore. However, the balanced combat and fluid movement of *Street Fighter II* established many of the standards of the genre: drop-in combat, endless rematches, and tricky special moves.

1991 LEMMINGS

26 DMA Design also made *Grand Theft Auto*, but this suicidal crowd-control puzzle game made it famous first. The cute lemmings and classical music gave it all-round polish.

1991 SUPER MARIO KART

27 A mock-3D go-karting game, SMK's addictive local multiplayer, power-ups, and self-balancing gameplay made it a huge commercial hit.

1991 ULTIMA VII

28 Richard Garriott's *Ultima* series reached its peak with *Ultima VII*, a role-playing game that provided a huge world to explore at will.



1992 NBA JAM

32 The speed and exaggerated realism of this basketball game changed how sports games were made. It is the highest-earning arcade game ever.

1992 MYST

33 The Miller brothers' twisty puzzle game lets players explore fantastical 3D worlds, step by step, unlocking their secrets by completing environmental puzzles. There are a number of possible outcomes depending on the decisions the player makes. *Myst* was a commercial success when it was released, and until *The Sims* hit the shelves, it was the best-selling game of all time.

1993 ALONE IN THE DARK

30 Frédéric Raynal's team created this otherworldly horror game in only 12 months. It is set in 1920s Louisiana, where every step might lead to death, and it firmly established the action-adventure genre. Players must solve puzzles and fight their way out of a haunted house. The polygonal enemies were notably unique in an era dominated by hand-drawn sprites. (Avoid the spin-off movies.)

1993 ULTIMA UNDERWORLD II

31 The *Underworld* series introduced first-person action to a true 3D environment, allowing the player to look up and down, and to explore the world. Its non-linear RPG story line roamed eight parallel worlds.

1993 DOOM

34 The video game equivalent of a video nasty, *Doom* was all about killing. Following on from *Wolfenstein 3D*, the aim of the game was to survive against an array of demonic beasts. It was one of the first games to introduce networked multiplayer, and to allow players to create their own levels.



STAR WARS: TIE FIGHTER

35 George Lucas's games company LucasArts had been making adventure games for some time, but *TIE Fighter* and its predecessor *X-Wing* substantially added to the *Star Wars* universe.

UFO: ENEMY UNKNOWN

36 In Julian Gollop's tactical masterpiece, aliens have invaded Earth and you are in charge of tracking them down.

SYSTEM SHOCK

37 This first-person RPG masterpiece is set in the year 2072 and deals with a hacker trapped on a space station taken over by SHODAN, a rogue AI.



CHRONO TRIGGER

38 Criminally underplayed, this SNES RPG was created by a dream team of Japanese developers and shipped 2.65 million copies at launch. It is set in a parallel Earth, and the player controls a team of time-travelers gathered from throughout history as they strive to stop a creature that will destroy the future.

COMMAND & CONQUER

39 Play the real-time strategy game as the terrorist NOD or as the militaristic GDI. Each organization has its own story line and missions.

DIABLO

40 Blizzard's fantasy hack and slash game was brutal, gritty, and horribly addictive, with a sadistic, twisty plot. Players must negotiate their way alone through 16 levels of dungeons in order to confront and overpower the lord of terror.

POKÉMON

41 The *Pokémon* (pocket monsters) series started as two games (red and green/blue) for the Game Boy, with *Pokémon Yellow: Special Pikachu Edition* being the most complete version of the game. It is a *Zelda*-style RPG, in which players explore the world, defeating and capturing the *Pokémon* creatures, and overthrowing the elite *Pokémon* masters. Uniquely, the game made use of a connect cable to allow players to trade *Pokémon*. The huge success of these games led to the development of a heavily merchandised Japanese children's cartoon.



TAMAGOTCHI

42 The name "Tamagotchi" comes from *tamago* meaning "egg," and the English word "watch." They were designed originally for teenage girls to show them what it would be like to take care of a child. Each egg-shaped device contained an artificial life-form that players had to hatch, raise, and care for, making sure that they fed it and petted it at appropriate intervals. More than 80 million official Tamagotchis have been sold, and the idea was heavily copied, too. Because of the disruption caused when a Tamagotchi "died," the devices were often banned from schools.

TOMB RAIDER

43 Some might argue that Eidos's game succeeded because of its protagonists' pneumatic attributes, but they would be ignoring the game's superlative mix of puzzles, traversal, and combat. And Lara's endless sass.

DUNGEON KEEPER

44 Ever wanted to be evil? *Dungeon Keeper* lets you play as a dark lord. You can build an underground fortress then send your minions to despoil and crush do-gooders.

ULTIMA ONLINE

45 *Ultima Online* revolutionized multiplayer gaming. Aside from compelling combat, players could farm, build housing, and establish businesses. A true original.

1997

FINAL FANTASY VII

46 For the Playstation gamer, *Final Fantasy VII* was the peak of the Japanese RPG series, with a plot twist designed to break fragile hearts. Its team-driven, turn-based combat was also a big attraction. *Final Fantasy VII* was the first in the series to use 3D computer graphics. *Final Fantasy XV* is the latest installment so far.



FALLOUT

47 What would have happened had the Cold War turned hot? *Fallout* attempts to answer this with a tactical RPG set in a postapocalyptic world grown out of the 1950s. You play a young bunker-dwelling survivor—the Vault Dweller—thrust out into this dark, unfamiliar world in a desperate attempt to find a new water filter. The next task is to tackle a community of mutants led by the Master. Complex clues and violent combat ensure that players never rest easy.

GOLDENEYE 007

48 Bond has appeared on many consoles, but this N64 outing is the most faithful incarnation: an innovative first-person shooter with an amazing combative multiplayer.

HALF-LIFE

49 Before the first-person shooter *Half-Life*, almost no one had heard of Valve; now the company practically runs PC games through its Steam platform. Here, you take the role of Gordon Freeman, a scientist trapped in a research facility that has accidentally penetrated an alien dimension.

THIEF

50 Looking Glass Studios was the master of first-person role playing, as *Thief* demonstrated. In this criminally tough game, participants play a fantasy rogue who steals jewels from the rich. The game was remade in 2014.

METAL GEAR SOLID

51 Hideo Kojima's Playstation debut created the stealth genre and used innovative hardware tricks that have never been bettered.

STARCRAFT

52 Blizzard's science-fiction offering was a standard real-time strategy game, but the balance of its three playable races made the multiplayer scene take off.

PLANESCAPE: TORMENT

53 All BioWare's RPGs are word heavy, but none more so than the quirky *Torment*, which had more lines of dialogue than most books. A spiritual sequel, *Torment: Tides of Numenera*, was released in 2015.



COUNTER-STRIKE

54 This offering made multiplayer games a true e-sport in the West. Two teams—one terrorist, one SWAT—battle with realistic modern weaponry.



THE SIMS

56 After he had bored of *SimCity*, Will Wright moved down in scale, to simulating humanity at a more granular level. *The Sims* lets players control individuals and small families as they seek to make a living, and build their homes. It was the first game that enjoyed a large young female audience, perhaps because of its similarity to a doll's house. Because of this, it is the best-selling PC game series of all time, with more than 175 million units sold.

1999

KING OF DRAGON PASS

55 Unnoticed on release, this fantasy game mixed strategy, text adventure, and civilization to make something entirely unique.

DEUS EX

57 This Ion Storm RPG presaged the conspiracy theories of Dan Brown, portraying a near-future world struggling with technological change. The series continues to be cutting edge and ask probing questions about what it is to be a modern human.

TONY HAWK'S PRO SKATER 2

58 The best skateboarding game of all time, this established the genre as we know it today.

SHOGUN: TOTAL WAR

59 Britain's Creative Assembly made this multilevel strategy game, drawing heavily on *Civilization* and *Command & Conquer*. Players control a state in feudal Japan, building fortresses and fighting other states, in realistic 3D battles that involve hundreds of soldiers.

GRAND THEFT AUTO III

60 The first *Grand Theft Auto* was a top-down 2D arcade game designed by DMA Design, but under the stewardship of Take-Two's media-shy Houser brothers it morphed into a more realistic 3D world, with a specialty for creating controversy. Now the series comprises the biggest-budget games around, combining driving, combat, stealth, dialogue, and outrageous story lines. Dennis Hopper, Debbie Harry, and Samuel L. Jackson have all starred.



HALO: COMBAT EVOLVED

61 The game that made the Xbox viable, Bungie's exclusive first-person shooter is set on a newly discovered ringworld, an artificial satellite of mind-boggling dimensions. With both single- and multiplayer modes of superb quality and visceral combat, the series has continued to thrill consumers.

ANIMAL CROSSING

62 This peaceful town simulation was a welcome change from the violence of many games. Players log in to chat with the AI animal inhabitants, to decorate their houses, and generally to craft a town. It paved the way for simple social games like *Farmville*.

SUPER MONKEY BALL

63 Like its ancestor *Pilotwings*, this has a fantastically simple mechanic: controlling a monkey in a ball through a series of 3D puzzle mazes.

UPLINK

64 Introversion replicated the experience of a top-notch 1990s hacker, from mucky internet forums to dodgy employers.

JET SET RADIO FUTURE

65 Combining an addictive skating game with an anarchistic story line and graffiti-inspired art, *Jet Set Radio* trumped even *Amped 3* for enjoyable nonsense.

THE ELDER SCROLLS III: MORROWIND

66 Before *Skyrim* and *Oblivion* was *Morrowind*, a perfect little mushroomy island for players to explore. An experienced gamer could complete it in ten minutes, but it will take most players hundreds of hours.

BATTLEFIELD 1942

67 The *Battlefield* combat series stands out for its ambition. Its trademark is polished multiplayer infantry and vehicle combat on an increasingly grand scale.

EVE ONLINE

65 Few games escape their creators' control; after all they have programmed every element of them. Yet the rules put in place in *Eve Online* created a strange, complex world that requires utter commitment to take part. Players are ship pilots in a huge player-run universe, with massive wars. Its corporation structures also encourage the nastiest intrigue and espionage.



STAR WARS: KNIGHTS OF THE OLD REPUBLIC

60 BioWare had nothing to prove after *Baldur's Gate* and *Planescape*, but KOTOR had an epic plot that allowed players to explore both the worst and best of humanity and the force.

DEFENSE OF THE ANCIENTS (DOTA)

70 DotA was a mod for Blizzard's *Warcraft III*. Players control heroes attempting to destroy each other's base while AI characters automatically fight for each side.

BEYOND GOOD & EVIL

71 *Rayman* creator Michel Ancel surpassed himself in this science-fiction puzzle action-adventure, which dodged many of the era's clichés.

PLANETSIDE

72 Sony's first-person multiplayer shooter *PlanetSide* featured groundbreaking mammoth online battles.

WARIOWARE

73 The *WarioWare* games are each a bizarre series of strange microgames, featuring Mario's evil, stupid doppelgänger. Each game lasts under five seconds.

WORLD OF WARCRAFT

74 This is the game that made fantasy game company Blizzard a worldwide sensation. Players appear in a cartoonish fantasy world, derived from *EverQuest* and *Ultima Online*. Together they battle AI enemies and each other, and explore the enormous world.



MONSTER HUNTER

75 A cooperative hunting game, in which players hunt fantasy animals in quests, *Monster Hunter* allowed networked console players to play together.

SINGSTAR

76 *SingStar*'s pitch-detection software allowed it to correct and train players to sing better. Its catalog is notably comprehensive, with more than 1,000 songs available and some 70-plus games.

SHADOW OF THE COLOSSUS

77 The follow-up to the impressionistic *Ico* was this beautiful giant-hunting game. Exploring a silent desert full of ruins, players must find and kill a range of ponderous, sometimes pacifist giants by climbing them.

GUITAR HERO

78 Although *Rock Band* would later trump it, Harmonix's game mixed frenetic grappling with a plastic guitar with a savvy campaign mode, where your cartoon band played at progressively better venues.

RESIDENT EVIL 4

79 This was a departure from the series of survival horror action games, moving to a true 3D world and tough combat system.

WII SPORTS

80 The Wii was the first games console that could claim to be completely mainstream. However, very few games were bought for it. Perhaps this was because *Wii Sports* was bundled with it, allowing players to use a motion controller to mimic playing bowling, tennis, golf, boxing, and baseball.

BIOSHOCK

82 Ken Levine's Art Deco masterpiece showed that it is possible to combine a philosophical theme and unique design with the mass appeal mechanics of a first-person shooter. The follow-up, *BioShock Infinite*, was equally stunning and received critical acclaim.

CALL OF DUTY 4: MODERN WARFARE

83 The earlier *Call of Duty* games were highly accomplished riffs on *Medal of Honor*. However, *Modern Warfare* brought the first-person shooter into a believable modern day, with a smart plot, iconic locations, and innovative character swapping.

MASS EFFECT

84 Not content with *Baldur's Gate* and *Planescape*, BioWare created *Dragon Age* and *Mass Effect*. Mature and smart, with compelling combat, you control Commander Shepard to try and save the galaxy.

UNCHARTED: DRAKE'S FORTUNE

85 Nathan Drake might have been a copy of Indiana Jones, but he has become an icon. This is due to the knowing script of Naughty Dog's Amy Hennig and to the *Tomb Raider*-inspired action



DWARF FORTRESS

81 The developers of *Dwarf Fortress* never intended to make it accessible. Before you even play the game, it generates thousands of years of history in its fantasy world. Then you attempt to guide a crew of uncooperative, often insane, dwarfs to build homes and defenses, and to grow food. And it is all displayed with the basic keyboard characters of the 1980s.

PORTAL

86 Few games have managed to do comedy well, and most of those have been adventure games. However, Valve's unique first-person puzzler managed it with only one character: the sadistic AI GLadOS, who taunts your silent protagonist as you explore her death trap with your unique teleportation device.



TEAM FORTRESS 2

87 Valve's shooter revolutionized user-generated content, allowing players to craft and sell their own in-game items. It is also a highly skilled but accessible team combat game.

ASSASSIN'S CREED

88 These beautiful, do-anything, historical action games are created by more than 2,000 developers.

PEGGLE

89 A smart action-puzzle game that mingles Japanese Pachinko with the power-ups of *Breakout*.

2007

S.T.A.L.K.E.R.: SHADOW OF CHERNOBYL

90 A perfect conversion of the Strugatsky brothers' seminal science-fiction novel *Roadside Picnic*.

2008

SPELUNKY

91 Starting as a free game then moving to console, Derek Yu's procedurally generated platform game is impossibly difficult, up there with *Super Meat Boy*. Death comes quickly to your treasure-added explorer, as he descends deeper into a lost tomb packed with traps and monsters.

2009

BRAID

92 Jonathan Blow's debut is, on first view, a particularly beautiful platform game. Yet, it gradually reveals its plot and tricks, showing it to be about time manipulation, regret, and fear, with a possible undertone about the nuclear bomb. Players take the role of Tim, who is attempting to rescue a princess from a monster. As you explore the levels of the world, you encounter new time-based mechanics and discover more about Tim's relationship with the princess and his own regrets.



LITTLEBIGPLANET

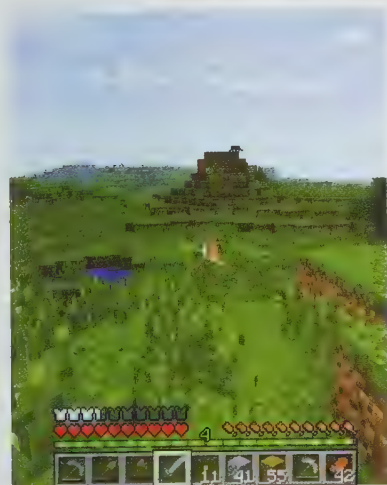
93 A charming creative multiplayer platformer where players can share their creations with others.

BATMAN: ARKHAM ASYLUM

94 Gritty and grim, this is the dark Batman of the comics. Its fluid combat system and open world have been much copied.

ANGRY BIRDS

95 At root, a catapult game with cartoon branding, *Angry Birds* is a merchandising phenomenon.



MINECRAFT

96 This unfinished cloned game by a Swedish developer has sold 53 million copies. It is a first-person survival game, with a 3D 8-bit style, in which players must mine resources and craft objects to survive in a hostile world. The game's creative mode allows players to sculpt a world, and it has multiplayer worlds, too. The idea and look were taken from *Infiniminer*, an earlier abandoned game by the developer behind *SpaceChem*. Ideal for children due to its creative aspects, *Minecraft* was ported to iOS, Xbox 360, PS4, and Xbox One. Microsoft bought the game from its developer Markus "Notch" Persson for \$2.5 billion.

TO THE MOON

97 This beautifully written pixilated adventure explores the unfulfilled romantic dreams of a dying old man. The action travels backward in time to reveal his past.

SPACECHEM

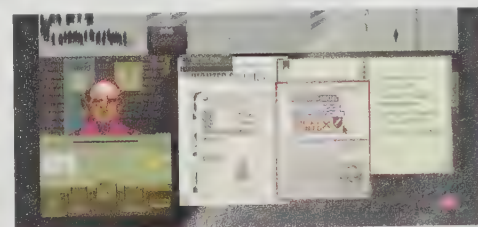
98 Players puzzle out the most efficient way to create a given molecule from basic atoms, on planet after planet.

THE WALKING DEAD

99 Here, the cross-media zombie phenomenon is an adventure game, in which you must save your twin protagonists. Telltale's game was widely praised for its plot and script.

PAPERS, PLEASE

100 The childlike retro style might evoke the monochrome Japanese RPGs of the 1980s, but this is a mature game. Taking the role of a border guard in a totalitarian regime, you must balance humanity, efficiency, your family's needs, and your own survival.





ACTIVE

DARTS

1 From a traditional British pub game to a global professional sport, the basics of darts are the same: throw three pointed missiles at a round target board divided into different scoring zones (probably derived from a cross-section of a tree).

LASER TAG

2 Having evolved from a US Army combat training system, laser tag is now a popular recreational activity with its own world championships. Players use a laser gun to hit (or "tag") targets worn by other players, either indoors or outside.

FRISBEE

3 The freestyle throwing and catching game was first seen in the 1930s on a Californian beach, and the players were throwing a cake pan. Now most disks and rings are plastic. The original "Frisbee" is a registered trademark of US toy company Wham-O.

ACTIVE

TABLE SOCCER

4 A British soccer fan invented this game, which uses players on rotating rods, in 1921. It has since spread across the world and is usually seen in bars and clubs, although devotees have tried to get it accepted as an Olympic sport.

PAINTBALL

5 Paintball players use special guns to fire dye pellets at rival teams. It originated in the United States in 1981 and is popular around the world. It ranges from role-playing outdoor recreation to serious military training and professional tournaments.

100 GAMES

ACTIVE

SHUFFLEBOARD

6 Players use a long paddle to push weighted pucks over areas marked for different scores.

ACTIVE

QUOITS

7 Tossing rings over vertical pins to score points has been a popular game since the time of the ancient Greeks.

ACTIVE

AUNT SALLY

8 This mysterious traditional British pub game involves throwing battens at models of an old woman's head. It was often played at fairgrounds, and various methods of scoring were introduced. It is still played in some English counties.

BALL

POOL

9 Pool players use wooden cues to hit a white ball against colored balls in an attempt to knock them into one of six pockets around the edge of a cloth-covered table. The modern form originates from the United States, but it is now found in bars and clubs globally. Pool has overtaken other snooker-type games because its smaller table requires less skill and less space, making it more accessible to all.

BOULES

10 Players throw or roll heavy balls as close as possible to a small target ball. Called *bocce* in Italy and *pétanque* in southern France, the game is mostly played outdoors. Boules usually involves a semiformal court on a flattened area of public ground.

TENPIN BOWLING

11 This game involves rolling a heavy ball, drilled with finger holes, along a lane to knock over as many tenpins as possible. Balls and pins have been found in ancient Egyptian tombs.

TABLE

BAGATELLE

12 First formalized in eighteenth-century France, the game involves flicking balls into scoring holes on a table while avoiding vertical peg obstacles. Pinball evolved as a mechanical version.

FIELD

CROQUET

13 Players use a mallet to hit balls through hoops stuck into a flat lawn. The roots are uncertain but England's seventeenth-century Charles II was a keen player.

TABLE

DODGEBALL

14 Dodgeball is usually played in schools or institutions. Teams throw soft balls and attempt to hit opposing players while trying to dodge oncoming balls themselves.

TABLE

SNOOKER

15 This cue sport involves hitting heavy colored ceramic balls into six pockets around a large table.

ROUNDERS

16 Played in Britain since Tudor times, this predecessor of softball and baseball involves two teams taking turns to bat and field.

SKITTLES

Traditionally played on grass but latterly in pubs, this simple British team game uses wooden skittles and balls. It evolved into modern bowling games.

OPERATION

Invented in 1964, this is a tense but fun game that tests players' hand/eye coordination. The object is to perform an "operation" with a steady hand.

CHECKERS

The two players of this 5,000-year-old strategic game move black or white counters to capture rival pieces by jumping over them on a checkered board.

DUNGEONS & DRAGONS

Players take imaginary interactive roles to accumulate points under the supervision of a "dungeon master" in this fantasy tabletop game invented in 1974.

JENGA

Two or more players take turns to remove wooden blocks from a tower until it collapses. Jenga was launched at the London Toy Fair in 1983.

CHESS

From its origin in India more than 1,500 years ago, chess has become one of the world's most widespread and popular games. Two players compete on a board of 64 squares, taking turns to maneuver a set of white or black pieces to capture their rival's "king." Sets comprise six types of pieces (king, queen, pawn, knight, bishop, and rook) with different capabilities. It is all about strategy; expert players devise complex plans reaching many moves ahead.

LEGO NINJAGO

The building blocks empire spawned this modern two-person game where players simultaneously spin disk-mounted warriors in a ring, armed with a choice of weapons.

CONNECT FOUR

Two players take turns to drop their colored disks into a vertical frame, aiming to connect four counters in a line or to stop their opponent doing so.

RISK

In this strategy board game launched during the Cold War, up to six players control armies that conquer territories in battles decided by dice throws.



SCRABBLE

Up to four players take turns to score points by placing lettered tiles onto a board, making and joining words. It was invented by architect Alfred Butts in 1938, and since that time Scrabble has sold 150 million copies in 121 countries and 29 languages. It has appeared as a TV game show, in a portable travel edition, and as an internet game.

MANCALA

The board has rows of pits and players take turns to strategically move counters to capture as many as possible. The game has hundreds of variants over most of the world.

CLUEDO

Who is the murderer? Since the 1940s, players of this board game have moved around the rooms of the Cluedo mansion collecting clues.

SUBBUTEO

Players compete in miniature soccer matches by flicking players mounted on weighted bases across a cloth field in an attempt to score a goal.

MAHJONG

This traditional Chinese game is similar to some card games but it is usually played with 144 tiles depicting 34 different symbols and certain wild "bonus" tiles. There are regional variations but most games involve four players holding 13 tiles each and taking turns drawing and discarding tiles as they compete to collect groups of symbols using strategy, cunning, and a little luck.



HARE GAMES

31 In medieval Europe two people often played this fantasy hunting game involving three dogs trying to trap a hare on various-shaped checkered boards.

DIPLOMACY

32 In this strategic game representing the power struggle in Edwardian Europe, players must focus on negotiating or breaking alliances with other players to win.



MONOPOLY

33 Players buy and develop famous addresses, trying to make opponents bankrupt by charging them rents for landing on their properties.

SNAKES & LADDERS

34 This simple dice-based children's game originated in India. It involves a race to the end of a board helped by ladders and hindered by snakes.

GO

35 This ancient Chinese strategy game is played on a square grid. Players place stones on the intersections, trying to surround more squares than their opponent.

BACKGAMMON

36 Primitive backgammon boards have been found in Middle Eastern tombs dating back 5,000 years. The game involves a race to remove your pieces from the board according to dice throws. Luck is involved but the importance of strategy has helped spread the game globally and World Championships are now held annually in Monte Carlo.



ASHTAPADA

38 Players of this ancient Indian game race their pieces around the board by throwing four shells. The way the shells land determines the number of squares moved.

BALDERDASH

41 On the basis of writing and judging real and fake definitions for supplied words, players are awarded points and move their counters around the board accordingly. It is based on the parlor game Dictionary.

PICTIONARY

39 Teams of players progress around the board by repeatedly trying to guess specific supplied words from teammates' drawings within a one-minute time limit.

BRIDGE

42 This card game is played by two teams of two that vie with one another to predict how many rounds or "tricks" they will win in each deal or "hand."

BLACKJACK

43 The world's best-known casino game is a simple card battle between player and dealer. Players win if their hand totals 21, if it is under 21 but higher than the dealer's, or if the dealer draws cards that "bust" by totaling more than 21. Picture cards count as ten points, aces either one or eleven. Players initially receive two cards, then ask for more until they bust or stick on a score. The dealer then tries to beat that score. There are geographic variations in the game but the odds are always in the casino's favor.

DOMINOES

37 Players take turns to lay down tiles, which have two square faces depicting up to six dots on each. Various tactical games have evolved, in which the tile's face is placed against a matching face already on the table.

ARTICULATE!

40 Articulate! was launched in 1992. In each 30-second round, the rival teams have to progress around the board by guessing as quickly as possible a supplied word as defined by a teammate.



POKER

44 The many different forms of this gambling card game involve betting on whether you hold a winning hand based on a hierarchy of sets and formations of cards, for example a "full house" or "straight flush." It was first recorded in New Orleans in 1829 and spread northward on Mississippi riverboats and westward with gold prospectors.

WHIST

45 This classic card game was popular in English eighteenth-century coffee houses. It involved a random selection of "trump" suit.

RUMMY

46 The object of the game is to gather cards to form sets of the same number or sequences of the same suit.



SNAP

49 This fast-paced, simple children's game involves the entire pack of cards. Players present the cards in turn, without looking at them first. The object of the game is to spot consecutive matching cards. The first to shout "snap," or in some variations of the game to place their hand on the cards, wins the discarded pile. When you have no cards left, you are out and play continues until there is only one player left with cards to play. Snap is often one of the first games taught to young children because it encourages visual recognition skills.

SOLITAIRE

47 This broad genre of card games is designed for one player only and usually involves progressively sorting a shuffled pack of cards in a specified way. The many variations have different levels of complexity.

EUCHRE

48 A traditional trick-taking card game played across North America, Britain, and its Commonwealth, Euchre's special feature is the power assigned to the jacks.

CANASTA

50 Invented in Uruguay in 1939, this four-player rummy-style card game became a worldwide craze in the 1950s.

BACCARAT

51 In this casino card game, famously enjoyed by James Bond, players try to outscore the banker to win. It often attracts high stakes.

CHEAT

52 Known by different names worldwide, cheat is a card game based on cunning, deceit, and distrust as players race to be first to get rid of their hand.

POKÉMON CARDS

53 These trading cards based on video game characters became a global hit. Youngsters take turns to present cards that can defeat opponents using various special powers.

CRIBBAGE

54 The object of this 400-year-old card game is to be the first to score a prescribed number of points by collecting various sets and combinations of cards, including the special feature of collecting groups of cards that total 15. Scores are kept on a distinctive board, in which pegs are placed in marked holes.

CRAPS

55 Players bet on the outcome of the roll of two dice in this modern version of a game dating back 500 years.

LOTTERY

56 One of the simplest forms of gambling, a lottery involves drawing a winning token at random from all the other contestants.



ROULETTE

57 This casino game originated in France about 300 years ago. It involves a ball thrown into a rotating wheel with segments marked with colors and numbers. Players bet on where the ball will land. The casino wins if it lands on zero.

JACKS

58 Originally played with sheep knucklebones, the game of jacks involves variously throwing and picking up a number of small objects in a series of prescribed moves.

LAND

PICK-UP STICKS

58 A bundle of long thin sticks is dropped into a random pile. Players take turns to try to pick up a stick without disturbing any of the others, until none are left. There is a variety of scoring systems.



CAT'S CRADLE

60 Two players take turns to make patterns with thread looped between their hands in this ancient game found in cultures all over the world.

TIDDLYWINKS

61 The flicking of plastic disks into a pot is now considered a children's game but it was originally a strategic Victorian parlor game for adults.

PASS THE PIGS

62 Points are awarded according to the way in which two thrown model pigs land; for example a "snouter"—a pig leaning on its nose—earns ten points.

MUSICAL CHAIRS

63 This children's party game involves players moving around an arrangement of chairs amid loud music. The number of chairs is always one less than the number of players. When the music stops, everyone races to sit on a chair. The player who is left standing is eliminated from the game. One chair is then removed and play continues until only a single chair remains. The person who manages to claim this seat when the music stops for the final time is the winner. There is very little skill involved, except quick reactions. Other versions of the game are musical bumps, in which players sit on the ground when the music stops, and musical statues, in which players must stand still.

TELEPHONE

64 A string of players quietly whispers a secret message from one to the other. The original and final messages are then compared and are usually humorously different.

BLIND MAN'S BLUFF

65 In this variation of tag, the catcher is blindfolded. In some versions, the catcher must feel the victim's face to try to identify them.

SPOOF

66 Players hold between zero and three coins in their hand. Each player tries to guess the total number of coins held by the group.

PARTY

CHARADES

67 A player mimes a word or phrase for a group to try to guess. Today the target words are often movie, book, or song titles; originally in eighteenth-century France, it was a riddle that often had to be guessed syllable by syllable. The game is usually played in two teams.

PARTY

CARDS AGAINST HUMANITY

68 "The party game for horrible people" is an adult game using cards that feature pre-selected phrases to complete sentences in the most humorous way possible.

TRIVIAL PURSUIT

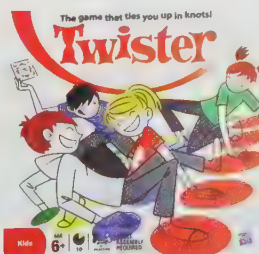
69 This successful Canadian invention involves players racing around a board by answering general knowledge questions.

WHO AM I?

70 The name of a famous person is written on a piece of paper and stuck to a player's forehead. They must ask questions to discover their identity.

APPLE BOBBING

71 Apples float in a bowl of water and players have to retrieve the fruit using their teeth only. The game dates back to the Roman conquest of Britain.



TWISTER

72 This slightly risqué 1960s party game is played on a plastic mat covered with different colored circles. Players contort themselves to place their hands and feet on specified colors while another player, usually of the opposite sex, tries to do the same.

HOT & COLD

Also called "Hunt the Thimble," this party game involves a player finding a hidden object. Other players give the hunter directional clues such as "hotter" or "colder."

PIN THE TAIL ON THE DONKEY

Blindfolded children must pin the tail in the right place on a picture of a donkey. The closest one wins.

20 QUESTIONS

One player thinks of an object, and the others must discover what it is by asking 20 questions. They can be answered only with "yes" or "no."

COOTIE

Originally played by British children on paper, Cootie is the commercially packaged version of the game with a plastic beetle. Players complete the drawing or model of a beetle by adding body parts determined by corresponding dice throws.

CONSEQUENCES

Players compile a humorous or weird story by adding their own contribution to a piece of paper, which is then folded to hide previous entries and passed on.

HANGMAN

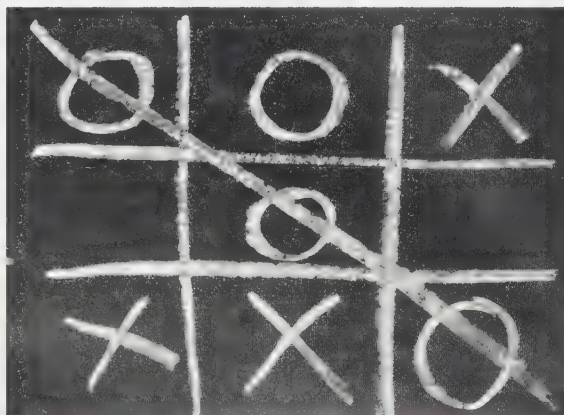
In a game dating from Victorian times, players try to guess a word by suggesting letters one at a time. Each false guess adds an element to the "hanged man."

BATTLESHIPS

In this two-player guessing game, players sink each other's battleships by taking turns "firing" speculative shots at a grid containing the rival's ships. It can be played on paper or on screen.

BINGO

From its origin as an Italian lottery-style game, bingo involves players racing to mark off randomly generated numbers on a personal scorecard. The first to complete their card shouts "bingo" to win.



NOUGHTS & CROSSES

Often called "tic-tac-toe," this children's game uses a nine-square grid. Two players make alternate marks to complete or prevent a straight line of three. It dates back thousands of years and the game grids have been found chalked on a number of relics of ancient Rome.

I SPY

This observation game is used by parents to amuse children in a boring situation. One player chooses an object they can see, then announces: "I spy with my little eye something beginning with..." The others have to guess what it is.

MONKEY IN THE MIDDLE

Two or more players pass a ball between them while another tries to intercept it. Its alternative names across the world include "Keep Away," "Silly Johnny," and "Piggy in the Middle."



CONKERS

This traditional but seasonal British game involves two players with horse chestnuts threaded onto string. Players take turns to swing a strike at the rival's dangling conker. Play continues until one conker is smashed off the string.

FOLLOW THE LEADER

One player is chosen as leader for this playground game. The others line up behind and must follow or copy exactly what the leader does.

ORANGES & LEMONS

Children sing a traditional song passing in pairs under an "arch" of arms. At the final line of the song, the arch falls to catch whoever is underneath.

PLAYERS: 4-10

RING AROUND THE ROSIE

67 A traditional European nursery rhyme accompanies this children's game. Players hold hands in a circle and dance around singing it until they collapse together at the last line: "We all fall down."

PLAYERS: 4-10

WHAT'S THE TIME MR. WOLF?

88 Children creep toward Mr. Wolf and ask him what the time is as they approach. Mr. Wolf must face away but can suddenly shout "it's dinner time" and turn around to chase them.

PLAYERS: 4-10

BRITISH BULLDOGS

89 Children try to run across the playground past one or two "bulldogs" without being caught.

FREEZE TAG

90 In a variant of tag, those caught must remain still until "unfrozen" by another player's touch.

PLAYERS: 4-10

HIDE & SEEK

91 Whether played inside or outdoors, one player is selected to be the seeker. While the seeker counts out loud up to a specified number, the rest of the players hide. The seeker usually shouts "ready or not, here I come" before starting to look for them.



PLAYERS: 4-10

SKIPPING

92 There are many children's skipping games, patterns, and songs. It can be a one-person game, jumping over your own rope, or a group activity, taking turns while others hold the rope.

PLAYERS: 4-10

LEAPFROG

93 This medieval game is a physical activity in which one person bends over and the other vaults over their back. The game can involve a continuous stream of people alternately bending then vaulting.

PLAYERS: 4-10

PAT-A-CAKE

94 Children chant this seventeenth-century British nursery rhyme while performing hand clapping sequences with another player. Parents play it to interact with the very young and insert the child's name into the last line.

PLAYERS: 4-10

TAG

95 One of the most popular children's games is so simple that it has no teams, no scores, and no equipment. Children run around trying to avoid being "tagged" by the catcher, known as "it." When you are caught, you swap places and become the new "it." Some variants include safe havens.

ROCK, PAPER, SCISSORS

97 Two people play this game by simultaneously forming one of three shapes with their outstretched hand. The rules are that scissors beat paper, rock beats scissors, and paper beats rock. The game is thought to date from China around 2,000 years ago and it only spread to Europe in the last century.

KISS CHASE

96 In this ancient, gender-based children's game of chase, catchers "tag" victims by kissing them. Youngsters pecked cheeks; teens were more demonstrative. There are a number of variations, including a version in which all the players of the same gender are on the same team.



PLAYERS: 4-10

MARBLES

98 Usually these small balls are made of colored glass. There are very many variations of the game: some are similar to mini boules; others involve knocking marbles into a hole.

PLAYERS: 4-10

HOPSCOTCH

99 Children mark out hopscotch courts with chalk on playground surfaces. It is a traditional game played by hopping and jumping through the sequence of numbered spaces to retrieve an object tossed onto the court.

PLAYERS: 4-10

SIMON SAYS

100 The chosen "Simon" gives instructions, such as "stand on one leg" or "whistle," prefacing some commands with "Simon says . . ." If Simon does not use this prefix, players should not follow the instruction.





FOOD & DRINK

To avoid pangs of hunger and thirst, this section is best perused on a full stomach. It runs the entire gamut of everything to delight the gourmet and the gourmand, and introduces the legendary chefs that have transformed the dining experience and what we call cuisine. There are Top 100s of the finest foods and drinks, and a list of the finest establishments in the world in which to experience them.

◀ A turbot fish dish served
at the Herman restaurant in
Copenhagen, Denmark.



WEST SUSSEX, UK **NYETIMBER CLASSIC CUVÉE**

1 England's first world-class wine, this is a champagne-style sparkling from the chalk soils of Sussex's South Downs that has spawned a host of imitators since its first appearance in 1993.

CHAMPAGNE, FRANCE **JACQUES SELOSSE CUVÉE SUBSTANCE**

2 Where once grape growers sold all their grapes to the big houses, now many make their own fine wines. Anselme Selosse is the key figure in this movement; his weighty, savory wines attract a worldwide cult audience.

100 WINES

CHAMPAGNE, FRANCE **KRUG GRANDE CUVÉE**

4 Krug makes many superb vintage and single-vineyard wines that are among the Champagne region's finest bottles. But it is on the consistent, distinctive quality of its multi-vintage Grande Cuvée blend of Pinot Noir, Pinot Meunier, and Chardonnay that the house has built its reputation, careful oak-aging contributing to its trademark depth and richness.

CHAMPAGNE, FRANCE **SALON**

5 Currently owned by Laurent-Perrier, the house of Salon focuses, as it always has done, on a single, very special wine. Since its first vintage in 1905, a mere 38 vintages have thus far been released of the 100 percent Chardonnay Cuvée "S" from the village of Le Mesnil-sur-Oger. The chef de cave will release it only once it's deemed ready to represent the house style, and the requisite gestation period has never been less than ten years. This long aging in the cellars yields a Champagne of startling purity and precision, of dancing, gossamer bubbles, and graceful length.

CHAMPAGNE, FRANCE **DOM PÉRIGNON**

3 Named for the seventeenth-century Benedictine monk and winemaker who did so much to develop wine in Champagne, Dom Pérignon has set the standard for the upper echelons of the region's modern industry. Part of the Moët & Chandon house, it is, as is the custom with Vintage Champagne, released only in years where nature provides Pinot Noir and Chardonnay grapes of sufficient quality. It comes in two styles, a rosé and the more widely known white, as well as two further cuvées, P2 and P3, where the vintage is left to age for a further 10 and 20 years respectively before release. The straight release white is special enough, characterized by, and justly celebrated for, its silky texture, its discreet power, and its energy.

CHAMPAGNE, FRANCE **LOUIS ROEDERER CRISTAL**

6 Originally created for Czar Alexander II in 1876, Cristal has latterly become a symbol of bling. But beneath the surface glamour, this is a serious wine, a luminous, laser-guided fizz.

CRÉMANT DE LOIRE, FRANCE **JACKY BLOT TRIPLE ZERO**

7 Whether he's making cabernet franc reds, or sweet or dry whites from Chenin Blanc, Blot's wines are always interesting, not least this creamy, pure apple-scented Chenin fizz.

CATALONIA, SPAIN **GRAMONA III LUSTROS GRAN RESERVA CAVA**

8 A riposte to those who view Cava as a budget option, this blend of Catalan varieties is comparable to Champagne in its elegance, but with a nutty, honeyed character.

FRANCIACORTA, ITALY **CA' DEL BOSCO CUVÉE ANNAMARIA CLEMENTI**
9 This region's bottle-fermented sparkling wines are Italy's answer to Champagne, and this elegant cuvée from pioneering producer Ca' del Bosco is its finest expression.

TASMANIA, AUSTRALIA **HOUSE OF ARRAS BLANC DE BLANCS**

10 Cool-climate Tasmania is Australia's best site for sparkling wines, and this Chardonnay is a classic of its kind.

KISTLER LES NOISETIERS CHARDONNAY

11 One of several cuvées that have redefined California Chardonnay, this one comes from partners Steve Kistler's and Mark Bixler's cool site in the Mayacamas Mountains, and showcases their trademark style of sun-filled ripe fruit, subtle oak, and driving acidity.

