PLANT
—
EXPLORING
THE BOTANICAL
WORLD
Arrangement
The artworks in this book have been arranged in pairs to highlight interesting comparisons and contrasts based loosely on their subject, age, purpose, origin or appearance. This organizational system is not definitive and many other arrangements would have been possible. A chronological survey of botanical art can be found in the timeline at the back.

Dimensions
Dimensions are listed by height then width. Digital images have variable dimensions, unless the artist has chosen to make prints of a specific size. Where differences in dimensions exist between sources, measurements listed refer to the illustrated version.

Titles and Plant Names
Many of the artworks in this book have been given titles that may not necessarily reflect the contemporary Latin name for the plant. Where this is the case, the current scientific name for the plant is included in the text.
DESCRIPTING THE NATURAL WORLD: THE STORY OF BOTANICAL ART

Drawing and painting flowers is one of our earliest instincts as young children. Whether it's their colour, their shape or our in-built understanding of their transance, something about the delicate petals and the curved stems try to imprint them on paper almost as soon as we can pick up a crayon or brush. Anatomically, the flowers are hard-wired in the human brain, reflecting perhaps the central role wild plants played in our ancestors' existence. Aesthetic pleasure, a symbol of beauty, has been lauded by poets, scholars and artists for millennia. Plants were one of the first subjects to be the focus of artists, after the animals and humans themselves. The earliest known recognizable images of plants, not as images of flowers, in pottery dating to the Fertile Crescent of the eastern Mediterranean. Other early cultures depicted plants in rock paintings, frescoes and frescoes from South America, to name a couple. From the Tip of South Africa to the Middle East, Egypt and the Mediterranean islands of Sardinia and Corsica. From the beginning, some of these depictions were merely aesthetic. More, however, were intended to depict particular plants so as to make them recognizable to the viewer. This led rapidly to close observation of (and a concentration on) the details that distinguish plants from one another, a characteristic underpinning the enduring value of plant illustration in scientific study, where it is still used to identify and classify specimens. From the nineteenth century onwards, today, countless artists have been enthralling not only the plants but also the discipline of botanical art with their own remedies for particular physical ailments. Their observations were intended to achieve this common purpose, however, has varied widely in both form and approach. Hasty sketches made in the field, watercolours and hand-coloured engravings, oil paintings and watercolours, desk models, and pressed plants, each introduced the notion of imitating the form of plants from printed, high-resolution electron-scanning microscopy and photography. The varied forms of botanical illustration have contributed to the evolution of the variety of art in general. Printing: Exploring the Botanical World reflects this wide variety of methods, and the broad range of motivations that have stimulated botanical art throughout history. Aesthetic pleasure can be the main reason for artists to use such a characteristic to achieve a common purpose, however, has varied widely.

THE ORIGINS OF BOTANICAL ART

The changing purposes of botanical art reflect the changing role of plants in human life. Early peoples saw plants as gifts from the gods, for example, how the narcissus was created from a youth who killed attempting to catch Apollo's discus. The ancient Egyptians attempt some 3,500 years ago to record their flora in association with his work (see pp.58 and 59). Some of the first known illustration of a South American pineapple was done by Portuguese sailors who reached Brazil, which they named after the valuable banana fruit. The influx of medicinal, decorative and food plants during this Age of Discovery reflected the sixteenth to the eighteenth century allowed a wider circulation of herbals; they were often accompanied by illustrations, some of which were coloured by hand. Many early printed herbs were still based on classical prototypes reintroduced from the Islamic world, but there was also a new impulse to observe and record plants from life. The European world was growing larger, so herbalsists were increasingly faced with plants for which there were no existing illustrations to copy. The great Italian trade republics such as Venice were at the forefront of the development of writing and the production of new plants alongside the older ones, obliging their illustrators to observe these new plants at first-hand. Wealthy experts believe they are not by Leonardo at all.)

