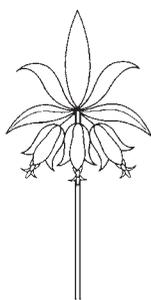


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Book Reviews and Announcements

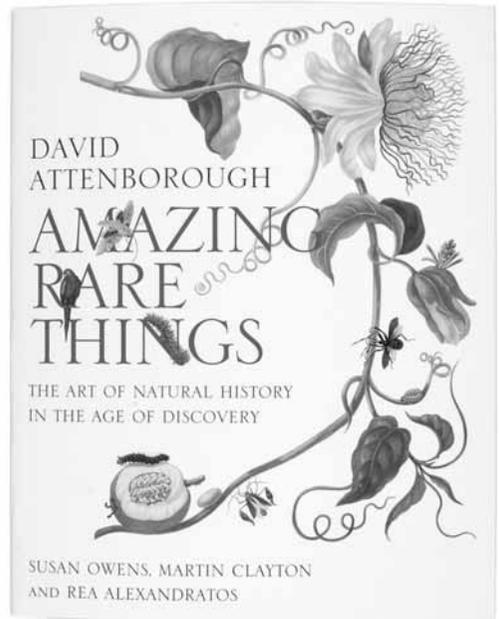
Attenborough, David. *Amazing Rare Things: The Art of Natural History in the Age of Discovery.* London: Royal Collection Publications, 2007. 223 p., ill. (chiefly col.). £18.95 (hardback); £9.95 (paperback). ISBN-13: 978-1-902163-46-8 (hardback); 978-1-902163-99-4 (paperback).

Think of BBC and nature broadcasting and Sir David Attenborough's name comes to mind. His 50-year career is highlighted—to list only three—by the 13-part series *Life on Earth* (1979), *The Living Planet* (1984) and *The Trials of Life* (1979–1990), each with an accompanying publication. His impressive filmography leaves one wondering what topic on natural history remains for him (though he is in his early 80s).

For his book *Amazing Rare Things*, Attenborough was privileged to “riffle through,” he states tongue-in-cheek, paintings in the Royal Collection by Leonardo da Vinci, Cassiano dal Pozzo, Alexander Marshal, Maria Sibylla Merian and Mark Catesby. Martin Clayton wrote on da Vinci, Rea Alexandratos on Pozzo, and Susan Owens on Marshal, Merian and Catesby. The readers might imagine Sir David (he was knighted in 1985) standing beside the admirers of these artworks and adding interesting little facts about the subjects since his notes (initialed D.A.) are interspersed throughout the text.

Martin Clayton's chapter on Leonardo da Vinci (1452–1519) must have been a daunting challenge to compile. Da Vinci was not merely an artist but also a scientist as is indicated by the text images of studies of horses, cats and lions and of my favorites the red chalk drawings of Star of Bethlehem (*Ornithogalum umbellatum*), Job's tears (*Coix lachryma-jbi*) and Oak (*Quercus robur*). Two studies of a bear's foot and the uterus of a pregnant cow are particularly amazing. In this chapter Sir David's notes relate to bears and their feet and da Vinci's musing on dragons.

Cassiano dal Pozzo (1588–1647), whose collections I have admired, lived with his like-minded brother in a palazzo in Rome with his Paper Museum of paintings, drawings and prints; also his books and specimens, a laboratory for experiments, and live birds and animals. He was a member of the Accademia dei Lincei, a scientific academy founded in 1603. Dal Pozzo commissioned artworks and purchased early collections. His museum was a lively resource for visiting scholars. Author Rea Alexandratos concludes, “Nonetheless, Cassiano's Paper Museum remains one of the most impressive manifestations of the new spirit of empirical investigation that transformed the study of natural history in the seventeenth century.” Cassiano's artist(s) has depicted a variety of intriguing plants and animals, including Pummelo, digitated lemon, a European pelican,



Common dolphin, stork and details of a porcupine. Attenborough remarks on a civet and a sloth.

Alexander Marshal (ca.1620–1682) in the mid-17th century began a florilegium depicting British plants through the seasons to which he added until his death. Marshal lived during a time when plant introductions were arriving from throughout the world to satisfy the demand in new gardens. With a few exceptions the chief repository for his work is this album in the Royal Collection. Multiple images are spaced apart on a page, with the inclusion, with no regard to scale, of a bird, animal or insect. Attenborough discusses the non-plants in Marshal's paintings, particularly the macaw and greyhound, both likely pets.

Perhaps there is no naturalist as intriguing as Maria Sibylla Merian (1647–1717), known for her travel to Surinam, with her daughter, to draw insects. Born in Frankfurt, Merian's father (Matthäus Merian the Elder) was an engraver, publisher and topographical artist; her stepfather was a Dutch flower painter and teacher (Jacob Marrell); her husband was a pupil of Marrell. In 1691 she moved to Amsterdam where, with the assistance of the Dutch East India Company, she gained access to the finest natural history collections, learning all she could about the metamorphosis of butterflies and moths. Nine years later she and her daughter set sail for Surinam,

where the Labadist community was strongly connected along the north coast of South America. Though I am uncertain of her living conditions, she did have a garden. There she brought back from her expeditions into the wilds insects and caterpillars in order to observe their transformations. Merian's magnificent *Metamorphosis Insectorum Surinamensium* was published in 1705. The last few plates are dramatic ones of a caiman clenching a coral snake and a Golden tegu lizard, both seemingly unrelated to Merian's title. Attenborough's notes relate to Cassava (Manihot) and surrounding critters, ants, flag-legged bugs, lantern flies, and various aquatic flora and fauna. The title of Attenborough's book is taken from a letter dated 1702 by Merian to her Nuremberg doctor friend Johann Volckamer (known for his engravings of fruits in *Nürnbergische Hesperides* of 1708–1714) in which she reported painting "many amazing rare things which have never been seen before."