NEW YORK, USA **DR. KONSTANTIN FRANK FINGER LAKES RIESLING**

12 This graceful, off-dry white from the Finger Lakes of upstate New York is America's answer to Mosel Riesling.

LEYDA, CHILE WHITE

VIÑA LEYDA GARUMA VINEYARD SAUVIGNON BLANC

13 Chilean winemakers have increasingly looked to the mountains and the coast for cool sites suitable for aromatic whites. Next to the Pacific, the Leyda Valley is one such new vineyard, where the producer makes thrillingly vivid, vibrant, taut Sauvignons.



ALSACE, FRANCE WHITE

TRIMBACH CLOS STE HUNE RIESLING

14 In terms of both scale and quality, the Trimbach family is among the most significant producers in Alsace. The jewel in the Trimbach crown is the Riesling from the tiny Clos Ste-Hune vineyard within the Rosacker grand cru: a long-lived, exotic, richly proportioned, dry white.

ALSACE, FRANCE WHITE

ZIND HUMBRECHT GEWÜRZTRAMINER GRAND CRU HENGST

15 Biodynamic enthusiast Olivier Humbrecht's Gewürztraminer from the grand cru vineyard of Hengst is a fabulously bold creation, swirling with roses, spices, exotic fruit, and savory base notes.

VOUVRAY, LOIRE, FRANCE WHITE

DOMAINE HUET LE HAUT-LIEU DEMI-SEC

16 The great Chenin Blancs—made in fully sweet (*moelleux*) or gracefully off-dry (*demi-sec*) styles by Domaine Huet in their highest (*le haut lieu*) vineyard in Vouvray—are remarkable for their longevity, adding layers of fabulous tarte-tatin richness over decades.

BURGUNDY, FRANCE WHITE

DOMAINE RENÉ ET VINCENT DAUVISSAT CHABLIS GRAND CRU LES CLOS, CHABLIS

18 No region produces Chardonnay in quite the same pure, transparent style as Chablis in northern Burgundy, with its trademark swish of acidity. And no one makes Chablis quite like Domaine Dauvissat, whose finest expression, from the tiny grand cru site of Les Clos, is a masterpiece of clarity.

BURGUNDY, FRANCE WHITE

DOMAINE DES COMTES LAFON MONTRACHET

20 Domaine des Comtes Lafon has access to some of the world's best Chardonnay grapes, which it transforms in its deep, cool cellars into some of the most sought-after dry white wines. As with all great white Burgundies, Lafon's wines are marked by their combination of golden richness and quicksilver energy: resonant, and luminous, with oatmeal, minerals, and orchard fruit.

JURA, FRANCE WHITE

JACQUES PUFFENEY ARBOIS VIN JAUNE

21 A stylistic union of white Burgundy and Fino sherry, this wine is aged in barrels under a veil of yeast, with nuts, apples, and curry leaf among the flavors.

LOIRE, FRANCE WHITE

FRANÇOIS COTAT LA GRANDE CÔTE, SANCERRE

17 Anyone who dismisses sauvignon blanc as a fun but one-dimensional grape variety has never tasted the wines made by the Cotat family in La Grande Côte vineyard: racy, and subtly grassy, but also teasingly complex and mineral-rich.

BURGUNDY, FRANCE WHITE

DOMAINE COCHE-DURY CORTON-CHARLEMAGNE

19 The grapes for Jean-François Coche's Chardonnay from the celebrated Côte de Beaune grand cru of Coton-Charlemagne are sourced from a tiny plot. The total produced each year rarely exceeds 1,200 bottles of a great white Burgundy that combines fluency, verve, and mineral flavors with depth, richness, and weight.


MONTRACHET
 GRAND CRU
 APPELLATION MONTRACHET GRAND CRU CONTRÔLÉE
2003

DOMAINE DES COMTES LAFON

*Mis en bouteilles
à la Propriété*

CLOS DE LA BARRE
21190 MEURSAULT
FRANCE

13,5% vol.

PRODUIT DE FRANCE
GRAND VIN DE BOURGOGNE

75 cl

SAVOIE, FRANCE WHITE

GILLES BERLIOZ EL HEM ROUSSETTE DE SAVOIE

22 This quintessential Alpine dry white is soft, gentle, and spring-like, with a wash of graceful acidity, orange blossom, and ripe pear.

BORDEAUX, FRANCE WHITE

DOMAINE DE CHEVALIER BLANC, GRAVES

23 This is a classic example of the rich but racy, barrel-fermented Bordeaux white blend of Sauvignon Blanc and Sémillon.

RHÔNE, FRANCE WHITE

CHÂTEAU GRILLET

24 From an appellation that is wholly owned by a single producer, Château Grillet produces one of the world's most alluringly sensuous dry white wines, with the heady honeysuckle and apricot scents of the Viognier grape variety presented with unusual finesse.

JURANÇON, FRANCE

DOMAINE CAUHAPE GEYSER

25 Cauhapé's electric dry blend of the two Mansengs, *petit* and *gros*, with its tang of grapefruit and tropical fruit, is an underrated, underpriced gem.

CÔTES CATALANES, FRANCE

LE SOULA BLANC

26 High in the Fenouillèdes region of the Roussillon, Gérard Gauby makes one of France's most original dry white wines, where the ripe peachy fruit is cut with garrigue herbs and stony minerals.

RÍAS BAIXAS, SPAIN

PALACIO DE FEFIÑANES ALBARIÑO

32 When it comes to the fashionable dry white wines made from Galicia's Albariño, the original is still the best: founded in 1904, Fefiñanes was the first to bottle and label the variety, in a refined, salty, herbal, style that still stands out today.



Joh. Jos. Prüm

2008
Wehlener Sonnenuhr
Kabinett

MOSEL-SAAR-RÜWER, GERMANY

II PRÜM WEHLENER SONNENUHR RIESLING SPÄTLESE

27 The Prüm family, today represented by Dr. Manfred Prüm and his daughter Katharina, has deep winemaking roots in the Mosel Valley dating back to the twelfth century. The Prüms have always been strongly identified with the great Riesling vineyard of Wehlener Sonnenuhr—one of the world's finest white-wine-producing sites—where they continue to craft delicate, filigree white wines of fine detail and poise, bristling with minerality and needle-point acidity.

NAHE, GERMANY WHITE

HELMUT DÖNNHOFF RIESLING QBA NAHE

28 Born into a winemaking family, Helmut Dönnhoff, now ably assisted by his son, Cornelius, makes an array of Rieslings, each one expressing a different site and terroir—wines that have helped the Nahe region to challenge Mosel and Rheingau for a place in global Riesling-lovers' affections. This, Dönnhoff's cheapest bottling, is a blend of vineyards, but earns its high place on this list for its consistent value for money.

PFALZ, GERMANY

VON WINNING KIRCHENSTÜCK GG RIESLING

29 The warmer Pfalz region of Germany tends to produce Rieslings of a more forceful, richer style than other parts of the country—often dry, but still retaining their acidity. Von Winning's example, from a top-rated vineyard noted for its power, is emblematic of the whole region.

WACHAU, AUSTRIA WHITE

PRAGER ACHLEITEN SMARAGD RIESLING

30 A big part of Austria's postwar vinous renaissance, the Prager estate draws on Riesling from its Achleiten vineyard to produce this heady combination of ripe peachy fruit and vivid acidity.

WACHAU, AUSTRIA WHITE

FX PICHLER GRÜNER VELTLINER M SMARAGD

31 As well as making some of the world's finest Rieslings, Franz Xaver Pichler elevates Grüner Veltliner, Austria's everyday white grape variety, to transcendent heights in this Monumental ("M") off-dry white.

RIOJA, SPAIN

LÓPEZ DE HEREDIA VIÑA TONDONIA GRAN RESERVA RIOJA BLANCO

33 In a region that has always been better known for its red wines, López de Heredia makes fine oak-aged white in much the same way it has always done, releasing it only when it's deemed to be ready in all its complex, polished, waxy, honeycombed, glory.



VIÑA TONDONIA

COSECHA DE 1964

VINHO VERDE, PORTUGAL

QUINTA DO SOALHEIRO ALVARINHO

34 Dry, zesty, mineral, peachy, herbal, and capable of long aging, Soalheiro's Alvarinhos, from the Melgaço region of Vinho Verde, rivals the Galician Albariño.

BEIRAS, PORTUGAL
FILIPA PATO
NOSSA BRANCO

35 Following in the footsteps of her celebrated winemaking father, Luis, Filipa Pato is at the forefront of Portugal's new wave, making fine red and white wines, and using indigenous local varieties to superb effect in the central regions of Bairrada and Beiras, with, in this case, Bical taking center stage for a tensile, Chablis-like dry white.

FRIULI-VENEZIA GIULIA, ITALY
JOSKO GRAVNER
BREG ANFORA

36 Much imitated but seldom bettered, Friuli's Josko Gravner started a modern trend in Italy and beyond, for leaving white grapes in contact with their skins for extended periods in clay amphorae, a visit to Georgia having persuaded him of the merits of this ancient winemaking practice. The style become known as "orange wine," and thanks to Gravner's skill and attention to detail, Breg remains a complex one-off, by turns herbal, floral, fruity, and nutty.

VENETO, ITALY
PIEROPAN SOAVE
LA ROCCA

37 As far from supermarket Soave as it is possible to get, family-owned Pieropan's single-vineyard dry whites marked a significant rise in quality in Veneto when first released in the 1970s. A 100 percent Garganega, La Rocca is deliciously seafood-friendly and fresh but rounded in the mouth, with ripe pear, fennel, and dill.

KAKHETI, GEORGIA
PHEASANT'S
TEARS RKATSITELI

42 A superb new producer from the revived birthplace of wine, Pheasant's Tears uses traditional qvevri (amphorae) for fermenting a nutty, amber-colored original.

SANTORINI, GREECE
HATZIDAKIS
ASSYRTIKO

43 Greece's ancient wine culture is enjoying a revival, and the biodynamic Hatzidakis estate on the volcanic island of Santorini is behind this dry white from the indigenous Assyrtiko grape.



ABRUZZO, ITALY
VALENTINI TREBBIANO
D'ABRUZZO

38 The appearance of Trebbiano on the label wouldn't ordinarily set wine lovers' pulses racing. In the case of this product of the publicity-shy Valentini family, however, it's a predictor of great pleasure: Trebbiano d'Abruzzo, aka Bombino Bianco, is quite unlike the Trebbiano Toscano grape variety that is the base of many a very ordinary wine, and here forms the foundation of one of Italy's finest dry whites.

CAMPANIA, ITALY
FEUDI DI SAN
GREGORIO FIANO
DI AVELLINO

39 Southern Italy's intriguing local white grape varieties are now establishing themselves internationally. Many of them are at their best in the volcanic soils of Irpinia, where Feudi di San Gregorio cultivates a fleshy Fiano that harmonizes orchard fruits and spices.

GORIŠKA BRDA, SLOVENIA
EDI SIMČIČ
REBULA

40 Slovenia's Goriška Brda region has emerged as a source of some of Europe's most exciting and idiosyncratic wines. Edi Simčič's outstanding product offers an alluring mix of white flowers and stone fruit intensity.

ISTRIA, CROATIA
KOZLOVIĆ
MALVAZIJA

41 Malvazija is Croatia's second-most planted wine grape variety. Under communism, the resulting wine was often insipid, but, since the break-up of Yugoslavia, it has produced many golden pressings, and this is the pick of them.



SWARTLAND, SOUTH AFRICA
EBEN
SADIE
PALLADIUS

44 That Swartland has emerged as arguably South Africa's most distinctive wine-producing region is in no small part down to the efforts of Eben Sadie, and to wines such as his Palladius, which mixes old-vine Chenin Blanc with white Rhône varieties for a richly complex dry white, pitched somewhere between the great French whites of the Loire and Rhône valleys.

STELLENBOSCH, SOUTH AFRICA
KEN FORRESTER
THE FMC CHENIN BLANC

45 The modern Cape wine industry has made the Loire variety its most distinctive calling card. Ken Forrester is particularly adept with it, and his FMC is a multilayered masterpiece.

CLARE VALLEY, AUSTRALIA **WHITE**
GROSSET POLISH HILL RIESLING

46 Despite hosting many grape varieties, the Clare Valley has become synonymous with Riesling. This version is taut and wiry. Bursting with lime in youth, it blossoms over its long lifespan.

HUNTER VALLEY, AUSTRALIA **WHITE**
TYRRELL'S VAT 1 SEMILLON

47 Light, lemony, grassy, austere, and unprepossessing in youth, this classic develops into toasty, rich splendor with age.

NAPA VALLEY, USA
STAG'S LEAP WINE
CELLARS CABERNET
SAUVIGNON

52 Thanks to its victory over some of France's best wines in a legendary blind tasting in Paris in 1976 that put California on the fine wine map, Stag's Leap cabernet sauvignon has a special—and deservedly enduring—place in the wine history of the United States.



BEECHWORTH, AUSTRALIA **WHITE**
GIACONDA ESTATE
VINEYARD CHARDONNAY

48 Always concentrated, spicy, and rich, but refined, Rick Kinzbrunner's cultish small-production Giaconda remains Australia's top Chardonnay.

MARTINBOROUGH, NEW ZEALAND
DRY RIVER PINOT GRIS

49 An early pioneer of fine wine in New Zealand, Neil McCallum's Dry River is noted for its Burgundian pinot noir, but also does a neat line in fluent, Alsace-style whites.

SANTA CLARA COUNTY, CALIFORNIA, USA
RIDGE MONTE
BELLO

53 An important staging post in the emergence of California wine in the 1960s, Ridge's Monte Bello has been, under the guidance of Paul Draper, one of the state's finest wines ever since. The vineyard, high up in the cool air of the Santa Cruz Mountains, yields a vivid, cellar-worthy, cabernet-based red.

CENTRAL VALLEY, CHILE
CONCHA Y TORO
CASILLERO DEL DIABLO
CABERNET SAUVIGNON

54 With its soft, mint-scented, ripe cassis fruit, Concha y Toro's popular brand is an affordable mass-market wine with a delicious ring of authenticity.

MENDOZA, ARGENTINA **RED**
ACHAVAL FERRER
MALBEC

55 In its three single-vineyard bottlings, as well as in the blend of all three, Achaval Ferrer produces the purest expressions of a high-altitude classic.

MARLBOROUGH, NEW ZEALAND **WHITE**
GREYWACKE SAUVIGNON BLANC

50 Kevin Judd had already earned his place in New Zealand wine history for his role in creating Cloudy Bay. In recent years, he's repeated the trick, his outstanding Greywacke adding new layers of verdant complexity and vibrancy.

OREGON, USA
EYRIE VINEYARDS PINOT NOIR WILLAMETTE VALLEY

51 If California is the US answer to Bordeaux, Oregon is its Burgundy. David and Diana Lett were among the first producers in the 1960s, and their lacy, elegant style has been continued by their son, Jason.



BURGUNDY, FRANCE **RED**
DOMAINE DE LA
ROMANÉE-CONTI

56 Burgundy's DRC is widely regarded as the very pinnacle of red wine production: its pinot noirs, produced from a handful of legendary grand cru vineyards around the village of Vosne-Romanée, are sold on strict allocation, and fetch a fortune at auction. Aubert de Villaine is the humble perfectionist currently in charge, overseeing the quite astonishing attention to detail that attends every part of the process, and which leads, in the case of the Romanée-Conti Grand Cru, to an ethereal pinot noir of quite thrilling balance, described by many critics as close to perfection.

BURGUNDY, FRANCE

DOMAINE J. F. MUGNIER MUSIGNY

57 This ethereal and graceful pinot noir is the product of one of Burgundy's finest wine-makers working in one of his finest vineyards.

CLOS DE BÈZE, BURGUNDY, FRANCE

DOMAINE ARMAND ROUSSEAU

58 Rousseau has some of the best grand cru-rated vineyards in Burgundy. The Clos de Bèze just surpasses Chambertin as the source of the finest pinot noirs.

BEAUJOLAIS, FRANCE

DOMAINE MARCEL LAPIERRE MORGON

59 Marcel Lapierre pioneered natural wine. His son, Mathieu, continues the work with pure Gamay grapes from the Morgon vineyard.

RHÔNE, FRANCE

CHÂTEAU RAYAS CHÂTEAUNEUF-DU-PAPE

64 Châteauneuf-du-Pape, the Rhône's most famous appellation, can include up to 13 red grape varieties. The grenache in Château Rayas produces an unusually graceful wine in a region fixated on power.



ST-ÉMILION, BORDEAUX, FRANCE

CHÂTEAU CHEVAL BLANC

60 The 1947 vintage of Château Cheval Blanc regularly tops polls of the greatest wines ever. The 1921 has a similar reputation, and more recent vintages are no less impressive. Under the direction of Pierre Lurton, the estate remains the leader in St-Émilion, its unusually high proportion of cabernet franc bringing a fragrant berry-fruit character, and silkiness.

GRAVES, BORDEAUX, FRANCE

CHÂTEAU HAUT-BRION

61 The only one of the five top-ranked (first growth) Bordeaux châteaux to come from the Graves region (the others are all Médoc), the historic Château Haut-Brion was noted in Samuel Pepys's diary, and the reputation of this classic claret is still deservedly high some four centuries later.

PAUILLAC, BORDEAUX, FRANCE

CHÂTEAU LAFITE-ROTHSCHILD

62 While this list of 100 Wines could have included all four of the famous Médoc first growths, Lafite trumps châteaux Latour, Margaux, and Mouton-Rothschild as currently the most in-demand, its mix of restrained power and grace attracting collectors from all over the world, notably China.

POMEROL, BORDEAUX, FRANCE RED

PETRUS

63 The greatest estate in the Bordeaux right-bank district of Pomerol, Petrus has a long-standing reputation derived from the quality of its vineyards. A little cabernet franc aside, these are almost entirely planted to merlot, of which this wine is undoubtedly the world's finest expression, characterized by its beguiling fleshiness, balance, and its capacity to age for decades.



PRODUCT OF FRANCE



Hermitage

APPELLATION HERMITAGE CONTRÔLÉE

DOMAINE JEAN-LOUIS CHAVE

MIS EN BOUTEILLES À LA PROPRIÉTÉ
UNIQUEMENT VITICULTEUR - MAUVESIN-ARDECH - FRANCE

RHÔNE, FRANCE

JEAN-LOUIS CHAVE HERMITAGE

65 The Chave family has tended vines in Hermitage in the northern Rhône for 500 years, and today has syrah grapes in a variety of plots on the famous hill, now operated by Jean-Louis Chave, son of the legendary Gérard. Red Hermitage, which includes a proportion of white grapes, is remarkable for its longevity, its flavor, and its complexity.

CROZES-HERMITAGE, RHÔNE, FRANCE R

DARD ET RIBO C'EST LE PRINTEMPS

66 René-Jean Dard and François Ribo are the names behind one of the Rhône's most exciting producers, who use natural techniques to make syrah of great drinkability.

MADIRAN, FRANCE RED

ALAIN BRUMONT MONTUS

67 The Tannat variety of Madiran in Gascony can be tough in tannin, but the masterful Alain Brumont has shown it can be tamed to make forceful, dramatic, red wines.

VIN DE PAYS' D'HÉRAULT, LANGUEDOC, FRANCE
MAS DE DAUMAS GASSAC ROUGE

68 Parisian glove-maker Aimé Guibert changed conceptions of the Languedoc at Mas de Daumas Gassac, labeling his cabernet-based red as a humble Vin de Pays, but making it taste like a top Bordeaux.

AHR, GERMANY
MEYER-NÄKEL DERNAUER PFARRWINGERT SPÄTBURGUNDER

69 German reds, made from pinot noir (aka Spätburgunder), can be every bit as good as Burgundy. And this is one of the best German reds.

BURGENLAND, AUSTRIA
MORIC BLAUFRÄNKISCH

70 Roland Velich left his family's white-wine-making company to follow his passion for local red Blaufränkisch, from which he creates inky, spicy, fluent wines.

RIBEIRA SACRA, SPAIN
DOMINIO DO BIBEI LALAMA RIBEIRA SACRA

71 Northwest Spain's Mencía grape has emerged from obscurity in the twenty-first century, and this pure, red fruit-scented example from Galicia is the best yet.

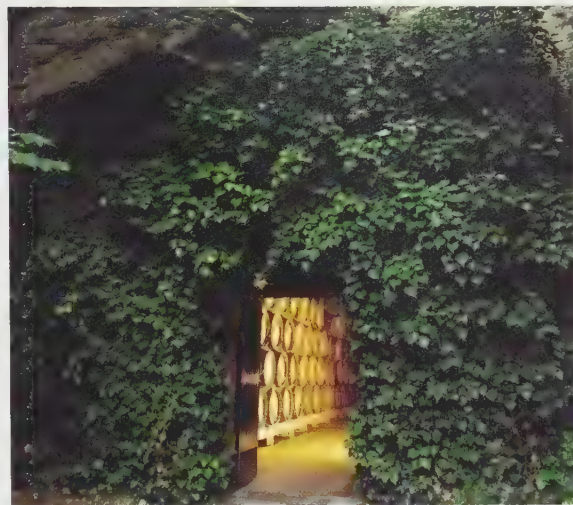


RIBERA DEL DUERO, SPAIN
**VEGA SICILIA
 ÚNICO**

72 If Rioja is Spain's most celebrated winemaking region, Vega Sicilia, farther west in Ribera del Duero, is its most prestigious winery. Composed mainly of the same grape as Rioja (Tempranillo, aka Tinto Fino), Único is aged for up to a decade before release, and matures gracefully for years.

RIOJA, SPAIN
**BODEGAS
 RODA CIRSION**

73 In the late 1980s, a new wave of Rioja producers sought to make wines in a new, controversial style, with the emphasis on richer, riper fruit, and shorter aging in French, rather than American, oak casks. Bodegas Roda proved to be the best of this "Alta Expresión" or modernist movement, and its Cirsion is an exemplar of the style: powerful, dense, but polished, it's different from Rioja, but no less valid as an expression of the region.



RIOJA, SPAIN
**LA RIOJA ALTA VIÑA
 ARDANZA RIOJA
 RESERVA**

74 Founded in 1890, La Rioja Alta follows the time-honored regional recipe of long aging in American oak and bottle. Such is the quality of the fruit—much of it taken from the company's large vineyard holdings—that the wines (notably the 890 Gran Reserva, but also the cheaper Ardanza Reserva) have a gorgeously soft, mellow, savory style that for many is the archetype of traditional Rioja.

PRIORAT, SPAIN
**ALVARO
 PALACIOS L'ERMITA**

75 Alvaro Palacios was a key figure in the rediscovery of the old Garnacha and Carignan vines of the Priorat region of Catalonia in the 1980s. The reds he made from those fruits rapidly became some of the world's most sought-after and expensive wines—none more so than L'Ermita, from the vineyard plot of the same name, a densely complex red balanced by a note of minerality attributed to the *llicorella* (slate) soils.

DOURO, PORTUGAL
**NIEPOORT
 BATUTA**

76 Since the 1990s, winemakers in the Douro region, home of port, have increasingly shifted their attention to unfortified table wines, with outstanding results. Dirk Niepoort, scion of a port-making family, is the name behind some of the best Douro reds (and ports). His Batuta blend balances fine tannin and fruity freshness.

DAË, PORTUGAL
**QUINTA DOS
 ROQUES DAË**

77 While the Douro Valley has thus far captured most of the attention in the Portuguese table wine renaissance, the cooler Daë region to the south is equally capable of greatness. Daë reds are generally blends based on the Touriga Nacional grape, and Quinta dos Roques is the outstanding producer in the region.

PIEDMONT, ITALY
**BRUNO
 GIACOSA ASILI
 DI BARBARESCO**

78 Whether working in Barolo or Barbaresco, Bruno Giacosa is a master of the great Piedmontese red grape, Nebbiolo. Using the traditional method of fermentation in large Slovenian oak *botti*, rather than new-fangled small French oak *barriques*, his wines are pure expressions of the local soils, which create a remarkable mix of flavor and energy.

PIEDMONT, ITALY

GIGACOMO CONTERNO BAROLO MONFORTINO RISERVA

75 A classical Barolo from a fine producer, the Monfortino is produced only in exceptional years, and released after long aging in traditional large oak casks that give a lovely, nuanced aroma.

VENETO, ITALY

GIUSEPPE QUINTARELLI AMARONE DELLA VALPOLICELLA

80 This is the finest expression of the Amarone style, made from dried grapes.

CAMPANIA, ITALY

MASTROBERADINO TAURASI RISERVA RADICI

84 Southern Italy's answer to Barolo, Mastroberadino's magnificent Taurasi Radici, made from Aglianico grown on volcanic soils in Campania, weaves dark cherry and aniseed with truffle and black olive.

SICILY, ITALY

GRACI PASSOPISCIARO ETNA ROSSO

85 The slopes of Mount Etna have become a winemaking hotspot. Alberto Graci's red is an exquisite expression of the area's red fruit and smoky minerals.

BEKAA VALLEY, LEBANON

CHÂTEAU MUSAR

86 Idiosyncratic in style, with wild acidity and meaty aromas, Serge Hochar's blend of cabernet sauvignon, cinsault, and Carignan has put Lebanon firmly on the world wine map.

SWARTLAND, SOUTH AFRICA

MULLINEUX FAMILY WINES SYRAH

87 A standout producer in South Africa's rising-star Swartland, Mullineux produces exquisitely balanced syrahs that owe a stylistic debt to the northern Rhône.

TUSCANY, ITALY

BIONDI SANTI BRUNELLO DI MONTALCINO RISERVA

81 From the estate that dreamed up the name Brunello, and which continues to set the standard for great Tuscan red, comes this 100 percent Sangiovese Grosso, which is austere in youth but blossoms in maturity into a multifaceted delight.

TUSCANY, ITALY

QUERCIABELLA CHIANTI CLASSICO

82 Querciabella's biodynamic Chianti Classico is a beautifully poised example of Sangiovese's evocative herb, tobacco, and red cherry flavors.

EDEN VALLEY, AUSTRALIA

HENSCHKE HILL OF GRACE SHIRAZ

88 Husband-and-wife team Stephen and Prue Henschke trained in Europe, then returned home to draw on some of the oldest vines in the world—one plot dates back as far as the 1860s—for their single-vineyard shiraz from Eden Valley in the Mount Lofty Ranges. Those vines are in large part responsible for the natural balance, and the depth and length of flavor, that have characterized Hill of Grace since its first vintage in 1956, and which have made it one of Australia's two most sought-after wines.



BOLGHERI, ITALY

TENUTA SAN GUIDO SASSICAIA

83 One of the original Super Tuscans, made by rebellious producers wishing to break with restrictive local winemaking laws in the late 1960s, Sassicaia's Bordeaux-style blend of cabernet sauvignon and cabernet franc planted in coastal Bolgheri was originally bottled as a lowly Vino da Tavola. Today, it has its own appellation (DOC Bolgheri Sassicaia), and renown as one of Italy's finest reds.

SOUTH AUSTRALIA, AUSTRALIA PENFOLDS GRANGE

89 Australia's most famous, expensive, and collected wine was dreamed up by Max Schubert in the 1950s, a time when the nation's wine industry was known, if at all, for its fortified styles. Schubert looked to France for inspiration, as the wine's original name (until the 1989 vintage), Grange Hermitage, attests. But whereas top French vigneronns have tended to source their fruit from tightly circumscribed areas, Schubert cast his net much wider, picking shiraz (and a little cabernet sauvignon) from a variety of sites across South Australia. This "multi-district" philosophy is still followed today, with the fruit received at the company's Magill Estate Winery, where it's aged for 18 to 20 months in new American oak barrels. The resulting wine has a svelte texture, an intense, ripe flavor, and improves with age.



CENTRAL OTAGO, NEW ZEALAND **RED**

RIPPON VINEYARD PINOT NOIR

90 Rippon, planted to vine in 1974, was an early pioneer of New Zealand's Central Otago region. Today, both the region and the producer are synonymous with pinot noir; Rippon's has a silky, zesty style.

SAUTERNES, FRANCE CHÂTEAU D'YQUEM

91 The world's greatest sweet wine? The price of old vintages of Château d'Yquem certainly supports that proposition, as does the estate's status in the 1855 classification of Bordeaux's best wines: Yquem was the only château to be rated as a Premier Cru Supérieur. Its success begins in the vineyard of sémillon and sauvignon blanc, the produce of which is rigorously sorted to find the best rotten grapes. The resulting golden nectar is perfectly pitched between fruitiness and acidity.



MOSEL-SAAR-RUWER



MOSEL-SAAR-RÜWER, GERMANY

EGON MÜLLER SCHARZHOFBERGER RIESLING AUSLESE

92 The many different Riesling cuvées, of varying degrees of sweetness, made by the Müller family from the Scharzhofberg vineyard, are strong evidence that lightness and finesse do not preclude intensity of flavor. Among the most coveted wines in Germany, the Auslese may be filled with a swirling riot of exotic fruit, but, wherever a given vintage may be on its long development curve, it always features a steely acidity.

JEREZ, SPAIN **SWEET & FORTIFIED**

EQUIPO NAVAZOS LA BOTA DE PALO CORTADO

93 Number 52 in a series of sherry bottlings is a complex Palo Cortado from the bodegas of Hijos de Rainera Pérez Marín.

JEREZ, SPAIN **TASTING & NOTES**

VALDESPINO INOCENTE FINO SHERRY

94 Valdespino's textbook example of the light, nutty, savory Fino style of dry sherry is a complex blend of wines that have been aged for an average of ten years beneath a layer of flor yeast.

DOURO, PORTUGAL **TASTING & NOTES**

TAYLOR'S VINTAGE PORT

95 Established in the seventeenth century, Taylor's remains one of the great British-owned port houses. Its vintage wines are renowned for their iron fist in a velvet glove.

DOURO, PORTUGAL **TASTING & NOTES**

QUINTA DO NOVAL NACIONAL VINTAGE PORT

96 Named for and produced in the tiny plot of very old vines in the heart of the Quinta do Noval vineyard in Pinhão in the Cima Corgo district of the Douro Valley, Nacional is, like all vintage ports, made only in the best years, and even then in very small quantities. The rarity explains its allure and price to some extent, but it's the wine itself that is most persuasive: the 1963 being, in the opinion of several experts, the greatest port ever made.

MADEIRA, PORTUGAL **TASTING & NOTES**

BARBEITO TERRANTEZ MADEIRA

97 Vintage Madeira is the world's longest-lived wine, with bottles from the eighteenth century still available and still, in the case of this 1795 Terrantez, gloriously, vigorously alive.

TOKAJ, HUNGARY **SWEET & FORTIFIED**

SZEPSY TOKAJI ESSZENCIA

98 Esszencia is aptly named, being made from the first few precious drops to trickle from late-harvested grapes in the Tokaji region. Only very rarely bottled, Szepsy's example is a golden, intensely sweet, and viscous nectar with just 2 percent alcohol.

SOUTH AFRICA **SWEET & FORTIFIED**

KLEIN CONSTANTIA VIN DE CONSTANCE

99 This legendary wine of the eighteenth and nineteenth centuries was revived in the late twentieth century by the beautiful Klein Constantia estate's modern owners, who use late-harvested muscat grapes for a richly honeyed, gently floral, spicy, sweet wine.

RUTHERGLEN, AUSTRALIA **TASTING & NOTES**

CAMPBELLS RUTHERGLEN MUSCAT

100 The fortified muscats of Victoria's Rutherglen district are a unique style, known for the richness of their dark dried fruit flavors and their sticky toffee texture. This muscat is regarded by many as the definitive example of the type.

998
1160

JOHNSTON & CO
(LAPHROAIG) 12
LAPHROAIG
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JOHNSTON & CO
LAPHROAIG

75 80 85 90 95

ALBERTA PREMIUM

1 The rye that lies at the heart of Canadian whisky varies between subtle and explosive and is thus altogether different from its US equivalent. Alberta Premium is a lively and unanswerable riposte to anyone who claims that Canadian whisky is bland.

CROWN ROYAL SPECIAL RESERVE

2 The Canadian jewel in multinational Diageo's crown, this is a rich, oily whisky, packed with tropical fruit and orange flavors, all held together by a backbone of rye and rounded off by savory and sweet spices.

FORTY CREEK COPPER POT RESERVE

3 Operating on the site of a vineyard in Grimsby, Ontario, owner John Hall brings wine techniques to making and maturing spirits. This is one of his most accessible whiskies, delightfully creamy with toffee and vanilla notes.

FORTY CREEK PORT WOOD RESERVE

4 This is a battleground of a whisky, with the fruity, winey flavors courtesy of the port pipe used in maturation clashing with the rye and toffee at the whisky's center. The result is a liqueur-like and distinctive drink.

GIBSON'S RARE AGED 18 YEARS

5 Made by Hiram Walker, this whisky has a lengthy history that straddles the United States and Canada. Perhaps this explains its singular nature: strong butterscotch and nutty flavors at the core; oak and pepper at its finish.

100 WHISKIES

WISER'S LEGACY

6 This classic Canadian whisky has determined rye steering its way past a complex mix of flavors, including rich floral and fruity notes, a touch of tobacco-pouch bourbon, and a lemon-and-orange mix before distinctive spices kick in at the end to cap off an impressive whole.

WOODFORD RESERVE

7 Corn is the dominant grain in bourbon, but wheat and rye are in the mix, too, and they dictate how soft and sweet or savory and spicy the spirit is. Woodford Reserve is a Kentucky beauty at the savory end of the scale.

BALCONES BRIMSTONE

8 Some people make a beeline for this drink; others regard it as the equivalent of eating burned meat in a charcoal sandwich. Decide for yourself.

EAGLE RARE 17-YEAR-OLD

11 Every year US distiller Buffalo Trace releases a batch of different iconic whiskies. Eagle Rare is one of them, and indeed, it's very hard to get a hold of. But if the chance is there, take it. Each batch varies considerably, but every one seems to be a corker. You'd expect a woody influence from the age, and the releases tend to have a strong rye presence.

ELIJAH CRAIG 18-YEAR-OLD

10 Eighteen years is ancient for bourbon, but this proves some whiskies can take it. Lots of oak, but also a stunning mix of licorice, peach, tangerine, and rye.

GEORGE T. STAGG

8 The greatest of all North American whiskies (arguably) is named after a man whose name you'll encounter repeatedly throughout early bourbon history. Released annually in small batches at a very high strength, it's a rich, liqueur-like mix of oak, cherry, citrus, cinnamon, honey, licorice, sandalwood, hickory, tobacco, and candy cane. Each of these facets comes to light at different times in different bottles. That explains its appeal: predictable tastes in an unpredictable order.

MAKER'S MARK 46

12 Maker's Mark was released as only one expression until this came along to take the whiskey to a new, even higher level. This version, toasted in French oak barrels, is more savory and woody than the original.

RITTENHOUSE 100 PROOF

13 Drinking this is like unfurling a great big fruity banner in your mouth. The whiskey releases its goodies gradually, with the fruit powerfully punching against the rye.

PAPPY VAN WINKLE'S FAMILY RESERVE 15-YEAR-OLD

15 The Van Winkles specialize in very old bourbon and rye, but at a mere 15 years old, this is arguably the company's most complex whiskey, with rum, raisins, and citrus fruits in the multilayered flavor.

WILD TURKEY 101

14 101 Proof is 50.5 percent ABV, so this is a big whiskey. Not just in strength, either: this is a big hitter all round, with hard corn interspersed with big peppery notes.

JIM BEAM BLACK LABEL

15 Older and far better than the standard White Label, this is proof you don't need to break the bank to taste great whiskey. Beautifully balanced, this booze has berries, vanilla, rye, and oak in the mix.

OLD POTRERO

18 Old Potrero is made by the Anchor Distilling Company in very limited quantities and is effectively one of America's original craft whiskeys. The brewery specializes in re-creating historical whiskeys and this one is a straight rye. Old Potrero has the oddest of aromas, and tastes like no other whiskey, and it won't appeal to everyone. Distinctive and very oily, it mixes fruit cake, sweet pepper, gin-like aromatics, and floral notes.



SAZERAC RYE 18-YEAR-OLD

17 The remaining stocks of Sazerac Rye 18-Year-Old are held in suspension in stainless-steel tanks, and released in annual limited edition batches. In theory, they should all be the same, but in practice they are not. Some releases have been surprisingly delicate, with honey and floral notes to the fore. For all that, dark fruit, oak, and rye are present in it, too, and the peppery flavors are a real treat. Many experienced judges regard it as the most prestigious rye available anywhere.

FOUR ROSES SINGLE BARREL

19 Every release under this brand is outstanding—expect sweet, rich, fruity bourbon at its best.

WILLIAM LERUE WELLER

20 Bottled at high strength and requiring water, this is a powerful bourbon, with dark chocolate, cocoa, espresso coffee, plummy fruit, and molasses.

BUFFALO TRACE

21 Easy drinking, entry-level bourbon of the highest order. It's sweet, packed with the fruit, vanilla, and candy cane qualities of the finest bourbon.

HOTALING'S

22 Made by the Anchor Distilling Company, this is as much a history lesson as a simple whiskey. It's strange and unique, with a distinctive earthy quality and milk chocolate flavors. It ends with a dash of lemon sherbet notes.

JAMESON BLACK BARREL

23 Jameson is an Irish blended whiskey, but here, the distinctive oily and flavorsome pot still content is upped, making for a smooth but richly fruity whiskey.

JAMESON

24 Irish whiskey is resurgent now, but for many years Irish Distillers' leading blend carried the torch alone. Jameson epitomizes what most people think Irish whiskey should be like: well made, smooth, sweet, and fruity.

(IRELAND)

THE IRISHMAN

26 The Irishman is made in Ireland by Barry Walsh in his own unique and inimitable style: a mix of Irish single malt and pot still whiskey. The result is a classic but unusual whiskey. The best version is the cask strength distillation, which has lots of fruit and spice to enjoy.

(IRELAND)

TEELING

27 This is good-quality, small batch whiskey from the Dublin-based team that started the late twentieth-century Irish whiskey renaissance.

(IRELAND)

REDBREAST 12-YEAR-OLD CASK STRENGTH

34 As new distilleries popped up all over Ireland in the late twentieth century, we saw emerge a broader range of whiskey styles. Irish Distillers have put out some great pot still whiskeys, but this Redbreast perches at the top of a very tall tree. It is everything Irish pot still whiskey can be—an exuberant outpouring of rich berry fruits, soft honeycomb, and chocolate, with subtle but distinct hints of menthol, hickory, and a late pepper rush. First-class whiskey.

BARRY CROCKETT LEGACY

25 Named after the former Midleton master distiller, Legacy is sweet and delightful, and, for a pot still whiskey, surprisingly delicate and easy drinking.

MIDLETON VERY RARE

28 This is released in small batches every year. Its nature is variable, but you may expect fluffy apples, honey, vanilla, oiliness, oak, and some chili bite.

POWERS JOHN'S LANE

29 Pot still whiskey is unique to Ireland. The term has nothing to do with the fact it's made in a pot still; it is used for a style of whiskey made using malted barley and another unmalted grain. John's Lane is up there with the best examples of the genre—it's big, oily, fruity, magnificent, and thoroughly recommended.



WRITER'S TEARS

30 Writer's Tears comes in a choice of bottlings—standard and cask strength. Go for the latter. Blood orange, and some tropical fruits set off by the oily nature of the pot still whiskey, make this a treat.

CONNEMARA PEATED CASK STRENGTH

31 In many ways as far removed from what was described as typical Irish whiskey, this is dominated by a gruff, tarry, and oily smoke. Behind it, though, you'll find apples and pears. A delightful curio.

TYRCONNELL TEN-YEAR-OLD MADEIRA FINISH

32 A single malt with an added dimension from some maturation in sweet, fruity Madeira casks. Crafted and small batch whiskey, this is a rich, almost liqueur-like drink that's hard to find but worth looking for.

BUSHMILLS 16 YEARS

33 Classic single malt from Northern Ireland, Bushmills seems to work best at this age, with oak adding gravitas to the light fruit and vanilla flavors.



BALVENIE SINGLE BARREL 15-YEAR-OLD

35 Balvenie is owned by William Grant & Sons, who also own the better-known Glenfiddich. This distillery is a gem: it offers one of the best tours and makes fabulous whisky. A typical single bottling will ooze tropical fruit, honey, and vanilla flavors.