THE AGE OF REASON

The so-called Age of Reason, which broadly encompasses the sixteenth to the eighteenth century, is a period of great new spirit of scientific enquiry in Europe and North America. Wealthy natural philosophers, as botanists and other scientists were known, collected unusual plants in their gardens or in cabinets of curiosity. The interest extended to the highest levels of society – the monarques of France, for example, paid great attention to their royal gardens – and many such wealthy patrons employed botanists to identify and cultivate their botanical treasures. The celebrated French plant illustrator...
Thunberg (see p.136), to collect plants from around the world in Latin. For each plant (and animal) a genus name and a species name, according to Species Plantarum, could be used to show close or distant relationships. The need to identify and classify new imports encouraged the emergence of flora and florilegia, which concentrated not on their beauty, but on the structure and also why particular plants grew in particular parts of the world. The dissection of plant organs under a microscope was and still is a critical part of the process of identification and preservation that has long been its central purpose. In May 2016 scientists at the Royal Botanical Gardens in Kew established a Herbarium of Artificial Plants (see p.243). The American artist E. V. Day, meanwhile, uses wire frames to magnify and distort lily leaves until they resemble a Buddhist mandala, a microcosm of the universe (see p.193). Such explorations take the concept of botanical art to an artistic extreme never seen before. 

MODERN DEVELOPMENTS

The twentieth century brought a broadening of the types and creators of botanical art. Advances in photography, in particular, attracted practitioners from fields such as fashion and advertising – Irving Penn (see p.205) and Inez Van Lamsweerde and Vinoodh Madhalal (see p.16), for example – while other artists, such as Stella Süss-Craig, Margaret Stihm and Pandora Sellars, sought to replicate the faithfulness of photography while using the detailed approach of earlier botanical illustration to provide more scientific information than a photograph could convey. Meanwhile, the influence of abstract and surrealist art was reflected in portraits of plants that embraced unusual framing or simplicistic, distorted shapes, such as those produced by the American photographer Imogen Cunningham (see p.198).

The adoption of the rule whereby the earliest published name for a plant organ remained its scientific name ensured its identity and therefore the long-term stability of its name. Every plant must have a type specimen, on which a name is based and which all later collections can be compared to ensure its identity and therefore the long-term stability of its name. If there is no ‘type specimen’ – a specimen preserved in a recognized herbarium of dried plants – a botanical illustration can serve instead.

CLASSIFYING PLANTS

The essential basic structure of plants, just as of a camera lens. The introduction of daguerreotypes by Niépce and Daguerre in 1839 allowed photographic images to be exposed to light-sensitive paper and, from 1839, through the use of a camera lucida, to be reproduced on paper. Camera lucida designs etched into stone lifelike coloured images that could be reproduced more than 360 million years ago. The flowers of these plants have a more or less conical shape, and simple and club-shaped glandular hairs on a tomato leaf open up to light-sensitive photoreceptors. In the case of palms, bamboos and grasses their flowers are not obvious, having adapted to wind pollination without the need for showy, insect-attracting petals. In the highly modified orchids, on the other hand, complex floral structures such as adapted to ‘bring them back to life’ (see p.24). Close-up photographs of flowers or parts of flowers that are very precise – but can be unrecognizable even as flowers without the key details of their petals or stamens – depicting the real world are now balanced by new names that can be conveyed through the auspices of botanical art. Botanical artists such as Fabio Barra’s Herbarium of Botanical Art (see pp.239-241), for example, is a collection of plastic flowers that mimics the real world (see p.243). The American artist E. V. Day, meanwhile, uses wire frames to magnify and distort lily leaves until they resemble a Buddhist mandala, a microcosm of the universe (see p.193). Such explorations take the concept of botanical art to an artistic extreme never seen before.

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Les roses, the series of plates by the renowned botanical artist Pierre-Joseph Redouté in which this cabbage rose appeared, was published during an epochal time in French history. On 2 December 1804 Napoleon Bonaparte crowned his wife, Joséphine, Empress of the French in Paris. Four months later Joséphine made Redouté ‘plant painter of her Majesty’, with a yearly salary of 18,000 francs, then a huge sum. At the time the publication of the Jardin de la Malmaison, about Joséphine’s garden near Paris, was approaching completion. It was lavishly illustrated, with colour-printed stipple engravings based on watercolours by Redouté and descriptions by Étienne-Pierre Ventenat. Les roses used the same technique of stipple engraving, this time with descriptions by Claude-Antoine Thory. In this case the association with Joséphine was indirect: she had died in 1814 at Malmaison, and the roses documented by Redouté came from various gardens in and near Paris. One, in Saint-Denis, had been owned by Jacques-Louis Descemet, previously a supplier to Joséphine, who cultivated the cabbage rose shown here. When this illustration appeared in the nineteenth installment of Les roses in Paris in July 1820, Descemet had already gone bankrupt due to the plundering of his garden by British troops.