Mark Catesby (1683–1749), born in Suffolk, is known for his *The Natural History of Carolina, Florida and the Bahama Islands* for which he made 263 watercolors of flora and fauna and etched them after studying with a master.

(A few are by Georg Ehret.) George III, harshly criticized for "losing the colonies," acquired this early survey about them—purchased from a London bookseller 20 years after Catesby's death. Attenborough includes a number of notes. Several are about two beautiful plates of the ivory-billed woodpecker and the passenger pigeon, the former believed to be extinct in the 1970s (fortunately there has been a recent sighting) and the latter last sighted in the wild in 1889, with the last survivor dying in a zoo in 1914. He also comments on a bald eagle seizing a fish, a nightjar about to swallow a cricket, flamingos, problems of painting fish that do not retain their colors out of water and also crabs that have expired.

This is a fine book, well-illustrated, and about a collection not easily accessible to most of us. I only regret that I learned about the related exhibition at Buckingham Palace the day before my week's visit to London came to a close! After you read the book, listen to the interview on 15 August 2008 with Sir David about *Amazing Rare Things* on Public Radio International's *Living on Earth* at <loc.org>. Merely search for the name Attenborough.

—James J. White, Curator of Art

Batey, Mavis, ed. *A Celebration of John Evelyn: Proceedings of a Conference to Mark the Tercentenary of His Death*. Surrey: Surrey Gardens Trust, 2007. x, 196 p., ill. (some col.), maps, ports., plans. £15.00. ISBN-13: 978-0-9540630-2-3 (paperback).

If you think you know John Evelyn (1620–1706), this book will add a whole new level of understanding to the man and his work. This compilation of conference papers holds interesting in-depth details about Evelyn's beliefs, his trip to Italy and its narrative, his scientific discourse and, of course, his relationship to trees. It is nicely supported with black-and-white garden plans, color botanical illustrations and landscape photographs. Gillian Darley's opening essay to this collection, "Memoires for my grand-son: John Evelyn's legacy" serves as a fine biographical essay for those of us 18th-century science fans who are thirsty for more than the usual dictionary-style biography. Darley introduces readers to two John Evelyns: the famous grandfather (1620–1706) and his namesake grandson (1682–1763) who inherited the family estate. The duplicated names lead to some confusion in the text, which a push for full names (the grandson was called Jack) would eliminate. Nevertheless, introducing the elder John Evelyn via his advice to his grandson allows Darley to cast a wide net and to write about the historical contexts into which John Evelyn was born, as she does here:

Evelyn's five years in Paris were his real education, but the two months in Holland

and Flanders in 1642 opened his eyes to the world at large. From his maternal grandfather, John Stansfield, he had learned that England was a gateway to Europe, the North Sea and English Channel not barriers but trade routes. Stansfield's business was shipping, his fleet came out of Newhaven. . . . His cargoes included iron, wheat and lead, going to ports as distant as Marseilles and even Newfoundland. Although he had been long dead when Evelyn headed for Holland—at much the same age as Jack now was—the imprint was made; John Evelyn was essentially a grandson of tradesmen and merchants (his paternal grandfather, Richard Evelyn, being the founder of the family gunpowder business) not just a member of the provincial landed gentry (p. 4).

In addition to marking Evelyn's past heritage, Darley's article adeptly places Evelyn socially in his intellectual circle: "In Italy and France he met men who were publishing the works that were the talk of Europe: in Rome Athanasius Kircher, the Jesuit polymath, and in Paris Thomas Hobbes and Kenelm Digby. Latin made the literate world a small place. He encouraged Jack to study medicine, for anatomy 'concerns your owne Body & its wonderfull structure, as it is a Microcosme'" (p. 7). I would like to see dates for Evelyn's colleagues and acquaintances in order to mark those generations in which he was participating and having an impact, but Darley's