ABERFELDY 21-YEAR-OLD

36 Aberfeldy is in the heart of the Highlands. This single malt has a delicious and complex taste, with an orange and honey core. Clean, and very drinkable.

BRORA 30-YEAR-OLD

40 Founded in 1819 by the Marquis of Stafford, originally under the name Clynesh, the Brora distillery was closed in 1983. The remaining stock has since been released annually by owners Diageo. The 30-year-olds have all been sensational. They perfectly balance all the key ingredients of the finest single malt whisky—fruit, peat, honey, spices, and oak. Brora of this age is not easy to find, and even harder to afford, but it's well worth the effort and the expense.



ABERLOUR A'BUNADH

37 This whisky varies a lot, but is typically a full-flavored, heavy-hitting, sherried monster delivered at cask strength.

CHIVAS REGAL 18-YEAR-OLD

38 If ever a blend reflected a region, it is this one. It is mellow and warming, with green fruits, honey, vanilla, and some distinctive floral notes—a Speysider through and through.

AUCHENTOSHAN 18-YEAR-OLD

39 This Lowland whisky is triple distilled, so it's light and fruity, but its lengthy maturation period adds an anchor of pepper and oak. This is by far the best product of the distillery on the outskirts of Glasgow.

BOWMORE LAIRIG 15-YEAR-OLD

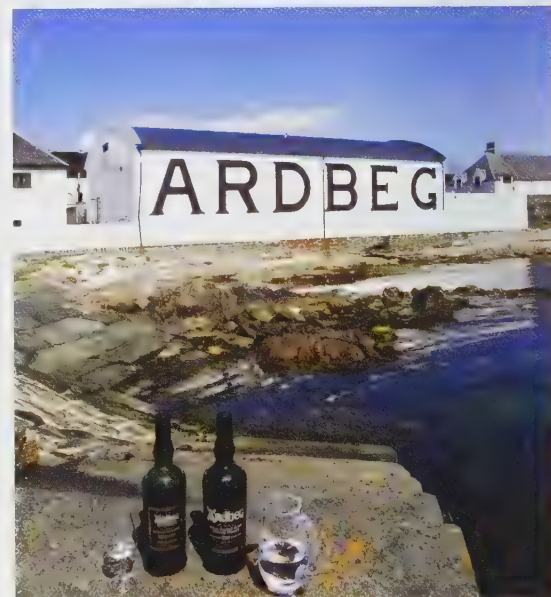
41 Named after the little stone jetty next to the distillery, this is a big phenolic, seaweed-drenched, heavily peated whisky.

BRUICHLADDICH PORT CHARLOTTE BATCH 7

42 While still independent (it was taken over in 2000), Bruichladdich released its biggest, smokiest whiskies under the name Port Charlotte. Every batch is good, but this is by far the best—all barbecued meat, seashore, and peat.

ARDBEG UIGEADAIL

43 Ardbeg is one of three distilleries that lie on the southern shores of the island of Islay. The others are Laphroaig and Lagavulin. These are where the biggest peaty and smoky whiskies come from. Uigeadail is a monster, with thick, tarry smoke up front. Beyond that, though, you'll find grilled fish, citrus fruits, and dark chocolate in a complex and wonderful whisky.



BALVENIE DOUBLEWOOD 17-YEAR-OLD

44 This complex and fascinating whisky combines the banana and vanilla ice cream notes of the bourbon cask with toasted almonds, cinnamon, and a fruit bowl of flavors from the sherry wood in which it matured. Its age gives it additional oaky tannins.

BOWMORE 25-YEAR-OLD

45 Not all whiskies work at this great age, and peaty whiskies can lose their bite as they grow up. But this is a clean and spritely delight, with the sherry cask contribution ensuring a fruity and oaky complexity—sweet and deep in equal measure.

SCOTLAND

DALWHINNIE 15-YEAR-OLD

46 This is one of Diageo's original classic malts, a great example of the rich, full-flavored Highland style of whisky. It's the perfect counterpoint of savory and sweet, with honeycomb and milk chocolate, peat, and spice at its heart—a treat for newcomers and experienced tasters alike.



SCOTLAND

GLEN GRANT 19-YEAR-OLD

47 Glen Grant in Rothes, Speyside, is one of Scotland's prettiest distilleries, and its whiskies tend to be pretty too. But this is bottled at cask strength and bursts with berries, tannins, and lemon notes.

SCOTLAND

COMPASS BOX SPICE TREE

48 Compass Box is an independent company creating boutique whiskies. Spice Tree is a malt matured in casks made from specially imported French oak.

SCOTLAND

JOHNNIE WALKER BLACK LABEL

49 The most famous whisky brand in the world, Johnnie Walker is Diageo's flagship blend, and it deserves its outstanding reputation, because the quality across the range is never less than excellent, with Islay peat, island pepper, and Speyside fruit all in perfect equilibrium. It's a blending masterclass in a glass and a highly drinkable explanation of why Scotland dominates the whisky world.

Born
1820 —

Still
going
Strong



JOHN WALKER & SONS, LTD., SCOTCH WHISKY DISTILLERS, KILMARNOCK, SCOTLAND

SCOTLAND

BALLANTINE'S 17-YEAR-OLD

50 Great blended whisky is all about balance, and here, every flavor is perfectly weighted, with the salty notes, citrus, and honey in particular working well together. The oak element is spot on, too.

BUNNAHABHAIN 18-YEAR-OLD

52 The normally gentle malt of Islay is tougher here, with lots of sherry, plenty of oak, and an invigorating smack of citrus.

DEWAR'S SIGNATURE

53 This one makes no age statement, but it's stacked with old whiskies, not the least of which is the distinctive honeyed Aberfeldy.

SCOTLAND

GLEN GARIOCH 1986

51 One of the most intriguing distilleries in Scotland, Glen Garioch produces a diverse range of styles. This whisky showcases nearly all of them, from tropical fruits to nutty, earthy, and oily notes.

SCOTLAND

DALMORE 15-YEAR-OLD

54 This Highland classic is big and warming, bursting with berries and satumas, as well as vanilla, oak, and cinnamon.

CAOL ILA CASK STRENGTH

55 As strong as a vindaloo curry, this is a no-holds-barred slice of Islay whisky. Even with water, it's a battering ram of pepper and peat, with phenolic and kippery tones. It's fruity, too.

CLYNELISH 14-YEAR-OLD

56 Clynelish is adjacent to the now defunct Brora distillery in the Highlands. This malt has a fragrant, melon-like nose, and a flavor reminiscent of lemon sherbet with some peat and honey. Pineapple and guava feature in an earthy finish.

GLENDRONACH 15-YEAR-OLD

57 Matured in the finest oloroso sherry casks, this is a big whisky, with a complex nose and a strong flavor that mixes rich fruitcake with paprika and incorporates meaty plum notes and tannins.

GLENFIDDICH AGE OF DISCOVERY

55 This 19-year-old malt has been stored in a Madeira cask. Fresh and juicy, it is the whisky equivalent of sweet apricot marmalade on toast.

GLENLIVET 16-YEAR-OLD NÀDURRA CASK STRENGTH

59 Matured in ex-bourbon casks, this whisky has a smoked oak nose; a taste of oranges, apples, golden raisins, and oatmeal; and a long spicy finish. "Nàdurra" is Gaelic for "natural."

HIGHLAND PARK 30-YEAR-OLD

60 Highland Park products cover a broad range. This whisky is at the lighter end of the scale, with citrus fruits, honey, vanilla, gentle peat, and oak.

DUNCAN TAYLOR IMPERIAL 1990 18-YEAR-OLD

61 One of the late flowerings of a distillery that closed in 1998, this fine whisky fizzes on the palate. The casks from which it is drawn were filled in 1995 and emptied in 2014.

THE GLENLIVET XXV

62 Glenlivet puts out fine aged whiskies. This is a magisterial product, packed with apple and pear flavors, Christmas cake, fruit and nut, and just enough influence from the oak to give it due weight.



GLENMORANGIE SIGNET

63 Glenmorangie's whiskymaker Dr. Bill Lumsden has taken to experimenting with flavors for a series of exciting releases. This is arguably the best of them all. It starts with an aroma of espresso and sherry-rich plum pudding with orange rind. It then progresses to mocha and spices. After all this intensity, the finish provides an arresting contrast: a light and breezy mixture of mint and lemon.

GLENROTHES 1985

54 The malts released from Glenrothes as vintages vary from light and airy vanilla-and-grapefruit marmalade to grungy, berry-rich, sherried whiskies. This is one of the latter, with burned toffee and overripe peach and apricot, together with pink candy and honeycomb. A complex and enjoyable treat.

GLENMORANGIE QUINTA RUBAN

65 This malt is finished in port pipes. The classic Glenmorangie orange and vanilla flavors are enhanced by sweet wine.

GLENFARCLAS 105

66 With an ABV of 60 percent, few single malts can match this beast for intensity. And flavor, too: it's a heavyweight sherry cask whisky that only Aberlour A'Bunadh can match. Plum, raisin, and spicy orange all contribute to the overall flavor.

HIGHLAND PARK 18-YEAR-OLD

67 Highland Park is from Orkney. It's both a great all-rounder and a tour de force, a sort of liquid greatest-hits package. Every malt whisky is made up of lots of different casks of all sizes, ages, and types, and at 18 years, by which time the presence of oak is significant, the balance here between wood, peat, honey, spice, and fruit is at its finest. There is some heather, too, together with salt and nuts. If this whisky has a fault, it is that perhaps it is too mild-mannered; some commentators object that it tries to do too much and comes up slightly short in all departments.



SCOTLAND

ISLE OF JURA PROPHECY

68 This break from house style is a fruited and peaty whisky every bit as good as those from neighboring Islay.

KILCHOMAN MACHIR BAY

69 This young whisky from a new distillery is definitely one to watch. Like other Islay products, it has peat and smoke in abundance.

LAPHROAIG QUARTER CASK

70 The small cask accelerates maturation of the fruity notes; the peat remains wild and aggressive.

MONKEY SHOULDER

71 A light, easy-drinking summer whisky, composed of three malts that are all sweet apples, pears, and sherbet zest.

THE MACALLAN SIENNA

72 From the 1824 series, this is classic Macallan—clean, sweet, with orange peels on the nose, and kumquat, cherry, and dried fruits on the palate.



LAGAVULIN 16-YEAR-OLD

73 This is one of Diageo's original Classic Malts from its distillery on Islay's southern shore. There's no doubting the whisky's ambition and complexity. Its nose is more lapsang souchong than the tea itself. The taste is thick and rich, full of peat and oak. The finish is long, spicy, and redolent of figs, dates, vanilla, and peat smoke. According to the British newspaper *The Independent*, it's "for drinking with poetry, late into the night." Anyone who doesn't find this description a bit over the top might consider booking Johnny Depp to do the reading: apparently the teetotal actor sometimes orders a glass of this Lagavulin just so that he can sniff it.

LAPHROAIG 27-YEAR-OLD

74 Bringing a big, peaty whisky together with an intense sherry cask is the distilling equivalent of a complex gymnastics routine. It has huge potential to go wrong, and it often does. Get it right, though, and you're winning standing ovations and gold medals. With whisky as old as this, there are two major difficulties. One, the peat can be flattened and overwhelmed, and two, the oak can destroy the juicy, fresh flavors. Neither happens here. This malt whisky is an Olympic champion. The stewed fruits and rich, dark berries on one side slug it out with intense and tarry peat on the other, and the result is a liqueur-like malt that is truly unforgettable. It's difficult to find, but it's unreservedly recommended.

SCOTLAND

LONGMORN 15-YEAR-OLD

75 A connoisseur's whisky, and not easy to find, having been largely superseded by a 16-year-old version, this malt is a definitive Speysider, with a fresh, clean taste of apples, vanilla, and toffee.

SCOTLAND

OBAN DISTILLERS EDITION

76 Standard Oban whisky is aged for 14 years, and has a distinctive salt-and-peat taste. This Distillers Edition has extra maturation in Montilla Fino sherry casks, which adds fruit and chocolate notes.

THE MACALLAN SHERRY OAK 18-YEAR-OLD

77 This sherried Speysider presents a fruit bowl of flavors, some toasted oak, and intense pepper and spice. Some people say that it is not quite what it used to be, but it's still pretty good, and, in the view of many, close to definitive. The palate of cloves, oranges, and woodsmoke is accompanied by a nose and a finish of dried fruit and ginger.

MORTLACH 18-YEAR-OLD

78 The many fans of the Speyside Mortlach distillery love this big, meaty product—matured in first-fill sherry casks—which features multiple layers of flavors, including tropical fruits, oranges, cinnamon, ginger spices, and fruit-and-nut chocolate bar. It has a malty sweetness, too, and a citrus finish that leave the drinker paradoxically satisfied yet wanting more.

TALISKER 18-YEAR-OLD

79 Talisker is the fiery malt whisky from Skye, and the rugged and harsh flavor of the whisky is said to reflect the uncompromising topography of the island on which it originated. For many, the classic ten-year-old is something of a dry storm—slightly too thin and too metallic. They prefer this more mature version, which is richer and fuller, with greater depth and intensity, and peat and hot pepper to the fore. Winner in 2007 of the Best Single Malt Whisky in the World award, it is still, in the opinion of many with seasoned palates, as close as possible to the perfect dram.

TALISKER

OLD PULTENEY 17-YEAR-OLD

80 The top expression from Scotland's most northerly mainland distillery is an intense and oily mix of chocolate, toffee, and red fruit.

ROSEBANK 12-YEAR-OLD FLORA & FAUNA

81 This classic Lowland whisky has a subtle and complex flavor that is sweet, clean, and reminiscent of a summer meadow.



SPRINGBANK 25-YEAR-OLD

82 The three types of single malt produced at the Springbank distillery have been almost solely responsible for keeping the Campbeltown whisky industry alive. This particular one is a blend of bourbon- and sherry-cask whiskies, which were married together in port pipes to produce a rich and complex whisky with raisins and a touch of licorice and hickory. Very distinctive.

ST. GEORGE'S CHAPTER 7

83 St. George's in Norfolk has no definitive house style and is thus at liberty to make a diverse range of whiskies. This product is matured in a rum cask, the sweetness of which is combined with lemon and grapefruit into a perfect exhibition of tropical fruit loveliness.

PENDERYN PORTWOOD

84 Penderyn's natural sweetness, and the infusion of portwood, combine to make this a distinctive, sweet, fruity, and utterly moreish single malt.

THREE SHIPS TEN-YEAR-OLD

85 This exceptional whisky from the Western Cape has much in common with Scottish Highland products, with oak, a touch of peat, and milk chocolate in the mix. It's been targeted successfully at overseas markets.

AMRUT FUSION

86 Scottish and Indian barley combine to produce vanilla, yellow fruit, and sweet barley battered by oak and smoke.

PAUL JOHN SINGLE CASK PEATED

87 A relative newcomer, John Distilleries of India is a work in progress, but its most recent single casks, especially the peaty ones, show that it means business. Paul John is full-flavored and smoky.

ICHIRO'S MALT CHICHIBU THE FIRST

88 This young whisky from a new distillery is rich and full, with lemongrass, Thai spices, lemon, and lime.

HAKUSHU 12-YEAR-OLD

89 This little gem from Suntory's smaller distillery is characterized by fresh green fruit, licorice, and a high level of peat. Complex and unusual for Japan.

JAPAN

HIBIKI 21-YEAR-OLD

90 Japanese whisky is a victim of its own success. Brand owners simply didn't put enough malt aside 20 years ago because they didn't predict such demand. This rare Hibiki has picked up numerous awards, including World's Best Blended Whisky in 2010. The flavors are bold and remarkable, with Christmas cake and orange marmalade the most obvious reference points. Cherries and raisins are to the fore, but it is all perfectly balanced.



JAPAN

YOICHI 20-YEAR-OLD

91 This cask-strength whisky is a real beauty. The nose is curious, but tastewise it's like someone dropped a match in the fireworks box and the contents are shooting out in all directions—autumn forest, grilled trout, seaweed seaside, dark chocolate, chili pepper, and tannins.



JAPAN

NIKKA PURE MALT BLACK

92 This vatting of malts from several distilleries is excellently put together. As you might expect from fine Japanese whisky it doesn't hold back, and you certainly get your money's worth here, with immense lashings of smoke, juicy raisins, and malt loaf.

ICHIRO'S MALT CHICHIBU PORT PIPE

93 This cask-strength whisky is rich and full and combines winy, grapey, and strawberry notes with a grungey, earthy undercarpet.

TAKETSURU PURE MALT 17-YEAR-OLD

94 This big-hitting all-rounder from Nikka condenses all its flavors, the most notable of which are orange marmalade, chicory coffee, industrial smoke, and *rumtopf*-like fruits. It's got so much body that it really needs to be the last drink of the night.

JAPAN

YAMAZAKI 18-YEAR-OLD

95 This classic, big, bold, and confident whisky from leading producer Suntory is a complex and well-made malt, with a delightful array of fruits, including kiwi, mango, and pineapple. It's not faultless—the finish is an oddball; a bit too zesty for its own good—but the use of sherry casks and bourbon barrels, as well as Japanese oak casks, produces a roller coaster ride that starts with a resinous nose and then proceeds to a palate of wood resin with strongly pronounced floral notes.



AUSTRALIA

KAVLAN SOLIST BOURBON WOOD CASK STRENGTH

96 Kavalan makes some wonderful whiskies, and this is the best of them. The bourbon cask gives it the taste of an alcohol-drenched peach melba dessert mixed with a banana split.

AUSTRALIA

LARK DISTILLER'S SELECTION

97 Bill Lark kick-started the Tasmanian whisky boom. This is a classic example of his style: big and bold, with stewed apples and licorice in the mix. It's reminiscent of Irish pot still whiskey.

AUSTRALIA

OVEREEM PORT CASK MATURED CASK STRENGTH

98 Casey Overeem has learned a lot from Bill Lark in a very short time and is making some of the best whisky to come out of Australia. Each batch sells out in hours, so if you want some of it, don't delay.

AUSTRALIA

BAKERY HILL PEATED CASK STRENGTH

99 A classic balancing act between apples and citrus on the one hand and intense chill and peat on the other. Beautifully held together.

AUSTRALIA

SULLIVANS COVE FRENCH OAK

100 Hitting its stride now, this whisky is a fine mix of fruity notes with body provided by high-quality wood. One for the future.



USA
**ALCHEMIST
 HEADY
 TOPPER 8%**

1 Vermont brewery the Alchemist makes only one beer, but *what a beer*: Heady Topper is one of the most boldly flavored double India pale ales (IPAs) in the United States and a must for connoisseurs.

USA
**BROOKLYN
 LAGER 5.2%**

2 When Brooklyn conjured up this amber-hued gem in 1988, it was a complete contrast in color and flavor to lagers that ruled the US roost. Based on pre-Prohibition recipes, it was full-flavored, free of adjuncts (the corn and rice is often used instead of barley malt), and dry-hopped. The brewery's mainstay ever since.

USA
ANCHOR STEAM 4.9%

3 Steam beer was a traditional San Francisco style in the late nineteenth century: a hybrid that was produced with lager yeast but warm-fermented in the manner of ale. In 1965 the entrepreneurial Fritz Maytag bought the faltering Anchor Brewing Company and set about reinvigorating his personal favorite, its signature steam beer. By the early 1970s, Maytag was happy with the result, which was bottled and went on to become one of the early stars of the US craft beer revolution.

100 BEERS

USA
**STONE ARROGANT
 BASTARD ALE 7.2%**

4 "This is an aggressive ale," warned Stone, tongue firmly in cheek. "You probably won't like it. It is quite doubtful that you have the taste or sophistication to be able to appreciate an ale of this quality and depth."

USA
**SAMUEL ADAMS
 BOSTON LAGER 4.9%**

5 Emerging in 1985, this was the first craft beer to demonstrate that stateside lager could be full of flavor. "That was my objective," recalled brewmaster Sam Koch. "To change the way Americans, and ultimately the entire world, thought about American beer." Basing the recipe on one used in a brewery once owned by his family, Koch shook things up by adding Cascade hops, which gave an elegant floral note on the nose.

USA
**ANCHOR OLD
 FOGHORN 8.8%**

6 First brewed in 1975, this barley wine was similar in strength and malt to its British cousin, but Anchor dry-hopped it—and US barley wine was born.

USA
RUSSIAN RIVER PLINY THE ELDER 8%

7 Brewmaster Vinnie Cilurzo is believed to have made the first double IPA, for Illinois's Blind Pig in 1994. When he joined California's Russian River, he cooked up this fresh double IPA recipe.

USA
**SIERRA NEVADA
 BIGFOOT 10.4%**

8 Three years after Sierra Nevada's Pale Ale made its debut in 1980, the brewery delved into the world of barley wine with this assertively hopped beauty.

NORWAY
**NØGNE Ø IMPERIAL
 BROWN ALE 7.5%**

9 Two home brewers founded Nøgne Ø in 2002 to produce crafted beers for Norwegian drinkers. They succeeded in style with this soothing yet muscular brown ale.

UK
FULLER'S VINTAGE ALE 8.5%

11 Fuller's has produced this strong ale annually since 1997, using it to showcase the best barley and hops from the year's harvest. It improves with age.

UK
FULLER'S ESB 5.5%

12 ESB (Extra Special Bitter) was formally introduced to the British beer market in 1971, although it had debuted in Fuller's pubs a couple of years before as a seasonal ale. It inspired US craft brewers, who developed it as a stand-alone style: a well-hopped ale, but not as assertively hoppy as IPA.

IRELAND
**GALWAY HOOKER IRISH
 PALE ALE 4.4%**

10 Ireland's microbrewing renaissance began in the 1990s. It took until 2006 for this biscuity pale ale to emerge, but it has since developed a loyal following.



UK PALE ALE WORTHINGTON'S WHITE SHIELD 5.6%

13 This English-style IPA's hop character is deep and brooding, unlike its brightly colored American cousin. Apart from the occasional outing abroad, Worthington's White Shield has been brewed in Burton upon Trent, Staffordshire, since the 1820s, when IPA was shipped to Britons ruling in India. The White Shield emblem was added half a century later. The bottle-conditioned version was controversial: some fans loved it, but as beer writer Michael Jackson pointed out, "It contains a yeast sediment that fastidious drinkers do not wish to see in their beer."

UK AMBER HARVEY'S SUSSEX BEST BITTER 4%

14 This classic English bitter of the South Downs region to the north of Brighton was first brewed in 1955, and has survived decades of changing beer fashions.

UK PALE ALE MARSTON'S PEDIGREE 4.5%

15 This classic Burton pale ale is now the only British beer made using the Burton Union system. First brewed in 1952, its nose is noted for the classic, sulfur-like "Burton snatch," an aroma derived from the local, mineral-rich waters that are used in its making.

UK PALE ALE MEANTIME IPA 7.4%

16 Initially noted for continental lagers, London's Meantime first produced its take on this classic nineteenth-century English beer in 2005. The result is crammed with character, thanks to its Fuggles and Goldings hops.

UK AMBER TRAQUAIR JACOBITE ALE 8%

17 This warming ale, refreshingly spiced by the addition of coriander, was first brewed in 1995 at Scotland's Traquair House to celebrate the anniversary of the 1745 Jacobite rebellion.

UK AMBER WESTERHAM BREWERY AUDIT ALE 6.2%

18 First brewed to celebrate annual reviews of Oxford and Cambridge Universities' accounts, audit ale (based on a 1938 recipe) was revived by Westerham in 2007. A strong ale combining pale and crystal malts with Kent Golding hops.

BELGIUM PALE ALE BROUWERIJ DER ABDIJ VAN ST SIXTUS WESTVLETEREN ABT 12° 10.2%

19 One of the world's most revered Trappist beers, its complex flavors improve with time. Its legendary status is magnified by the quiet isolation of the monastic manufacturers in Belgium, and its mystique is enhanced by label-free bottles.

BELGIUM PALE ALE ORVAL 6.2%

20 Belgium's six Trappist breweries all produce great beers, but Orval—owing to the use of *Brettanomyces* yeast when the bottles are conditioned—has the most complex character and flavor.

GERMANY PALE ALE UERIGE ALT 4.7%

21 Düsseldorf's *altbiers* ("old beers") are survivors of Germany's pre-lager brewing culture. Uerige's masterful version is a giant of the style.

GERMANY PALE ALE AECHT SCHLENKERLA RAUCHBIER 5.2%

22 When it comes to smoked beer (*Rauchbier* in German), this Bamberg classic is the international benchmark: a peaty, smoky, yet compulsively drinkable beer that has been produced by Brauerei Schlenkerla since the latter half of the seventeenth century. Its distinctive flavor comes from its barley being kilned (or dried) over a fire of beechwood logs.

GERMANY PALE ALE PAULANER SALVATOR 7.9%

23 This classic Munich *doppelbock* ("double bock," a strong, malty lager) has a history that dates back to the eighteenth century: local monks brewed it for Lent, to sustain them while they fasted. Such was its popularity that many local breweries produced similar beers with the same name (hence, many Bavarian strong beers have "-ator" in their monikers), which led to the original "Salvator" being copyrighted in 1896. It's now produced all year round.



CZECH REPUBLIC AMBI
PIVOVAR
MATUŠKA
IPA RAPTOR 6.3%

24 First brewed in 2010, this “intercontinental” IPA is one of the beers that helped to kick-start the craft beer revolution in golden lager’s homeland.

AUSTRIA AMBI
EGGENBERG
SAMICHLAUS
CLASSIC 14%

25 One of the world’s most powerful lagers, this is brewed once a year, for Christmas—hence “Samichlaus,” another name for Santa Claus.

USA AMBI
BOULEVARD
TANK 7 8.5%

26 Midwest brewery Boulevard creates a fascinating range. Tank 7 is its take on saison: a funky, fruity fusion that demonstrates the breadth of stateside brewing.

USA BLOND
DOGFISH HEAD 90
MINUTE IMPERIAL IPA 9%

27 Dogfish Head founder Sam Calagione loves hops, and for this boisterous big boy he devised a method whereby hops could be added throughout 90 minutes of the brewing. It worked so well that he also created the 120 Minute Imperial IPA.



USA BLOND
SIERRA
NEVADA
PALE ALE 5.6%

28 It is 1980, and the American craft beer scene is small but growing. Along comes Sierra Nevada founder Ken Grossman and his groundbreaking pale ale. After ten discarded attempts, the final recipe has an aromatic charge of Cascade hops on the nose (orange, resin, and a touch of ripe, soft fruit) and a bracing balance of citrus and biscuit on the palate. The result became one of the most popular US craft beers, and an inspiration to brewers at home and abroad.

USA BLOND
GOOSE ISLAND
IPA 5.9%

29 Chicago born in 1993, this is a rich and roistering IPA, with citrusy notes and a firm, biscuity canvas of malt, on which the hops produce bright colors. Unusually for an American IPA, it looks to England for its inspiration.

USA BLOND
PABST
BLUE
RIBBON 4.7%

30 Originally known as Best Select when first brewed in the 1840s, this was once a blue-collar beer but is now a hipsters’ favorite.

UK BLOND
THORNBRIDGE
JAIPUR 5.9%

31 First brewed in 2005, this US-influenced IPA—its hoppiness accentuated by an admixture of honey—was a statement of intent from a Derbyshire brewery that has continued to innovate as well as impress beer lovers.

UK BLOND
KERNEL
INDIA PALE
ALE 7.1%

32 Kernel is one of London’s leading new brewers. It uses various hop combinations to make this IPA, which is peppery, spicy, and refreshingly bitter.

UK BLOND
CAMDEN TOWN
BREWERY HELLS
LAGER 4.6%

33 With its fresh, juicy feel and bracing bitterness, this fusion of German pilsner and Helles styles is a star of the London brewing renaissance.

UK BLOND
BREWDOG
PUNK
IPA 5.6%

34 Scottish craft beer champs BrewDog introduced themselves in 2007 with this ferociously hoppy and highly influential American-style IPA, which influenced a young generation of British brewers.



UK

MAGIC ROCK CANNONBALL 7.4%

35 Magic Rock brew in West Yorkshire but look to the US West Coast for inspiration as this punchy hop-bomb of an IPA demonstrates.

UK

BURNING SKY SAISON À LA PROVISION 6.5%

36 British brewer Mark Tranter left Dark Star to launch Burning Sky in 2013 with this full-bodied saison.

FRANCE

ST. SYLVESTRE 3 MONTS 8.5%

37 The blond streaks and fruity character of this Bière de Garde hint at a link with beers over the border in Belgium.

BELGIUM

WESTMALLE TRAPPIST TRIPEL 9.5%

38 Today, the Belgian Tripel is a common style, but Westmalle's is the godfather of them all: a strong, blond-highlighted beer with a fine hop presence alongside deep, fruity notes. It was first brewed in 1934 for the new brewhouse at Antwerp's Westmalle Abbey.

BELGIUM BLOND

DUVEL 8.5%

39 First brewed in 1923 and named Victory Ale to celebrate the end of World War I, this Belgian classic—based on a Scottish yeast strain—was originally dark, but went blond in 1970. This strong golden ale is now served in tulip-shaped glasses.

BELGIUM BLOND

SAISON DUPONT 6.5%

42 Saisons were the farmhouse beers of Belgium's Wallonia: refreshing, light in alcohol, and brewed for workers. Now, Saison Dupont defines the style: stronger in alcohol, restrained and dry in sweetness, with a resinous, hoppy nose. Brasserie Dupont began brewing it in the 1930s; the modern version is a favorite overseas.

BELGIUM

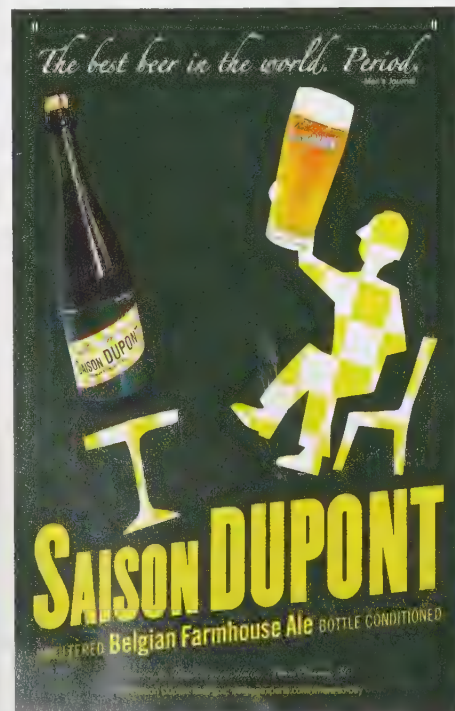
BRASSERIE DE LA SENNE TARAS BOULBA 4.5%

40 Brussels-based De La Senne tones down the sweetness that can bedevil Belgian beers. This—one of its debut drinks—is a hop-forward, slightly tart, fruity joy.

BELGIUM BLOND

MALHEUR BIÈRE BRUT 11%

41 This so-called champagne-style beer—thrice fermented in the bottle—caused jaws to drop when it first emerged in 2000. Fine and sparkling, it's luxury in bottled form.



GERMANY

AUGUSTINER LAGERBIER HELL 5.2%

43 Six Munich breweries have traditionally been allowed to exhibit their beers at the city's annual Oktoberfest. Augustiner is the only one of them that remains independent, and Lagerbier Hell is its everyday, year-round pale lager. Crisp and sprightly, with a bittersweet finish, it has been a Munich favorite since the late nineteenth century.

ITALY

BREWFIST SPACEMAN 7%

44 American hops add their signature juiciness to both the aroma and palate of this powerful IPA from one of the new wave of Italian craft brewers.

ITALY

BIRRIFICIO ITALIANO TIPOPILS 5.2%

45 Birrificio Italiano began working its magic in the 1990s and was a pioneer of Italian craft brewing. This bright and sprightly pils—its first beer—has become a world classic.



CZECH REPUBLIC PILSNER URQUELL 4.4%

46 After the initial success of this golden lager, introduced in 1842 in Pilsen, the world was inundated with beers that claimed association with the city in Bohemia. Conjured up by Bavarian brewmaster Josef Groll, pilsner was a clear, pale, bottom-fermented game changer. Today, still made in Pilsen, with Czech Saaz hops, Moravian malt, and local soft water, Urquell ("principal sauce") remains a classic.

CZECH REPUBLIC BUDWEISER BUDVAR 5%

47 In the southern Bohemian town of České Budejovice, Budvar has been brewed since 1895, using whole Saaz hops and a 90-day maturation period. The result is one of the greatest pale lagers.

AUSTRALIA COOPERS SPARKLING ALE 5.8%

48 Englishman Thomas Cooper introduced Sparkling Ale to Australia in 1862. It's a tribute to the brewery—and the still-involved Cooper family—that this South Australian favorite still thrives.

AUSTRALIA FERAL HOP HOG 5.8%

49 Feral Brewing create its beers in the Swan Valley wine-making area close to Perth. This assertively hopped, fruity IPA has won many awards.

NEW ZEALAND 8 WIRED HOPWIRED IPA 7.3%

50 Søren Eriksen, founder of 8 Wired, is a star of New Zealand's beer scene, and this tropical IPA is typical of his style.

USA SCHNEIDER WEISSE MEINE HOPFENWEISSE 8.2%

52 In 2008, Schneider Weisse brewmaster Hans-Peter Drexler collaborated with Brooklyn Brewery's Garrett Oliver for this luscious, tropically fruity, and silky-smooth Weizenbock.

BELGIUM ABBAY DES ROCS BLANCHE DES HONNELLES 6%

54 In the 1980s, Hoegaarden was the yardstick for Belgian wheat beers, but in 1991 Abbaye des Rocs set a new standard with more alcohol, less spice, and a darker color.

USA SOUTHAMPTON DOUBLE WHITE 6.6%

51 Dating from 1998, this imperial (higher alcohol) wheat beer paved the way for styles other than IPAs to be imperialized.

USA BLUE MOON 5.4%

53 This Belgian-style white beer, first brewed in 1995 under the Coors umbrella, was an early sign that corporate giants were going to take craft beer seriously.

GERMANY WEIHENSTEPHANER HEFE WEISSBIER 5.4%

55 Weihenstephan is the world's oldest brewery, dating back to the eleventh century (and named after an area where there had been brewing since the eighth century). This wheat beer emerged in 1933.

GERMANY SCHNEIDER WEISSE 5.4%

57 This *weissbier* ("wheat beer") was first created in 1872 in the Schneider brewery's former home in Munich, but is now brewed in the medieval town of Kelheim, to which Schneider moved after World War II. Its recipe is secret, but it's light tan in color, and flaunts an aroma of bubble gum, vanilla, cloves, and ripe banana. There's a mouthfeel akin to the British sparkling wine Moussec, plus a refreshing crispness on the palate, and vanilla, banana, and clove notes. Breweries around the world wishing to produce a Bavarian *weissbier* usually refer to this great classic.



CZECH REPUBLIC
**PIVOVAR HEROLD
BOHEMIAN WHEAT 5%**

57 Four years after the Velvet Revolution, Pivovar Herold resurrected this once-common Czech-style wheat beer.

JAPAN
**HITACHINO NEST BEER
WHITE ALE 5.5%**

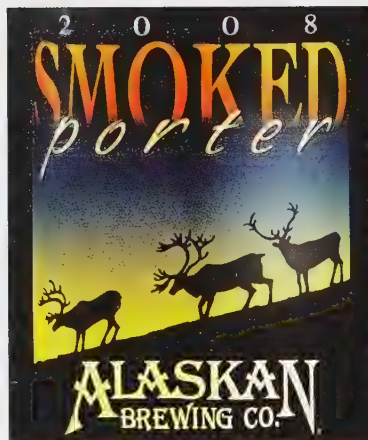
58 Traditional sake makers Kiuchi took on beer in 1996, and two years later launched this acclaimed, easy-drinking, Belgian-style, white beer.

USA
**HILL FARMSTEAD
EVERETT PORTER 7.5%**

59 Shaun Hill has only brewed since 2010, but his beers are acclaimed. This unfiltered and naturally carbonated porter—with a backbone of chocolate—is only one item in a stunning portfolio.

USA
**THREE FLOYDS
DARK LORD 13%**

60 This powerful Imperial Russian stout is brewed in small amounts, once a year, and issued during a one-day festival in Munster, Indiana. It then appears on eBay at ten times its original price.



BRAZIL
**COLORADO
ITHACA IMPERIAL
STOUT 10.5%**

62 This is an impressively strong, toffee-ish stout with a distinctively Brazilian twist: partially refined cane sugar is added to the mix.

USA
**ALASKAN SMOKED
PORTER 6.5%**

61 As the US brewing revolution rumbled on in the 1980s, brewers looked all over the world for inspiration. But in Alaska, Geoff Larson stayed closer to home and researched local smoked beers of the nineteenth century. This rich, delicious, smoky beer, with hints of chocolate, was the result. The smoke compounds, he says, "are antioxidants that prevent it from becoming like cardboard."

DENMARK
**MIKKELLER
BEER GEEK
BREAKFAST 7.5%**

63 Mikkeller is a "gypsy" brewery: founder Mikkel Borg Bjergsø flits around the world making beers with like-minded others. First brewed in 2005, this rich coffee oatmeal stout was one of the beers that made Mikkeller's name. If alcohol is not your drink of choice at daybreak, it's great at other times too.



IRELAND
**GUINNESS
FOREIGN
EXTRA 7.5%**

64 Guinness draft is one of the most recognized beer brands, ladled with dollops of heritage and helped by clever marketing. However, this much heftier and complex-flavored version of the stout has as much history. With nineteenth-century origins, it's a blend of a beer that has been stored for 100 days with one that is freshly matured—an echo of vatted porters of the Victorian age. Foreign Extra is the first choice of connoisseurs who relish its coffee-esque, roasty, chocolaty, and bitter character, and the appetizing undercurrent of sourness that is probably the result of the blending. Principally brewed in Dublin, this exemplary beer also forms the basis for various Foreign Extras that Guinness farms out to manufacturers around the world.

UK
GREENE KING STRONG SUFFOLK 6%

65 Age is key to this full-bodied old ale—a blend of a 12% beer, aged in oak for two years, and a sweeter 5% variety. The result harks back to a nineteenth-century tradition of blended beers.

UK
WELLS & YOUNG'S COURAGE IMPERIAL RUSSIAN STOUT 10%

66 Many thought this beer dead and buried when Courage stopped making it in 1993. However, in 2007, Bedfordshire brewery Charles Wells acquired Courage's brands, including this one, and it is now again brewed annually.

UK
**BEAVERTOWN
BLACK BETTY 7.4%**

67 Beavertown is a London brewer, and this is its take on black IPA—a style whose lack of rigorous definition has proved controversial.

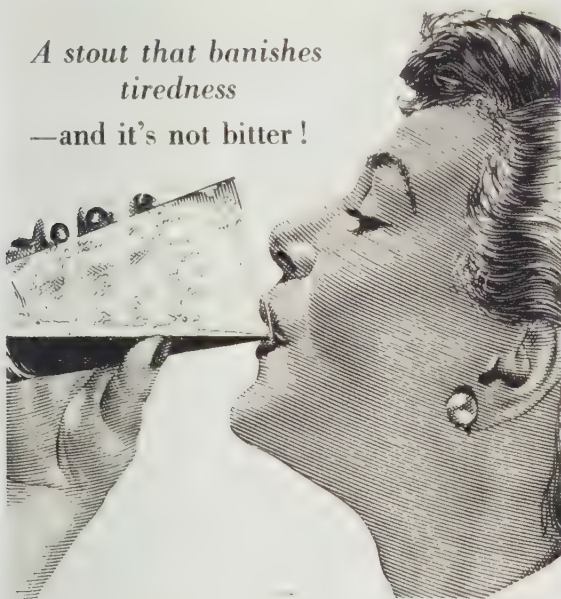
UK DARK

MACKESON STOUT 2.8%

88 Known as a "milk stout"—though no milk is used in its brewing—it is the addition of lactose that gives sweetness and body. Its 2.8% ABV is unusually low for stout, but this hardy survivor of a style that emerged at the start of the twentieth century remains an iconic beer—even if a lack of promotional marketing has seen it labeled a "ghost brand."

A stout that banishes tiredness

—and it's not bitter!



MACKESON'S

... you'll like it better!