This 3D rendering of a rose brings together botany and architecture. The two forms have long been associated – the capitals of ancient Greek columns were carved with acanthus leaves – but the contemporary Japanese architect-turned-artist Macoto Murayama takes his fascination with plants into a luminous digital world. He uses software to render hand-drawn anatomical studies of dissected plants and flower organs with mathematical exactness, like engineering blueprints for an alien world. Extending the conventions of architectural drawing, Murayama fuses multiple elevations and plans in a single image, often with dimensional information and labelling. The diaphanous linear mesh of the rendering program describes unfolding clusters of petals wrapped around stamens and anthers, giving the viewer X-ray vision. The ability to ascribe colour to individual parts allows Murayama to combine technological analysis and romantic artistry. In Rose III, the flower takes on a balletic swirl in which the tulle-like petals enmesh the fragile organs within. The artist has exploited the potential for animation by making a film in which flowers are projected onto the gallery floor, with buds swelling and blooming as they entwine themselves to form a pastoral tapestry.
Long purple stamens rise in delicate clumps from the flowers of *Capparis spinosa* (in the family Capparidaceae) in this nineteenth-century watercolour drawing. The young flowers of this shrubby perennial are familiar in the kitchen as strongly flavoured capers, they open at night and fade by midday, or earlier in hot weather. The plant grows from Spain eastwards to the drier parts of India, where this example was painted by an artist trained by the East India Company. It comes from a series of paintings of specimens cultivated in the botanic garden at Dapuri, near Poona (now Pune), Bombay (now Mumbai), most of which were made under the instructions of Alexander Gibson between 1827 and the 1840s. A Company surgeon and trained botanist, Gibson became director of the garden in 1838. Some of the Illustrations show cultivated Indian plants, but many are of exotic plants introduced to India for ornamental or economic use, either culinary or medicinal. The names of the artists are not recorded, but the style of this image is more sophisticated than some of the earlier Company School paintings from Calcutta, with more natural shading and the careful disposition of the leaves to show both faces.

*ANONYMOUS*

*Capparis spinosa (Capparidaceae)*, 1848–50
Watercolour, pencil and ink on paper, 27.3 x 38.3 cm / 10⅞ x 15¼ in
Royal Botanic Garden Edinburgh

There is little realistic about this chromogenic print by the German photographer Thomas Ruff – and yet it is a precise depiction of what are probably three separate stems of European heliotrope (*Heliotropium europaeum*) created by combining positive and negative imagery. By digitally manipulating sepia-toned albumen prints, Ruff lends the plant a solid, almost three-dimensional effect that contrasts with its otherworldly background. This image is the result of Ruff’s exploration of a technique known as the ‘photogram’, a camera-less photographic method that originated with the pioneer photographers of the mid-nineteenth century and which was employed by photographers such as the surrealist Man Ray (see p.320) in the early twentieth century. The technique continues to appeal to contemporary photographers seeking to recapture a more direct relationship between objects and their representation. Using this technique, an image is created by placing an object on light-sensitive paper and exposing it to light, thus removing the involvement of a lens. The result is a negative shadow image that produces a ghostly, translucent effect. Thomas Ruff, who studied and later taught at the Kunstakademie in Düsseldorf, has covered a wide variety of subjects from portraits to studies of buildings, the night sky and nudes.

*THOMAS RUFF*

*neg◊stil_03*, 2015
Chromogenic print, 29.4 x 22.4 cm / 11½ x 9 in
Private collection
Even for those who have never tasted the intensely sweet mangosteen (*Garcinia mangostana*), this photograph is tantalizing. An open fruit looks ready for the viewer to pick up and squeeze out the white flesh (the fruit itself is a rich purple colour), while more fruits hang invitingly above. The Scottish photographer Charles Scowen, or one of his assistants, arranged and photographed this image in Ceylon (now Sri Lanka) in 1876. The still-life quality of the image reflects the tendency of many early photographers to emulate the pictorial conventions of painting, but the photograph also echoes the scientific approach of botanical illustrators. Having arrived in Ceylon in about 1873, Scowen set up a studio in Kandy, the second city, close to the Royal Botanical Gardens at Peradeniya – at the time, with the island under British rule, an offshoot of Kew Gardens in London. The studio was known for its still lifes of tropical fruits, as well as for photographs taken in the botanic garden. The mangosteen, Scowen’s day an exotic rarity outside the tropics, remains unfamiliar to many, being confined largely to its Southeast Asian homeland: its peel is easily bruised, preventing its large-scale export.