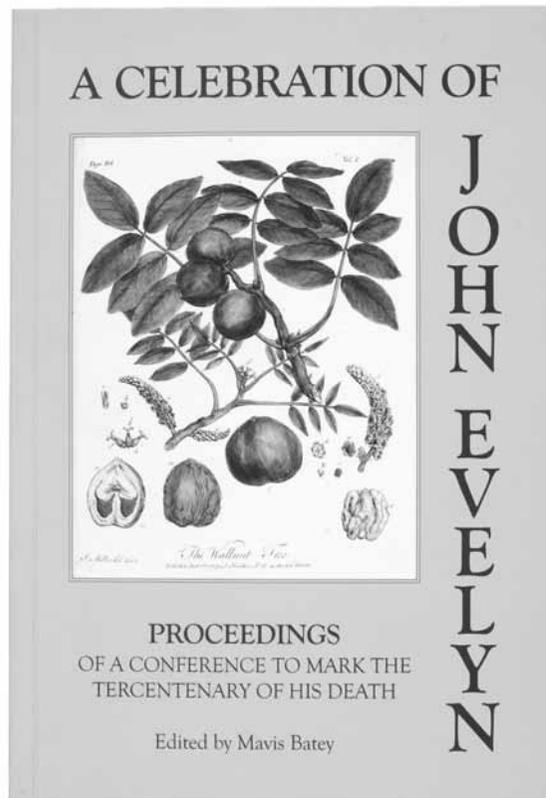
work recounting the chronology of Evelyn's life and his subsequent advice to Jack is a great storytelling technique that covers the elder Evelyn's collection practices, his feelings and desires about travel, translation and writing, his scientific projects (not published until after the Restoration) and groundskeeping. In recounting how the grandfather's experiences shaped his advice to his heir, she also gives us a full account of *Memoires for My Grand-son* (1926) and a rather personal look at the man himself.

Sally Jeffrey's "Way of Italian gardens" promises to "accompany him on his travels, seeing what he saw and hearing what he wrote" (p. 23), and indeed she follows Evelyn's *Kalendarium* (actually the 1955 version, *Diary of John Evelyn* edited by E. S. de Beer) closely during his 1643 trip. Evelyn obtained a license from the king to travel in light of "finding it impossible to evade the doing of very unhandsome things" (p. 23). Jeffrey does not elaborate on the unhandsome things, but a quick check of Evelyn's diary finds the preceding sentence rendered: "The Covenant being pressed, I absented myself;" (Bray and Wheatley, eds., London, 1906, p. 40), suggesting that Evelyn was disgusted with anti-Royalist and anti-Catholic hysterics that characterized politics during the build-up to the Civil War. Evelyn spent that winter in Paris, touring the Tuileries, St. Germain-en-Laye, Luxembourg Palace and Rueil. He remarked frequently on water features, both natural and hydraulic, and the parterres de broderie, plots with raised terraces around them from which the patterns could be viewed—both of which were Italian ideas that had become part of French gardening fashion. Traveling along to Italy via the Mediterranean coast, Evelyn was struck by the terraced gardens of the villa of the Principe Andrea Doria in Genoa and by the appealing setting and approach to the city of Lucca. He also visited the Villa Aldobrandini just outside Rome in Frascati, where he marveled at the

water theatre behind the villa [that] was the centerpiece, with the water providing

movement and power for the automata, sound effects, water tricks in the theatre and on the villa steps. There were "many other devices to wett the unwary spectators, so as one can hardly step without wetting to the skin," and the effects were spectacular. Villa Aldobrandini was one of three great gardens where Evelyn described the waterworks in detail (pp. 33–34).

Evelyn's descriptions of getting soaked at various public gardens by "water jokes" are nicely historicized by Jeffreys, who introduces the topic: "The art of hydraulics, which was well-known to the ancients, underwent a revival in Italy. ... The skills were transferred to France by travelling hydraulic engineers. ... Similarly, Salomon de Caus, a Frenchman, travelled to Italy to study, and published *Les Raisons des Forces Mouvantes* in 1615, seeking to raise engineering skills to the level of art and recognizing antique writings" (p. 29). In addition to the aforementioned gardens, Evelyn visited Villa d'Este and its walk of 100 fountains in Tivoli; the Medici villa of Pratolino and the Boboli Gardens in Florence; the Palazzo Hieronymo del Negros in Genoa; the Villa Borghese and the Quirinale Palace in Rome; gardens in surrounding towns such as Tivoli, Palestrina and Vesuvius (illustrated by a work drawn and etched by Evelyn himself); the Physic Garden at Pisa; and the Padua Garden of Simples. Evelyn stayed in Padua for several months, studying physics and anatomy and reconnecting with a former neighbor and famous collector, Thomas Howard, second earl of Arundel (1585–1646). The end of Evelyn's Italian journey was filled with seeing Teatro Olimpico, the garden of Count Leonardo Valmarano, and other sites recommended by the earl. Upon returning to England in 1652, Evelyn assessed gardens in light of his new European experience. Evelyn's own garden at Deptford shows this influence, and his impact is seen in the



gardens of Sir Stephen and Lady Fox, as well as those of Lord Cornbury and the Evelyn family estate of Wotton.

Douglas Chambers' chapter "'Wholly new and ambiguous': The discourse of nature" reminds us of the blurry boundaries in the 17th century between science and gardening, between science and the marvelous. Chambers writes of Evelyn's visit to the apartment of Roman collector Cassiano dal Pozzo (1588–1657) and his encounter there with fossils. My interest in the early theories of fossilization was not enough to alleviate my lack of historical knowledge, though, and I would like to see a little more of the political context explained when Chambers writes, for example, "Stelluti ... wrote about 'the mutable nature of this wood,' that is its propensity to change into stone. In fact Stelluti had got his analysis wrong, probably deliberately. His claim that clay had turned into wood instead of the reverse was probably to avoid trouble with the Inquisition" (p. 77). Nevertheless, Chambers marks this meeting as an important one for Evelyn, one that serves as a "challenge to traditional certainties of classification" (p. 78). A second great challenge to those certainties, he claims, is to be found in Evelyn's copy of Edward Tyson's *Ourang-Outang, sive*

Homo Sylvestris, or The Anatomy of a Pygmie Compared with That of a Monkey, an Ape, and a Man (1699). Chambers writes: "What Tyson offers Evelyn is 'otherness': a challenge to the merely taxonomic impulse to name and categorize the still-unknown natural world" (p. 79). While that seems like a broad claim, next Chambers walks us through Evelyn's marked passages and annotations, which do show him contemplating categorization rules in light of "the enormous and sudden expansion" of natural objects in his time.