UK DARK

HARVEY'S IMPERIAL EXTRA DOUBLE STOUT 9%

89 This pitch-black, roasty, bittersweet, coffee-like, fruity imperial stout was first brewed by Harvey's in 1999, though it was based on a strong beer originally made at Estonia's A. Le Coq brewery until 1921. Its resurrection came about after a US importer asked Harvey's if it could revive the beer, which the East Sussex-based brewery did with stunning results—albeit after corks exploded from bottles in a first run with an insufficient holding period. Today, with a crown rather than a cork, it is a distinctive gem.



BELGIUM

DE STRUISE PANNEPOT 10%

70 De Struise Brouwers made this sensuous dark beer at its Deca brewery in 2004. It has since become one of its best-loved drinks, although it is more popular in the United States than in its native land.

BELGIUM

TRAPPISTES ROCHEFORT 10 11.3%

71 Trappist beers are among the world's greatest. This corker, dating from 1953, has the aura of a glass of port and the kick of a mule.

NETHERLANDS DARK

DE MOLEN HEMEL & AARDE 9.5%

72 Peated malt is part of the recipe for this powerful, smoky, black beer from an artful Dutch brewery.

GERMANY

AYINGER CELEBRATOR 6.7%

73 This *doppelbock* (extra-strong lager) was first brewed in 1982 at the request of a US beer importer.

GERMANY

SCHÖNRAMER BAVARIAS BEST IMPERIAL STOUT 10%

74 Schönramer's American brewmaster, Eric Toft, is famed for his exemplary beers. This inky-black stout is one of them.

GERMANY

SCHNEIDER WEISSE AVENTINUS 8.2%

75 The more muscular big brother of Schneider Weisse is dark (owing to extra roasted malts), fruity, and spicy. First brewed in 1907, it was an early example of the Weizenbock style (a strong version of an unfiltered wheat beer). Mathilde Schneider, the widow of the brewery's boss, helped to create it.

POLAND DARK

ZYWIEC PORTER 9.5%

76 Poland is awash in golden lager—including that of the Zywiec brewery—but the survival of this creamy, bittersweet Baltic porter is cause for celebration.

USA

DOGFISH HEAD PALO SANTO MARRON 12%

77 Dogfish Head doesn't only do big, hoppy beers. It also has a sense of adventure, as this rich, roasty, American-style brown ale demonstrates. After brewing, it matures in tanks of palo santo wood from Paraguay, which add caramel and vanilla notes.

USA

CUVEE DE TOMME 11%

78 Tomme is Tomme Arthur—the brewmaster at California's The Lost Abbey and Port Brewing. This is a bourbon barrel-aged beer, but there's more to it than just wood: sour cherries and wild *Brettanomyces* yeast go into the barrels. This gives the brown ale a complex, sweet-sour character on nose and palate.



USA RUSSIAN RIVER TEMPTATION 7.5%

79 Regarded as the creator of the first double (or imperial) IPA, Vinne Cilurzo is also a fervent champion of barrel-aging and marrying wild yeasts with his brewery's beers. Temptation, a blond beer matured in used Chardonnay barrels, was the first beer to get this treatment when it was made in 1999. It was a gauntlet thrown down to the brewing fraternity to say that this was the way Russian River would flow. With Cilurzo's ensuing creation of many similarly named and spectacular beers [Supplication, Consecration, etc.], Cilurzo is seen as one of the most creative American brewers at work today.

USA SAMUEL ADAMS UTOPIAS 27%

80 On its debut in 2001, this was the world's strongest commercial beer, and thus illegal in several US states.

UK WILD BEER MODUS OPERANDI 7%

82 Somerset-based Wild Beer launched in 2012. This wood-aged, Brettanomyces yeast-inoculated old ale was its first beer—and a sure sign that it wouldn't be just another brewery.

FINLAND
FINLANDIA SAHTI STRONG 10%
81 Finlandia Sahti, based in Forssa, began brewing this classic Finnish-style beer in 1992. It is unhopped and has juniper branches added during the boil.

UK THORNBRIDGE HALL SOUR BROWN 7%

83 Most breweries outside West Flanders would struggle to create Flemish brown ale, but in 2013 Thornbridge Hall in the Peak District produced an astonishing take on the grand old master.

UK SPECIALTY DARK STAR ESPRESSO 4.2%

84 In 2000, Brighton-based Dark Star tinkered with their regular stout by adding freshly ground Arabica beans to roasted barley malt and Challenger hops. The result was perhaps the UK's first coffee stout.

UK BREWDOG TOKYO 16.5%

85 When BrewDog released this punchy imperial stout in 2009, its then Herculean strength caused concerns to be raised in the Scottish parliament. The political storm obscured the fact that Tokyo is not an oblivion express but an elegant, slow-burning sipper that improves with age.

UK HARVIESTOUN OLA DUBH 8%

86 Highland Park single malt casks of varying vintage provided a home for Harviestoun's dark beer Old Engine Oil. The result, issued in 2007, was this sensational imperial porter.

UK SPECIALTY INNIS & GUNN ORIGINAL 6.6%

87 Wood-aging beer is a common process today, but in Britain in 2003, this toffee-sweet, vanilla-scented beer was a pioneer (whose creation was a happy accident).

UK SPECIALTY FULLER'S BREWER'S RESERVE 8.5%

88 London brewery Fuller's, founded in 1845, is still going strong. Since the debut of Brewer's Reserve in 2008, there have been four versions of a beer that spends up to 500 days maturing in a variety of wooden barrels. Single malt, cognac, and Armagnac casks have yielded rich, complex, and well-balanced varieties that are wonderful expressions of the brewer's art.



UK SPECIALTY SHARP'S HONEY SPICE TRIPEL 10%

89 Sharp's is known primarily in the UK for its best-selling cask beer Doom Bar, but this outstanding number is produced by the Cornish brewery's small experimental arm.



BELGIUM
RODENBACH
GRAND CRU 6%

90 Time is the essence of this iconic Flemish red ale that was first brewed toward the end of the nineteenth century. This sensuously sour aristocrat is a blend of a beer that has been aged in wood for a year with a much younger one. The result is an incredibly complex range of flavors on the palate, including a tart yet quenching sweet-and-sour character. Beer writer Michael Jackson hailed Rodenbach Grand Cru as “the Burgundy of Belgium.”

BELGIUM
CHÂTEAU
D'YCHOUFFE
9%

93 This fruity, sweet dessert beer—by the makers of La Chouffe—owes its strange, remarkable wine-like quality to its use of grape seeds.

BELGIUM
DUCHESSE DE
BOURGOGNE
6.2%

94 This traditionally fermented West Flemish red ale—a high-perfect apéritif beer—derives its tart, sweet-sour taste from being aged in wood.



BELGIUM
BOON OUDE GEUZE
MARIAGE PARFAIT 8%

95 For having set up his brewery in the late 1970s, Frank Boon became a hero of the renaissance in lambics (strong, sweet Belgian beers). This sprightly, champagne-like offering—with its grapefruit, earthy, tangy, tart, citrus-sweet notes—is proof he did the right thing.

BELGIUM
GUEUZE GIRARDIN
1882 5.5%

97 As the name of this complex thirst quencher suggests, it dates from 1882, making it one of the oldest surviving lambics.

GERMANY
GOEDECKE'S
DÖLLNITZER
RITTERGUTS GOSE 3.9%

98 Salt in beer? Yes, if it's a Leipziger gose—a German sour beer. Goedecke's version is reckoned by connoisseurs to be closest to the true style.

ITALY
BIRRIFICIO LE
BALADIN XYAUYÙ 14%

99 Among the many esoteric beers by Italian artisanal brewers, this complex barley wine stands out. It takes nearly two years to finish resting.

BELGIUM
CANTILLON ROSÉ
DE GAMBRINUS 5%

91 Pink in color, this is an assertively tart and dry raspberry affair, introduced by the premier lambic brewery in 1986.

BELGIUM
CANTILLON
IRIS 5.5%

92 Lambics use aged hops for preserving purposes—but for Iris, Cantillon mixes dried hops with fresh ones. The result is a complex lambic-ale crossover—a demanding masterpiece.

BELGIUM
CANTILLON
GUEUZE 100%
LAMBIC BIO 5%

96 Gueuze is the champagne of the lambic process: a heady, breadly, mouth-filling bloomer of a beer that's spritzly, sprightly, and tantalizing on the tongue. Cantillon's Gueuze is the Dom Pérignon of this most esoteric of beer styles, with a tart and refreshing character alongside grapefruit and a hint of lemon. It's a blend of young and old lambic beer, with the callow upstart providing the sparkle as it referments in the bottle, and the veteran adding its intense sourness. Cantillon calls this beer its “crown jewel.”



ITALY
BIRRIFICIO LAMBRATE
GHISA 5%

100 Created in 1998 by a much-respected Milan brewpub, this smooth, slightly smoky stout has always been one of the stars of Italy's microbrewing scene.



READ OUR STORY

ALEXANDER

1 Gin came first, mixed with crème de cacao and cream, allegedly developed in a New York lobster bar in 1915 (some claim the creator was a Philadelphia bartender in the same year). In the 1920s, brandy and cognac took over and the cocktail was developed; its evolution reportedly being designed to celebrate a royal wedding in Britain or to remember Russia's reforming Czar Alexander II. Either way, this has remained the version we know and love. Some prefer heavy cream for a richer taste; others replace it with milk.

READ OUR STORY

CHICAGO COCKTAIL

2 This cocktail was birthed in Chicago in the late nineteenth century, but the recipe was only settled in the 1930s when barmen mixed brandy, orange-flavored liqueur such as triple sec, a dash of bitters, and sometimes a splash of champagne.

READ OUR STORY

CURAÇAO PUNCH

3 First noted in Harry Johnson's *New and Improved Bartender's Manual: Or How to Mix Drinks of the Present Style* (1882), this dared to combine brandy, curaçao, and rum with club soda and lime juice. Topped by an arc of sugar on the rim.

READ OUR STORY

HORSE'S NECK

4 Ginger ale and lemon made their debut in the glass in 1890s America. A decade later, brandy gave the horse a kick, alongside a splash of Angostura bitters and a spiral of lemon rind. Britain's Royal Navy officers briefly flirted with it in the 1960s, foregoing their pink gin.

100 COCKTAILS

READ OUR STORY

STINGER

5 Crème de menthe duets with brandy in this classic end-of-evening stunner that supposedly stems from World War I, when US pilots made it their drink of choice.

READ OUR STORY

SIDECAR

6 Was it born in Paris or London? Mystery still dogs the origins of this concoction of cognac, triple sec, and lemon juice, offset by a sugared glass rim.

READ OUR STORY

PORTO FLIP

7 "Flip" means a "drink with a raw egg." This late nineteenth-century version also includes brandy and ruby port to make for a nourishing beverage. Freshly ground nutmeg tops it off.

READ OUR STORY

FRENCH CONNECTION

8 Amaretto and cognac dance in the glass for an after-dinner dash first recorded in the 1960s. (French Connection 2 replaces the Amaretto with Grand Marnier.)

READ OUR STORY

FRENCH 75

9 While World War I raged in Europe, in 1915, a New York barkeep mixed champagne, sugar, lemon juice, and gin. The explosive result was named for a French artillery piece.

READ OUR STORY

SINGAPORE SLING

10 Singapore's Raffles Hotel was supposedly the home of this zingy cocktail, created by bartender Ngiam Tong Boon before World War I. Recent research, however, has uncovered reference to it in newspapers from the late 1890s. The murkiness of its origins is reflected by the way the recipe has altered over the years. The current version includes gin, pineapple and lime juices, cherry brandy, Cointreau, Bénédictine, and grenadine, with a whisper of Angostura bitters.

READ OUR STORY

ANGEL FACE

11 This cocktail existed in the years prior to Prohibition (1920–33, when it was illegal in the United States to make or sell alcohol) but earned fame thanks to its inclusion in Harry Craddock's 1930 classic *The Savoy Cocktail Book*. The author advised combining equal quantities of gin, apricot brandy, and calvados to produce a punchy, rich drink.

READ OUR STORY

LONG ISLAND ICED TEA

12 A splash of cola adds an amber color, hence "iced tea." The addition of "Long Island" has been traced to a New York state bar in 1972, though the recipe dates back at least a decade before that. As for what goes in the glass, the cola follows vodka, gin, tequila, triple sec, and white rum, along with a dash of sour mix. A strong sipper.

NEGRONI

13 In 1919, Italian count Camillo Negrone entered a Florence bar and ordered an Americano—Campari, vermouth, and soda—with added gin. The barman replaced the customary lemon with an orange rind and a classic was born. That's the story anyway, although efforts to verify the existence of the count have proved inconclusive.

MARTINI

14 The king of cocktails is a marriage of gin and vermouth, with an olive. It is a favorite of James Bond, who demanded it be shaken not stirred (although writer Somerset Maugham, who inspired Bond creator Ian Fleming, was a stirrer not a shaker). Some say it originated in the nineteenth century, but others suggest New York in 1911 or 1912. Whatever the truth, the Martini came to epitomize glamour and sophistication.

TOM COLLINS

15 This lively confection—gin, fresh lemon juice, sugar syrup, and soda—was first detailed in Jerry Thomas's *The Bartender's Guide* (1876). Its name supposedly dates from a prank practiced in US taverns some years earlier.

BIJOU

16 First noted in an 1882 bartenders' manual, Bijou (French for "jewel") is a bold combination of gin, sweet vermouth, and green Chartreuse, with a dab of orange bitters.

GIN

MONKEY GLAND

17 Gin, orange juice, grenadine, and absinthe are blended in the glass for this classic 1920s cocktail, named after Russian surgeon Serge Voronoff's technique of grafting tissue from monkeys' testicles onto those of men.

GIN FIZZ

18 The fizz arises from club soda, added after the gin is shaken with lemon juice, sugar syrup, and ice cubes (purists insist on two of the latter in the glass). This is one of several variants of the fizz family, its origins believed to lie in late nineteenth-century America.

GIMLET

19 This simple but effective favorite of Raymond Chandler's private eye Philip Marlowe (and Chandler fan Ernest Hemingway) slings gin and lime juice together. Shake with ice.



G&T

20 This is the drink that quenched the thirst of the British Empire and has continued to do the same at countless golf club bars ever since. Its popularity emerged during the early nineteenth century, when the antimalarial properties of quinine made it a regular tonic for Brits in India, mixed with gin, club soda, and sugar to make it more palatable. Depending which country the drink is made in, the garnish will be lemon or lime.



AVIATION

23 Classically violet blue in color, owing to a splash of crème de violette liqueur, this elegant drink appeared in 1911, with gin, lemon juice, and Maraschino liqueur. Dissent erupted when the hard-to-find crème de violette was dropped from the *Savoy Cocktail Book* recipe—purists insist upon it.

BRONX

21 Despite its New York-referencing name, this mix of gin, vermouth, and orange—essentially a Martini with orange—has been traced back to pre-Prohibition Philadelphia.

GIN

VESPER

22 Another Bond cocktail, this appears in the 1953 novel *Casino Royale*, when 007 orders Gordon's gin, vodka, and the aperitif Kina Lillet, shaken not stirred.

PEGU CLUB

24 This blend of gin, lime juice, Cointreau, and bitters was the house drink of the Pegu gentlemen's club in 1920s Burma (Myanmar).

TUXEDO

25 Harry Johnson's *Bartender's Manual* (1882) introduced this blend of Old Tom gin, dry vermouth, absinthe, Maraschino liqueur, and a dash of orange bitters.

WHITE LADY

29 Crush your ice, add gin, Cointreau, lemon juice, and, for creaminess, well-whipped egg white, and you'll be drinking a cocktail whose disputed origins date to between the world wars.

PARADISE

30 Sweet and fruity sums up this potation of dry gin, apricot brandy, and fresh orange juice, developed by bartender Harry Craddock during his tenure at London's Savoy.

MAYFAIR COCKTAIL

31 Another cocktail from the 1920s with gin, apricot brandy, and fresh orange being joined in the glass by a dash of clove syrup, or cloves muddled in the shaker.

CASINO

26 Lemon juice adds citrus zip to this adaptation of the Aviation, in which the smoothness of the crème de violette is replaced by the slightly more bittersweet Maraschino liqueur and a couple of dashes of orange bitters. For completists, the gin should be Old Tom garnished with a lemon twist and a Maraschino cherry. This drink surfaced in the 1920s and can be found in *The Savoy Cocktail Book*, so it would be safe to regard it as another creation of Harry Craddock.

GIBSON

32 This is a perfect martini with a sweet pickled onion instead of an olive. The drink appears without the onion as Gibson in a 1908 cocktail book, but by the 1920s, the tangy balls were an essential component.

BACARDI

33 Bacardi white rum must be used in this variant of the daiquiri, which also utilizes grenadine syrup and fresh lemon or lime juice. Originating in Cuba, it grew in popularity in the United States after Prohibition. In 1936 the New York Supreme Court declared, at the behest of Bacardi itself, that the company's rum had to be used for anything called a Bacardi cocktail.



RAMOS FIZZ

27 Bartender Henry C. Ramos developed this in New Orleans in 1888. A complex mixture of gin, lemon and lime juices, sugar, cream, orange flower water, soda, and egg white, it was a favorite of Tennessee Williams.

CLOVER CLUB

28 This pre-Prohibition cocktail was developed in a Philadelphia club of the same name. The gin is joined by lemon juice, raspberry syrup, and egg white, though sometimes the syrup is replaced by grenadine.



CUBA LIBRE

34 One of the world's most popular cocktails: a combination of white rum, cola, and fresh lime juice (although in many territories it is known simply as a rum and coke, whether the lime is present or not). Its origins are unclear, though most accounts suggest it emerged after the Spanish-American War of 1898 when Cuba was liberated from Spain's control. Coca-Cola didn't reach the island until 1900, but the name—which translates to "Free Cuba"—comes from a toast to Cuban independence given by the unnamed US officer credited with conjuring up the drink.

PLANTER'S PUNCH

35 Jamaica is the most likely source of this veteran, though accounts vary as to when it was first recorded, and some trace it instead to St. Louis. It's a fruity number with orange, pineapple, and lemon juices; dark rum; grenadine; sugar syrup; and a dash of bitters.

MOJITO

36 Blend white rum, sugar syrup, lime juice, mint, and soda for this popular perennial. It originates in Cuba—where, wrote Ernest Hemingway, "It wasn't just a drink, it was a symbol of national pride."

EL PRESIDENTE

37 Gerardo Machado was a general and, in the 1920s, the Cuban president, and this suave mix of rum, curaçao, vermouth, and grenadine was named after him.

RUM SWIZZLE

38 Bermuda was the birthplace of this cocktail, which features white rum, falernum, fruit juice, grenadine, and Angostura bitters.

GROG

39 Based on rations in Britain's Royal Navy in the eighteenth century, this is rum, lime, sugar, and hot water.

TOM & JERRY

40 Named after a play by its creator Pierce Egan in the 1820s, this warming toddy mixes rum, egg white and yolk, sugar, and hot water.

PIÑA COLADA

41 This refreshing mix of white rum, pineapple, and coconut cream—immortalized in Rupert Holmes's "Escape (The Piña Colada Song)"—is Puerto Rico's national drink; it even has its own day on July 10. A barman in the capital, San Juan, allegedly first mixed it in 1952, but as with many cocktails, its origins are foggy: three different barkeeps (two from the same hotel in the same year; another in 1963) claim to have created this tropical tippie.



ZOMBIE

42 Created in the late 1930s (and fiercely protected) by tiki guru Donn Beach, this potent potation merges four rums, three fruit juices, and grenadine.

BLUE HAWAII

43 Barkeep Harry Yee invented this in 1957 by mixing rum, pineapple, and curaçao. The result was a blue stunner (not to be confused with the crème de coconut-loaded Blue Hawaiian), now often embellished with vodka.



DAIQUIRI

44 Some of the greatest cocktails are also the simplest, as with the daiquiri: rum, fresh lime juice, and sugar syrup, shaken with ice and strained into a classic cocktail glass. The drink is thought to have been created in Cuba at the start of the twentieth century by US engineer Jennings Cox, who worked in an iron mine near a beach called Daiquirí. It has since joined the cocktail hall of fame, owing in part to fans like Hemingway, for whom the Papa Doble daiquiri is named. Originally simply rum shaken with lime (no sugar, owing to the author's prediabetic condition), the Doble has since been adjusted for less hardened palates.

MAI TAI

45 This drink's origins are disputed, but cocktail authority *Difford's Guide* credits it to Victor "Trader Vic" Bergeron, whose mix of rum, lime, orange curaçao, sugar syrup, and orgeat made a Tahitian friend on whom he tested it exclaim, "Mai Tai-Roa Aé! (Out of this world—the best!)"

BETWEEN THE SHEETS

46 On its creation in the 1930s by barkeep Harry MacElhone in Paris this drink's name and ingredients proved controversial. The impact of the former has lessened, but the blend of rum, brandy, Cointreau, and lemon juice remains formidable.

CORN 'N' OIL

47 Mystery shrouds the origins of this popular Barbadian cocktail: a muscular product of blackstrap rum sweetened by the clove- and lime-flavored liqueur falernum, with a dash of Angostura bitters and a squeeze of lime.

TSCHUNK

48 Germany's contribution to cocktail culture is this high-wire highball of Club Mate (a caffeinated, carbonated drink), dark rum, and slices of lime.

DARK 'N' STORMY

49 Mix Gosling's dark rum, with ginger beer, sugar syrup, and fresh lime, and you have Bermuda's national drink.

PALOMA

50 Tequila, lime juice, and grapefruit soda on the rocks: that's it for this refreshing cocktail, invented by Mexican Don Javier Delgado Corona.

MATADOR

51 Tequila tempts the taste buds—with lime and pineapple juices—in this veteran. Tequila blanco is preferred, to balance the pineapple.

TEQUILA
CHIMAYÓ COCKTAIL

52 Apple orchards were once abundant in the valley of Chimayó in New Mexico. Local restaurateur Arturo Jaramillo, looking for a signature drink, created this blend of tequila, nonalcoholic apple cider, freshly squeezed lemon juice, and crème de cassis in 1965.



TEQUILA
TEQUILA SUNRISE

53 Tequila, crème de cassis, lime juice, and club soda came first, mixed in the glass at a hotel in Phoenix in the 1930s. By the 1970s, when the Eagles released a song of the same name, this classic was made from tequila, orange juice, and grenadine syrup, which have since been constants. The grenadine should sink below the orange to give a sunrise effect.

MARGARITA

54 One of the most popular cocktails has several origin tales, most of which involve bartenders between 1938 and 1948, although there are claims that it is simply a rebadged version of a brandy-based drink that switched to tequila during the Prohibition era. However, the man with the strongest claim to being the margarita master is Francisco Morales, a barkeep in Ciudad Juárez, Mexico. He claimed to have come up with the classic mix of tequila, Cointreau, and lime juice—plus salt on the glass's rim—in 1942. Fans have ranged from Jack Kerouac to Jennifer Aniston.

VODKA
SCREWDRIVER

55 The story goes that engineers in the Middle East in the 1940s mixed vodka into cans of orange and stirred it with screwdrivers. Today, vodka is poured over ice and fresh orange is added. Variants include the Sonic Screwdriver, invented by Omaha's Liz Mulhern as an homage to a device of the same name in *Doctor Who*.

GIN & TONIC
COSMOPOLITAN

56 Over six decades before *Sex and the City* propelled the drink into the mainstream, the cosmo appeared in *Pioneers of Mixing at Elite Bars 1903–1933* by Charles Christopher Mueller. Its ingredients were Gordon's gin, Cointreau, lemon juice, and raspberry juice, the last of which gave the drink its distinctive color. Today the standard recipe calls for vodka, Cointreau, lime juice, and cranberry juice—a mixture popularized by Manhattan's Dale DeGroff in the late 1990s. "Why did we ever stop drinking these?" asks Cynthia Nixon at the end of the first *Sex and the City* movie. "Cause," replies Sarah Jessica Parker, "everyone else started."



SEA BREEZE

57 This fruity number mixes vodka with grapefruit and cranberry juice. In the 1930s a Sea Breeze had gin, apricot brandy, grenadine, and lemon juice, but the current refreshing version emerged in the 1960s.

BLACK RUSSIAN

58 A Brussels hotel bar in 1949 is usually cited as ground zero for this mix of vodka and coffee liqueur. The Cold War had started, and vodka was associated with Russia, but the bar was a hangout of Perle Mesta, US ambassador to Luxembourg (and the inspiration for Irving Berlin's *Call Me Madam*), for whom the bartender made the drink especially.

HARVEY WALLBANGER

59 One of the cocktails of the 1970s—starring vodka, Galliano liqueur, and orange juice—dates to California, a decade earlier. It's named either for a surfer who banged bar walls with his board, or a guest of the creator, suffering the aftereffects of drinking it.

SEX ON THE BEACH

60 In 1987 a Florida bartender added peach schnapps to vodka, orange, and cranberry and named it with spring break in mind, creating a contemporary classic.

RED ROOSTER

61 Vodka over ice in a highball glass with orange and cranberry juices makes for a summertime cocktail, derived from the Madras.

SALMIAKKI KOSKENKORVA

62 This quirky Finnish cocktail—a usually premixed blend of vodka and licorice—emerged in the 1990s.

HONEY DEUCE

63 Created for the US Open in 2007, this cocktail puts vodka, lemonade, and raspberry liqueur in a glass with honeydew melon balls.



BLOODY MARY

64 At its most primeval, this is tomato juice and vodka over ice, but an expert can transform it into a spicy, complex mix, to act as a hair-of-the-dog or a prelunch snifter (probably both to fans Raymond Carver and Oliver Reed). Several bartenders claim to have invented it, but history favors Fernand Petiot, who worked at Harry's New York Bar in Paris, and refined it during the 1920s and 1930s. Classic Bloody Mary has salt, pepper, Worcestershire sauce, cayenne pepper, and lemon juice, although a stick of celery and a splash of Tio Pepe sherry are common. Its name has been traced to both Queen Mary I of England, and a waitress at Chicago's notorious Bucket of Blood saloon.

MOSCOW MULE

65 There's a simple reason for the name of this on-the-rocks cocktail of vodka, ginger beer, and lime juice: "Moscow" because, at the time of its invention in the early 1940s, vodka had Russian connotations; "mule" because this was the old school name given to any drink that included ginger beer or ale. It's traditionally served in a copper mug, which legend has it came about because the girlfriend of the cocktail's creator had a company specializing in making copper items.

CAPE COD

66 This blend of vodka and cranberry juice is sometimes known as a Cape Codder (after the Massachusetts resort)—but when it was first conceived in the 1940s, it was known as a Red Devil because of its color.

WHITE RUSSIAN

67 Immortalized in the Coen brothers's cult 1998 movie *The Big Lebowski*, this mixture of vodka, coffee liqueur, and cream was first noted in the 1960s.

AGENT ORANGE

68 There are claims that carrot juice should be mixed with vodka to give this highball cocktail its characteristic color, but experts opt for orange juice with Grand Marnier and triple sec.

DERBY

69 Bourbon, sweet vermouth, lime, and Grand Marnier are a combination first noted in the 1940s, although other versions opt for Bénédictine and bitters.

RUSTY NAIL

70 This Samson-like mixture of Scotch and Drambuie on the rocks became a cocktail favorite in the early 1960s, no doubt helped by its popularity with Frank Sinatra and the Rat Pack.

AFFINITY

71 Two vermouths—one sweet, one dry—join forces with Scotch and a dash of aromatic bitters for a sipper that was first noted in New York in 1907.

MINT JULEP

72 This classic infusion of bourbon, sugar, water, and fresh mint (which may or may not be muddled to increase its intensity) emerged from the American South toward the end of the eighteenth century. A favorite of writer William Faulkner, it remains a popular drink, especially at the annual Kentucky Derby races.



SAZERAC

73 This is a survivor from the early days of the American cocktail in the nineteenth century. However, records suggest that it began with Sazerac de Forge et Fils cognac in the glass when it first emerged in New Orleans in the years before the US Civil War. Rye whiskey took over in the 1880s owing to the scarcity of cognac (though the latter is still used by some). Two glasses are required for preparation. One is washed with absinthe, has crushed ice added, and is then emptied; the other sees a sugar cube muddled with a few drops of water, then some ice, the whiskey (some call for rye; others, bourbon), and a dash of bitters. The contents of the second glass are strained into the first and, *voilà!*, cocktail history.

MANHATTAN

74 This potent blend of bourbon, sweet vermouth and Angostura bitters is one of a quintet of cocktails named after New York boroughs, but its fame eclipses the Bronx, Brooklyn, Queens, and Staten Island (and trips off the tongue easier than former names Turf Club and Jockey Club). It is said to date from 1860s New York and a bartender known as Black.

OLD FASHIONED

75 Add dashes of Angostura bitters to a sugar cube, muddle with a drop or two of water, fill the glass with ice, add bourbon, and garnish with an orange slice and cocktail cherry. That's the rewarding recipe for this veteran whose origins lie in the nineteenth century.

WHISKEY SOUR

76 This originated in the United States in the 1860s or 1870s. Bourbon, lemon juice, and sugar syrup are shaken with ice, strained, and served on the rocks. (Some bartenders add egg white.) In 1925, Ernest Hemingway urged F. Scott Fitzgerald—then fretting that too much wine would kill him—to try it.

JACK & COKE

77 You don't need to be a cocktail expert to guess the constituents of this tippie, first noted in the early twentieth century—indeed, connoisseurs frown on its dilution of Jack Daniels Tennessee whiskey with Coca-Cola. It's served on the rocks.

IRISH COFFEE

78 Coffee, whiskey, and a cream float are the ingredients of this end-of-meal favorite, which first appeared in Ireland's midwest region in the 1940s.

WHISKY MAC

79 Originally called a Whisky Macdonald after its creator during Britain's empire in India, this is a blend of Scotch and ginger wine.

LINCOLN COUNTY

80 Bourbon, vermouth, and Campari are mixed in a jar with natural lump charcoal, left to stand in a cool, dark place for ten days, and then strained and served.

LYNCHBURG LEMONADE

81 This features Jack Daniels—hence “Lynchburg”—plus triple sec and lemon juice, topped up with lemonade.

AMBER MOON

82 Potent pick-me-up similar to a Prairie Oyster, but with whiskey or vodka added to the Tabasco sauce, and fresh raw egg yolk.

BLACKTHORN

83 A winter warmer that features whiskey, sweet vermouth, and a dash of Angostura bitters. A variant replaces whiskey with sloe gin.

BLACK VELVET

84 The juice of the grape and grain meet in this beer cocktail that dates from late 1861. A bartender at London's Brooks's Club created it after the death of Queen Victoria's husband Prince Albert in December (the color of the drink suggested it too was in mourning). Champagne goes into the glass, followed by stout—traditionally Guinness.

AMERICANO

85 This classic blend of Campari, sweet vermouth, and soda emerged in 1860s Milan, with its ingredients' origins leading it to be called the Milano-Torino. It was renamed at the start of the twentieth century.

CAIPIRINHA

86 Cachaça, Brazil's national alcoholic spirit, is distilled from sugar cane juice. It has a lineage dating back to the days of Portuguese colonialists, and it is from this ferocious liquid that caipirinha springs. The mixture of cachaça, lime, and brown sugar makes a potent cocktail that has grown in popularity in US and UK bars in recent years. Its origins date to 1918, where it was part of a remedy—including lemon, garlic, and honey—that its adherents hoped would combat the Spanish flu that was raging in Brazil at the time. Now, minus the garlic and honey, it's a top-dog tippie that everyone craves whenever it's carnival time. There are several variations, including ones made with fruit.



BELLINI

87 Giuseppe Cipriani, founder of Harry's Bar in Venice, was the creator of this fruity assemblage of white peach puree and sparkling wine, but accounts of its debut vary between 1934 and 1948. Named after Venetian painter Giovanni Bellini, it was originally made only when white peaches were in season. Since then, it's become a year-round favorite. Variations include the Puccini (with fresh mandarin juice), Rossini (strawberry puree), and Tintoretto (pomegranate juice).

BUCK'S FIZZ

88 Two parts orange juice to one part champagne is the recipe for this classic fizz cocktail. Known as a morning reviver as well as a sparkling celebratory drink at weddings, it has its origins in London in 1921, where it was devised by the bartender at the Buck's Club. (Its equally sparkling sibling the mimosa has more champagne than orange juice.) A chart-topping British pop group of the early 1980s borrowed its name.

B52

89 Kahlua coffee liqueur goes into a chilled shot glass, followed by Baileys Irish Cream and then Grand Marnier triple sec. That's the B52, a multicolored cocktail christened after either the US bomber, or the Georgia-formed pop group the B-52's, who took their name from the plane. The Grand Marnier can be ignited to make a Flaming B52.

SPECIALTY

CORPSE REVIVER

90 The first mention of a cocktail of this name dates from the 1860s in America. There were several variations, but contemporary Corpse Revivers look to two versions in the *Savoy Cocktail Handbook* with gin, triple sec, Lillet Blanc, and absinthe joining lemon juice.

SPECIALTY

JACK ROSE

91 Popular in America between the wars, this rose-pink concoction features applejack, lemon or lime, and grenadine.

SPECIALTY

GOLDEN DREAM

92 Reputedly created in 1960s Miami, this after-dinner treat boasts triple sec, orange juice, cream, and Galliano.



SPECIALTY

PISCO SOUR

93 The name says it all: the base liquid is Pisco, a distilled spirit popular in Peru and Chile, while the second half pays tribute to the sour family (lemon juice, syrup, and egg white complete the drink). Victor Morris is credited with its invention in his Lima bar in 1916, although there are differing stories of its conception. Nonetheless, *Difford's Guide* acclaims this as "one of the few really brilliant blended drinks."

SPECIALTY

KIR

94 In this classic aperitif cocktail, crème de cassis is topped up with white wine, usually from Burgundy. It was originally known as blanc-cassis, but was renamed after World War II in honor of the mayor of Dijon—and wartime Resistance hero—Félix Kir, who served the drink at local receptions. Of the numerous variants, best known is the Kir Royale, which sees the white wine replaced by champagne.

SPECIALTY

EARTHQUAKE

96 French painter Toulouse-Lautrec reportedly invented the *tremblement de terre*, a ground-moving hammer of a drink that was simply three parts of absinthe and an equal amount of cognac in an iced glass. Since then, several variations have included gin and Pernod—but whatever the mixture, this is not a cocktail to be taken lightly.

SPECIALTY

FLAMING SAMBUCA

98 Timid souls might want a fire extinguisher on hand when drinking this popular shot that sees white sambuca poured in a glass, three coffee beans settled on top of the liquid, and the drink set alight. Some sip through a straw while others put out the flames before downing the warm drink. (Black sambuca, which has hints of licorice, may be used, although this tends to burn hotter, so care should be taken.) The drink inspired a similarly fiery mix in *The Simpsons* episode "Flaming Moe's."

SPECIALTY

CHAMPAGNE COCKTAIL

99 For this cocktail from nineteenth-century US bar culture, experts are divided on whether to use the best champagne or whatever is on hand. Despite its antiquity the recipe has remained the same: a couple of dashes of Angostura bitters, then cognac, on a brown sugar cube, followed by champagne to the brim of the glass. Writer Dorothy Parker was among its fans.

SPECIALTY

ALABAMA SLAMMER

95 This mash-up of Southern Comfort, Amaretto, sloe gin, and orange juice was popular with students in the Deep South in the 1980s; one variation features vodka and grenadine, minus the Amaretto and sloe gin.

SPECIALTY

GRASSHOPPER

97 This sweet-toothed, green-colored after-dinner cocktail is supposed to have been created by New Orleans bartender Philibert Guichet Jr. toward the end of the 1920s. Crème de menthe gives it the color and mintiness while crème de cacao and cream add smoothness to its character.

SPECIALTY

DEATH IN THE AFTERNOON

100 Ernest Hemingway created this mix of absinthe and iced champagne in the 1930s, when his literary fame was matched by a huge appetite for booze. The recipe featured in Sterling North's 1935 collection *So Red the Nose, or, Breath in the Afternoon*, takes its name from Hemingway's 1932 book.



Eleonora

ANTONIN CARÊME

1 A celebrity chef in his own day, Frenchman Antonin Carême is regarded as a leading figure in French gastronomy. Noted for his own elaborate, exquisitely presented culinary creations, he was an important pioneer of France's haute cuisine.

ALEXIS SOYER

2 A charismatic French chef, much admired in Victorian society. As chef of London's Reform Club, he introduced innovations such as gas stoves. A philanthropist, he set up soup kitchens during the Irish potato famine and reformed army catering.

AUGUSTE ESCOFFIER

3 A hugely influential French chef and restaurateur who, through his authoritative writing, helped define modern French cuisine and elevate the role of professional chefs. Among his legacies is the classic hierarchical structure of the large restaurant or hotel kitchen, with individuals allocated specific tasks.

GEORGE PERRY-SMITH

4 A creative chef, he opened his famed restaurant Hole in the Wall in Bath in 1952. Showcasing his innovative approach to food and championing Elizabeth David's principles, it was very influential in the UK's food scene.

JIRO ONO

5 The chef-patron of Sukiya-bashi Jiro restaurant in Tokyo is one of the world's greatest sushi masters. Ono's obsessive perfectionism and commitment was celebrated in the 2011 film, *Jiro Dreams of Sushi*.

100 LEGENDARY CHEFS

PAUL BOCUSE

6 A famous figure in the world of French gastronomy, whose approach has influenced generations of chefs.

JOYCE MOLYNEUX

7 A chef who, through her Devon restaurant The Carved Angel, was a formative influence on Britain's food scene.

MICHEL GUÉRARD

8 Credited as one of the founders of nouvelle cuisine. As chef-patron at Eugénie-les-Bains, he created his famous Cuisine minceur, which draws on classic French culinary techniques while eschewing calorific butter and cream.

ALBERT & MICHEL ROUX

9 The Roux brothers championed French haute cuisine in the UK, with Waterside Inn at Bray offering luxurious food.

ROSE GRAY & RUTH ROGERS

10 The friendship between these two women, and shared values when it came to food, lay at the heart of their famous London restaurant, the River Café, championing the merits of simple Italian cooking using the best ingredients.

JOËL ROBUCHON

11 This acclaimed French chef is famous for having the most Michelin stars in the world (25 across 12 restaurants).

JUAN MARI & ELENA ARZAK

12 A father-and-daughter team whose world acclaimed-restaurant Arzak in San Sebastián showcases their noticeably innovative and technically accomplished modern Basque cuisine. They draw inspiration from local ingredients and culinary traditions but transform them into contemporary, playful, and imaginative creations.

ALICE WATERS

13 A hugely famous figure in the US food world, Alice Waters is a chef, restaurateur, and campaigner whose approach to food has been influential both in the United States and far beyond. She founded her iconic restaurant Chez Panisse in Berkeley, California, in 1971 and, on her quest for good ingredients, began sourcing from local farmers and food producers, offering farm-to-table food in a Californian Mediterranean style. A firm believer in organic farming, she has become a high-profile and respected activist, founding the Chez Panisse Foundation in 1996, which works with schools on projects such as the Edible Schoolyard, where children grow their own food.

MICHEL BRAS

14 A celebrated chef with an eponymous restaurant in France, Bras is noted for his creative use of herbs and flowers.

RICK STEIN

15 A champion of fresh fish and seafood, through his Seafood Restaurant in Cornwall and numerous TV series.

SHAUN HILL

16 Hill is noted for his characterful, intelligent cooking, enjoyed by diners at the Walnut Tree Inn in Wales.



PIERRE KOFFMANN

17 A French chef, who has played an influential role in the UK's dining scene, with his London restaurant La Tante Claire awarded three Michelin stars. He draws on the classic cuisine of his native southwest France, with stuffed pig's trotters his signature dish.

MICHEL ROSTANG

18 Representing the fifth generation of a family of French chefs, Michel Rostang's eponymous restaurant in Paris is noted for its elegantly presented and accomplished food.

NOBU MATSUHISA

19 Known for his starry clientele, Japanese chef Matsuhisa made his name with his restaurant Nobu in New York, opened in partnership with actor Robert De Niro, offering his blend of Japanese and Peruvian dishes.

WOLFGANG PUCK

20 Austrian by birth, Puck has enjoyed huge success in the United States, with restaurants such as Spago and CUT in Beverly Hills, California. He now has several successful eateries around the world.