In this study of *Annona crassiflora*, a Brazilian relative of the custard apple, the Brazilian artist Álvaro Evandro Xavier Nunes shows the fruit in its entirety, as well as its constituent parts: seeds (top right); the development of its buds; and a cross section revealing the flesh. As this careful analysis of the different stages of the custard apple’s development reflects, Nunes trained and practiced as an architect, leading to an abiding interest in the structure of plants. This relative of the custard apple, known as araticum or marolo in Brazil, is a member of the Annonaceae, or soursop, family, which also includes the deciduous pawpaw of North America. *A. crassiflora* grows across the tropics and is notable not just for its distinctive pulpy fruit, with their large seeds, but also for its fragrant flowers. Nunes, who began studying botany in the late 1980s, often travels to remote parts of Brazil in search of subjects. He spends up to eight months in the Amazon and Pantanal or on the Brazilian savannah, finding and drawing the fruits of native trees. In many ways, his career echoes that of the pioneering botanical artist Margaret Mee (see p.41), whose illustrations of plants painted on expeditions into the Brazilian Amazon brought the diversity of the rainforest to the fore in the 1950s and 1960s.
The rich black background and dynamic composition of John Nash’s wood engraving of woody nightshade (also known as bittersweet nightshade) justify his description of himself as an ‘artist-plantsman’, although he was never trained. (John was the younger brother of the celebrated World War I artist Paul Nash). Nash was best known for painting the plants growing in and around his garden, rather than for engraving, since he preferred to work directly from life. However, these studies show his skill as draughtsman and botanist and were used to illustrate Poisonous Plants: Deadly, Dangerous and Suspect. The book contained plant descriptions by W. Dallimore who, as the title implies, divided the plants into three categories with the common buttercup in the ‘suspect’ group. Woody Nightshade is ‘deadly’, but there are very few recorded deaths associated with it as the red berries taste so bitter. Despite his lack of training, John Nash taught at the Ruskin School of Art in Oxford from 1922 until 1927, and later at the Royal College of Art in London. He was awarded the CBE in 1964 and in 1967 became the first living painter to be given a retrospective exhibition at the Royal Academy of Arts in London. This engraving was gifted by the art dealer and collector, Sir Rex (Sir Charles Norman) De Charembac Nan Kivell (1898-1977) to the Museum of New Zealand in 1951.

Solanum dulcamara (woody nightshade), from Poisonous Plants: Deadly, Dangerous and Suspect, 1927
Wood engraving, 16.2 × 12.9 cm / 6¼ × 5 in
Museum of New Zealand Te Papa Tongarewa, Wellington

The huge white flower fills nearly the whole canvas in this painting of jimson weed, Datura stramonium, a favourite flower of the renowned American artist Georgia O’Keeffe. O’Keeffe’s painting – the most expensive work ever by a female artist when it sold at auction in 2014 for over £44 million – was one of a number she made of the same subject. As in her other close-up flower paintings, here O’Keeffe combines an awareness of abstract form with a precise observation of detail and the use of bold colours and shapes (she always denied Freudian interpretations that found coded representation of genitalia in her images of flowers such as iris). Jimson weed grows in New Mexico, which O’Keeffe’s back garden in Santa Fe, New Mexico, which she visited frequently from the late 1920s before moving there permanently in 1946. The many names of this member of the nightshade family – including devil’s ladder, devil’s trumpet and mad apple – point to its traditional use as a powerful narcotic. The name ‘Jimson’ is a corruption of Jamestown, the town in Virginia where, in 1676, British troops ate the leaves in a salad. According to contemporary accounts, they became distracted, giggling and pawing at one another, and had to be locked up to prevent them from harming themselves.

Jimson Weed/White Flower No. 1, 1932
Oil on canvas, 121.9 × 101.6 cm / 48 × 40 in
Crystal Bridges Museum of American Art, Bentonville, Arkansas