This record of Evelyn's Tercentenary conference is a delight to read. However, if you do not already know something about John Evelyn, there is a steep learning curve in this collection. I had to search to find birth and death dates, which were not in the biographical essay but rather on the back cover, in the index and in a narrative-style timeline appendix at the back. However, proceedings of an anniversary conference by definition must assume the reader's familiarity, so read a sketch of Evelyn in one of the biographical dictionaries before sitting down with this fine collection of essays to really get to know the man.

—Angela L. Todd, Archivist

Bogaert-Damin, Anne-Marie. *Voyage au Coeur des Fleurs: Modèles Botaniques et Flores d'Europe au XIXe Siècle*. Namur: Presses universitaires de Namur, 2007. 239 p., ill. (chiefly col.). €20.00. ISBN-13: 978-2-87037-565-5 (paperback).

The discovery, among the rare illustrated books and other holdings in the library at the University of Namur, of some interesting material that invited further exploration was the origin of this book. What was found were groups of books and three-dimensional models that presented two bodies of work, the remnants of a scientific impulse that led botanists in the 19th century to intensively study the microcosm of plant morphology and the macrocosm of the distribution and diversity of the flora of Europe. To communicate their findings, some of these botanists collaborated with artists, artisans and publishers to produce the great 19th-century floras of Europe while others sought similar collaborations to create collections of three-dimensional botanical models revealing the details and inner secrets of plant morphology. This book and a related exhibit, *Voyage au Coeur des Fleurs*, tell the story of this "réserve précieuse" of models and books that have been preserved from days past.

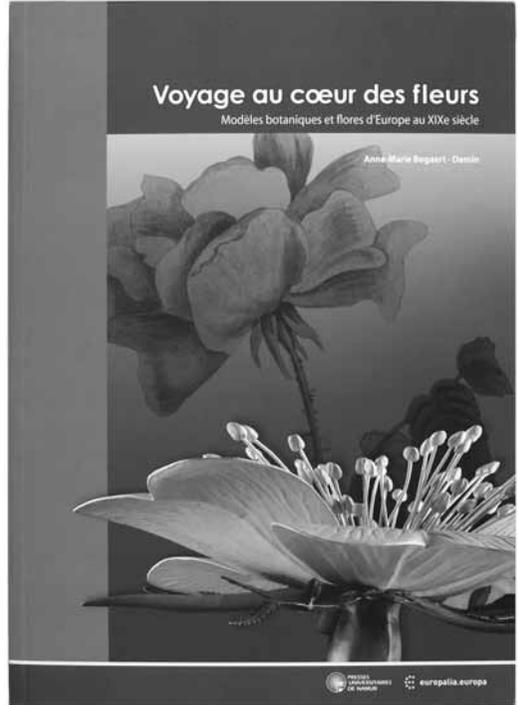
Anne-Marie Bogaert-Damin has done some very creative research in bringing together the stories of these two bodies of work, the books and the models, in a dual

representation of the plant world as it was apprehended in Europe in the 19th century. At a time when ever increasing numbers of newly discovered plants were coming to Europe from around the world, a fascination with plants was a passion felt not only by botanists and horticulturists but also by gardeners, nature lovers and others among the general public. Bogaert-Damin notes that while this phenomenon was in evidence throughout Europe, it was particularly strong in Belgium. Also in this period, knowledge of the natural world was progressing from classification to evolutionary biology, chemistry and physics, leading to a modern understanding of plant physiology. While some botanists were driven to conduct "magnificent inventories" of the natural European flora, others sought a way to use their new knowledge to show and explicate the intricacies of plant structure. The results of floristic inventories were published in books, often comprising multiple volumes, recording the beauty and diversity of the plant life of the region with detailed drawings, commentary and scientific descriptions. By contrast, teaching devices illustrating plant morphology took the form of three-dimensional botanical models, often seeming to be as much works of art as they were instruments of scientific education. Bogaert-Damin's ingenious insight brings together these two very different scientific products to show how scientists in this period

took different approaches to look at different aspects of the world of plants, and she discusses unique features and shared commonalities of these methods of study and their underlying motivations.

Beginning with the books, Bogaert-Damin examines sixteen published European floras covering ten countries, with hand-colored engravings showing realistic and detailed views of plants growing naturally in Europe, presented in formats ranging from sumptuous folio works to more modest field guides, all of them showcasing the natural riches of these regions. She describes the approaches used in each publication to describe the plants and convey historical and contemporary knowledge of them. Seen together in this way, described by Bogaert-Damin and with samples of their illustrations and text on display, these varied floristic studies shine individually and collectively. There is an enormous wealth of information collected within them, reflecting the intense interest at the time in exploring and documenting Europe's natural riches.