RAYMOND BLANC

21 A self-taught French chef who champions seasonal food at his Le Manoir aux Quat'Saisons in Oxfordshire.

PIERRE GAGNAIRE

22 A charismatic French chef, with restaurants around the world, known for his innovative approach.

DARINA ALLEN

23 Chef, broadcaster, and founder of the famous Ballymaloe Cookery School in Ireland.

GUY SAVOY

24 A respected French chef and restaurateur, whose eponymous restaurants are synonymous with fine dining and have garnered multiple Michelin stars. Signature dishes include his renowned artichoke-and-black-truffle soup—the very epitome of a luxurious eating experience. His cooking combines classic French techniques with respect for terroir and quality ingredients.



HISAO NAKAHIGASHI

25 Such is Nakahigashi's reputation that seats at his tiny kaiseki restaurant in Kyoto are highly coveted, sought after by gourmets from around Japan.

NADIA SANTINI

26 A much-lauded Italian chef, admired for her culinary skill and creativity, which is expressed at her acclaimed family restaurant Dal Pescatore in Lombardy.

SIMON HOPKINSON

27 A British chef whose cooking at Bibendum restaurant in London brought him renown. Author of the acclaimed cookbook *Roast Chicken and Other Stories* (1994).

FRANK STITT

28 A US chef noted for his cuisine combining classic French techniques with the rich traditions of Southern cooking, on offer at his famous Highlands Bar and Grill restaurant in Birmingham, Alabama.

DANIEL BOULUD

29 A noted chef and restaurateur, French chef Boulud made his name in New York, notably with Daniel, a much-lauded, award-winning, fine dining restaurant. Its cooking style draws on the techniques of classic French cuisine in which Daniel trained, but is reinterpreted for a contemporary, cosmopolitan dining audience.

THOMAS KELLER

30 Chef-patron of the legendary French Laundry restaurant in California, Keller is a hugely influential figure.

b. 1955

HARALD WOHLFAHRT

31 An eminent German chef, whose establishment Die Schwarzwaldstube in Baden-Württemberg holds the record as the German restaurant that has kept three Michelin stars for the longest period of time.

JUDY RODGERS

32 Having spent time learning about food in France and Italy, US chef Judy Rodgers created her much-loved, informal restaurant Zuni Café in San Francisco, offering a menu of memorably tasty dishes.



b. 1984

ALAIN DUCASSE

33 A supremely talented French chef whose name is synonymous with luxurious haute cuisine. Also a notable businessman, Ducasse has restaurants around the world, with the Louis XV restaurant at the Hôtel de Paris in Monaco regarded as the jewel in his crown.

b. 1956

ALAIN PASSARD

34 A creative and innovative French chef, famous for his veg-centric menu at three-star restaurant L'Arpège in Paris.

FRANCIS MALLMANN

35 Argentina's most high-profile chef, renowned for his flagship restaurant, 1884, which is based in the Bodega Escorihuela in Mendoza.

b. 1951

JEAN-GEORGES VONGERICHTEN

36 Noted for his business acumen as well as his culinary skills, Vongerichten is known for his restaurant Jean-Georges in New York, offering his trademark fusion of Western and Eastern cuisine.

MICHEL TROISCROS

39 Descended from a dynasty of French chefs, Michel revived the fortunes of his family restaurant in Roanne when his uncle, Jean Troiscros, died. He has several restaurants, including in Moscow and Tokyo.

TETSUYA WAKUDA

41 A respected figure in the international world of gastronomy, Japanese chef Wakuda came to public attention with the opening of his much-lauded restaurant Tetsuya's in Sydney. There he serves the elegant Japanese-Franco fusion dishes, drawing on his own cultural heritage and his experiences since leaving Japan, which have become his hallmark and have influenced Australia's fine-dining scene.

ADAM PERRY LANG

42 Passionate about barbecued food, American chef Adam Perry Lang has pioneered the urban barbecue restaurant, opening his influential rib shack Daisy May's BBQ in New York.

b. 1951

NEIL PERRY

37 Perry is a leading figure in Australia's dining scene, noted for restaurants such as his award-winning Rockpool in Sydney and Spice Temple in Melbourne, which both reflect his passion for Asian cooking in their menus.

b. 1951

GARY DANKO

38 The American chef's eponymous restaurant, offering an accomplished rendition of contemporary fine dining, is a San Francisco gastronomic institution.

CHARLIE TROTTER

40 A celebrated, charismatic US chef, noted for his teaching, broadcasting, and writing as well as his cuisine. He had formidably high standards in the kitchen while his creative cooking acquired a devoted following among his diners.



KUNIO TOKUOKA

43 The grandson of Japanese chef, Teiichi Yuki, who founded Kitcho Arashiyama in Kyoto, Tokuoka carries on the esteemed family tradition of offering kaiseki (Japanese banquet cuisine) to appreciative diners.

b. 1950

MARTÍN BERASATEGUI

44 A Basque chef noted for his imaginative, avant-garde haute cuisine, served with flair at his award-winning, eponymous restaurant in Lasarte-Oria, outside San Sebastián, Spain.

MICHEL ROUX JR.

45 The chef and broadcaster cooks at his family's renowned Le Gavroche restaurant in London, offering classic French haute cuisine to a starry clientele.

DAVID THOMPSON

46 An obsession with Thai food has seen this Australian chef become an international authority on this cuisine, at his renowned Bangkok restaurants Nahm.

DAVID KINCH

47 The chef-patron of Manresa restaurant in Los Gatos, California, Kinch is noted for his beautiful and original food, which enjoys acclaim and a devoted following.

MARCO PIERRE WHITE

48 The dazzlingly talented young MPW wowed critics and diners alike with his cooking at Harvey's, London. The youngest chef ever to achieve three Michelin stars.

MARK HIX

49 An accomplished British chef who has played a key part in the British food renaissance, championing British ingredients and farmers.

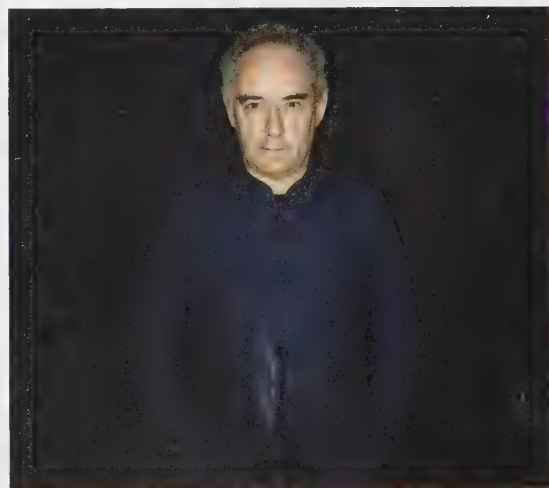
RAINER BECKER

50 German chef and restaurateur Becker has acquired a global reputation, with his London restaurant Zuma offering a stylish take on Japanese fusion food and acquiring a celebrity clientele and critical plaudits.



FERRAN ADRIÀ

52 Eloquent, passionate, and profoundly creative, this Basque chef is the culinary master behind elBulli in Spain, the world's most famous restaurant, which he closed in 2011. Diners lucky enough to have eaten there were treated to an extraordinary tasting menu composed of numerous complex dishes made using cutting-edge culinary techniques, which it had taken Adrià and his team six months to create.



FERGUS HENDERSON

53 The intelligent, pared-back British cooking offered by Henderson at St. John restaurant, London, has hugely influenced Britain's gastronomy. His "nose-to-tail" approach to cooking champions offal to great effect.

MASSIMO BOTTURA

51 An eloquent and charismatic culinary showman, Bottura is known for his innovative approach to his native Italian cuisine. At his Modena-based Osteria Francescana he offers his own distinctive and playful reworkings of iconic dishes, inspired by the rich tradition of ingredients and dishes in Italian cuisine.

HEINZ BECK

54 This talented German chef is best known for his accomplished take on Italian cuisine, as demonstrated at La Pergola in Rome.

PETER GORDON

55 A champion of contemporary fusion food, the New Zealand-born chef's cuisine can be enjoyed at restaurants including London's The Providores.

JOACHIM WISSLER

56 Noted for his "New German cuisine," Wissler is an influential figure who in his cooking draws on German gastronomy and haute-cuisine techniques. His lauded restaurant Vendôme is near to Cologne.

b. 1964

PAUL PAIRET

57 Cutting a considerable dash in China's gastronomic scene, Paul Pairet is the visionary chef behind two highly acclaimed Shanghai restaurants: Mr & Mrs Bund and Ultraviolet. The latter offers its diners an extraordinary, immersive, multisensory experience, based on Pairet's theory of "psycho-taste," which explores the emotions food brings with it.

BARBARA LYNCH

58 Chef and restaurateur Barbara Lynch is a leading light of Boston's fine-dining scene, making her name with her discreetly stylish establishment No. 9 Park, offering beautiful, skillfully cooked Italian-French food.

100 LEGENDARY CHEFS

JOAN, JOSEP & JORDI ROCA

59 Belonging to a culinary family dynasty, the wonderfully talented Roca brothers are behind one of the world's most acclaimed restaurants: El Celler de Can Roca in Girona, Spain. Once dubbed "the holy trinity," they work as a team, with Joan as the head chef, Jordi the pastry chef, and Josep the sommelier. Their cooking is creative yet rooted in classic tradition, with the restaurant's hospitality a considerable part of its appeal.



MARK BEST

60 Electrician-turned-award-winning chef, this charismatic Australian showcases regional ingredients to exquisite effect at his Sydney restaurant Marquee.

DOMINIQUE CRENN

61 At her much-praised Atelier Crenn in San Francisco, the chef brings a poetic sensibility to her food.

HESTON BLUMENTHAL

62 Insatiably curious—committed to pushing the boundaries of food and eating out—Brit Blumenthal has been a vitalizing force in the world of fine dining. As a young chef he took over a rundown pub in the Berkshire village of Bray, transforming it into The Fat Duck—a restaurant that was to become world famous because of his stunningly creative and innovative cooking, with his dishes characterized by imagination, wit, and culinary wizardry.

GORDON RAMSAY

63 A British celebrity chef with famously high standards in his kitchens, he has renowned restaurants around the world, including Gordon Ramsay in London.

SUZANNE GOIN

64 A highly regarded, California-based chef-restaurateur; notable restaurants include Lucques in Los Angeles.

PHILIP HOWARD

65 Howard is famed for his impeccable cuisine, showcased at his distinguished London restaurant The Square.

SIMON ROGAN

66 A creative British chef whose cooking at L'Enclume in Cumbria evokes the stunning landscape.

HÉLÈNE DARROZE

67 A talented French chef, with restaurants in London and Paris, offering her own sophisticated take on classic French cuisine.

GASTON ACURIO

68 Peru's best-known chef and restaurateur, Acurio showcases his country's cuisine with flair in several restaurants around the world, notably the critically acclaimed Astrid y Gastón in Lima.

YOTAM OTTOLENGHI

69 A creative Israeli chef whose Nopi and Ottolenghi restaurants in London have a cult following for their colorful, vivid food, rooted in Middle Eastern flavors.

PETER GILMORE

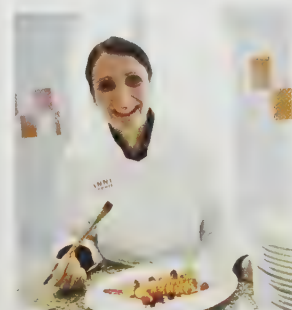
70 An acclaimed and influential Australian chef whose exquisite contemporary cooking is showcased in style at Quay, his elegant restaurant looking out over Sydney Harbour.

ALEX ATALA

71 A charismatic figure, superstar chef Atala has enthralled diners and critics alike with his creative Brazilian haute cuisine, which features unfamiliar but traditional Amazonian delicacies, on offer at his São Paulo restaurant D.O.M. The restaurant has been awarded the title of "Acqua Panna Best Restaurant in South America."

ANNE-SOPHIE PIC

72 A major figure in the world of French gastronomy, Pic, after initial resistance, was drawn to follow in her chef father's footsteps, gaining plaudits and awards for Maison Pic, the family restaurant in Valence, southeastern France, which she took over after he died in 1992. The acclaimed restaurant has three Michelin stars.



DANIEL PATTERSON

73 Offering a distinctive Californian take on haute cuisine, Patterson made his name with his San Francisco restaurant Coi.

MICHAEL CAINES

74 Caines is a talented English chef who built his reputation at Gidleigh Park, combining classical techniques with a fresh approach.

KYLIE KWONG

75 This Australian chef, restaurateur, and broadcaster offers flavorful Chinese food at Billy Kwong in Sydney.

ROY CHOI

78 Famed as the founder of America's food truck movement, Korean-American chef Choi offers food such as gourmet Korean tacos inspired by his heritage.

JASON ATHERTON

82 Atherton is a star of the contemporary British gastronomic scene. Atherton's first solo restaurant Pollen Street Social, offering a less formal take on fine dining, enjoyed a rapturous reception. Following that, he now has restaurants around the world. His elegant, beautifully presented cuisine offers a satisfying intensity of flavor but with a deft lightness of touch.

MARGOT JANSE

76 The Dutch chef gained an international reputation with her cooking at The Tasting Room restaurant at Le Quartier Français, Franschhoek, South Africa. Drawing on Africa for inspiration, she uses the tasting-menu format to take diners on a culinary journey of thrilling and imaginative dishes.

DAN BARBER

77 An intellectual chef, American Dan Barber is an influential champion of environmentally responsible food, working to promote respect for nature. He offers elegant farm-to-plate, locally sourced food at his renowned Blue Hill restaurants in New York State, using the finest seasonal produce in his cooking.

MARCUS WAREING

79 Wareing is notable in the world of British fine dining for Marcus, an elegant restaurant in London.



ANDONI LUIS ADURIZ

80 Basque chef Aduriz is known for his poetic and philosophical approach to food, on display at his acclaimed restaurant Mugaritz, in a remote rural location outside San Sebastián, Spain. His innovative, technically accomplished food draws inspiration from the local landscape and is charged with emotion, offering diners a thoroughly memorable experience.

SAT BAINS

81 A talented and charismatic British chef, he is acclaimed for originality both in combining flavors and in his cutting-edge use of culinary techniques. Housed in the unlikely setting of an industrial location in Nottingham, Bains's eponymous restaurant serves up distinctive tasting menus, with his fresh-thinking approach assuring that diners will be surprised and intrigued by the beautifully presented dishes he delivers.

HUGH ACHESON

83 Canadian by birth, Acheson is known for his restaurants in Georgia, USA, including Five and Ten.

PASCAL BARBOT

84 A notable French chef whose Paris restaurant L'Astrance offers modern French food with an Asian twist.

TOM KERRIDGE

85 An affable British chef, known for his take on English comfort food, whose pub The Hand and Flowers in Marlow, UK, has gained critical acclaim and a loyal following.

APRIL BLOOMFIELD

86 Bloomfield is known for her nose-to-tail cooking at her popular New York City gastro-pub The Spotted Pig.



b. 1974

GRANT ACHATZ

87 Achatz is acclaimed for his innovative food, created using cutting-edge techniques, at his Chicago restaurant Alinea.

b. 1975

JAMIE OLIVER

88 This British celebrity chef is a notable campaigner on issues including improving the UK's school lunches and eating more healthfully.

b. 1976

DANIEL HUMM

89 Chef and restaurateur Daniel Humm made his name in New York City, with his large and splendid restaurant Eleven Madison Park. Here he offers a witty, often surprising, and sophisticated take on classic fine dining, combining inventive, accomplished cooking and hospitable service.



b. 1979

BRETT GRAHAM

97 Using British ingredients, to which he often adds an Asian touch, the Australian chef has made his name with his acclaimed London restaurant The Ledbury, where he serves his beautiful, flavorful food.

b. 1974

MAURO COLAGRECO

90 This Argentinian-born chef's contemporary French food, based on natural produce, can be found at Mirazur in Menton, France.

b. 1976

ENRIQUE OLVERA

91 A champion of the new Mexican gastronomy, chef-patron of the much-lauded Pujol in Mexico City serves imaginative dishes made using local ingredients.

b. 1970

ANDRÉ CHIANG

92 A star of Singapore's dining scene with Restaurant André, Chiang expresses his "Octaphilosophy" approach to cuisine based on eight conceptual pillars, among them Terroir and Unique.

b. 1983

DAVID CHANG

94 The creative driving force behind the successful Momofuku group, Chang made his name with his innovative noodle bar in New York, offering a personal version of Japanese ramen that acquired cult status.

b. 1962

DANIEL BERLIN

98 A Swedish chef, Berlin is noted for his innovative farm-to-fork food at his tiny restaurant in Krog i Skåne-Tranås, Sweden, whose remote location requires a commitment on the part of his diners to get there.



b. 1971

RENÉ REDZEPI

93 A hugely influential figure in the world of contemporary gastronomy, Danish chef Redzepi came to international attention with his restaurant Noma, housed in an old warehouse in Copenhagen. Redzepi's cuisine, rather than relying on luxuries such as foie gras and olive oil, offers a truly seasonal taste of Nordic terroir. To do this he uses an imaginative array of locally sourced ingredients, including foraged seashore plants, berries, roots, and weeds. These foods are transformed into exquisitely presented, poetic dishes, offering a genuinely personal cuisine expressive of the natural environment.

b. 1978

CLARE SMYTH

95 A talented British chef, Smyth is acclaimed for her cooking at Gordon Ramsay's restaurant in London.

b. 1981

MAGNUS NILSSON

99 Nilsson is a Swedish chef known for his intelligent seasonal food, served at his isolated restaurant Fäviken in Sweden.

b. 1978

JUNGSIK YIM

96 An innovative Korean chef, his restaurant Jungsik in Seoul offers a distinctive, cutting-edge take on Korean cuisine.

b. 1988

TOM SELLERS

100 A British chef, who offers innovative food, inspired by history, at his London restaurant Story.



JSA

EGGS BENEDICT

1 This luxurious breakfast dish consists of a toasted English muffin, layered with ham or bacon, and then a poached egg topped with hollandaise sauce. New York's Waldorf Hotel and Delmonico's restaurant have both been credited with creating it for a Mr. and Mrs. Benedict.

BOSTON BAKED BEANS

2 In Puritan Boston, where there was no cooking from sundown on Saturday to sundown on Sunday, this could be made in advance, and then reheated on the Sabbath. Cooked haricot beans—baked with bacon, onions, and molasses—are the traditional ingredients.

PO' BOY

3 This New Orleans favorite is a crusty yet light French baguette with fillings ranging from deep-fried shrimp or oysters to roast beef with a rich gravy nicknamed "debris." Legend attributes its creation to New Orleans grocers the Martin Brothers.

CLAM BAKE

4 A traditional New England seashore feast, made on the beach in a fire pit filled with hot stones and a layer of fresh seaweed. Assorted seafood—including, naturally, clams—and corn are placed on top and then covered by more seaweed and baked until cooked.

POT ROAST

5 Simple but satisfying, this staple traditionally consists of beef chuck roast, well browned on all sides. The meat is gently braised in a covered casserole dish with beef broth and aromatics such as onions, carrots, celery, and herbs for two to three hours until tender.

100 CLASSIC DISHES

MEAT LOAF

6 This carnivorous comfort food is made from the simplest of ingredients—ground meat, onions, bread crumbs, and eggs—formed into a loaf and baked until set.

CHICKEN SOUP

7 Known as "Jewish penicillin," chicken soup is credited with comforting and health-giving properties. It's traditionally made by slowly and gently poaching a whole chicken (classically a boiling fowl) with onions, carrots, and parsley; then straining to make a clear broth.

HAMBURGER

8 Although hamburgers are eaten all over the world, they have become almost synonymous with the United States, where billions are eaten every year. The hamburger's exact roots are unclear, but it is thought to originate with a German beef sausage, brought over to North America by German immigrants during the nineteenth century. At its simplest, it consists of a ground beef patty, served between two halves of a white bread bun. Famously a fast food, it is found in numerous variations from street food to haute cuisine.

SOUTHERN FRIED CHICKEN

9 Golden-brown fried chicken pieces—their crisp coating contrasting deliciously with the soft meat inside—is a much-loved "soul food," historically associated with the US Southern states' African-American community. A popular fast food, there are many regional recipes and variations.

PULLED PORK

10 Barbecue at its tasty best: a whole pork shoulder, well seasoned, is roasted for several hours, traditionally over hickory embers. The tender, flavorful meat is then pulled into shreds. Smoky, juicy, and deliciously moreish.

CORNERD BEEF

11 Also known as salt beef, this deli staple is served sliced, in sandwiches of rye bread, with mustard. It's made by brining beef brisket with aromatics such as bay leaves and saltpeter and simmering until tender.

HOT DOG

12 This catchily named, cooked sausage in a bun is believed to have been brought to the United States by German immigrants in the nineteenth century.

JAMBALAYA

13 Based on Creole cuisine—a blend of west European and African influences—Louisiana's celebrated dish mixes rice, shrimp, meat, herbs, and spices.

ACKEE & SALTFISH

14 Jamaica's national dish combines salt-cured cod with ackee, a delicate fruit brought to the West Indies from Africa, of which only the aril (seed coating) is edible.

JERK CHICKEN

15 In the "jerk huts" of Jamaica and other Caribbean islands, pieces of chicken on the bone are coated with either a dry rub or a marinade, with flavorings, including allspice and Scotch bonnet pepper, then barbecued, traditionally over fragrant pimento wood.

BURRITO

16 This Mexican-American wrap enjoys a following around the world, from fast food joints to restaurants. Traditionally, it consists of a flour tortilla, wrapped so it encloses its filling. Its contents might include cooked rice, refried beans, carne asada (grilled beef) and cheese, with salsa, guacamole, and sour cream offering extra flavors.

MOLE

17 This rich sauce is a combination of spices and chilies (eaten in Mexico since c. 7000 BCE) that exists in various versions. The best-known variant—mole poblano, served with chicken—features peppers and dark chocolate, which also has Mexican roots.

FEIJOADA

18 Brazil's national dish is a hearty stew made from black beans with beef or pork (pig ears, tails, and trotters), sausages, and bacon, cooked in a clay pot.

CEVICHE

19 This concoction of raw fish or seafood "cooked" in "tiger's milk," a citrus-based marinade, has its own national day in Peru on June 28 every year.



ROAST CHICKEN

20 The adage that simple pleasures are the best holds true with this meal, a Sunday lunch favorite in Britain. Many words have been written on how to achieve the perfect roast chicken, with crisp golden-brown skin and tender, cooked meat. Flavorings for the bird include garlic, lemon, and herbs, while traditional accompaniments include gravy made from roasting juices, sage-and-onion stuffing, and bread sauce.

JANSSON'S TEMPTATION

21 Who exactly Jansson was is disputed. The recipe named for him—an oven-baked, creamy potato gratin, with fried onions and sweet-pickled Swedish anchovies (actually, sprats)—is a great comfort food.

SWEDISH MEATBALLS

22 The national dish is a homely affair, made from ground beef and pork, bread crumbs, fried onions, and ground cloves, served in a creamy meat stock sauce with mashed potato and lingonberry jam.

ROAST BEEF

23 So synonymous was this carnivorous meal with the British, that the French nicknamed them "*les rosbifs*." A classic Sunday lunch, the favored cut is rib of beef, ideally aged to enhance the meat's flavor, served with roasted potatoes, Yorkshire puddings, gravy, and horseradish sauce.



UK

FISH & CHIPS

24 This iconic British dish consists of deep-fried battered fish with fried potatoes—simple but glorious.

PRAWN COCKTAIL

25 A 1970s dinner party staple, now distinctly retro, this combines lettuce with cooked, peeled shrimp in a Marie Rose sauce.

BANGERS & MASH

26 Good-quality pork sausages ("bangers" in British English) and mashed potatoes with gravy is all there is to it!

STEAK & KIDNEY PUDDING

27 A hearty steamed creation of braised beef cooked in a suet crust—traditional gentleman's club fare.

OMELETTE AUX FINE HERBES

28 Cooking this deceptively simple French dish of fried beaten eggs correctly remains a test of culinary talent to this day.

COQ AU VIN

29 This stew is properly made with cockerel, but is now usually chicken cooked in red wine with butter-fried bacon lardons and shallots, garlic, and herbs, finished with sautéed morel mushrooms and garnished with cockscombs and kidneys.



STEAK FRITES

30 This iconic French bistro meal is a straightforward but mouthwatering combination of two ingredients and a triumph when cooked well. Beef steak (entrecôte, rib, or rump), freshly grilled or panfried (cooked *bleu*, *saignant*, or *à point*), arrives accompanied by crispy, finely cut, french fries. On the side, for an extra flavor hit, is Béarnaise sauce or mustard.



FRANCE

BOEUF BOURGUIGNON

31 This tasty French stew features braising steak, belly pork, shallots, garlic, and a bouquet garni (a bundle of fragrant, dried herbs) that are simmered gently together in red Burgundy wine until the meat is tender.

FRANCE

CHEESE SOUFFLÉ

33 Light and airy in texture yet rich in flavor, this dish is notoriously difficult to get right. A thick béchamel sauce, enriched with egg yolks and flavored with Gruyère and Parmesan cheese, is combined with stiffly beaten egg whites and then baked until it puffs up and sets.

FRANCE

MOULES MARINIÈRE

34 This dish, originally from Normandy, features mussels—ideally, small, sweet-fleshed ones—briefly cooked with shallots, white wine, or cider, and parsley until they open; the sauce is then enriched with cream and butter. It is served with bread for mopping up the sauce.

FRANCE

SOUPE DE POISSON

32 France's famous fish soup—redolent of the flavors of Provence, including saffron, tomatoes, and orange peel—is a labor of love to make, with the result being a wonderfully flavorful broth. It is served topped with croutons spread with rouille (a peppery garlic sauce) and grated cheese.



RATATOUILLE

35 This is a ragout of vegetables—usually eggplant, red peppers, zucchini, onions, and tomatoes—slowly cooked in olive oil with herbs.

QUICHE LORRAINE

38 Though sometimes travestied, the real thing is a satisfying savory tart combining crisp pastry, an egg-rich filling, and bacon pieces.

POT-AU-FEU

37 Typically, this slow-simmered peasant stew includes cuts of beef on the bone, an oxtail, marrowbone, and vegetables.

STEAK TARTARE

36 This carnivore's delight is a mound of finely chopped or ground beef steak, well seasoned, served with a raw egg yolk on top.

ONION SOUP

39 Finely sliced onions are gently softened in butter to enhance their natural sweetness. Flour for thickening, and then good-quality stock and Madeira wine are added and the soup simmered. Serve with croutons and a Gruyère cheese topping.

LAPIN AU MOUTARDE

40 Jointed rabbit pieces are smeared generously with Dijon mustard, browned in a frying pan or in the oven, and then cooked in white wine, with the resulting sauce thickened with cream.

FONDUE

43 Switzerland's famed culinary specialty is a deceptively simple dish of melted cheese cooked with wine. Appropriately, the preferred main food ingredients are a mixture of the most distinguished Swiss cheeses: characteristically, Gruyère with Emmentaler; sometimes Raclette too. These grated cheeses are gently heated together with white wine, a touch of kirsch (cherry brandy), and a little flour to stop the mixture from curdling. Flavorings often include garlic and freshly grated nutmeg. The mixture is cooked in a heavy-duty communal pot known as a *caquelon*, which is then kept warm over a burner at the table. Diners spear cubes of bread on long-stemmed forks and dip them into the melted cheese, making for a highly convivial dining experience.

KÄSESPÄTZLE

44 Dumplings hold a special place in German cuisine, at once a comfort food and a test of skill in the kitchen. *Spätzle* are delicate-textured dumplings made from flour and eggs, with the soft dough shaped by chopping or using a *spätzle* maker. The simmered dumplings are topped with grated cheese and fried onions in a satisfying combination.

CASSOULET

41 The humble haricot bean is elevated to tasty heights in this Languedoc dish, cooked with pork (loin, ham, leg, Toulouse sausage, and rinds), mutton or goose, herbs, and stock, and then topped with a crust of bread crumbs.

DUCK À L'ORANGE

42 A popular staple of 1970s dinner parties, this pairs the fat, dense-textured flesh of the bird with the juice and flesh of the fruit, the zesty citrus notes cutting nicely through the richness of the duck.



WIENER SCHNITZEL

45 This simple yet satisfying dish is found on restaurant menus throughout Germany and Austria. Classically, it consists of a veal escalope, which has been pounded until very thin; coated in beaten egg, flour, and bread crumbs; and then fried until golden. It is served with a lemon wedge. Ideally, the veal should be tender and the coating crispy but not oily.

PAELLA

46 Spain's national dish is believed to have originated in the rice fields of Valencia. There are many versions of paella, from the classic Valencian—traditionally containing chicken, rabbit, and land snails—to a host of seafood paellas strikingly studded with jumbo shrimp and shellfish.



MEATBALLS IN TOMATO SAUCE

52 Simple, wholesome, and comforting, this cornerstone of family meals combines ground beef—traditionally flavored with onions, parsley, and nutmeg and, shaped into balls—with a rich, tasty tomato sauce.

RISOTTO

55 Cooking Italy's renowned rice dish requires loving attention from start to finish. Risotto rice (arborio or carnaroli) is cooked with flavorings in simmering stock, which is added in stages, and then stirred constantly until absorbed. The skill rests in creating rice that has been cooked perfectly.

GAZPACHO

47 Tomatoes are the essential ingredient for this Spanish chilled soup, with peppers, cucumbers, garlic, wine vinegar, and olive oil added. A wonderfully refreshing dish for summer dining.

CALDO VERDE

48 Portugal's much-loved potato-and-cabbage soup is characterized by generous amounts of finely chopped kale or collard greens.

LASAGNA

49 This hearty Italian meat dish exists in many versions. The classic Neapolitan recipe consists of flat pasta sheets layered with ragù and Béchamel sauce, topped with grated Parmesan cheese, and baked in a hot oven until lightly brown.

PIZZA MARGHERITA

50 The history of pizza is closely linked to Naples, which is widely credited as its birthplace. According to legend, the Margherita was created in honor of the Italian queen of that name when she visited the city in 1889. It consists of a pizza base topped with tomato sauce, dotted with mozzarella cheese and fresh basil leaves, patriotically recreating the red, white, and green colors of Italy's tricolor flag.

SPAGHETTI ALLE VONGOLE

51 In true Italian style, a few simple ingredients—pasta, fresh clams, olive oil, white wine, garlic, and parsley—combine to make a truly memorable dish.

FEGATO ALLA VENEZIANA

53 Thin slices of calves' liver, rapidly panfried in butter, juxtaposed with a generous quantity of onions, fried until caramelized and soft, enhancing the vegetable's natural sweetness. Sometimes served with creamy polenta (boiled cornmeal).

TRENETTE AL PESTO

54 Liguria is noted for its fragrant basil and its delicate olive oil, both of which feature in this pasta dish, along with chopped potatoes and green beans.

TAGLIATELLE AL RAGÙ BOLOGNESE

56 Long, fresh pasta strands tossed with a tasty meat-and-tomato sauce is Bologna's best-known dish. The secret to success rests with the ragù, often made from ground beef or veal with pork. Differences, such as the addition of garlic or chicken livers, or cooking the meat in milk, are much debated. The consensus, however, is that slow, gentle cooking of the sauce is the key.



SPAGHETTI CARBONARA

57 This hearty concoction was created by charcoal-makers, hence its name. It is a speedily cooked dish of fried *guanciale* (cured pig jowl) or pancetta and beaten eggs, tossed with freshly cooked spaghetti.

CARPACCIO

58 This stylish dish of finely sliced raw beef fillet, dressed with flavored mayonnaise, was created in 1961 by Giuseppe Cipriani of Harry's Bar in Venice and named after a fifteenth-century Venetian painter.



OSSO BUCO

59 Meaning "bone with a hole," this dish uses veal shanks, sliced to reveal the marrow, which is scooped out with a long-handled extractor. It is often served with gremolata and risotto.

SALTIMBOCCA

60 The lively name, meaning "jump into the mouth," reflects the tasty brio of this popular Roman dish. Veal escalopes are layered with prosciutto and sage leaves (in one version, rolling the veal slices up) and then fried and glazed with white wine.

PIEROGI

61 This is archetypal comfort food: small dumplings with a range of fillings, including cottage cheese, mashed potatoes, mushrooms, meat, and sauerkraut, topped with melted butter or fried bacon or onions. Dessert versions, often fruit filled, are also popular.

BIGOS

62 Also known as "hunter's stew," Poland's most famous dish makes ample use of the abundant game found in the nation's forests. Traditional elements include a variety of meats—pork, beef, assorted Polish sausages—sauerkraut, onions, dried mushrooms, prunes, and red wine. The best bigos are made well in advance and given time to mature.

COULIBIAC

63 This pie is brioche dough encasing layers of salmon or sturgeon, cooked buckwheat, hard-boiled eggs, and herbs. The French claimed credit for it in the nineteenth century, but it's Russian through and through.

BORSCHT

64 With its vivid color, this soup is an eye-catching dish. Recipes vary enormously, but the key elements are beet and a dollop of sour cream.

GOULASH

65 The Hungarian word "*gulyás*" means "herdsman," and this dish is thought to have originated with cattle drovers on the central European plain. Recipes vary, but the usual elements include beef, green peppers, caraway seeds, and paprika.

MOUSSAKA

66 Slices of eggplant, salted to remove their bitter juices, are fried in olive oil and then layered with fried, ground meat, often spiced with cinnamon, and finally topped with Béchamel sauce (historically, simply beaten eggs) and grated cheese. The assembled pie is then baked until golden brown.



DÖNER KEBAB

67 Turkey's famous dish is credited as the invention of İskender Efendi of the town of Bursa in 1867. *Döner* kebab consists of meat, often lamb, layered on a revolving spit, which is sliced laterally to create fine shavings. In its popular takeout version, the meat is wrapped in a flatbread, together with chopped salad vegetables such as white cabbage, onions, and lettuce, to add texture and flavor.

MOROCCO

CHICKEN TAGINE WITH PRESERVED LEMON

68 This gently simmered, fragrant, spiced stew is traditionally cooked and served in a tagine, a special clay or ceramic piece of cookware with a pointed lid. Diced pieces of preserved, salted lemons add their distinctive note.

MIDDLE EAST

FALAFEL

71 Freshly fried falafel—their crisp, deep-brown exterior contrasting with their soft interior—are a pleasure to eat. These small, deep-fried rissoles are traditionally made from cooked chickpeas or fava beans. Widely eaten across the Middle East as a meze dish or street food—wrapped in pita bread with a tahini sauce—this popular, vegetarian fast food has achieved cult status all over the world.

IRAN

FESENJOON

72 This luxurious Persian concoction combines walnuts and pomegranates to make a rich, subtly flavored sauce for stews of meat, fish, or game birds, particularly duck.

INDIA

TANDOORI CHICKEN

76 Chicken pieces are first marinated with yogurt, root ginger, and fragrant spices and then cooked quickly in the fierce heat of a tandoor, a wood- or charcoal-fired cylindrical clay oven.

INDIA

TARKA DAL

77 Legumes play a special part in Indian cuisine. Here, cooked lentils are enhanced just before serving with a “tarka,” a mixture of ghee-fried spices and garlic.

PASTILLA

69 This appetizing, festive pie is made from spiced pigeon or squab, topped with layers of wafer-thin pastry. It is decorated with an abstract pattern in powdered sugar and ground cinnamon.

MIDDLE EAST

HALEEM

73 Arabic in origin, this spiced dish of meat, grains, and lentils has a distinctive paste-like texture, created by slow cooking over several hours. Recipes vary, but it is often garnished with lemon slices, herbs, chilies, and fried onions.

INDIA

DOSA

74 This golden-brown, thin, crisp pancake—a South Indian staple made from a fermented batter of ground rice and lentils, which give a sour tang—is often served with sambar (a dal-based broth) or with coconut chutney.

KOSHARI

70 Egypt’s national dish is a simple but satisfying mixture of rice, seeds, and macaroni, served topped with a tangy tomato sauce and fried onions. Historically, a working man’s street food, it is now found on Egyptian restaurant menus.



BIRYANI

75 A fragrant, spiced, rice-based creation, tracing its history to Mughal cuisine, biryani is made by layering partly cooked rice with cooked meat, poultry, fish, or vegetables and baking it in a covered pot. In its more elaborate festive versions, garnishes include edible silver or gold foil.



CHICKEN KORMA

78 A properly cooked korma reflects its origins as a luxurious Mughal court dish to be served on special occasions. Chicken pieces are carefully braised in a delicately spiced sauce, often enriched with yogurt or cream and thickened with ground nuts, almonds, and cashews. The resulting sauce, with its characteristic velvety texture, should coat the chicken. There are numerous variations in recipes, including one made with pistachios, which is a subtle green in color.

INDIA

75 Popular for breakfast in South India, often served with dal broth and coconut chutney, these fluffy-textured savory “cakes,” steamed in a special indented pan to shape them, have a sour tang that is offset nicely with accompanying chutney.

CRAB WITH GINGER & SCALLIONS

80 The Chinese penchant for truly fresh seafood is evident in this Cantonese stir-fry, which is made, when done properly, using live crabs, chopped into pieces, and served in their shells.

BARBECUED PORK

81 This Cantonese staple, often displayed hanging in restaurant windows, consists of pork pieces marinated in a salty-sweet paste made from assorted condiments and then roasted and glazed with honey.

SALT & PEPPER SQUID

82 Sichuan peppercorns, roasted to enhance their aroma and then ground and mixed with salt, give their distinctive, mouth-numbing fragrance to deep-fried squid in batter.

MAPO TOFU

83 Also known as “pockmarked old woman’s bean curd,” this famous Sichuan dish packs a serious punch with its combination of hot soybean paste, chilies, and aromatic peppercorns.

BULGOGI

84 This popular dish consists of tender strips of beef, marinated with garlic, ginger, and sesame oil and then quickly grilled or fried. It is often freshly cooked at the table in Korean restaurants.

BIBIMBAP

85 This comfort food takes its name from the Korean word for “mix.” It consists of cooked rice, topped with vegetables, beef strips, and a raw or fried egg, which are stirred together before serving.

SUSHI

86 This iconic Japanese specialty is made from cooked, vinegared, short-grain rice and shaped with various ingredients—most famously raw fish and seafood, but also seaweed, vegetables, and pickles—to create dainty morsels that are pleasing to the eye as well as to the palate. Traditionally, becoming a sushi chef requires a demanding apprenticeship of several years.



TEMPURA

87 The Japanese got the idea of tempura from the Portuguese and then raised it to an art form. Ingredients such as seafood (often raw shrimp) and sliced vegetables are coated in a delicate, water-based batter, deep-fried, and then served with a salty-sweet dipping sauce, usually flavored with grated daikon. The best tempura has a light, crisp, nongreasy batter, which contrasts deliciously with the contents inside.

SASHIMI

88 Despite the apparent simplicity of this sliced, raw fish, its creation is seen as a test of a chef’s skills, involving selecting the finest, freshest seasonal fish, slicing it appropriately, and presenting it beautifully.

TONKOTSU RAMEN

89 Key to the success of this soup noodle dish is the cloudy broth, made by simmering pork bones and pork fat until they break down into a flavorful stock broth to which are added Chinese-style wheat noodles and other ingredients.

JAPAN

YAKITORI

90 Yakitori restaurants specializing in skewered foods dipped in barbecue sauce and cooked over charcoal are a popular part of Japan's dining scene. Dainty morsels of chicken are the norm.

JAPAN

MISO SOUP

91 Miso paste, made from fermented soybeans, gives this Japanese broth its particular flavor. The stock, known as dashi, is made by simmering water with dried kelp and bonito flakes.

JAPAN

OKONOMIYAKI

92 Restaurant diners cook these pancakes themselves on tabletop griddles. The batter is thickened with chopped ingredients such as cabbage and seafood, and various condiments are added.

JAPAN

CHAWAN

93 This steamed savory egg custard has a delicate texture and is commonly accompanied by pieces of marinated chicken breast, shiitake mushrooms, shrimp, ginkgo nuts, and trefoil.

SINGAPORE

CHILI CRAB

98 Gloriously messy and finger-lickingly good, this seafood specialty is stir-fried in a gutsy, salty-sweet, tomato sauce.

MALAYSIAN

LAKSA

99 This spicy seafood noodle soup may be a rich coconut milk broth or a tangy tamarind-flavored fish stock—either are great.

SUMMER ROLLS

94 These light and elegant delicacies are made from soft rice paper wrappers folded around ingredients such as cooked shrimp, rice vermicelli, and fragrant herbs and served with a dipping sauce.

SOM TAM

95 This appetizing salad is made using firm-fleshed, unripe papayas, which are finely shredded; tossed with ingredients such as finely ground dried shrimp and crushed roasted peanuts; and flavored with a hot dressing that is salty, sweet, and sour.



THAI GREEN CURRY

96 The curry, which is simmered in coconut milk, gains its distinctive green hue from a paste made from green chilies and fresh cilantro leaves among other ingredients. Further flavors are added by the use of aromatics, including lemon grass, galangal, and lime leaves. Authentically made, it also includes tiny, thick-skinned pea eggplants, which add a bitter note.

HAINANESE CHICKEN RICE

97 Simple but satisfying, poached chicken is served with rice cooked in stock and a chicken broth. Additional flavor comes from dipping sauces featuring chilies, soy sauce, and ginger.



SATAY

100 Satay has spread far and wide from its regional roots to become one of the best-known and most popular foods in the world. It consists of grilled, marinated poultry or meat, is traditionally cooked over charcoal, and is served with a peanut sauce. The most acclaimed variant is Malaysian satay, which is flavored with lemon grass and accompanied by a spiced peanut sauce enriched with coconut milk. Satay is typically served with compressed rice cakes, cucumbers, and chopped onions.



CANADA

WILD RICE

1 A water-growing cereal, of the genus *Zizania*, which, despite its name, is not closely related to rice. Native Americans harvested it by paddling canoes through the water to gather the long, thin seedheads. Dark brown in color, it has a unique nutty flavor.

BEAN-TO-BAR CHOCOLATE

2 A term used within the craft chocolate movement to describe the small-scale production of chocolate bars, made by their maker from cocoa beans rather than ready-made, couverture chocolate. Making chocolate this way involves first sourcing quality cocoa beans, roasting the beans and then winnowing, grinding, and conching in order to transform cocoa into chocolate bars. By controlling the process, artisan chocolate makers can showcase the flavors contained in cocoa, with factors including the cocoa variety, where it comes from, and how the beans are fermented.

ALASKAN BIRCH SYRUP

3 Alaska's birch forests are the source for this rare, sweet, distinctly flavorful syrup with a caramel-like taste. It is painstakingly made by collecting paper birch sap and evaporating it into a syrup. It takes around 100 gallons of sap to make 1 gallon of syrup.

GEODUCK CLAMS

4 Very large, long-lived, edible clams with extremely long siphons, native to the North American coast. Their size and phallic appearance has led to them being prized as an aphrodisiac, popular in China and Japan, as well as with sushi restaurants in the United States.

100 DELICACIES

CARIBBEAN

QUEEN CONCH

5 A large, herbivorous sea snail, *Lobatus gigas* is found in waters of the tropical, northwestern Atlantic Ocean. Conch meat was traditionally eaten in many islands of the West Indies, both raw and cooked.

EUROPE

SALT MARSH LAMB

6 Lambs grazed on marshland, regularly covered by the sea, rich in salt-tolerant, mineral-rich plants such as samphire, sea lavender, and sea purslane. This marsh diet gives a distinctive flavor and texture to the meat.

EUROPE

FRAISES DU BOIS

7 Meaning "strawberries of the woods," *Fragaria vesca* are tiny strawberries also known as "wild strawberries," which traditionally grow wild in forest glades and meadows. Deep red in color, they have a delicate texture and striking, perfumed intensity of flavor, more complex than that of ordinary strawberries. Highly perishable, they are a seasonal summertime luxury, much prized in France and Italy, where they are used by chefs to both flavor and adorn desserts such as fruit tarts, meringues, and ice creams. In jam-making they are often combined with regular strawberries to add an extra flavor boost.

EUROPE

CANDIED FRUIT

10 For hundreds of years, fresh fruits have been preserved and transformed into a sweet luxury by crystallizing them. The process is long and laborious, with fruit such as cherries or slices of pineapple, being repeatedly dipped into hot sugar syrup until saturated with sugar.

EUROPE

ASPARAGUS

11 With its striking spears and subtle, distinctive flavor, asparagus has long been a delicacy, with freshly picked asparagus particularly prized. Growers cultivate both green and white, the latter earthed up as it grows so as to effectively blanch the shoots.

EUROPE

GOOSE

8 Prized for both its flavorful, succulent flesh and its ample white fat, the domestic goose was a traditional festive bird in many European countries. Popular accompaniments for roast goose include red cabbage, apples, and quinces, which cut through the richness of the meat.

EUROPE

SAMPHIRE

12 There are two types of samphire, both growing by the sea: rock samphire (*Crithum maritimum*) and marsh samphire (*Salicornia europaea*). The first, traditionally pickled, has a powerful aroma, while the latter has a saltier taste.

EUROPE

WILD BOAR

9 For thousands of years, humans have hunted wild boar, risking their formidable tusks, in order to enjoy their rich-tasting meat. In many European countries, wild boar is still hunted and eaten with relish, in pasta sauces, or transformed into charcuterie.

ARTICHOKE

13 A member of the thistle family, it is the flower head of the globe artichoke that is eaten, either as a whole, tender, young bud or, more usually, as a much-larger bud, when, stripped of bracts and bristly choke, the much-prized, choice, edible heart is revealed. It is usually boiled or steamed.

LICORICE

14 The edible root of the plant *Glycyrrhiza glabra* (also known as "sweet root") has long been appreciated for its natural sweetness and particular flavor.

GRAVADLAX

15 A traditional Scandinavian fish dish made by curing raw salmon with salt, sugar, white peppercorns, and dill; a strikingly colored beet cure is a popular variation. It is usually served finely sliced, accompanied by a dill-and-mustard sauce.

CLODBERRIES

16 A rare berry, golden orange in color and with a tangy flavor, found growing wild in northern Europe and North America. The berries are highly prized in Scandinavia, where they are used to make jam or desserts.

ELK

17 A large member of the deer family, shot as a game animal, whose dark-colored, close-textured meat has a rich taste.

SURSTRÖMMING

18 A notoriously odoriferous, Swedish ingredient, made from fermented Baltic herrings. So powerful is its smell that eating it outside is advised. It is often eaten with flatbread.

CRAYFISH

19 Freshwater crustaceans with sweet, delicate flesh. In Sweden and Finland the crayfish season is celebrated each August with crayfish parties where many are consumed.



WILD SMOKED SALMON

20 Long prized as a seasonal treat, wild salmon, an oily fish, also lends itself to being smoked, a means of both preserving it and transforming it into a luxury food. Salmon can be either cold-smoked or hot-smoked. The first step in the process is to salt the fish in order to draw out moisture. It is then dried in a kiln and slowly smoked, which when done properly is a carefully judged procedure, which should impart a smoky flavor to the flesh without overwhelming it. Most smoked salmon is produced from farmed fish. Wild smoked salmon has a distinctive, less fatty, drier texture than regular smoked salmon, reflecting its active natural life and complexity of flavor.

POTTED SHRIMP

21 Potting foods, such as ham, by coating them in melted butter with spices was a classic British way of preserving them. Potted shrimp are made from brown shrimp caught off Morecambe Bay in northwest England, which are noted for their sweet flavor.

CLOTTED CREAM

22 A British delicacy from the West Country. Made by very gently heating cream so that it thickens and develops a characteristic, thin, golden "crust," taking on a buttery richness of flavor. An essential element of a Devonshire cream tea.

GROUSE

23 A popular game bird, hunted for its rich, tasty flesh. In Britain, grouse shooting is a popular field sport, with August 12—known as "the Glorious Twelfth"—beginning the season. The lean flesh has to be cooked carefully so as not to dry out.

GULLS' EGGS

The foraged eggs of wild seagulls are a rare and seasonal spring treat. In Britain the speckled eggs are classically served hard-boiled with celery salt.

HAGGIS

Scotland's national dish, a savory pudding made from sheep's offal and oatmeal, was celebrated by poet Robert Burns. A key part of Burns Night eating.

MARRONS GLACÉS

Candied sweet chestnuts, with a delicate yet distinctive flavor, traditionally made in France and northern Italy each year following the chestnut harvest. The peeled chestnuts are coated in sugar syrup.

LA BONNOTTE POTATOES

Cultivated on a small scale solely on the French island of Noirmoutier, only around 100 tons of these rare, costly potatoes are cultivated each year, mainly because they have to be handpicked. The soil and the seaweed used to fertilize the crop are said to impart a delicate, salty flavor to the tubers.



CHOCOLATE TRUFFLES

Enjoying an enduring reputation as an indulgent treat, chocolate truffles are made by creating a ganache filling, traditionally from chocolate and cream and sometimes also butter. This filling, with its smooth, voluptuous texture, can be coated with a fine layer of chocolate, cocoa powder, or chopped nuts to form chocolate truffles. Classic flavorings for chocolate truffles are champagne, brandy, or rum. The charm of the ganache, however, is that it can be flavored in numerous ways, allowing chocolatiers room for experimentation.

MACAROONS

A classic, French confection consisting of dainty, meringue disks made from ground almonds and sandwiched with a ganache or jam filling. Traditional flavors include chocolate, pistachio, and strawberry, but master pâtissiers create intriguing flavor combinations.

POULET DE BRESSE

So highly regarded are these French chickens, admired by the French gourmet Brillat-Savarin, that they have been granted an *appellation d'origine contrôlée* (AOC) protecting them. These white-feathered fowl from Bresse in eastern France are fed on maize, giving their flesh a distinct yellow hue.

GARIGUETTE STRAWBERRY

Noted for its intensity of flavor and juicy flesh, the *gariguette* strawberry, with its characteristic conical shape, is a traditional French variety originating from Provence. Prized by chefs, it is a seasonal, mouthwatering treat used in desserts and patisserie.

ISIGNY BUTTER

A renowned French butter, tracing its history back to the sixteenth century and granted an *appellation d'origine contrôlée* (AOC). The butter is made using cream from cows grazed on lush pastures in Isigny, renowned for the quality of its dairy.

FLEUR DE SEL

Meaning "flower of salt," this is the French term for the sea salt crystals that are hand-gathered from the surface of salt pans. Noted for its white color, *fleur de sel* is collected off the Atlantic west coast of France.



FOIE GRAS

Meaning "fat liver," this controversial specialty has a venerable history that can be traced back to ancient Rome. It is created by force-feeding ducks or geese with corn so that their livers enlarge, taking on a delicate, buttery richness appreciated by gourmets. It is a luxury food served on special occasions and at high-end restaurants. It can be eaten on its own or used to make pâtés and terrines.

NOUGAT DE MONTÉLIMAR

A traditional, distinctively textured sweetmeat made from sugar, honey, and nuts, with the French town of Montélimar noted for its almond nougat production for centuries. Nougat is made by combining a sugar and honey syrup with whisked egg whites and then adding chopped nuts and vanilla.

WALNUT OIL

Made from walnuts, this cold-pressed oil has a light color and delicate taste. It is used as a finishing oil, adding its particular nutty quality to salads, roasted vegetables, or fish dishes.

PALM HEARTS

The edible inner shoots and buds, harvested from certain species of palm trees. The texture is notably tender, and the flavor delicate yet distinctive.

CROQUEMBOUCHE

A spectacular French patisserie construction, traditionally consisting of a cone of dainty choux pastry buns, built around a special mold and glazed with threads of caramel to bind it together. Variants include ones made from macaroons, candied fruits, or chestnuts. It is often served at weddings and baptisms.

RILLETTE

A classic of French-charcuterie, with many regional variations, in which meat such as pork, rabbit, goose, or poultry is cooked in lard and then shredded with the fat so as to create the dish's characteristically soft, rich texture. Spread it on bread or toast.

ROSETTE DE LYON

A roughly textured, French-cured sausage from Lyon, made from garlic-seasoned pork and matured for 30 days.

NÜRNBERGER LEBKUCHEN

This German spiced honey gingerbread was developed during the sixteenth century around Nuremberg, then a center for Europe's spice trade. Eaten at Christmas and available in many shapes, the taste is warm, spicy, and aromatic.



LÜBECK MARZIPAN

The northern German town of Lübeck has long been noted for its manufacture of marzipan, the sweet, raw paste made from almonds and sometimes sugar. The characteristic Lübeck style of marzipan uses large amounts of coarsely ground almonds, which give a particular texture and delicate flavor.

CONFIT

The dish's name derives from the French "*confire*," meaning "to preserve," with meat and poultry, famously duck and goose, salted and then slowly cooked in fat.

BLACK FOREST HAM

Granted a protected designation of origin (PDO), this German ham comes from the Black Forest region of Germany, where it has been made for centuries. Pork haunches are deboned, dry-cured using salt and spices, then cold-smoked for days over wood from local pines and spruces and matured, giving the ham its characteristic, dark appearance and smoky flavor.

SACHER-TORTE

Created in 1832 by 16-year-old apprentice Fritz Sacher for diplomat Prince von Metternich, this illustrious cake has become synonymous with Vienna and its renowned cafés. It is an elegant creation, deceptively simple in that it consists of a chocolate cake, apricot jam, and a distinctive, silky smooth, dark chocolate frosting, which when correctly made should flow over the edges of the cake. As happens with well-known dishes, there are frequently disputes as to the "proper" version, with one version sandwiching the jam in the middle of the two sponge layers, and the other spreading it on top of the cake under the frosting. In Austria, Sacher-torte is traditionally served with cold whipped cream on the side to lighten the richness of the dense chocolate sponge.



KUGELHOPF

46 A distinctive sight thanks to its traditional tall ring shape, this cake (also known as *gugelhopf*) is a specialty of central Europe. Baked in a Bundt pan, it is a yeast cake with a light texture and delicate flavor, classically served sprinkled with powdered sugar.

SPAIN

JAMÓN SERRANO

47 Meaning "mountain ham," this dry-cured Spanish ham is made from white pigs and cured by dry-salting and aging for around a year. Served finely sliced, often as a tapas dish, it has a salty sweetness and distinctive juicy texture.

JAMÓN IBÉRICO DE BELLOTA

48 A genuine luxury, this skillfully made, famous, dry-cured Spanish ham is matured over a period of around three years. Made from rare-breed, indigenous Ibérico pigs, the ham is also known as *pata negra* or "black hoof," reflecting their coloring. The "*de bellota*" ("of the acorn") refers to the fact that, after weaning and being fattened on barley and maize for several weeks, the pigs are allowed to roam naturally in the *dehesa* (woodland) eating a diet rich in acorns. The ham melts in one's mouth and has a complex, salty-sweet, nutty flavor.



SPAIN

MOJAMA

49 Tracing its history to the Phoenicians, this salt-cured, filleted tuna loin is a specialty in the Mediterranean. It is eaten finely sliced, moistened with olive oil.

MARCONA ALMONDS

50 Plump, round-shaped, Spanish almonds, rich in almond oil, with a creamy texture and sweet flavor. Often served roasted and salted.

HORCHATA

51 A refreshing drink, with the Spanish version made from chufas (tigernuts), water, and sugar. Creamy white in color, it is reminiscent of almond milk.

GOOSE-NECKED BARNACLES

52 Striking in appearance, this shellfish is a delicacy in Spain and Portugal, where harvesting them is difficult and dangerous.

SALT COD

53 Salt-cured cod, once a staple food for long sea voyages, is now increasingly a pricey luxury. A much-loved ingredient in Portugal's cuisine.

PORTUGAL

PASTÉIS DE NATA

54 Portugal's iconic egg custard tarts, with those from Belém's Jerónimos Monastery in Lisbon, where they were invented, especially esteemed. Recipes vary, but the pastry should be flaky and buttery, with the custard filling blotched by burned sugar patches.

SUGAR PLUMS

55 A seasonal treat associated with Christmas. Historically, Portugal's sugar plums come from Elvas, made each year from locally grown, freshly harvested greengages (rather than plums), soaked in sugar syrup, and then dried in the sun.



PARMA HAM

56 This famous, historic ham comes from Parma, Italy, where the making of it is strictly regulated. Much care and skill goes into transforming fresh pork legs (from either pigs or wild boar) into dry-cured ham—from salting, washing, drying, and curing—with the ham sold at between one and three years of age. It has an elegant salty sweetness and a soft, melting texture.



ACETO BALSAMICO TRADIZIONALE DI MODENA

57 A highly prized Italian condiment with a venerable history, first recorded in the eleventh century, the traditional balsamic vinegar of Modena has been granted a protected designation of origin (PDO). Produced for centuries in the area, this dark liquid is made from cooked grape must (the grape juice used to make wine), acidified through a long process of maturing in small barrels made from woods including oak and mulberry, and sold at the ages of at least 12 or 25 years. Not to be confused with the cheaper “balsamic vinegar of Modena,” it has a rich, complex, sweet-and-sour flavor and a velvety thick, syrupy texture.

CAPOCOLLO CINTA SINESE

58 A Tuscan charcuterie specialty made from rare-breed Cinta Sinese pigs, noted for their flavorful pork. Capocollo is a cured salami made from the boned and rolled shoulder and neck of a pig.

TAGGIASCA OLIVES

59 Grown in the rocky region of Liguria on the Italian Riviera coast, the small, deep-red Taggiasca olive is appreciated for its mild and fruity flavor. It is also used to produce a delicate olive oil.

EXTRA VIRGIN TUSCAN OLIVE OIL

60 Used by chefs around the world, this highly prized oil is admired for its unique aroma and taste. It is used to add flavor to dishes such as salads and soups, with many Tuscan dishes—from *fettunta* (bruschetta) to *pappa al pomodoro* (bread and tomato soup)—featuring it. While many parts of the world produce olive oil, extra virgin Tuscan olive oil is regarded as an Italian classic. Flavor, depending on the olive varieties and terroir, ranges from delicate and fruity to pungent, spicy, and peppery.



LARDO

63 Made in Tuscany's Colonnata since Roman times, this consists of pork back fat, carefully cured with rosemary and salt, traditionally in marble containers.

CULATELLO DI ZIBELLO

64 Tracing its history back to the fifteenth century, this Italian charcuterie pork product, made from the pig's thigh fillet, is produced in Zibello. Granted a protected designation of origin (PDO), it has a distinctive flavor and texture.

SEA URCHINS

61 A striking seafood much loved by Italians, ideally eaten freshly harvested from the sea. Traditionally, the prickly sea urchins are carefully sliced open and the edible roe, with its taste of the sea, eaten at once, but it can also be used in pasta dishes.



BOTTARGA

62 The air-dried roe of gray mullet or tuna, a Mediterranean specialty, especially associated with the island of Sardinia. It is made by pressing the roe, salting it, and drying it in the sun. It has a salty, delicately fishy flavor and is usually eaten in wafer-thin slices as an antipasto.

PORCINI MUSHROOMS

65 A wild mushroom, *Boletus edulis*, also known as cèpe, highly prized for its depth of flavor and texture. In the fall, fresh porcini appear on Italian restaurant menus, sautéed in oil or butter with garlic and parsley, or in sauces. Dried porcini are a popular cupboard ingredient.

PANFORTE

66 A specialty of Siena, a rich, spiced, flat cake made from dried fruits and nuts, tracing its origins to medieval times and eaten as a Christmas treat.

FELINO SALAMI

67 A dry-cured, pure-pork sausage, long made in Felino, Italy. The coarsely ground pork is flavored with spices and wine, stuffed inside natural casings and slowly aged.

AMALFI LEMON

Grown on Italy's Amalfi coast, these large, knobbly, thick-skinned lemons are highly prized for their powerful fragrance. Their zingy juice and finely pared zest of their unwaxed skins is used to enhance both savory pasta dishes and sweet desserts.



CAVIAR

Long synonymous with a high-living lifestyle, caviar is the salted roe of different types of sturgeon: beluga (the rarest and most expensive), sterlet, ossetra, and sevruga. With sturgeon endangered in the wild due to overfishing, there are moves to farm sturgeon to ensure sustainability. The flavor is rich, fishy, and subtly salty, with the soft, creamy texture the most striking feature.

ARGAN OIL

A rare and special Moroccan oil, laboriously garnered from the fruits of the argan tree. The formidably tough nuts are hard-cracked to extract the kernels, which are toasted before having the oil extracted.

TRUFFLES

A famous luxury, truffles are an edible fungi, which grow underground, so have to be hunted out by keen-nosed dogs or pigs, adding to their allure. Noted for their powerful and distinctive aroma and flavor, fresh truffles command astronomical prices. There are both black and white truffles, with Périgord in France and Alba in Italy notable truffle-growing regions. Such is the power of their scent that fresh truffles are stored with eggs or rice in order to impart their fragrance. Much used by chefs and gourmet cooks, dishes featuring truffles range from the beautiful simplicity of fresh pasta with truffle shaved over it to elaborate haute-cuisine creations.

BILTONG

The dried cured meat greatly loved by South Africans. It is made from a variety of meats, ranging from beef to game animals, and seasoned with different spices, such as garlic or chili. Specialist shops sell it wet, moist, or dry.

MULBERRIES

The freshly picked, highly perishable, ripe fruit of the black or white mulberry tree have long been enjoyed in countries such as Afghanistan, with the fruit often dried in order to preserve it for trading.

BRAINS

In Middle Eastern cuisine, lamb brains and calf brains are much appreciated for their delicate texture and subtle flavor. They are eaten braised or fried, and used as a filling for savory pastries.

ALPHONSO MANGOES

A seasonal variety of Indian mango, much enjoyed for its smooth, juicy flesh and buttery-sweet flavor. In addition to being eaten simply fresh, the tasty Alphonso pulp is used to make desserts such as ice cream, as well as to flavor confectionery and drinks, including lassi.



BASMATI RICE

Long-grain basmati rice, grown in India and Pakistan, is valued for its subtle fragrance, noticeable as it cooks, and the light, delicate texture of the rice grains. Aged basmati is especially esteemed, as the process intensifies its flavor.

ABALONE

An edible mollusk, which has been highly prized in China for centuries. With a delicate sweetness of flavor and tender texture, it is used in dishes such as soups or stir-fries. Dried abalone is also valued and requires lengthy soaking before use.

PEKING DUCK

A well-known, Beijing duck dish, with an imperial heritage, prized for its combination of crispy skin and succulent flesh. It is classically served with thin pancakes, hoisin sauce, and sliced cucumber and scallions, with the pancake used as a wrapping.

HUNDRED-YEAR EGG

A Chinese preserved egg, created over months, rather than years, by coating eggs in a quicklime-and-ash mixture. The treatment changes the egg's appearance, giving it a particular flavor.

SEA CUCUMBER

Regarded as a luxury in Chinese cuisine, this marine creature, caught and then dried, is served at banquets. It is valued for its slippery, chewy texture and mild flavor.

ROAST SUCKLING PIG

A young piglet, slaughtered at just a few weeks old—so that it has fed only on its mother's milk—and roasted whole, is regarded as a luxury, partly because of the extravagance involved in killing it before it has matured as well as for its tender flesh.

GINKGO NUTS

The nuts of the primitive ginkgo tree (*Ginkgo biloba*) are enjoyed for their tender kernels, yellow when raw, becoming green when cooked. Their delicate yet distinctive flavor features in the Japanese savory custard *chawan mushi*.

KIMCHI

Regarded as Korea's national dish, kimchi is a traditional, fermented vegetable relish. It is made from various vegetables, including cabbage, and flavored with ingredients such as garlic, ginger, and chili to intensify its effect.

MATSUTAKE

The Japanese "pine mushroom" is named for the forests in which it grows. It is a seasonal specialty, foraged for each fall, esteemed for its fine flavor and aromatic odor, sold at very high prices, and treated with immense respect in the kitchen.

FUGU

A notorious Japanese seafood specialty, fugu, or puffer fish, must be prepared knowledgeably and skillfully to prevent it from lethally poisoning the diner. The fish contains the poison tetrodotoxin in its organs—notably the liver, ovaries, and eyes—a toxin for which there is no antidote. Despite its reputation, fugu is prized, with dishes such as fugu sashimi served for high prices in fugu restaurants.



WAGYU BEEF

This extremely expensive Japanese beef comes from specific breeds of cattle, noted for their high level of fat marbling in their flesh. The cattle are reared in a particular way, including, famously, massaging the animals, feeding them grain, and giving them beer. The beef is valued for its tenderness and its high levels of unsaturated fat.

UMI BUDO

An Okinawa specialty, this seaweed is also known as "sea grape" because of its resemblance to a bunch of grapes. It is usually served with seafood, often as a garnish for sashimi.

WAGASHI

Traditional Japanese confectionery, skillfully made from a wide range of ingredients including red beans, seaweed gelatine, and fruit that vary with the seasons. Often mimicking fruit in their appearance, they are distinctly aesthetic concoctions, presented as ceremonial gifts, as well as enjoyed with tea.

YUZU

A Japanese citrus fruit, noted for its distinctive, aromatic fragrance and flavor. Its extreme tartness means that rather than being eaten in its own right as a fresh fruit, the zest and juice of the yuzu are used to flavor and enhance dishes. Believed to be a hybrid of the mandarin, it is an essential ingredient in ponzu (a citrus-based sauce) and is also used to make yuzu vinegar.



JAPANESE

SEKIHAN

90 A Japanese dish of sticky rice cooked with adzuki beans, which give it a reddish hue, traditionally eaten at wedding celebrations.

JAPANESE

NATTO

91 A highly nutritious, Japanese specialty made from fermented soybeans, with a slimy texture, strong smell, and unique flavor.

JAPANESE

KABAYAKI UNAGI

92 A popular, rich-tasting dish of freshwater eel, skillfully prepared by splitting, gutting, and boning the fish, with the fillets then glazed in a salty-sweet sauce and broiled on a grill. Traditionally eaten in Japan during the summer in specialist restaurants.



SOUTHEAST ASIAN

DURIAN

93 Infamous for its powerful, pervasive odor (which means that it is banned on public transport in some Southeast Asian countries), this large, striking fruit has a devoted following, while rousing strong feelings among its detractors. Inside the hard, spiny shell, the fleshy fruit—ranging in color from pale cream to yellow to red depending on the cultivar—has a voluptuous, custardy texture and a distinctive, rich flavor.

MULTI-MAYHEM

MONO-FLORAL HONEY

94 honeys from one predominant flower source, such as heather, take on a distinctive flavor, scent, and color.

MULTI-MAYHEM

SOFT-SHELL CRAB

95 Crabs that have recently shed their old exoskeleton, with their new shell being soft enough to be eaten.

MULTI-MAYHEM

TURBOT

96 Widely regarded as the best of the flatfish family, the highly prized *Scophthalmus maximus* is found in the waters of the North Atlantic and can grow to a large size and weight, adding to its culinary appeal. Its bright-white flesh is firm textured, with a distinctive, delicate flavor. Often on the menus of haute-cuisine restaurants, turbot can be cooked in various ways, including pan-frying, baking, and steaming.



MULTI-MAYHEM

OYSTERS

97 Long relished in many countries around the world, this fleshy, flavorsome, bivalve mollusk has acquired luxury status in some cultures, becoming synonymous with high living. Often eaten raw, served shucked in half shells on a bed of ice, with a squeeze of lemon juice, they can also be cooked in dishes such as oysters Rockefeller. There are many different oysters, with their flavor and texture differing according to variety, origin, and how they were grown.

LOBSTER

98 Large-clawed, marine crustaceans, enjoyed for their delicate, sweet flesh. Valued as a luxury in many cultures, they are cooked in different ways. Eating lobster often involves cracking open the claws with special crackers to get to the luscious meat inside.

SCALLOPS

99 Saltwater bivalves, much enjoyed for their sweet-tasting, smooth-textured flesh, with the best harvested by skillful hand-diving.

SQUAB

100 Young pigeons, typically under four weeks, esteemed for their dark, tender meat in many cultures, including ancient Roman.



MONTEREY JACK

1 This mild, semihard, cows' milk cheese traces its origins to the historic Mexican Franciscan monasteries in Monterey, California. A nineteenth-century businessman named David Jack, who set up a dairy, is credited with popularizing the cheese.

CREAM CHEESE

2 Gloriously versatile, this soft, spreadable cows' milk cheese is used for everything from bagels to cheesecakes. Quintessentially American, it was first created by the Philadelphia Cheese Company and registered as a brand in 1885.

COLBY

3 Colby was created in the Wisconsin city of the same name by Joseph Steinwand, who came up with a new version of a cheddar recipe that involved washing cows' milk curds in cold water. The resulting cheese was more moist, with an open texture and a mild flavor.

OAXACA

4 Named for the state of Mexico from which it originates, this semisoft cows' milk cheese is made by a curd-spinning technique similar to that used for mozzarella, creating its distinctive "stringy" texture. It is widely used in Mexican cooking, often as a filling in quesadillas.

QUESO FRESCO

5 Translated as "fresh cheese," this soft, moist, delicate-flavored Mexican product is quickly made from cows' or goats' milk, or a mixture of the two. It is traditionally eaten within a few days of making, and most often used in enchiladas and taquitos.

100 CHEESES

JARLSBERG

6 This hole-pocked, semisoft cows' milk cheese with a buttery taste and supple texture originated near Oslo in the 1800s and went global in the 1950s.

GAMALOST

7 With a distinctive dry texture, pungent aroma, and tangy flavor, Norway's "old cheese" is made from skimmed goats' or cows' milk and is brownish yellow in color.

GJETOST

8 Its unusual sweet caramel flavor and fudgy texture make this a distinctive cheese. It is made by boiling together goats' and cows' milks, whey, and cream.

VÄSTERBOTTENSOST

9 Made in West Bothnia, this highly valued, aged, hard cows' milk cheese has a strong flavor and a granular texture that make it excellent for cooking.

SAMSØ

10 Denmark's national cheese is a supple-textured cows' milk product, created in the nineteenth century under the guidance of Swiss cheesemakers.

DURRUS

11 Made since 1979 in West Cork, this richly flavorful artisan cheese is made from raw cows' milk.

GUBBEEN

12 This artisan farmhouse, washed rind, cows' milk cheese has been made in West Cork since the 1970s.

ARDRAHAN

13 This cows' milk artisan cheese, with a sticky, orange rind, has been made since the 1980s in West Cork. The taste is milder than the characteristically pungent smell suggests.

CHESHIRE

14 Mentioned in the Domesday Book of 1086 CE, this hard cows' milk cheese is traditionally colored with annatto. It has a mild flavor, an acidic tang, and a crumbly texture.

STILTON

15 Britain's famous blue cheese traces its origins to the 1700s and is named for the Cambridgeshire village where it was sold to guest diners at a coaching inn. Stilton cheese production is legally protected and permitted only in Derbyshire, Leicestershire, and Nottinghamshire. It is made using pasteurized cows' milk and *penicillium roqueforti*, with the cheese pierced as it matures to create the distinctive blue veining.

CHEDDAR

16 Britain's best-known cheese—a large, hard, cows' milk cheese—was never protected legally, hence, cheddar cheese is now made all over the world. It traces its origins back over many centuries to the region surrounding the Cheddar Gorge in Somerset, an area of England with lush pastures and a long dairy tradition. Traditionally made, farmhouse cheddar cheese, cloth-wrapped and matured for several months, has a rich, full flavor. Cheddar is used as a table cheese and extensively in cooking.

LANCASHIRE

17 Made from cows' milk, traditional Lancashire has a mild, buttery flavor and a distinctive, moist, and crumbly texture.

WENSLEYDALE

18 Tracing its history to eleventh-century monasteries in Yorkshire, this cows' milk cheese was made famous by Wallace and Gromit.

SINGLE GLOUCESTER

19 This rare hard cheese is made with milk from Old Gloucester cattle. It has EU protected designation of origin (PDO) status.

RED LEICESTER

20 This hard, smooth-textured, cows' milk cheese derives its orange hue from annatto, a condiment from the seeds of the achiote tree.

CABOC

21 This Scottish Highland cheese, made from cows' milk and rolled in oatmeal, has a soft texture and a mild, buttery flavor.

CAERPHILLY

22 This lightly pressed cows' milk cheese, originally from Wales, has a crumbly texture and a subtle flavor and is great in Welsh rarebit.

POULIGNY-SAINT-PIERRE

23 Easily identifiable by its distinctive pyramid shape, this flavorful, dry-textured, soft, goats' milk cheese is protected by *appellation d'origine contrôlée* (AOC).

CAMEMBERT DE NORMANDIE

24 This famous French creation is a soft, circular, cows' milk cheese with a white rind and a subtle, mushroomy flavor. *Appellation d'origine contrôlée* (AOC) stipulates that raw milk must be used for Camembert de Normandie.

ÉPOISSES DE BOURGOGNE

25 This semisoft cows' milk cheese was first made in the sixteenth century by monks in the central Côte d'Or region. It is washed with marc de Bourgogne (a type of brandy) to produce a strong aroma, a sticky, orange rind, and a meaty taste.

BEAUFORT

27 Because of its great size, this hard cheese was historically made by cooperatives of herdsman. Now protected by an *appellation d'origine contrôlée* (AOC), Beaufort d'alpage is made using summer milk from cows grazed in Alpine pastures.

COMTE

28 France's most popular cheese is wonderfully easy to eat. A large, wheel-shaped cheese made from raw cows' milk in the Jura region, Comte has a sweet nutty flavor that develops in complexity, and a texture that changes as it ages.



FLEUR DE MAQUIS

29 With its shaggy coat of dried wild herbs and chilies, this artisan Corsican cheese, named after the island's wild shrubland, is easy to spot. Made from ewes' milk, the soft, bright, white paste takes on a delicate yet distinctive floral flavor from the herbs enveloping it.

ROQUEFORT

30 Legend has it that France's most famous blue cheese, with its characteristic spicy flavor, owes its origins to a shepherd who left his ewes' milk cheese in a limestone cave, whereupon it developed a blue mold. The tradition of maturing Roquefort in Cambalou's caves continues and was protected by *appellation d'origine contrôlée* (AOC) in 1926.



BRIE DE MEAUX

31 One of France's best-known cheeses, this disk-shaped, white-rinded, cows' milk cheese was historically made in the region of Brie. Protected by an *appellation d'origine contrôlée* (AOC), it is made in specific areas from raw cows' milk. As the basic buttery paste ripens, it softens voluptuously and takes on a rich, distinctive, mushroomy taste.

FRANCE LAGUIOLE

31 This hard cows' milk cheese, with a smooth paste and a mild flavor, was first made by monks at Aubrac in the Massif Central. Since 1961, Laguiole has had an *appellation d'origine contrôlée* (AOC).

BRILLAT-SAVARIN

32 Named in honor of the eighteenth-century French gourmand, this is an appropriately luxurious triple-cream cows' milk cheese, created in the 1930s. Its high-fat content gives it a soft, creamy texture.

FRANCE RACLETTE

36 This supple-textured cheese is used in the dish of the same name and is the French word for "scrape." It is mainly used for melting.

FRANCE CANTAL

37 When young, this semihard cows' milk cheese from the Auvergne region has a milky, nutty flavor. Cantal is made from the milk of the Salers cattle breed.



FRANCE CROTTIN DE CHAVIGNOL

40 This well-known Loire goats' cheese resembles a small, flattened ball, a shape that gave rise to its name, which means "horse dung." Protected by an *appellation d'origine contrôlée* (AOC), Crottin de Chavignol varies in texture and taste, according to its age. As it matures, it shrinks in size and becomes dry in texture, taking on a strong smell and flavor. Classically, it is broiled and eaten with salad.

FRANCE OSSAU-IRATY

33 A well-known delicacy of the Basque region, this hard ewes' milk cheese has a dense texture and a nutty flavor. Traditionally made by shepherds, Ossau-Iraty is now protected by an *appellation d'origine contrôlée* (AOC).

FRANCE REBLOCHON DE SAVOIE

38 The name of this supple, washed-rind, cows' milk cheese—historically made in the Savoy Alps—derives from *reblocher*, meaning "to pinch a cows' udder again," a reference to the fact that, traditionally, the cheese was the rich results of the second milking used to create it.

FRANCE SAINT-NECTAIRE

41 This disk-shaped, semisoft cows' milk cheese is produced only in the central Auvergne region under the protection of an *appellation d'origine contrôlée* (AOC). It is characterized by a distinctive, earthy aroma and a smooth-textured paste. Summer varieties are widely regarded as the best.

FRANCE BANON

42 Neatly enveloped in chestnut leaves tied with raffia, this soft goats' cheese from Provence is a picturesque addition to any cheese board. The wrapping protects the cheese as it ripens and develops a tasty nuttiness.

FRANCE MUNSTER

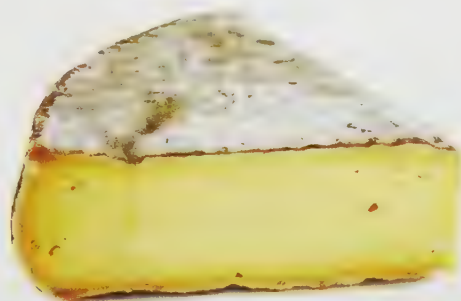
34 This washed-rind cheese, originally from monasteries in Alsace-Lorraine, has a notoriously pungent smell; a semisoft, cream-colored paste; and a sticky, orange-red rind created by repeated brine washings.

FRANCE VALENÇAY

35 With its distinctive truncated pyramid shape, this small, popular goats' cheese is protected by an *appellation d'origine contrôlée* (AOC). Brushed with salted ash, it develops a white, bloomy rind. Its bright, white paste has a nutty flavor.

FRANCE MAROILLES

39 This historic washed-rind cows' cheese was reputedly created by a Benedictine monk in 962 ce. Its distinctive orange-red brick color is achieved through numerous washings in brine to encourage the growth of the bacteria that give the cheese its distinctive, full, and mellow flavor.



FRANCE PONT-L'ÉVÊQUE

43 This venerable Normandy cheese has long been popular throughout France. Square in shape, it is a washed-rind cows' milk cheese, with an apricot-pink rind created by the washing, and a smooth, supple, and yellow paste.

FRANCE MORBIER

44 The black line running horizontally through its smooth yellow paste gives this mild, semisoft cows' milk cheese a distinctive appearance. The layer was once made of soot, but now a wood ash product is used.

TOMME DE SAVOIE

45 The name, which means “cheese of Savoy,” is generic and covers any product of the region, no matter whether it comes from a small dairy or a factory.

LIVAROT

46 Nicknamed “the colonel” because its bands resemble officer’s stripes, this annatto-colored, washed-rind cows’ milk cheese has a strong meaty flavor.

CHABICHOU

47 One of France’s best-known goats’ cheeses, this comes from Poitou. It has a natural rind and a crumbly textured paste with a distinctive flavor.

LANGRES

48 Cylinder-shaped with a deep-orange rind, this washed cheese from eastern France is often eaten with a little champagne poured into its natural “basin” on top.

SELLES-SUR-CHER

49 An ash coating on the rind of this goats’ milk cheese gives it a distinctive black, mottled appearance. The firm, clay-like paste has a salty, sweet-sour flavor.

BETHMALE

50 With a mild and earthy flavor, this semihard cows’ milk cheese from the Pyrenees was reputedly enjoyed by King Louis VI of France in the twelfth century.

MIMOLETTE

51 This hard cows’ milk cheese, made from a recipe similar to that for Dutch Edam, is colored bright orange by the addition of annatto.

CATHARE

52 Marked with the Occitan cross outlined against a black charcoal dusting, this is a small, disk-shaped goats’ cheese with subtle flavor.

AMI DU CHAMBERTIN

53 Washed with marc du Bourgogne brandy, this semisoft cows’ milk cheese has a sticky orange rind and full flavor.

BLEU DE GEX HAUT-JURA

54 This blue cheese, made with milk from cows grazed in the Alps, has an *appellation d’origine contrôlée* (AOC).

PERSILLÉ DE TIGNES

55 A characterful, rustic, goats’ milk cheese from the Savoy region, characterized by the natural blue mold that grows inside it. Depending on the age of the cheese, the paste varies in texture and the flavor intensifies.

BROCCIU

56 From the island of Corsica, this is a fresh whey cheese made from goats’ or ewes’ milk, using a process whereby whey left over from cheesemaking is reheated. The resulting curds are drained to form a delicate-textured cheese.