She then turns to the development of three-dimensional botanical models, "veritable sculptures of flowers." These models were made in order to show the interior structure of plants in realistic detail, and Bogaert-Damin notes that when one compares the published plates and the three-dimensional models, the plates, although only two-dimensional, also show botanical structure and detail with extreme finesse. The models were conceived as a means to both show and explicate plant physiology and functions, as was also true of the large wall panels and dioramas created in the same period. These various pedagogical devices were characterized by originality, authoritativeness and diversity. Bogaert-Damin discusses several great collections of models from this period, with special appreciation for those produced by the Brendel firm, whose expressed intention to lay open "le coeur des fleurs" was an original concept intended to explain morphological function. A group of Brendel models are conserved at the library at the University of Namur.



The published floras and the botanical models, taken together, meld art and science in their aims to show the beauty, diversity and hidden complexity of the flora of Europe. As we see them now through Bogaert-Damin's eyes, we are inspired by the drive for scientific knowledge, the passion for natural beauty and the pride in floristic riches that led to their creation. *Voyage au Coeur des Fleurs* invites us to appreciate these scientific connoisseurs' visions of the treasures of European fields and forests in all their glory and diversity.

—Charlotte Tancin, Librarian

Bouchard, André. *Marie-Victorin à Cuba: Correspondance avec le frère Léon.* Annotated edition by André Bouchard. Montreal: Les Presses de l'Université de Montréal, 2007. 217, [2] p., maps. \$29.95 (Canadian). ISBN-13: 978-2-7606-2066-7 (paperback).

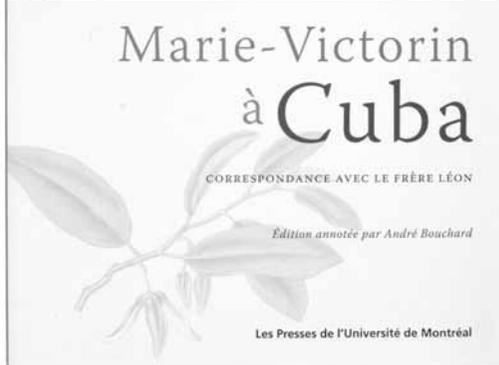
Frère Marie-Victorin (1885–1944) was the religious name taken by Joseph-Louis-Conrad Kirouac when he entered the monastery of the Frères des écoles chrétiennes. Marie-Victorin is the best-known scientist of Quebec, having founded the Jardin botanique de Montréal in 1931 and published the *Flore Laurentienne* in 1935. He is primarily known for his work on the flora of that part of Canada

although he also studied plants in other parts of the world. Beginning in 1938, however, he made seven trips to Cuba, where he met a fellow religious known as Hermano León (Joseph Sylvestre Sauguet Barbier, 1871–1955), a French émigré living in Cuba and the author (with Hermano Alain [E. E. Liogier]) of the *Flora de Cuba*, published in Havana in five volumes from 1946 to 1963. The two men became fast friends and published together their *Itinéraires Botaniques dans l'Île de Cuba* (Montreal, 1942–1956, in three volumes). That much is well known.

However, the two friends were often apart when Marie-Victorin was in Quebec, and so they maintained

a correspondence for 37 years, from 1907 to 1944, that enabled them to understand each other and their respective approaches to science, religion and life. André Bouchard has undertaken to compile and annotate the full correspondence, published in French. Bouchard is currently a professor at l'Université de Montréal and a researcher at the Jardin botanique de Montréal. He has described himself as being "smitten with history," and his long familiarity with the garden and with the work of Marie-Victorin make him an excellent person to take on this project.

The correspondence provides much information to add to what we know of Marie-Victorin during his visits to Cuba—he was sickly, detested the Canadian winter and looked forward to living another kind of life for two or three months a year in a Havana hotel, far from his botanical garden and the daily life of his religious community. We also learn much about Léon, his colleague and friend in Cuba. Both men were respected savants and writers in their respective countries. Marie-Victorin was one of the premier scientists in Quebec of the early 20th century, a teacher, writer and botanist emeritus. Léon, 15 years older, left France in the late 19th century to pursue a fuller life in Cuba. These exceptional men found each other and shared a sense of friendship and complicity based on the common experience of their religious order and their all-consuming passion for



Courtesy of Archives de l'Université de Montréal

botany. Interestingly, they corresponded for a long time before meeting in person and botanizing together in Cuba, after which they published their *Itinéraires*.

Meanwhile, over the years they exchanged letters and plant specimens from Cuba and Quebec and followed the developments in each other's work. In addition to their scientific work, they both remained faithful to their primary mission as religious brothers, seeking abnegation and service to the youth of their countries, and they did not hesitate to take stands on social and political issues, locally and globally. They shared an interestingly mixed reality of being removed from the world and yet also very much active participants in it.

Marie-Victorin died suddenly in 1944. There were no further contacts between Montreal and Cuba, and no further word of Léon, who died in 1955, several years before the takeover by Castro in Cuba in 1959. Now, nearly half a century later, Bouchard has brought to light this detailed view of the shared world and longstanding intellectual exchange of these two remarkable men. There is much to be learned from this book about their lives, their thoughts and the scientific exchange that flourished through their relationship and added to our knowledge of the Cuban flora.

—Charlotte Tancin, Librarian

Farrer, Keith. *William Carey: Missionary and Botanist*. Kew, Victoria: Carey Baptist Grammar School, 2005. [v], 156 p., 16 pl. (chiefly col.). \$25.00 (Australian). ISBN-13: 978-064645280-7, ISBN-10: 064645280-0 (paperback). Available from Melinda Button <melinda.button@carey.com.au>.

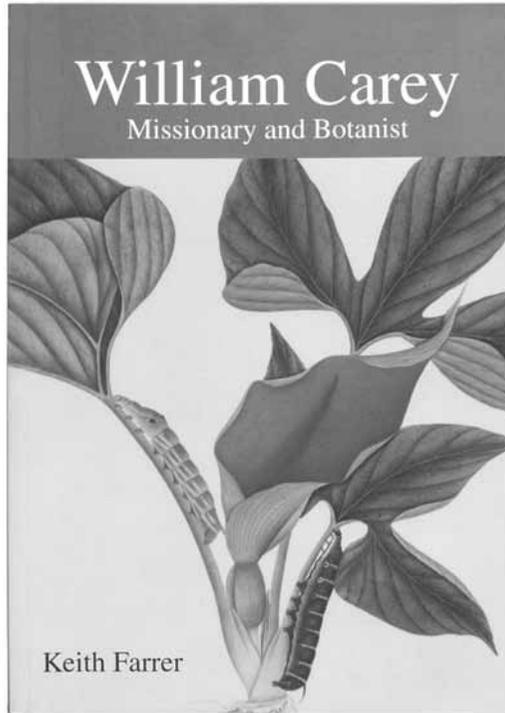
Perhaps the only characteristic of William Carey more notable than any of his seemingly endless assortment of aptitudes was his tireless conviction regarding their applications. William Carey (1761–1834) was an English Baptist minister and a nonpareil Christian missionary

in India where his influence was extraordinary and lasting. Keith Farrer's work, *William Carey: Missionary and Botanist*, presents a detailed and thoughtful look at Carey's industrious character. While Farrer accounts for what are likely all of the important events in Carey's life and understands that all of Carey's accomplishments were predicated on his religious calling, the central thrust of this work sets out to recognize Carey's remarkable contributions to the modernization of India through his passions of science and technology. Farrer notes that there have been (and refers to) several good biographies that treat

Carey's relationship with his religion and his service to the Baptist Church in great detail.

The book is set into two major parts, missionary/Orientalist and botanist/technologist, and is further subdivided in a manner likely necessitated by the manifold nature of Carey's many enterprises. The first part is concerned with Carey's early life in England, his appetites for languages and the natural sciences, his role in the founding of the Baptist Missionary Society, his Enquiry and "deathless sermon" (a sort of groundbreaking missionary call to arms, and an impassioned pro-missionary sermon yielding the famous "expect great things from God; attempt great things for God" quote, respectively), his often onerous and ultimately tragic first marriage, and finally the groundwork towards and eventual establishment of the Serampore Mission. Also in this first part is included a rather well-distilled mini-essay on the complicated and mercurial politics that influenced and informed the mission both in England and India. Shifting colonial interests, puissant trading companies, the American and French revolutions, malfeasance and abuses by local and regional authorities, unscrupulous political angling (by all players including those internal to the Mission Society), and widely spread anti-missionary sentiments on the ground in India, all conspired to yield a rather craggy purchase for Carey's charges.

Yet (and herein lies the hook that makes this such a compelling read), Carey's industriousness and perseverance were simply unflagging. Within a broad diversity of activities, Carey flourished, excelled and never rested. The abundance of Carey's accomplishments while in India is astounding. In 1800, with Joshua Marshman (a schoolteacher) and William Ward (a printer), he founded the Serampore Mission and School and established a fully operational printing house. Mastering several Indian languages, he translated and printed countless Indian secular and religious works, often creating or standardizing alphabets as well as having new foundry types fabricated for printing. Within seven years at Serampore, the Bible was translated into Sanskrit, Burmese, Persian and Chinese and by the end of Carey's life had been translated into no less than 40 languages. In 1818 the Serampore College was founded and shortly thereafter, under



Danish charter, became the first degree-granting tertiary institution in India. Notable here was the inclusion, at Carey's behest, of students from all stripes of religious affiliation and social caste, with a curriculum steeped in science and literature. Carey was also an effective social reformer, ardently advocating against infanticide and suttee, establishing a savings bank and, perhaps most lastingly, improving agriculture and forestry in India.

The second part of Farrer's work is concerned with Carey as a gardener and botanist, as well as his numerous contributions to science and technology. It is here that the bulk of new scholarship is realized, and the *raison d'être* of Farrer's work comes in his assertion that William Carey was a botanist of import. Accounts

of Carey have largely failed to recognize the breadth of his contributions to botanical science. He was a gravely humble man who eschewed popular notoriety, demurring taxonomic attributions and resisting any honor or position of esteem. Farrer gleans much of his argument from correspondence with other notable botanists, including William Roscoe, William Roxburgh, John Shepherd, William Hooker and Nathaniel Wallich, and it is clear that Carey was not in the least out of his depth.