VACHERIN MONT D’OR

57 A luxurious seasonal treat, this mountain cheese is produced from August to March, the period during which the cattle are brought down from the Alpine pastures. A circular, washed cheese—wrapped with a strip of spruce bark, which imparts a subtle pine fragrance—Vacherin Mont d’Or is famous for its voluptuous, melting texture and its full yet mellow flavor. Serve it at room temperature or, alternatively, try baking it and serving it warm.



EMMENTALER

58 Huge, wheel-shaped cheeses of this type—often more than 3 feet (1m) in diameter and weighing between 165 and 220 pounds (75–100kg)—are named for the Emme river valley, in which they have been produced since at least 1542. Emmentaler is made according to the venerable tradition of mountain cheeses: during the summer months, dairy farmers take their small herds of cattle to the Alpine meadows to graze on the lush upland pastures. The rich milk the cows produce there is turned into large cheeses that mature slowly over the summer. The biggest Emmentaler cheeses use so much milk that farmers form co-operative groups to produce them. Now protected by an *appellation d’origine contrôlée* (AOC), a good Emmentaler has a supple, pale-yellow paste, pockmarked with holes, and a nutty taste with delicate floral notes.



GRUYÈRE

59 Switzerland's most famous dairy product, named after the village of Gruyère, is a hard cows' milk cheese, made in large wheels and protected by an *appellation d'origine contrôlée* (AOC). For the best examples of this cheese, look for Gruyère Alpine, the term given to the cheeses made during the summer months while the cows are grazing on the lush pastures. Its subtle yet distinctive taste makes it wonderful for cooking. It is classically used in fondues, croque monsieurs, and on onion soup.

APPENZELLER

60 A venerable cows' milk cheese with a tasty, wine-washed rind. The supple paste becomes fuller flavored as it ages.

SBRINZ

62 An *appellation d'origine contrôlée* (AOC) protects this historic, hard cows' milk cheese with a distinctive, granular texture and a rich, aromatic flavor.

TÊTE DE MOINE

61 Twelfth-century monks first made this full-flavored, hard, cows' milk cheese, which is often pared into rosettes using a cheese curler.

L'ETIVAZ

63 This large, cows' milk cheese traces its origins to nineteenth-century Gruyère makers, who felt their standards were being compromised. It is made by traditional methods with milk from summer grazing.

HERVE

54 Belgium's best-known cheese, named after the town in which it is made, is a brine-washed-rind cows' milk cheese with a sticky orange rind and a supple-textured paste.

ALLGÄUER BERGKÄSE

66 Swiss in style, this cows' milk mountain cheese has a dense, smooth paste and a slightly sweet taste.

VORARLBERGER BERGKÄSE

67 Made from the milk of cows grazed on the slopes of the Vorarlberg mountains, this cheese has a rich, buttery flavor and a supple texture.

COTTAGE CHEESE

58 This simple, generic, widely produced cows' cheese is drained but not pressed, so that it retains a typically moist and lumpy texture with a mild flavor.

SPAIN

MANCHEGO

72 Spain's best-known cheese is named after La Mancha. A hard cheese, it is made using ewes' milk from sheep that graze on the region's scrubby plains. Manchego cheeses are aged for different periods and sold at stages of strength: mild, medium, and strong. Characteristically, they have a nutty, salty taste, with the most mature acquiring a savory pepperiness. The classic accompaniment is *membrillo* (quince paste).

GOUDA

65 This much-loved, cows' milk Dutch cheese has a long history, dating back to the twelfth century. Its excellent keeping qualities made it a popular food item on sea voyages, and thus, it was adopted in many countries worldwide. Currently, around half of all the cheese produced in the Netherlands is Gouda. For the best examples, look for Boerenkaas (a term meaning "farmers' cheese") Gouda, which is made from raw milk and slowly aged to produce a rich variety of flavors, from fruity to spicy. As the cheese ages, the smooth, supple paste changes, taking on a denser, more granular texture.

MAHON

69 From the island of Menorca, this hard cows' milk cheese is wrapped in cloth as it matures, giving it a distinctive cushion shape. Depending on age, its flavor ranges from mild to piquant.

IDIAZABAL

70 This Basque cheese, made from ewes' milk, traditionally comes in both smoked and unsmoked versions.

GARROTXA

71 This artisan, semisoft cheese from Catalonia is made from goats' milk and has a gentle flavor. It is aged in caves to enhance its taste.



PICOS DE EUROPA

73 Made from a mixture of cows', ewes', and goats' milk in different combinations, this well-veined blue cheese comes wrapped in sycamore leaves.

TETILLA

74 This breast-shaped cheese is made from cows' milk. It should be eaten when it is young and its semisoft texture and mild flavor are at their finest.

MAJORERO

75 Made from the milk of goats from the Canary Islands, this hard cheese has a nutty flavor, and its rind is imprinted by its palm leaf band wrapping.

RONCAL

76 First made in the thirteenth century, this historic, hard ewes' milk cheese is characterized by its dense, smooth paste and subtle flavor.

MURCIA AL VINO

77 This semisoft goats' milk cheese is washed in red wine to give it an eye-catching deep-purple rind. The paste is smooth in texture and subtle tasting.

PICÓN BEJES-TRESVISO

78 This historic blue cheese—made from a mixture of cows', ewes', and goats' milk—is matured in natural caves.

CEBREIRO

79 This cows' milk cheese from Galicia in northwest Spain is shaped like a chef's hat or a muffin. It has a granular texture and tastes tangy and milky.



CABRALES

80 Asturia's famous blue cheese is usually made from cows' milk, though sometimes with additional ewes' milk or goats' milk for even greater than normal piquancy. The bluing is patchy rather than uniform.

SERRA DA ESTRELA

81 The ewes' milk used in this cheese is curdled with cardoon instead of rennet. Cardoon is an artichoke-like plant that gives Serra da Estrela a distinctive herbal flavor.

AZEITÃO

82 This creamy-textured, semisoft, ewes' milk cheese is made using cardoon rather than rennet to coagulate the curds.



PARMESAN

83 Italy's most famous cheese traces its esteemed history to the twelfth century. It continues to be traditionally produced in areas within Reggio Emilia, with the way it is made vigilantly protected by a government watchdog. Made from unpasteurized raw milk, the great wheels of Parmesan are washed with brine and then carefully matured for at least 12 months. The cheese is characterized by its granular texture and its distinctive savory flavor, sometimes with sweet or floral notes. It is popular primarily as a grating cheese.

GORGONZOLA

84 Italy's best-known blue cheese is made from cows' milk in Lombardy and Piedmont. As the Gorgonzola matures, it is pierced to encourage the blue-green mold to grow and create the distinctive, patchy veining. Well-made examples of this magnificent cheese have an ivory-colored paste with an appealing soft texture and a rich flavor.

PECORINO ROMANO

85 Pecorino Romano was chronicled in 100 BCE as an essential ration for the Roman army. Made from ewes' milk ("pecora" is Italian for "sheep"), it is a hard cheese with a dense texture and the sweetly nutty flavor that is a characteristic of ewes' milk.

MOZZARELLA DI BUFALA

86 Genuine Mozzarella di Bufala is made from rich water buffalo milk and regulated by a protected designation of origin which stipulates that it must be made in central and southern Italy. It is characterized by its distinctively moist, elastic texture—created by working the curds using a process known as *pasta filata*—and its mild, creamy flavor. It's the classic cheese for pizza.



ITALY

BURRATA

87 Made using the same *pasta filata* technique as mozzarella, this fragile, fresh cheese has an extra touch of luxury, consisting as it does of a mozzarella curd “pouch,” filled with cream and shredded pieces of curd. Ideally, it should be consumed as soon after making as possible, to enjoy its clean, fresh, and lactic flavor.



ITALY

TALEGGIO

88 Square in shape, with a pinkish-orange rind, this washed-rind, cows’ milk cheese comes from Lombardy. Traditionally, the cheese was matured in the natural caves of the region. Well-made and carefully ripened examples are characterized by a delicious creamy texture and floral flavor.



ITALY

RICOTTA

89 The name means “recooked,” a reference to the fact that it is made using whey left over from cheese production. The cheese has a delicate texture and a lactic flavor. It is used in cooking both savory and sweet dishes, such as stuffed pasta and cannoli Siciliani pastry.

MASCARPONE

90 Seductively rich and creamy in texture, this high-fat, fresh cheese has an appealing buttery sweetness to its flavor. It is used in desserts, notably in tiramisu, in which the coffee-soaked sponges contrast nicely with the soft, mild cheese.

FONTINA

91 There are many Fontina cheeses, but the greatest of them all is Fontina Val d’Aosta, which has been made in the locality since the twelfth century. It is a hard cows’ milk cheese characterized by a gentle, nutty flavor and a supple texture.

GRANA PADANO

92 Italy’s popular grating cheese has a long history, first created by monks in the twelfth century and now produced in the Po River valley. Shaped into wheels, the firm paste has a granular texture and a fruity sweetness.

ITALY

BITTO

93 Labeled with a protected designation of origin, this hard cheese comes from Lombardy and is named after the local Bitto River. It is made using milk from cattle grazed in the Alpine pastures, sometimes with goats’ milk added.

ITALY

CACIOCAVALLO

94 Usually rounded in shape, this semi-soft, stretched-curd cows’ milk cheese is produced throughout southern Italy.

ITALY

PROVOLONE

95 Made in assorted shapes and sizes, this semisoft cows’ milk cheese is produced using the *pasta filata* process. It ranges in flavor as it ages from mild and buttery to sharp and spicy.

ITALY

ROBIOLA DI ROCCAVERANO

96 This historic cheese from the Piedmont region is made mainly from goats’ milk, but sometimes mixed with cows’ milk and ewes’ milk. It is semisoft, with a creamy-textured paste and a sweet, nutty flavor.

ITALY

CASU MARZU

97 Sardinia’s notorious cheese is created by allowing pecorino to decompose to such an extent that it becomes home to the larvae of the cheese fly (*Piophilidae casei*), which break down and soften the cheese.

FETA

98 Greece’s famous and ancient cheese, made from goats’ milk, ewes’ milk, or a mixture of both, is firm textured and salty tasting from submersion in brine. Feta is used in a range of Greek dishes, from salads to savory pastries.

HALLOUMI

99 Made variously from a mixture of cows’, goats’ or ewes’ milk, this unripened, dense-textured, salty cheese is usually eaten grilled or fried.

PANEER

100 This fresh, firm-textured cheese—with a delicate, mild, lactic flavor—is used in Indian cuisine as a cooking cheese.



BROWNIES

The earliest recipe for these much-loved baked bars, originally flavored with molasses, dates from 1905 and is attributed to Fannie Farmer. Nowadays, brownies are usually chocolate flavored—made using either melted chocolate or cocoa powder, mixed with butter, sugar, eggs, and flour—and often with pecans or walnuts. Timing is all, as brownies should be baked to the point where they have achieved that distinctive thin, cracked crust, yet remain appealingly soft-centered. Possible additives include hazelnuts, cherries, peanut butter, and cream cheese.

NEW YORK CHEESECAKE

Also known as Jewish cheesecake, this rich concoction consists of a mixture of cream cheese, eggs, and sugar, flavored with vanilla, sometimes enriched with sour cream, baked on a crumb, cookie dough, or sponge crust that offer a textural contrast to the dense, smooth, soft filling. This is cheesecake in classic, unadulterated form, its indulgent luxuriousness coming from the cream cheese and eggs and the fact that it is baked. New York restaurants, including Lindy's and Juniors, are both famous for their cheesecakes, which is classic American deli fare.

PEACH COBBLER

This US variation of a deep fruit pie consists of sliced peaches, often flavored with cinnamon, topped with a thick layer of sweet, rich cookie dough mixture, baked until the crust is golden brown.

CHOCOLATE FUDGE CAKE

This high-standing cake is made from light-textured chocolate sponge layers, sandwiched together and covered by a dark, glossy, fudgy-textured chocolate frosting.

100 DESSERTS

STRAWBERRY SHORTCAKE

This summertime treat is a scone-like cake, cut in two and sandwiched with sliced fresh strawberries and whipped cream.

RED VELVET CAKE

This luscious concoction is distinguished by its smooth texture and its red hue (beet or food coloring), which contrasts with its cream cheese frosting.

HOT FUDGE SUNDAE

This classic of American soda fountains, and the stuff of childhood fantasies, consists of vanilla ice cream combined with a warm chocolate fudge sauce, usually adorned with whipped cream and a Maraschino cherry. Its success lies in the contrast between the hot and the cold.

BROWN BETTY

Apples layered with crumbs or a crumble mixture, this dish dates from colonial times.

APPLE PIE

This iconic, national dish is widely regarded as emblematic of the United States—"as American as apple pie." It's a classic, simple, home-baked treat, often eaten to celebrate America's Independence Day on July 4 each year. Tracing its history to colonial times, the American apple pie traditionally has both a base and crust of finely rolled short crust pastry dough, surrounding a filling of sliced apples, usually flavored with ground cinnamon, and sometimes served with vanilla ice cream.

BLACK BOTTOM PIE

This is chocolate custard and rum-flavored chiffon custard in a gingersnap crust.

BLUEBERRY PIE

Tracing its history to the early settlers, this homely dish is made from fresh blueberries, baked in a pie crust until soft and juicy.

PECAN PIE

Characteristically American ingredients—pecan nuts and corn or maple syrup—combine to make this rich tart. A traditional Southern recipe, it is widely enjoyed at Thanksgiving and Christmas.

INDIAN PUDDING

Made from cornmeal baked with milk and molasses, this has been an American dessert since at least the 1600s.

KEY LIME PIE

This pie is named for its main component: the fruit that grow in the Florida Keys.

CHESS PIE

This enigmatically named classic consists of a baked, silky-textured egg filling in a pie crust.

PUMPKIN PIE

This baked pumpkin custard in a pie shell is a must for Thanksgiving feasts.

SHOOFLY PIE

17 This oddly named Pennsylvania Dutch specialty is a crumb-topped creation made from molasses, eggs, and sugar, in either a "wet-bottom" or a "dry-bottom" version. The former has a gooier, custard-like consistency, whereas the latter is set like a cake.

VANILLA ICE CREAM

18 Ice cream has a special allure; that combination of dairy richness miraculously transformed into a frozen confection, which melts deliciously in the mouth. Despite its mass availability due to refrigeration, it remains a treat. The first ice creams made from flavored, full-fat milk are thought to have been made in Italy in the seventeenth century. Vanilla is the classic ice cream flavor, made from an egg-yolk-rich custard, cream, and fragrant vanilla beans, enjoyed either straight or with toppings.



LEMON MERINGUE PIE

19 This is a delightful mix of textures: a pie shell, a soft lemon layer, and a meringue topping—which balances the filling's citrus tang.

RICE PUDDING

20 Comfort food in pudding form, this simple but satisfying dish is made from short-grain rice cooked slowly and gently in milk until tender.

CUSTARD TART

21 The pleasure of this homely treat is in the contrast of textures between a crisp, thin pie shell and the soft, yielding custard filling made from eggs sweetened with sugar, and traditionally flavored with ground nutmeg.

RASPBERRY MOUSSE

22 Fresh raspberries, with their distinctive yet subtle flavor, are the starting point for this concoction with a pretty pink color and a light, airy texture.

SALTED CARAMEL CHOCOLATE TART

23 Salted caramel is versatile and used in many ways. Here, it is paired with dark chocolate and a pie crust to memorably decadent effect.

ORANGE JELLY

24 This wonderful expression of a much-loved citrus fruit allows the distinctive sweet tanginess to come through in wobbly textured form.

SUMMER FRUIT TERRINE

25 This elegant creation consists of strawberries, raspberries, and red currants set in a clear jelly made from gelatine and served in translucent slices.

BLANCMANGE

26 In medieval times, blanchmange was made from chicken breast and rice, but it is now a delicate concoction of sweetened milk thickened with cornstarch.

BAKED APPLE

27 This is simple but satisfying: a cored apple with a raisin, butter, and sugar filling, baked until the fruit is tender.

FRUIT SALAD

28 This versatile staple is best when freshly made from a colorful, texturally contrasting mix of fruits.

CLOUDBERRY PARFAIT

29 Golden cloudbberries, which grow in the wild in Scandinavia, are prized there for their distinctive flavor and beautiful color. Here, they are combined, usually in sweetened jam form, with an egg-yolk-rich custard, which is then frozen until set.



STICKY TOFFEE PUDDING

30 Put on the British culinary map by Francis Coulson of Sharrow Bay Hotel in the Lake District in the 1970s, this much-loved pudding combines a baked date-based sponge with a sticky, sweet, buttery toffee sauce topping. Despite the notably rich ingredients, it is surprisingly light in texture and dangerously addictive.

TREACLE TART

31 Despite its name, this dish contains golden syrup, not treacle, along with bread crumbs, lemon juice, and zest.

GOOSEBERRY FOOL

32 In this traditional dish, the fruit is cooked to a soft puree and then folded through whipped cream or custard.

PEACH MELBA

33 Auguste Escoffier's tribute to singer Nellie Melba consists of poached peach, ice cream, and raspberry puree.

QUEEN OF PUDDINGS

34 This delightful pudding consists of a baked bread custard, spread with jam, and topped with meringue.

SUMMER PUDDING

35 A truly seasonal treat made from stewed summer soft fruits encased in a white bread shell.

ETON MESS

36 Chopped and pureed fresh strawberries, crumbled meringue, and whipped cream mixed together to scrumptious effect.

BREAD & BUTTER PUDDING

38 This is made with generously buttered, sliced bread, sprinkled with raisins, and then baked in an egg custard mixture. Brioche or panettone may also be used.

APPLE CRUMBLE

37 This British family favorite consists of chopped apples covered with butter rubbed into flour, and mixed with sugar and then baked until golden brown.

APPLE TART

39 With its beautifully arranged, concentric circles of glazed, finely cut apple slices, traditionally placed on top of a layer of apple puree, in a crisp-textured, buttery, sweet pie crust, a classic *tarte aux pommes* delights the eye and the palate.



TARTE AU CITRON

40 A French bistro classic that, when well made, is a truly elegant way to round off a meal. The *pâte sablée* shell is prebaked until crisp and then filled with a mixture made simply from lemon juice and zest, sugar, eggs, and heavy cream. The resulting yellow-colored tart is a well-balanced combination of tangy citrus acidity and sweetness.

CRÈME BRÛLÉE

41 Literally translated as "burned cream," this dish consists of a rich custard, made from heavy cream and egg yolks—often flavored with fragrant vanilla—poured into dishes and either chilled or baked until set. Just before serving, a layer of sugar is sprinkled on top and then caramelized. Cracking the thin, crisp caramel layer, and the contrast of textures between it and the soft custard beneath, are key to the dish's appeal.

TARTE TATIN

42 Named for the Tatin sisters who popularized it, this legendary French tart is a wonderful upside-down creation, made by layering sugar-and-butter-fried apple slices under a pastry crust and baking it.

CRÊPE SUZETTE

43 Its origins are disputed, but what's not in doubt is that this pancake dish—cooked in a sweet, buttery, orange-flavored sauce and then classically doused in Grand Marnier and flambéed at the table—is a showy delight.

CHOCOLATE FONDANT

44 One for the chocoholics, this small baked pudding is made from chocolate, eggs, butter, and sugar. When finished and pierced with a spoon, it should ooze a molten chocolate filling. Getting the timing right so as to ensure that soft center is a sure test of the cook's skill and judgment.





CHERRY CLAFOUTIS

45 This seasonal treat is a specialty of the Limousin region. Whole cherries, traditionally the sour morellos that grow in the area, are placed in a shallow earthenware dish. A thick batter is poured over them, and the whole is baked until golden and served warm. There are numerous variations, such as the addition of kirsch or ground almonds to the batter.

FRANCE

APPLE CHARLOTTE

46 This wholesome dish is constructed by lining a mold with buttered bread slices, filling it with a thick apple puree, and then baking it.

CALVADOS SORBET

47 Apples take center stage in this iced concoction made from tart apples cooked with sugar to form a puree, flavored with Calvados (apple brandy), and frozen.

PRUNE & ALMOND TART

48 The humble prune goes chic in this appetizing tart paired wonderfully with an almond-flavored frangipane filling in a crisp, buttery pie shell.

ÎLES FLOTTANTES

49 This evocatively named, subtle-textured dish features small meringues, made from egg whites and sugar, lightly poached so as to retain their shape and then served floating in an egg-yolk-rich custard.

CHOCOLATE ROULADE

51 At once light and rich, this egg-rich creation consists of a delicate-textured chocolate sponge, rolled up over a whipped cream filling.

CHOCOLATE SOUFFLÉ

54 From the French term for "puffed up," this light-textured concoction is made from chocolate, eggs, flour, and sugar, with whisked egg whites carefully folded through so that, when baked, it rises spectacularly.

FRANCE

CHOCOLATE MOUSSE

56 Combining a distinctive, soft texture with a rich, chocolate flavor, this enduringly popular dish is found on French bistro menus and served at dinner parties all over the world. It is made from dark chocolate, melted in a bain-marie and then enriched with butter and egg yolks. Whisked egg whites are mixed into the chocolate mixture to add lightness, with the mixture then chilled until it is served.

PEARS IN RED WINE

57 Whole peeled pears are poached in a red wine syrup, sweetened with sugar or honey, and flavored with ingredients such as a vanilla bean, a cinnamon stick, or lemon zest, until tender. The pears take on a deep crimson color, making for a splendid, eye-catching dish.

CHOCOLATE PITHIVIER

50 Puff pastry cases, filled with a gloriously rich chocolate and *crème pâtissière* mixture, served warm from the oven.

CHOCOLATE POTS

52 These are made with heavy cream, infused with vanilla, mixed with melted chocolate and egg yolks and then poured into little pots and baked in a bain-marie.

COEUR À LA CRÈME

53 This Normandy classic is made from *crème fraîche*, wrapped in cheesecloth and strained in heart-shaped molds and then served with fresh berries.

CRÈME CAMEL

55 A pleasurable contrast in flavors is key to success here—the dark, bitter notes of the liquid caramel cutting through the sweetness of the smooth-textured, soft, baked egg custard.



PROFITEROLES

58 These perennially popular treats are made from light-textured balls of egg-rich, sweet choux pastry, baked until golden brown and risen, then filled with either *crème pâtissière* or whipped cream, and topped with chocolate sauce.

FRANCE

DACQUOISE

59 Chocolate and nuts are a winning flavor combination, brought together to great effect in this layered meringue gâteau, traditionally from the town of Dax in southwestern France.

FRANCE

SOUFFLÉ OMELET

63 This French classic is a sweet, puffy omelet, first baked and then glazed under a broiler, and served warm.

GERMANY

BLACK FOREST CAKE

68 Germany's best-known confection—*Schwarzwälder Kirschtorte*—is a rich and delicious creation made from dark chocolate cake layered with cooked, pitted cherries and whipped cream. Traditionally, the sour morello cherry is essential for an authentic version, not only for the layers of cherries, but also for the sour cherry liquor *kirschwasser*, which adds a gloriously boozy kick. The resulting edifice, piled high and decorated with whole cherries and dark chocolate shavings, is simply awesome.



FRANCE

RUM BABA

60 As the name implies, alcohol—usually rum—plays a part in this well-known French dessert. A small yeast cake, made from an egg-rich batter, is soaked in syrup and rum to decadent effect.

FRANCE

TOURTE DE BLETTES

64 Swiss chard is the surprising ingredient in this simple, sweet tart; sometimes combined with pine nuts.

FRANCE

PEAR FRANGIPANE TART

61 This is an elegant and subtly flavored piece of pâtisserie that combines poached pears with a rich almond mixture, baked together in a pastry case.

FRANCE

ORANGE CARAMEL

65 Once a stalwart of dessert trolleys, a simple, effective combination of flavors is at the heart of this dish. Fresh oranges—with their tangy flavor—are peeled and either left whole or sliced, and coated in a sticky caramel sauce, which should be bitter, so that it contrasts with the sweetness of the fruit.

CENTRAL EUROPE

APPLE STRUDEL

69 A glory of central European baking, this much-loved pastry traces its history back to the seventeenth century. Key to making it correctly is the characteristic strudel pastry, made from high-protein wheat so fine that it is transparent. Sheets of strudel pastry are wrapped around a filling, traditionally made from chopped apple and dried fruit—such as raisins and golden raisins—flavored with aromatic spices (classically cinnamon, nutmeg, and cloves), and fresh bread crumbs. The long roll is bent into a curved shape and baked whole and then served in slices hot or cold.

FRANCE

ORANGE FLAN

70 Fresh orange juice is mixed with whole eggs, yolks, and sugar and then poured into ramekins and gently baked in a bain-marie until set. A dish also popular in Latin America.

FRANCE

PAIN PERDU

62 Slices of stale bread are deliciously transformed by being dipped into a sweetened egg mixture and then fried in butter.

FRANCE

ZWETSCHGENKNÖDEL

67 Whole pitted plums are encased in light-textured dough, poached, and then topped with crumbs to make one of the world's finest sweet dumplings.

FRANCE

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FRANCE

SPEKKOEK

66 This finely layered spice cake—a legacy of the Netherlands' colonization of Indonesia—is highly labor-intensive but rewards the great effort involved.

FRANCE

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TIRAMISU

73 The name means “pull me up,” a reference to the strong coffee and alcohol with which this is liberally laced. It is basically a decadent mixture of *savoardi* cookies, dipped in alcohol-laced coffee, and layered with whipped, sweetened mascarpone enriched with egg yolks. It is thought to have originated in the Veneto region in the 1960s.

PANNA COTTA

51 This is a smooth-textured, Piedmontese dairy concoction. Heavy cream is gently heated and mixed with gelatine, poured into molds, and then chilled until set. Popular flavorings include vanilla or several types of alcohol, especially rum. Such is the recipe’s popularity and versatility that there are, however, numerous possible variations, ranging from buttermilk to green tea. Often fresh fruit, such as raspberries, is served as an accompaniment. The best versions of panna cotta have a lovely wobbliness to them.

OM ALI

54 Egypt’s favorite pudding is made from phyllo pastry, nuts, and raisins; baked; and then drenched in hot sweetened milk and served warm.

GELATO AFFOGATO

74 Take a scoop of good-quality vanilla ice cream. Pour over it a shot of freshly made espresso coffee. Result: an exquisite synthesis of the hot and the bitter with the sweet and frozen.

LEMON SORBET

76 This palate-cleansing water ice—with a tangy, citrus flavor and smooth, fine-grained texture—is made from a sweet syrup, intensely flavored with lemon juice and zest, which is frozen and churned.

ZABAIONE

76 Ethereal in texture yet rich in flavor, this famous seventeenth-century dessert, created in a courtly kitchen, consists of Marsala, sweet white wine, egg yolks, and sugar, transformed into a warm, tipsy foam.



MELKERT

05 This custard tart has a filling made from milk (sometimes condensed milk), sweetened and thickened with flour or cornstarch, and flavored with cinnamon.

COFFEE GRANITA

75 Wonderfully refreshing, this consists of strong dark coffee, frozen and finely crushed, sometimes topped with whipped cream.

MONTE BIANCO

77 This seasonal treat is a “mountain” of cooked, sweetened chestnut puree passed through a food mill and topped with snowy-white whipped cream.

TORTA DELLA NONNA

78 “Granny’s tart” is a sweet pie shell filled with a lemon-flavored cream and usually topped with a scattering of pine nuts and slivered almonds.

CROSTATA DI MARMELLATA

80 Pasta *frolla*—a lemon-flavored, egg-rich sweet pastry—is here combined with jam (often apricot) to make a distinctive-looking latticed tart.

BLINTZ

02 A sweet blintz is a pancake filled with a mixture of sweetened curd cheese and raisins or currants, baked, and served warm.

BAKLAVA

03 First mentioned in the second century CE, baklava is a concoction of buttery phyllo pastry, layered with finely chopped nuts, baked until golden, and drenched in honey.

KONAFI WITH CHEESE

06 A subtle and delicious combination of textures, this consists of soft cheese, shredded and sandwiched between two layers of semolina pastry, served with a rose-and-orange-flower-scented syrup.

MIDDLE EAST

IRANIAN ICE CREAM

87 Rosewater, saffron, and salep combine to give a distinctive flavor and texture.

LEBANON

MOUHALABIEH

88 This delicate creation is made from milk thickened with cornstarch, combined with sugar and soaked nuts, and scented with rose- and orange blossom water.

INDIA

GULAB JAMUN

89 These are small dumplings, fried until golden brown, and then soaked in a rose-flavored syrup.

JAPAN

GREEN TEA ICE CREAM

96 Matcha (finely ground green tea) gives this sophisticated and elegant Japanese ice cream both its particular verdant color and its bitter taste, the latter contrasting pleasurably with the smooth, dairy-rich texture.

INDONESIA

SAGO GULA MELAKA

98 This is a combination of molded, slippery tapioca pearls served in pandan-flavored coconut milk with palm sugar syrup.

THAILAND

STICKY RICE WITH MANGO

97 When well made, this traditional Thai dish, composed of a handful of local ingredients, is a true delight. Sticky rice is cooked in coconut milk, often with a pandan leaf for flavor and color, until it takes on a subtle nuttiness and creamy richness to go with the tackiness for which it is named. The molded coconut rice is then served at room temperature with sliced fresh mango as an accompaniment.



RAS MALAI

90 Milk and sugar are at the heart of this luxurious Indian dish. Its making is an intricate and time-consuming process. *Chenna*, a soft cheese, is shaped into little balls, which are simmered in a syrup until they puff up. These delicate dumplings are served in a creamy-textured sauce, made by reducing milk, and decorated with pistachios and almonds.

INDIA

ALMOND BEAN CURD

92 Despite its tofu-like appearance, this popular, smooth-textured pudding is not normally made from soybeans but from ground almonds, set with agar-agar (a seaweed-derived setting agent). Nowadays, it is often made from milk, flavored with almond extract, and served cut into cubes with tinned fruit salad.

MANGO PUDDING

93 Mango pulp and diced mango are mixed with sugar, milk, and a setting agent such as agar-agar. The mixture is poured into molds and allowed to set, creating dainty yellow-orange-colored puddings with a yielding texture.

TOFFEE BANANAS

94 Deep-fried, crisp, battered banana fritters are coated with a sticky caramel sauce and sprinkled with sesame seeds to make a popular Chinese delight.

RED BEAN PASTE PANCAKES

95 Dainty pancakes are filled with sweetened adzuki bean paste, deep-fried until golden, and served hot.



ICE KACHANG

99 This is a splendid tropical concoction of shaved ice, red beans, sweet corn, palm seeds, and rose syrup, topped with condensed milk.

PAVLOVA

100 Named after the famous Russian ballerina, the origins of this famous meringue creation are disputed, with both Australia and New Zealand claiming it as their own. What is certain, however, is that it now enjoys enormous popularity in many countries. An eye-catching combination of a meringue base, topped with whipped cream piled with assorted fresh fruits such as strawberries, passion fruit, and kiwis, Pavlova offers a delectable mixture of textures and flavors.



MONTREAL, CANADA

JOE BEEF

1 Set up by chef-owners David McMillan and Frédéric Morin, this restaurant has achieved international cult status. Informed by a democratic ethos, with the atmosphere informal and the approach humorous—the Foie Gras Double Down is a luxurious take on KFC—the food here delivers amply and in style.

TRAVELER'S PICK

CANLIS

2 Seattle's fine-dining establishment is noted for its contemporary northwest cuisine, defined by the restaurant itself as "comfort geek." Diners can feast on luxurious dishes such as Wagyu steak tartare and Muscovy duck, enjoying both the attentive service and the views of Lake Union.

TRAVELER'S PICK

WILLOWS INN

3 As befits its remote, idyllic location, the highly acclaimed Willows Inn draws inspiration from foraged, fished, and farmed food for its seasonal menu. This is true seed-to-table dining, executed with style yet in pleasingly informal surroundings.

MONTREAL, CANADA

THE FRENCH LAUNDRY

4 Showcasing the talents of legendary chef Thomas Keller, this Napa Valley institution has an international reputation and a devoted following. Diners enjoy elegant tasting menus that change daily and include refined French-style cuisine, made using impeccably sourced ingredients.

MONTREAL, CANADA

CHEZ PANISSE

5 Opened in 1971, Alice Waters's influential restaurant championed seasonal, locally grown, sustainably sourced food long before the current trend. This truly is ingredients-led cuisine, with a menu that changes daily and offers diners the pleasures of sun-ripened heritage tomatoes, foraged wild mushrooms, and tender Monterey Bay squid.

100 RESTAURANTS

SAN FRANCISCO, USA

COI

6 Informed by a rigorous attachment to the seasonal, this North Beach restaurant showcases locally sourced and foraged food, transformed by the kitchen into imaginative, intelligent, and thoroughly contemporary cuisine. The frequently changing tasting menu features ingredients that range from the everyday—carrots and beets—to the rare and unusual, such as geoduck, matsutake, and pine needles, presented with style. The restaurant's name means "tranquil," and the minimalist surroundings offer a wonderful setting in which to savor a taste of California.

SAN FRANCISCO, USA

ZUNI CAFÉ

7 This much-loved culinary institution is informal in style but noted for its food. Although the menu changes daily, the brick-oven-roasted whole chicken is a perennial classic. The late Judy Rodgers was chef and co-owner here and her culinary values continue to inform the restaurant's approach.

LOS ANGELES, USA

LUCQUES

10 Acclaimed chef Suzanne Goin's restaurant is at once both sophisticated and mellow. Diners feast on impeccably sourced produce transformed into Californian-Mediterranean comfort food.

CUT

11 Superstar chef Wolfgang Puck elevates the steak house to luxurious heights, pulling in a glamorous clientele. Conspicuous culinary consumption is the name of the game here, with eye-watering prices to match. Steak, served every which way, is the star of the show.

SAN FRANCISCO, USA

GARY DANKO

8 Showcasing the talents of the well-known, much-garlanded chef Gary Danko, this eponymous restaurant is a perennial favorite. It offers a winning combination of fine dining—think caviar followed by roast Maine lobster—and excellent service.

SAN FRANCISCO, USA

SLANTED DOOR

9 Truly tasty, contemporary Vietnamese food from chef-patron Charles Phan is served in a stylish waterfront Embarcadero location.

MONTREAL, CANADA

ALINEA

12 Food to astound you is on the menu at chef Grant Achatz's innovative restaurant. His imagination in the kitchen, combined with his formidable techniques, mean that diners are amazed by wittily creative dishes such as a dehydrated apple balloon. The culinary pyrotechnics are complemented by the stylish setting.

NEW YORK CITY, USA

TOPOLOBAMPO

13 Chef Rick Bayless's restaurant offers vibrant, creative Mexican cuisine, interpreted with flair. Much thought goes into the menu here, and it shows.

NEW YORK CITY, USA

BLUE HILL AT STONE BARN

14 An idyllic, rural location offers the perfect setting in which to enjoy an accomplished, stylish taste of locally sourced from field-to-plate cuisine.

NEW YORK CITY, USA

LE BERNARDIN

15 Ever since it opened in 1986 this French seafood restaurant has been greeted with enthusiasm by New Yorkers. Head chef Eric Ripert is noted for his delicate, aesthetic way with the carefully sourced, impeccably fresh fish and seafood; his philosophy is evident in the way the dishes are categorized under headings such as "almost raw" or "barely touched."

NEW YORK CITY, USA

THE FOUR SEASONS RESTAURANT

10 This legendary culinary institution opened in 1959 and introduced the concept of a seasonal menu to the United States. It was highly praised for its impeccable table service and opulent decor. Today, the restaurant offers a spectacularly polished fine-dining experience and is known as the perfect place for power lunches.

NEW YORK CITY, USA



NEW YORK CITY, USA

JEAN-GEORGES

16 This sophisticated establishment, located in Manhattan, is the jewel in chef Jean-Georges Vongerichten's restaurant empire. Having redefined the concept of fine dining in the United States when it first opened, it has gathered numerous culinary awards and plaudits from restaurant critics and guides alike. Key to its continuing success is Vongerichten's culinary talent and his ability to create brilliant, memorable dishes, which keep a loyal and knowledgeable clientele returning for more. The superb food is matched by an iconic setting, with diners enjoying wonderful views over Central Park as they feast.

NEW YORK CITY, USA

NOBU

17 This is the flagship restaurant of innovative celebrity chef Nobu Matsuhisa, who has opened restaurants around the globe in partnership with Hollywood star Robert De Niro. Here, at this smooth-running establishment, diners can sample Matsuhisa's trademark: elegantly presented, contemporary, fusion Japanese-Peruvian cuisine, including his signature dish of black cod with miso.

NEW YORK CITY, USA

MOMOFUKU NOODLE BAR

19 South Korean-American chef David Chang's informal, trendsetting establishment is celebrated for its witty, truly tasty food. The noodle bar was the first Momofuku restaurant, and diners return time and again for masterly versions of fried chicken, filled buns, and ramen.

NEW YORK CITY, USA

ELEVEN MADISON PARK

20 This much-lauded, trendsetting restaurant showcases the skills and talents of its co-owners: acclaimed chef Daniel Humm and restaurateur Will Guidara. Here, fine dining has been given a contemporary and very American makeover in order to offer a relaxed eating-out experience and food that features luxurious ingredients, treated with innovative creativity. The tasting menu consists of a series of thrilling and witty dishes, such as the freshly ground carrot tartare.



NEW YORK CITY, USA

DANIEL

21 Chef-owner Daniel Boulud serves up a luxurious taste of French cuisine. A loyal clientele returns for the accomplished food, elegant setting, and professional service.

NEW YORK CITY, USA

PER SE

22 The simple yet elegant surroundings mirror acclaimed chef Thomas Keller's approach to his cooking, showcased in an accomplished menu.

NEW YORK CITY, USA

WOODBERRY KITCHEN

23 Championing Chesapeake's growers, this restaurant offers locally sourced, seasonal ingredients transformed into great food by the savvy kitchen.

CHARLESTON, USA

HUSK

24 Chef Sean Brock celebrates the cuisine of the American South to gloriously tasty effect, drawing on the rich culinary heritage with intelligent panache.

ZUMA

25 Chef Rainer Becker's modish, contemporary, Japanese cuisine (inspired by the *izakaya*) has proved a hit around the world. With striking surroundings, this is a glamorous spot in which to dine and be seen.

MEXICO CITY, MEXICO

PUJOL

26 Enrique Olvera weaves Mexico's rich gastronomic traditions with contemporary technique to produce results that are at once witty and delightful.

LIMA, PERU

ASTRID Y GASTÓN

28 Chef Gastón Acurio offers an ambitious culinary exploration of Peru, inspired by its varied landscape and fascinating culture.

MILWAUKEE, WISCONSIN

1884 RESTAURANT FRANCIS MALLMANN

29 This establishment offers a menu inspired by Andean, Incan, and European heritage.

BUEENOS AIRES, ARGENTINA

LA BRIGADA

30 A carnivore's delight, this classic Argentinian *parrilla* (steak house) is noted for the quality of its meat, cooked to perfection on a magnificent grill. Such is its reputation that it is perpetually full to capacity.



BOCA RATON, FLORIDA

D.O.M.

27 Internationally acclaimed, this restaurant showcases the talents of charismatic Brazilian chef Alex Atala. Inspired by the rich heritage of Brazil's indigenous ingredients, Atala has brought wild foods such as the Amazon's pirarucu fish to his table, presenting these traditional foods with flair and creativity. His passion has seen him create a network of contacts with Amazon tribes and small-scale food producers. Eating here is a true voyage of discovery.



STOCKHOLM, SWEDEN

FÄVIKEN

31 Despite the remote location, there is no shortage of diners making their way to this small, austere restaurant to sample head chef Magnus Nilsson's innovative Nordic cuisine. His culinary philosophy is deeply rooted in the Swedish landscape and the seasons, with the abundance of summer and fall harvested and preserved for the winter. Visitors to Fäviken are expected to stay the night.

STOCKHOLM, SWEDEN

EKSTEDT

32 Chef Niklas Ekstedt's commitment to cooking with fire—as witnessed by his use of a fire pit, woodstove, and wood-fired oven—is at the heart of his acclaimed and distinctive restaurant.

DANIEL BERLIN KROG

33 Berlin's inspiration for his food comes from the landscape around him, with locally sourced ingredients transformed into exciting, inventive dishes.

COPENHAGEN, DENMARK

NOMA

34 Chef René Redzepi's acclaimed establishment, which he cofounded with Claus Meyer, offers a unique and visionary expression of Nordic cuisine. Despite being garlanded with numerous culinary accolades, the restaurant itself is small and modest, located in a former warehouse with pared-down decor. The tasting menu offers a chance to sample the kitchen's imagination and creativity, with humble, often foraged ingredients transformed into a memorable eating experience that lingers long after the meal has ended.

BALLYMALOE HOUSE

35 This friendly restaurant reflects chef-owner Darina Allen's warm personality.

THE KITCHIN

36 Modern British seasonal cuisine draws on Scotland's fine-quality ingredients at this waterfront restaurant.

L'ENCLUME

37 Drawing inspiration from the beautiful natural landscape that surrounds his intimate restaurant, tucked away in a picturesque Lake District village, acclaimed chef Simon Rogan has created a very special place. Such is his commitment to sourcing top-quality farm-to-plate ingredients that he has his own farm nearby. This ensures that even the simplest food—such as a carrot—delights with its flavor on the plate. Rogan's well-presented food rewards both the eye and the palate. Diners are delighted with a series of technically brilliant dishes that offer a true taste of the season: exquisite food that is a true expression of the chef's culinary imagination.



SAT BAINS

38 Despite the unlikely industrial estate location, the allure of the chef-patron's cooking has ensured that this establishment has acquired cult status among foodies. Sat Bains's intelligent cooking impresses with its brilliance: both technically skillful and imaginative in equal measure.

LE MANOIR AUX QUAT'SAISONS

39 The combination of an idyllic, country-house setting; delightful garden; elegant, refined French food; and attentive service works its charm at this popular establishment, masterminded by French chef Raymond Blanc.

THE HAND AND FLOWERS

40 Billing itself as a "pub serving award-winning food," this much-lauded establishment run by Tom Kerridge offers a hospitable dining experience that showcases his approach to cooking to great effect.

KOFFMANN'S, THE BERKELEY

41 Chef Pierre Koffmann works his culinary magic, offering a taste of southwestern French cuisine in Knightsbridge.

POLLEN STREET SOCIAL

42 Informal yet elegant, Jason Atherton's establishment lives up to the word "social" with its convivial atmosphere. It is a great place in which to enjoy his sophisticated cooking, characterized by its deftness and wit.

GORDON RAMSAY

43 The much-lauded flagship of the charismatic chef's restaurant empire is located in a Chelsea town house. Chef Clare Smyth's accomplished, elegant, contemporary French food is the star of the show.



LE GAVROCHE

44 A venerated and much-loved culinary institution, Le Gavroche was founded in 1967 by the acclaimed chefs the Roux brothers, with Michel Roux Jr., son of Albert Roux, now the chef-patron. Ever since the restaurant opened, it has been known for its fine French cuisine and impeccable service. Loyal customers return to enjoy a thoroughly civilized, cossetting dining experience.

THE RIVER CAFÉ

45 Founded by the late Rose Gray and Ruth Rogers, this iconic restaurant has championed Italian food since 1987. Superb seasonal ingredients, treated with respect and skill by the knowledgeable kitchen, are at the heart of a menu that changes every day.

LONDON, UK

ST. JOHN

46 Nose-to-tail eating, delivered with uncompromising simplicity—exemplified by the roasted bone marrow on toast with parsley salad—is the hallmark of chef Fergus Henderson's seminal British eating establishment.

LONDON, UK

THE SQUARE

47 A stylish dining experience is on offer at chef Philip Howard's Mayfair establishment. Howard is renowned for his formidable culinary technique and perfectionism in the kitchen.

FREE, VA

THE FAT DUCK

53 Acclaimed chef Heston Blumenthal made culinary history in Britain as a pioneer of molecular gastronomy. Unpretentiously housed in what was a 450-year-old pub, the restaurant offers a pleasantly intimate atmosphere in which to enjoy Blumenthal's stunningly imaginative and inventive cooking. The tasting menu is created from months of research and experimentation, characterized by the use of food science and cutting-edge technology. In addition to the geek element, Blumenthal is aware of the emotional charge food brings.



LONDON, UK

MARCUS

48 Housed within The Berkeley Hotel, this showcases the culinary skills of Marcus Wareing. On offer is a contemporary, fine-dining experience, in terms of the food and the emphasis on service.

LONDON, UK

RULES

51 Established in 1789, London's oldest restaurant is still going strong. Expect traditional British food, including impeccably cooked game, pies, and hearty puddings.

LONDON, UK

GIDLEIGH PARK

54 Respected chef Michael Wignall's superlative cooking is on offer here in splendid country-park hotel surroundings.

WIMBORNE, UK

L'ARPEGE

56 Renowned chef-patron Alain Passard has put this restaurant on the culinary map with his fine, creative cooking, noted for its delicacy of touch. Famously, Passard pioneered a veg-centric menu long before its current fashionability, removing red meat from his menu in 2001. Signature dishes, such as hot and cold egg with maple syrup, demonstrate his formidable culinary techniques. The vegetables that star on his menu are grown in Passard's own biodynamic gardens in France.

LONDON, UK

THE LEDBURY

49 Such is the quality of Brett Graham's intelligent, refined cooking that this intimate Notting Hill restaurant has garnered many plaudits.

FREE, VA

THE WATERSIDE INN

52 Picturesquely situated, this restaurant—founded by the Roux brothers—is a well-respected culinary institution. Chef-patron Alain Roux maintains high standards, offering classic French haute cuisine.

WIMBORNE, UK

THE SPORTSMAN

55 A previously run-down pub in a remote location has been transformed by chef-patron Stephen Harris into a must-visit culinary destination, with Harris transforming locally sourced, often humble, ingredients into brilliant, exciting dishes that thrill diners.



LE CHATEAUBRIAND

57 Inaki Aizpitarte has breathed new life into the Parisian brasserie model, and his no-frills establishment has become a cult dining destination for serious food lovers. Would-be diners line up patiently for the chance at a table at the "no reservations" second sitting, with the lure being Aizpitarte's adventurous, intellectually creative cookery.



PIERRE GAGNAIRE

58 This eponymous Paris establishment offers diners a chance to enjoy trendsetting haute cuisine in luxurious surroundings. Don't expect the classics, because Gagnaire is renowned for his culinary imagination and gastronomic showmanship.

L'ASTRANCE

59 Chef Pascal Barbot's culinary artistry is on dazzling display here, with diners offered a surprise menu, created by Barbot, at each sitting. Dishes such as *tarte au foie gras*, *champignons* (mushroom) et *agrumes* (citrus) demonstrate his flair for combining ingredients.

HÉLÈNE DARROZE

60 This intimate restaurant on the Left Bank expresses Hélène Darroze's hospitable nature and feel for food, rooted in her native southwest France.

L'ATELIER DE JOËL ROBUCHON

61 The theater and craft of fine cooking is displayed wonderfully at Joël Robuchon's intimate restaurant in Saint-Germain.

GUY SAVOY

62 Appealing haute cuisine from a chef who is admired for his commitment to terroir and ability to create classic yet contemporary food.

L'AUBERGE DE L'ILL

63 Run with skill and commitment by the Haebler family, this restaurant has built up a loyal clientele, who return for the superb French food and welcoming service.

L'AUBERGE DU PONT DE COLLONGES

64 Such is Paul Bocuse's reputation that this establishment attracts gourmands from around the world. Menus range from bourgeois to classic, with a black truffle soup created for President Valéry Giscard d'Estaing among the signature dishes.

MAISON PIC

65 Anne-Sophie Pic is the fourth generation of her family to be executive chef at this establishment, and her heritage provides a source of inspiration. Her refined cooking, which has been recognized by numerous culinary plaudits, delights diners with its subtle elegance.



LE SUQUET

66 Strikingly housed and located, this sleek, contemporary restaurant looks out over the landscape that inspires chef Sébastien Bras's cooking, which is deeply rooted in the local terroir. Eating here is a special experience.



MIRAZUR

67 Charismatic chef Mauro Colagreco has established his culinary reputation in an idyllic location, with stunning views over the Mediterranean, near the French-Italian border. His obsession with high-quality ingredients ensures cooking that impresses diners with its depth of flavor. The menu is fluid—sometimes Colagreco will devise a dish for a service, a day, or a week.

HOUSTON, TEXAS

LE LOUIS XV

68 Expect a glorious taste of elegance at Alain Ducasse's establishment. This is haute-cuisine dining in the grand style, from the opulent surroundings, evoking the palace at Versailles, to the menu of sophisticated Mediterranean dishes.

AMSTERDAM, NETHERLANDS

DE LINDENHOF

69 De Lindenhof offers a true taste of Dutch hospitality from chef Martin Kruihof and his wife, Marjan de Jonge, in picturesque farmhouse surroundings.

KÖLN, GERMANY

VENDÔME

70 A champion of "new German cuisine," Joachim Wissler offers distinctive cooking within the grandeur of the Schloss Bensberg.

AMSTERDAM, NETHERLANDS

AQUA

71 In the unlikely setting of Autostadt, a motoring theme park, this striking three-star Michelin restaurant offers a serene and luxurious dining experience. Chef Sven Elverfeld expresses his culinary creativity in style, bringing formidable technical skill to dishes.

SCHEFFERS, GERMANY

SCHWARZWALDSTUBE

72 In the heart of the Black Forest, this iconic German institution continues to impress. Distinguished chef Harald Wohlfahrt, a major figure in German haute cuisine, is the culinary maestro here. Fine ingredients, treated with respect and expertise by the kitchen, make for a high-quality dining experience.

HOUSTON, TEXAS

ARZAK

73 A deep-rooted pride in Basque cuisine informs the menu at this establishment, run with warmth and commitment by the father-and-daughter team of Juan Mari Arzak and Elena Arzak, both renowned chefs. Cooking here is creative, personal, and thoroughly contemporary, drawing on modernist culinary techniques to create superb food in a daily-changing menu that delights, intrigues, and stimulates.



HOUSTON, TEXAS

MUGARITZ

74 Adventurous, witty, innovative food is the name of the game at this thrilling restaurant. The considerable talents of Andoni Luis Aduriz ensure that eating here is an experience that will not be forgotten. The menu features wonderfully sophisticated, technically impressive dishes that are designed to trick the diner, playing with their preconceptions.

HOUSTON, TEXAS

ELKANO

75 This establishment, located in a tiny fishing village, is renowned for its superb grilled fish. And with good reason. Here, the finest, freshest fish and seafood is cooked to perfection with skill and care. Whole grilled turbot is the signature dish.

GIRONA, SPAIN

EL CELLER DE CAN ROCA

76 The brothers Roca have created a gastronomic institution that is famed around the world. Wonderfully, however, their Girona restaurant retains a genuine sense of hospitality: a family-run business nurturing customers and staff alike. The menu offers an imaginative, intelligent taste of Catalonia, with dishes that draw on innovative culinary techniques and also celebrate their gastronomic roots.

HOUSTON, TEXAS

TICKETS

77 There is a great buzz about Albert Adrià's tapas bar, where diners enjoy playful, inventive dishes from the legendary elBulli menu, now on offer here.

HOUSTON, TEXAS

VILA JOYA

78 Eating here is as enjoyable as its name suggests. Executive chef Dieter Koschina skillfully uses Portuguese produce to create truly elegant haute cuisine in a pleasurable beach resort.

DAL PESCATORE SANTINI

Despite its remote location in an Italian nature reserve, this family-run establishment is a must for food lovers. Here, in elegant country house surroundings, diners are treated to acclaimed chef Nadia Santini's superb cooking, which offers a fresh, stylish, and contemporary take on Italian cuisine while respecting its great traditions. Look out for beautifully executed signature dishes such as pumpkin tortelli or herb omelet. Adding to the charm of the whole experience is the hospitable welcome offered by the Santini family and their staff.



OSTERIA FRANCESCA

The ebullient personality of chef and gourmet showman Massimo Bottura informs the entire dining experience at this much-lauded Modena restaurant. Menus here are ambitious in concept—for example, a gastronomic journey through Italy's regional cuisine—and delivered with flair and panache by a kitchen that is well versed in modern culinary techniques yet also capable of sending out wonderful classic dishes such as an impeccable *tagliatelle al ragù*. Bottura is renowned for his imaginative and innovative approach to cooking, and there is an appealing wit and playfulness to his food.



LA PERGOLA

Heinz Beck serves up a gastronomic taste of la dolce vita, such as his trademark pasta dish *fagottelli carbonara*.

DON ALFONSO 1890

Wonderful southern Italian food, rooted in the landscape, is hospitably served in magnificent historic surroundings. The cooking philosophy is innovative but based on tradition.

MR. & MRS. BUND

In the vibrant heart of Shanghai, chef-patron Paul Pairet serves up a contemporary taste of French-inspired food.

KOMURO

An exquisite insight into the intricacies of Japan's kaiseki cuisine is on offer in this intimate establishment. Diners are able to watch Mitsuhiro Komuro at work as he sends out a beautifully structured tasting menu.

VARVARY

An intriguing taste of contemporary Russian cuisine, fusing local ingredients and molecular gastronomy techniques, from geophysicist-turned-chef Anatoly Komm—the only Russian chef to receive a Michelin star.

THE TASTING ROOM AT LE QUARTIER FRANÇAIS

This iconic restaurant showcases executive chef Margot Janse's creative tasting menu, inspired by the continent of Africa. Diners in relaxed, intimate surroundings feast on a succession of dishes featuring local ingredients.

ULTRAVIOLET

For a truly avant-garde, fully immersive dining experience, look no further. Acclaimed chef Paul Pairet breaks the rules and draws on multisensorial technologies to stunning effect.

JUNG SIK DANG

Breaking the mold of traditional Korean cookery, talented chef Jung Sik Yim fuses Korean and Western cuisines and serves it in an ultramodern way.

KITCHO ARASHIYAMA

This institution is noted internationally for its beautifully presented kaiseki cuisine. Eating here is a leisurely and civilized affair, with diners offered a carefully choreographed sequence of dishes presented on antique tableware, each one expressive of the season.

KOBE, JAPAN

ARAGAWA

90 Diners feast on luxurious dishes such as Sanda beefsteak from purebred Tajima cattle, seasoned solely with salt and pepper and grilled to perfection over hardwood charcoal.

BANGKOK, THAILAND

NAHM

91 Reflecting Australian chef David Thompson's deep love for, and knowledge of, classic Thai cuisine, the menu showcases the riches of Thai cooking.

PHILADELPHIA

ANDRE

92 Known for his "octaphilosophy" menu, chef-patron Andre Chiang uses his cooking to explore concepts such as purity, terroir, and memory. Diners are taken on a thoroughly rewarding, culinary journey.

SINGAPORE

IGGY'S

93 In Singapore, a city-state noted for the quality of its dining, restaurateur Ignatius Chan has achieved a cult following for his intimate, stylish restaurant. Its trademark fusion Europe-meets-Asia cuisine combines luxurious ingredients with flair.

SYDNEY, AUSTRALIA

MARQUE

94 An impressive taste of Australian haute cuisine is on offer here at chef-patron Mark Best's acclaimed Sydney establishment. Best spent several years abroad working in restaurants in France and Britain, during which time he acquired his considerable kitchen techniques. The menu focuses on expressing the possibilities of each ingredient, and the chef is unafraid of using technology to achieve this. He is noted for his bold and original flavor combinations, such as a dish of squab with abalone and chocolate, or beet and foie gras macarons. Best's culinary creations are intelligent and thought-provoking, and eating in this sophisticated establishment is consistently an experience that is at once both fascinating and enjoyable.



SYDNEY, AUSTRALIA

EST.

95 A pioneer of modern Australian cuisine, Peter Doyle serves refined, contemporary dishes that use prime Australian ingredients. The surroundings are elegant and appealing.

SYDNEY, AUSTRALIA

QUAY

96 Diners here enjoy stunning Sydney Harbour views, and chef Peter Gilmore creates contemporary Australian food that lives up to the memorable surroundings. Fine-quality ingredients, from mud crab to Flinders Island saltgrass lamb, are transformed into delightful dishes.

SYDNEY, AUSTRALIA

TETSUYA'S

97 Tetsuya Wakuda's restaurant is a civilized affair, complete with an aesthetic Japanese garden. Drawing on both classical Japanese and French cuisines for inspiration, the kitchen offers a stylish degustation menu.

SYDNEY, AUSTRALIA

ROCKPOOL

98 Neil Perry's flagship restaurant offers fine Australian cuisine in such thrilling style that it has achieved an international reputation. The distinctly grown-up decor mirrors the sophisticated food, which draws to great effect on Asian flavors. These are showcased most effectively within the multicourse dinner menu.

MELBOURNE, AUSTRALIA

CUMULUS INC.

99 Informal yet stylish, this contemporary "eating house" offers an intelligent menu that showcases the wonderful ingredients that Australia has on its doorstep.

HAU KONG, NEW ZEALAND

HERZOG

100 Visitors to this vineyard restaurant are offered the chance to savor not only fine wines but also accomplished, elegant food that makes the most of New Zealand's excellent produce: truly a taste of terroir.

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Andy Murray wins
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Arsenal wins league in
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Australia beats USA in
America's Cup **798**
Babe Ruth hits 60 home
runs in a season **795**
Banks saves shot
from Pelé **797**
Barbarians' try against
New Zealand **797**
Ben Johnson's 100m
Olympic gold **799**
Bill Mazerowski hits over
the fence to win the
World Series **796**
Billie Jean King beats
Bobby Riggs **797**
"Black Power" salutes **797**
Bob Beamon's long jump **797**
Bob Champion wins
National **798**
Bradley Wiggins wins Tour
& Olympics **803**
Bradman scores 334 at
Headingley **795**
Brian Lara 400 not out **802**
Buster Douglas beats
Mike Tyson **800**
Cadel Evans wins Tour & gives
French speech **803**
Cal Ripken's consecutive
game run **801**
Catch, The **798**
Celtic wins European Cup **796**
Derek Redmond finishes with
his father's help **800**

Duran tells Leonard
"No Mas" **798**
Earnhardt wins Daytona
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Eric Liddell wins 400m **795**
Federer's 23rd consecutive
Grand Slam semi **803**
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Frankie Dettori wins seven
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Gary Sobers hits six sixes **796**
Geoff Hurst's hat trick **796**
Germany 1, England 5 **802**
Gertrude Ederle
swims Channel **795**
Goalie scores last-minute goal
to save team **802**
Greg Lemond wins Tour De
France by eight seconds **800**
Henry Cooper floors Ali **796**
Hillary & Tenzing
scale Everest **796**
Ian Thorpe's air
guitar celebration **802**
Immaculate
Reception, The **797**
Jamaica competes at the
Winter Olympics **799**
Javier Sotomayor clears
8 feet **800**
Jeffries v. Johnson: Fight of
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Jesse Owens wins
four golds **795**
Joe Carter's winning
home run **800**
Joe Louis beats Schmeling **795**
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Johnny Vander Meer throws
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Mize chips in from 140
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Muhammed Ali lights
Olympic flame **801**
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perfect score **798**
Nancy Kerrigan wins
silver despite attack **800**
Nelson Mandela wears South
Africa rugby shirt **801**
Nicklaus wins Masters **799**
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by 31 lengths **797**
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Airbreath 36 Bon Accord 0 **813**
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Brazil 1 Germany 7 **821**

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 Old Potrero **892**
 Old Pulteney 17-Year-Old **898**
 Overeem Port Cask Matured
 Cask Strength **899**
 Pappy Van Winkle's Family
 Reserve 15-Year-Old **892**
 Paul John Single
 Cask Peated **898**
 Penderyn Portwood **898**
 Powers John's Lane **893**
 Redbreast 12-Year-Old
 Cask Strength **893**
 Rittenhouse 100 Proof **892**
 Rosebank 12-Year-Old
 Flora & Fauna **898**
 Sazerac Rye 18-Year-Old **892**
 Springbank 25-Year-Old **898**
 St. George's Chapter **7 898**
 Sullivan's Cove French
 Oak **899**
 Tacktsuru Pure Malt
 17-Year-Old **899**
 Talisker 18-Year-Old **898**
 Teeling **893**
 Three Ships Ten-Year-Old **898**
 Tyrconnell Ten-Year-Old
 Madeira Finish **893**
 Wild Turkey 101 **892**
 William Lerue Wetter **892**
 Wiser's Legacy **891**

Woodford Reserve **891**
 Writer's Tears **893**
 Yamazaki 18-Year-Old **899**
 Yoichi 20-Year-Old **899**

100 BEERS

8 Wired Hopwired IPA 7.3% **905**
 Abbey des Rocs Blanche des
 Honnelles 6% **905**
 Aecht Schlenkerla
 Rauchbier 5.2% **902**
 Alaskan Smoked
 Porter 6.5% **906**
 Alchemist Heady
 Topper 8% **901**
 Anchor Old Foghorn 8.8% **901**
 Anchor Steam 4.9% **901**
 Augustiner Lagerbier
 Hel 5.2% **904**
 Ayinger Celebrator 6.7% **907**
 Beavertown Black
 Betty 7.4% **906**
 Birrificio Italiano
 Tipopils 5.2% **904**
 Birrificio Lambrate
 Ghisa 5% **909**
 Birrificio le Baladin
 Xyauyù 14% **909**
 Blue Moon 5.4% **905**
 Boon Oude Geuze Mariage
 Parfait 8% **909**
 Boulevard Tank 7 8.5% **903**
 Brasserie de la Senne Taras
 Boulba 4.5% **904**
 Brewdog Punk IPA 5.6% **903**
 Brewdog Tokyo 16.5% **908**
 Brewlist Spaceman 7% **904**
 Brooklyn Lager 5.2% **901**
 Brouwerij der Abdij Van
 St Sixtus Westvleteren
 Abt 12° 10.2% **902**
 Budweiser Budvar 5% **905**
 Burning Sky Saison à la
 Provision 6.5% **904**
 Camden Town Brewery Hells
 Lager 4.6% **903**
 Cantillon Gueuze 100%
 Lambic Bio 5% **909**
 Cantillon Iris 5.5% **909**
 Cantillon Rosé de
 Gambrinus 5% **909**
 Château d'Ychouffe 6% **909**
 Colorado Itasca Imperial
 Stout 10.5% **906**
 Coopers Sparkling
 Ale 5.8% **905**
 Cuvee de Tomme 11% **907**
 Dark Star Espresso 4.2% **908**
 De Molen Hemel &
 Aarde 9.5% **907**
 De Struise Pannepot 10% **907**
 Dogfish Head 90 Minute
 Imperial IPA 9% **903**
 Dogfish Head Palo Santo
 Marron 12% **907**
 Duchesse De
 Bourgogne 6.2% **909**
 Duvel 8.5% **904**
 Eggenberg Samichlaus
 Classic 14% **903**
 Feral Hog Hog 5.8% **905**
 Finlandia Sahl
 Strong 10% **908**
 Fuller's Brewer's
 Reserve 8.5% **908**
 Fuller's ESB 5.5% **901**
 Fuller's Vintage Ale 8.5% **901**
 Galway Hooker Irish
 Pale Ale 4.4% **901**
 Goedecke's Dölnitzer
 Rittguts Gose 3.9% **909**
 Goose Island Ipa 5.9% **903**
 Greene King Strong
 Suffolk 6% **906**
 Gueuze Girardin 1882 5.5% **909**
 Guinness Foreign
 Extra 7.5% **906**
 Harvey's Imperial Extra
 Double Stout 9% **907**

Harvey's Sussex Best
 Bitter 4% **902**
 Harviestoun Ola Dubh 8% **908**
 Hill Farmstead Everett
 Porter 7.5% **906**
 Hitachino Nest Beer White
 Ale 5.5% **906**
 Innis & Gunn Original 6.6% **908**
 Kernel India
 Pale Ale 7.1% **903**
 Mackeson Stout 2.8% **907**
 Magic Rock
 Cannonball 7.4% **904**
 Malheur Bière Brut 11% **904**
 Marston's Pedigree 4.5% **902**
 Meantime IPA 7.4% **902**
 Mikkeller Beer Geek
 Breakfast 7.5% **906**
 Nøgne Ø Imperial
 Brown Ale 7.5% **901**
 Orval 6.2% **902**
 Pabst Blue Ribbon 4.7% **903**
 Paulaner Salvator 7.9% **902**
 Pilsner Urquell 4.4% **905**
 Pivovar Herold Bohemian
 Wheat 5% **906**
 Pivovar Matuška IPA
 Raptor 6.3% **903**
 Rodenbach Grand
 Cru 6% **909**
 Russian River Pliny the
 Elder 8% **901**
 Russian River
 Temptation 7.5% **908**
 Saison Dupont 6.5% **904**
 Samuel Adams Boston
 Lager 4.9% **901**
 Samuel Adams
 Utopias 2.7% **908**
 Schneider Weisse 5.4% **905**
 Schneider Weisse
 Aventinus 8.2% **907**
 Schneider Weisse Meine
 Hopfenweisse 8.2% **905**
 Schönrumer Bavarias Best
 Imperial Stout 10% **907**
 Sharp's Honey Spice
 Tripel 10% **908**
 Sierra Nevada
 Bigfoot 10.4% **901**
 Sierra Nevada
 Pale Ale 5.6% **903**
 Southampton Double
 White 6.6% **905**
 Stone Arrogant Bastard
 Ale 7.2% **901**
 St. Sylvestre 3 Monts 8.5% **904**
 Thornbridge Hall Sour
 Brown 7% **908**
 Thornbridge Jaipur 5.9% **903**
 Three Floyds Dark
 Lord 13% **906**
 Trappistes Rochefort
 10 11.3% **907**
 Traquair Jacobite Ale 8% **902**
 Uerige Alt 4.7% **902**
 Weihenstephaner Hefe
 Weissbier 5.4% **905**
 Welts & Young's
 Courage Imperial
 Russian Stout 10% **906**
 Westerham Brewery
 Audit Ale 6.2% **902**
 Westmalle Trappist
 Tripel 9.5% **904**
 Wild Beer Modus
 Operandi 7% **908**
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 Shield 5.6% **902**
 Zywiec Porter 9.5% **907**

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Affinity **917**
 Agent Orange **917**
 Alabama Slammer **919**
 Alexander **911**
 Amber Moon **918**
 Americano **918**
 Angel Face **911**

Aviation **912**
 B52 **918**
 Bacardi **913**
 Bellini **918**
 Between the Sheets **915**
 Bijou **912**
 Black Russian **916**
 Blackthorn **918**
 Black Velvet **918**
 Bloody Mary **916**
 Blue Hawaii **914**
 Bronx **912**
 Buck's Fizz **918**
 Caipirinha **918**
 Cape Cod **916**
 Casino **913**
 Champagne Cocktail **919**
 Chicago Cocktail **911**
 Chimayo Cocktail **915**
 Clover Club **913**
 Corn 'n' Oil **915**
 Corpse Reviver **919**
 Cosmopolitan **915**
 Cuba Libre **913**
 Curaçao Punch **911**
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 Dark 'n' Stormy **915**
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 French Connection **911**
 Gibson **913**
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 Grog **914**
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 Honey Deuce **916**
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 Jack Rose **919**
 Kir **919**
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 Manhattan **917**
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 Chiang, André **927**
 Choi, Roy **926**
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Borscht 934
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Burrito 930
Caldo verde 933
Carpaccio 934
Cassoulet 932
Ceviche 930
Chawan 937
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Chicken soup 929
Chicken tagine with
preserved lemon 935
Chili crab 937
Clam bake 929
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Corned beef 929
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Dosa 935
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Fesenjoon 935
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Argan oil 945
Artichoke 940
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Basmati rice 945
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Bottarga 944
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CONTRIBUTORS

Robert Arp (PhD, Saint Louis University) works as an analyst for the US Army. In the past, he was assistant professor of philosophy at Southwest Minnesota State University, visiting assistant professor of philosophy at Florida State University, and associate researcher at the National Center for Biomedical Ontology in Buffalo, New York. His research interests include the history of Western philosophy, philosophy and popular culture, and ontology in the information science sense. He has authored, coauthored, edited, and coedited numerous books, as well as authored and coauthored more than a hundred articles and book chapters. His latest books include *Philosophical Approaches to the Devil* (Routledge, 2015), *The Concept of Hell* (Palgrave Macmillan, 2015), and *The Problem of Evil: New Philosophical Directions* (Rowman & Littlefield, 2015). See robertarp.com.

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| 100 Great Thinkers | 100 Philosophical Ideas |
| 100 Religious Ideas | 100 Economic Ideas |
| 100 Psychology Ideas | 100 Social Reforms & Movements |
| 100 Common Fallacies | 100 Symbols & Codes |
| 100 Myths & Legends | 100 Dreams |

Jeff Barr has traveled the world reviewing golf courses and golf resorts. He is the former editor of the travel section of *Golfweek*, one of the most popular golf news magazines in America, and his articles have also appeared in *The Washington Post*, *The Chicago Tribune*, *The Detroit News*, and many other newspapers, websites, and magazines. Today, Jeff is a freelance writer and author, and he has written five books, including the popular *1001 Golf Holes You Must Play Before You Die* (Universe, 2013).

- 100 Golf Courses

Ronald Lewis Bonewitz holds degrees and qualifications in a number of disciplines. Over a 40-year career, he has been a geologist, prospector, miner, and gem cutter, in addition to working as a pilot and flying instructor. Still a collector, cutter, and dealer in gems and minerals, he has written extensively on ancient history and mythology.

- 100 Gemstones

Michael Bright has worked as an executive producer with the BBC's world-renowned Natural History Unit, based in Bristol. He is author of over 100 books on wildlife, travel, and conservation, including many for children. His bestseller *Africa: Eye to Eye with the Unknown* (Quercus, 2012) accompanied the popular television series presented by Sir David Attenborough. He is the recipient of many international radio and television awards, including the prestigious Prix Italia. He is a graduate of the University of London and a corporate biologist and member of the Royal Society of Biology.

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| 100 Prehistoric Animals | 100 Endangered Species |
| 100 Sea Creatures | 100 Natural Wonders |

Jack Challoner has written more than 40 books on science and technology for a wide range of audiences, and also acts as a scientific consultant on books, magazines, and television programs. Before his career as a science writer, he graduated in physics at London University's Imperial College and trained as a science and mathematics teacher, then worked at London's Science Museum. In addition to his work in publishing, he has also developed television programs for the BBC. For more information, visit explaining-science.co.uk.

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| 100 Scientists | 100 Scientific Breakthroughs |
| 100 Inventions | 100 Mathematical & Computing Discoveries |

Rob Dimery's rollercoaster literary career has seen him serve as general editor on *1001 Albums You Must Hear Before You Die* (Universe, 2006) and *1001 Songs You Must Hear Before You Die* (Universe, 2010) and as coauthor on *Rock 'n' Roll Heaven* (Barron's Educational Series, 2007). He has also worked as an editor for *Guinness World Records*, *Vogue*, and *World of Interiors* magazine, among many others. He lives in London with his wife and too many guitars.

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| 100 Rock & Pop Albums | 100 Songs |
| 100 Moments in Rock and Pop | 100 Country, Folk, & Blues Album |
| 100 Jazz Albums | 100 Movie Soundtracks |
| 100 Musicals | 100 Classical Works |
| 100 Operas | 100 Ballets |
| 100 Great Thinkers | 100 Psychology Ideas |

Liz Dobbs studied biology and plant physiology to degree level before organizing trials of plants, gardens, and products for consumer gardening magazines. A former editor of national *UK Gardens Monthly*, she is currently a freelance writer and consultant and author of ten international books on plants and gardening.

- 100 Essential Plants

Julia Eccleshare is children's books editor of the *Guardian*; director of Hay Children's Book Festival; and a freelance writer, critic, and broadcaster. Her books include, *Treasure Islands: The Woman's Hour Guide to Children's Reading* (BBC Books, 1987), *A Guide to the Harry Potter Novels* (Continuum, 2002), *Beatrix Potter to Harry Potter: Portraits of Children's Writers* (National Portrait Gallery, 2002), *The Rough Guide to Picture Books* (Rough Guides, 2007), and, with Nicholas Tucker, *The Rough Guide to Teenage Books* (Rough Guides, October, 2002). She is the editor of *1001 Children's Books to Read Before You Grow Up* (Universe, 2009). She was awarded the Eleanor Farjeon Prize for services to children's books in 2002 and was made an MBE in 2014.

- 100 Children's Books

Peter Furtado was the editor of the highly regarded *History Today*, the oldest monthly history magazine in existence, for ten years. Over the last 30 years Peter has written and broadcast frequently on history and the media and has published many books, including *History's Daybook: The History of the World in 366 Quotations* (Atlantic Books, 2012) and *Histories of Nations* (Thames & Hudson, 2014). He holds degrees in history and art history from Oxford University and an honorary doctorate from Oxford Brookes University, and is a fellow of the Royal Historical Society.

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| 100 Great Leaders | 100 Empires & Dynasties |
| 100 Momentous Events | 100 World-Changing Documents |
| 100 Revolutions | 100 Disasters |
| 100 Influential Marriages | 100 Famous Trials |
| 100 Great Warriors | 100 Battles |

Reg Grant is a freelance writer who has published more than 30 books on cultural and historical subjects. He has a special interest in modern French literature and the English poetic tradition.

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| 100 Classic Authors | 100 Planes |
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Paul Gravett is a London-based writer, lecturer, broadcaster, and curator. Nicknamed "The Man at the Crossroads," he has been promoting the best in international comics art for over 30 years through books and exhibitions, as well as codirecting Comica Festival and Escape Books. See paulgravett.com

- 100 Comic Books

Dan Griliopoulos has been writing award-winning journalism, books, and video games since 2002. He’s freelanced for hundreds of publications, ranging from *The Sunday Times* to *Wired* to the *Guardian*—but he prefers to write for specialist publications like *PC Gamer* and *Edge*. Despite his color-blindness, he’s also a painter and photographer. Dan holds an MA in politics, philosophy, and economics from the University of Oxford. He lives in London’s East End with his partner and daughter.

100 Video Games

Guy Haley is a science fiction writer and journalist. He has worked on the magazines *SFX*, *White Dwarf*, and *Death Ray* and is the author of *Reality 36* (Angry Robot, 2011), *Omega Point* (Angry Robot, 2012), *Champion of Mars* (Solaris, 2012), *Crash* (Solaris, 2013), and numerous works for the Black Library. He works and drinks to equal excess, has four brothers, a young son, a fierce Nordic wife, and a giant dog. When not writing, he wanders the countryside pretending to be Aragorn.

100 Science Fiction Novels 100 Fantasy Novels

Ian Haydn Smith (IHS) is a London-based writer and the editor of *Curzon Magazine*. He is the update editor for *1001 Movies You Must See Before You Die* (Cassell, 2016).

100 Movies 100 Movie Stars
100 Movie Directors 100 Animated Movies
100 TV Shows

Simon Heptinstall is an author and journalist who has written about a huge range of subjects, from football to medieval warfare. His professional versatility has helped him write a book about food, cover British football matches for national newspapers, and write for both *BBC Top Gear* and *BBC Countryfile*. He must be the only writer who has written a history book for the National Trust and edited the *BMW Magazine*. Simon has contributed to a wide range of publications, including *The Sunday Times*, *Needlecraft Magazine*, and *Farming Review*. His most heroic sporting achievements have been completing the UK’s Three Peak Challenge race and captaining the British Travelwriters team on the BBC quiz show *Only Connect*.

100 Sporting Heroes 100 Great Sporting Moments
100 Winning Teams 100 Sporting Disasters
100 Great Goals 100 Extreme Sports
100 Great Races 100 Games
100 Military Innovations 100 Cars
100 Bicycles 100 Motorcycles

Susie Hodge, FRSA, is an art historian, author, artist, and journalist with more than 100 books to her credit on art history, practical art, and history. She also writes magazine articles, web resources for museums and galleries, and provides workshops and lectures for schools, universities, museums, galleries, businesses, festivals, and societies around the world. A regular contributor to radio and TV news programs and documentaries, she has twice been named *The Independent* newspaper’s no. 1 art writer.

100 Artists 100 Paintings
100 Sculptures 100 Great Photographers
100 Buildings 100 Design Icons
100 Fashion Designers

Tom Howey is a typographer, book designer, and writer. He has contributed to *Architecture: The Whole Story* (Thames & Hudson, 2014), *Design: The Whole Story* (Thames & Hudson, 2016), and has designed books for Rizzoli, Bauer, Yale University Press, Thames & Hudson, and Prestel. He is currently a PhD candidate in experimental typography at the Royal College of Art in London. His favorite typeface is Mrs Eaves.

100 Typefaces

David W. Hughes is emeritus professor of astronomy at the University of Sheffield. He has published over 200 research papers on asteroids, comets, meteorites, and meteors, and has worked for the European, British, and Swedish space agencies. Asteroid David Hughes is named in his honor.

100 Wonders of the Cosmos

Jenny Linford is a freelance food writer based in London, and a member of the Guild of Food Writers. She is the author of several books, including *The Tomato Basket* (Ryland Peters & Small, 2015), *Food Lovers’ London* (Metro Publications, 2005), and *The London Cookbook* (Metro Publications, 2008), and is general editor of *1001 Restaurants You Must Experience Before You Die* (Cassell, 2014). Her journalism has appeared in numerous publications, including *The Financial Times*, the National Trust magazine, and *The Simple Things*. See jennylinford.co.uk.

100 Legendary Chefs 100 Classic Dishes
100 Delicacies 100 Cheeses
100 Desserts 100 Restaurants

Jake Primley writes extensively for a wide range of magazines and partworks.

100 Modern Classics 100 Crime Novels
100 Autobiographies & Diaries 100 Plays
100 Religious Ideas 100 Economic Ideas
100 Psychology Ideas 100 Social Reforms & Movements
100 Common Fallacies 100 Symbols & Codes
100 Myths & Legends 100 Dreams
100 Locomotives

Bernard Richards was the fellow in English Literature at Brasenose College, Oxford from 1972 to 1996. He is the author of *English Poetry of the Victorian Period 1830-1890* (Longman Group, 1988, revised edition 2001). He has edited Henry James’s *The Spoils of Poynton* and *The Princess Casamassima*, and is the author of more than 300 scholarly articles and reviews. He is currently an emeritus fellow of Brasenose College.

100 Classic Novels 100 Modern Classics

Dominic Roskrow has written about the drinks industry for 25 years and has specialized in whisky for more than 14 years. He is the former editor of *Whisky Magazine*, *The Spirits Business*, and *Whiskeria*. He has run his own freelance business since 2006 and has written for scores of titles across the world. In 2015 he was chosen as Drink Writer of the Year in the Fortnum and Mason Food and Drink Awards for work in leading drinks trade magazine *Drinks International*.

100 Whiskies

Barry Stone is an internationally published travel writer and nonfiction author currently writing his twelfth book. He lives an hour south of Sydney on a quiet rural acre and travels as often as his wife allows.

100 Intrepid Explorers 100 Sacred Sites
100 UNESCO World Heritage Sites 100 Islands
100 Beaches 100 Festivals
100 Cities 100 Museums & Galleries
100 Hotels 100 Gardens

Carole Stott is an astronomer and author who has written more than 30 books about astronomy and space. She is a former head of astronomy at the Royal Observatory, at Greenwich, London.

100 Wonders of the Cosmos

Adrian Tierney-Jones is an award-winning journalist and author who specializes in beer, food, pubs, and travel, and how they all go together. His work has appeared in the *Daily Telegraph*, *Sunday Times Travel Magazine*, *Beer*, *All About Beer*, *Original Gravity*, and the *Daily Mail*. Books include *1001 Beers You Must Try Before You Die* (Universe, 2010) and *Britain’s Beer Revolution* (CAMRA Books, 2014). He has also contributed to *The Oxford Companion to Beer* (Oxford University Press, 2011) and *World Beer* (DK, 2013).

100 Beers 100 Cocktails

David Williams is the wine correspondent of *The Observer*, the deputy editor of *The World of Fine Wine*, and a columnist at *The Wine Merchant*, as well as being a regular contributor to periodicals, including the *Guardian*, *Restaurant Magazine*, *Imbibe*, and New Zealand’s *Wine* magazine.

100 Wines

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