Farrer writes without the vapid encyclopedic mannerisms of many biographers. His comprehension of the subject is confidently manifest, and his tone throughout is consistent and encouraging. Perhaps the only very minor criticism to be found with the work is the quite large *dramatis personae* encircling Carey; without taking notes or being quite familiar with Carey's life, it might be difficult to remember exactly who is who. But this is less of a complaint of the work than it is a reflection on Carey's broad influence and high standing within a multitude of scientific, social and religious spheres. Farrer's work, perhaps more than anything, captures the incredible industriousness of Carey and in accord with Carey's multifarious enthusiasms would be of interest to a very wide audience.

—Donald W. Brown, Assistant Librarian
and Assistant Bibliographer

Fisher, Celia. *The Medieval Flower Book*. London: The British Library; distributed by the University of Chicago Press, 2007. 128 p., col. ill. \$29.95 (U.S.). ISBN-13: 978-07123-4945-1 (hardback).

Celia Fisher's *The Medieval Flower Book* contains a great wealth of images reproduced from the British Library's wonderful collection of medieval and early-16th-century illustrated manuscripts.

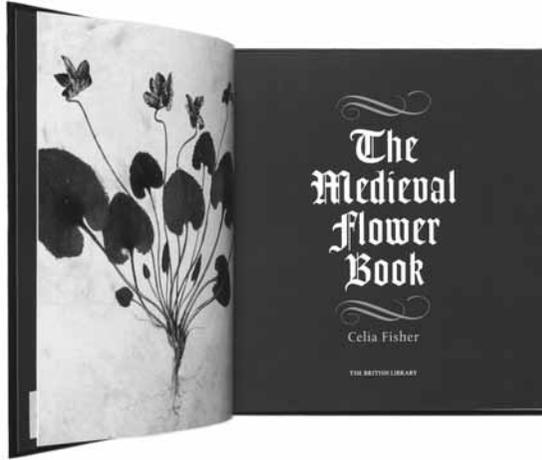
With no less than 150 or so images contained within 128 pages, the work appeals in a predominately visual capacity. Fisher provides an informative and well-written introductory essay on the history of botanical art in the period covered by the book and therein discusses many of the titles represented by the ensuing illustrations.

With much of the illustrative layout serving an aesthetic designed to flood the eye with beautiful images, there are some slight deviations from the artifactual integrity of many of the illustrations, including crops, partial inserts and an absence of noting the original dimensions. However, I feel that these manipulations are thoroughly pardonable considering the central ambition of this work,

which is to share these illustrations with a wide audience. Fisher creates an interesting convergence of information on the plants she chose for inclusion here—medicinal uses, folklore and traditionally attributed properties, symbolism, economic uses, etymology on common names and historically notable trivia accompany every main image in captions while decorative image inserts

complete the page. It is very important to note that these sorts of manuscripts are extraordinarily rare, unique and normally not readily accessible to anyone beyond already knowledgeable researchers; and as this book targets a general audience, it opens a very special and beautiful body of work to their consideration. It is a work that should bring much attention to the seminal collection at the British Library and that gardeners, plant lovers, fans of herbs and herbals, and book history enthusiasts might particularly appreciate. Included are a bibliography and indexes.

—Donald W. Brown, Assistant Librarian and Assistant Bibliographer



Sweet Peas (*Lathyrus odoratus*). Bouchdichon Hours, French, early 16th century: Add. MS 18855, f.12. Image courtesy of the British Library.

Hall, Nigel and Martin Rickard. *Fern Books and Related Items in English before 1900*. (British Pteridological Society, Special Publication no. 9.) London: British Pteridological Society, 2006. iv, 98 p., ill., including 5 col. pl. £15.00 plus postage. ISBN-10: 0-9509806-9-2 (paperback). Available from Patrick J. Acock <pat.acock@btinternet.com>.

It may be difficult to imagine the avid and widespread interest in ferns that existed in 19th-century Britain and, to a lesser extent, in the United States. Natural history intrigued many among the general populace, and its pursuit was widely encouraged. Amateurs studied nature in the field and in the library, and some contributed directly to scientific knowledge by collecting, describing and relating their observations of the natural world. The Linnaean system, in widespread usage in England for a time, was so easy to use that it fueled popular botany, enabling naturalists more readily to classify and name plants and people from all walks of life to find outlets for their interests and talents in collecting, identifying and

growing plants. Natural history was a hobby that was wholesome, healthy, genteel and stimulating and could be pursued without a lot of expense or training. It was also seen to be particularly well suited to women. While many kinds of plants attracted popular attention, some special types such as ferns and orchids drew particular interest. Ferns had not been well studied yet and were seen as graceful, exotic and somewhat mysterious. There was a huge market for fern identification books, and many people enjoyed leafing through fern albums or even making their own.

This sets the stage for the newest addition to the Special Publication series of the British Pteridological Society, *Fern Books and Related Items in English before 1900*. Nigel Hall and Martin Rickard are longtime enthusiasts of ferns and fern literature, and they have given us an informative and sometimes entertaining window onto these lovely publications. In the introduction, the tale is told of how these two fern lovers came to produce a

bibliography. Through their involvement in the British Pteridological Society, both men developed an interest in historical fern publications and began to collect fern books. They were inspired by others who had gone before them in collecting such books as well as in developing lists of them—men such as Jimmy Dyce and Henry Schollick, both cited as mentors. As so often happens with book collectors, Hall and Rickard both began to develop lists of the books in their collections and, eventually, lists of books that were not in their collections. Hall developed an extensive list, became increasingly interested in the bibliographic aspects of what he was doing and decided to become more serious about doing it properly. He combed the collections of libraries and museums and also continued to purchase many fern books so that his collection and his list grew together.

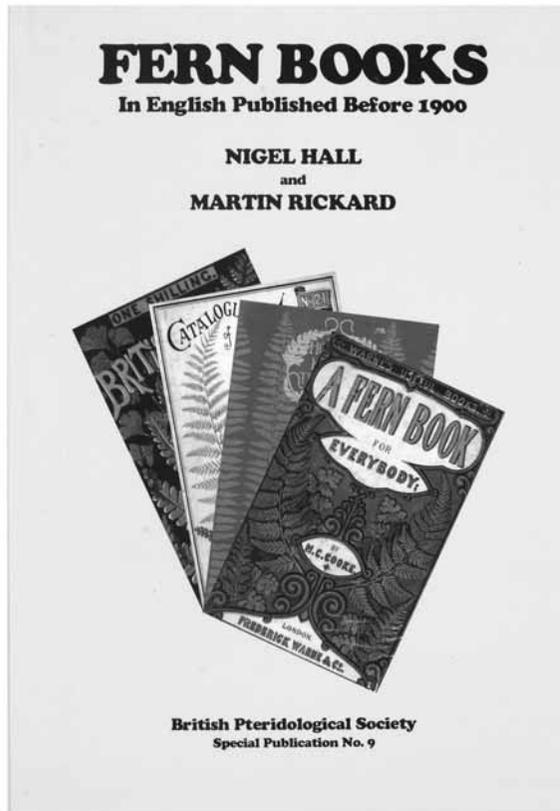
Hall and Rickard met during a BPS outing in 1978, where “they discovered their mutual quest to own as many books on ferns as possible” (p. 2), and Rickard began to collaborate on Hall’s growing list of books, which eventually became a two-inch-thick typescript. At this point, other interests interrupted the work, and years passed. Eventually, Hall gave the list to Rickard, who began to enter the data into a computer, adding his own information on books, albums and catalogues that he had collected in the interim. As noted in the introduction, Rickard did not just type the list but also “added, considered, verified, refined, amended, corrected and rewrote.” Thus the bibliography grew and was transformed from a simple competitive and collaborative hobby to something more. After Rickard finished typing the information into machine-readable form, the list was passed back to Hall for further work. “Suddenly one morning the disc arrived at Nigel’s who had foolishly offered to do the design and layout. The exercise was enjoyable rather than painful and

it was quite nostalgic for Nigel to revisit all the books, and quite frustrating to realize that Martin had, in the meantime, bought most of them” (p. 2).

The result of all of this work is a useful guide to historical fern literature. Hall and Rickard have built considerable added value into their bibliography by including numerous excerpts from contemporary reviews, showing us how the books were perceived at the time of publication by those “in the know.” Review comments run the gamut from fulsome praise to scathing criticism and give insight into all manner of things connected with the production of these books. In addition to standard bibliographic citations, the entries also variously include information about circumstances of publication, technical

information about how the illustrations were produced, biographical notes about the authors cited, references to intended audiences, and more. There are added entries for subsequent editions and reprints and mentions of addenda and publishers’ ads. Unusually, albums and nursery catalogs, the “related items” mentioned in the title, are included among the items described. Occasional informed speculation on the part of the authors adds to the text, and references to further information are provided in many of the entries. In addition to the color plates, there are about four dozen black and white photos of book covers, title labels and fern images included. Many of the books described were published in the 19th century at a time when many lovely and decorative cloth bindings were produced, images of which are sprinkled throughout the text. Their readily recognizable style evokes the period in which they were published and the aesthetic taste to which they appealed.

This bibliography was clearly a labor of love, and the enthusiasm of its authors is evident on every page.



Cover image by Nigel Hall and Martin Rickard

It contains a large amount of well-organized and readily accessible information and yet is compact in format and pleasingly inexpensive in price, being affordable by individuals as well as institutions. Pteridologists, natural historians and bibliophiles will all enjoy the fine work that has been done by Hall and Rickard. Librarians will also find the bibliography a useful tool for collection assessment and for providing more information to

their visitors about this very interesting subcategory of botanical literature. *Fern Books and Related Items in English before 1900* is the sort of special and specialized niche publication that comes along infrequently and is highly prized. I would hazard a guess that the print run is fairly limited, and I suggest that interested readers purchase a copy while the book is still available.

—Charlotte Tancin, Librarian

Harris, Stephen. *The Magnificent Flora Graeca: How the Mediterranean Came to the English Garden.* Oxford: Bodleian Library, 2007. 189 p., ill. (chiefly col.), map, port., facsims. \$60.00 (U.S.). ISBN-13: 978-1-85124-306-8, ISBN-10: 1-85124-306-2 (hardback).

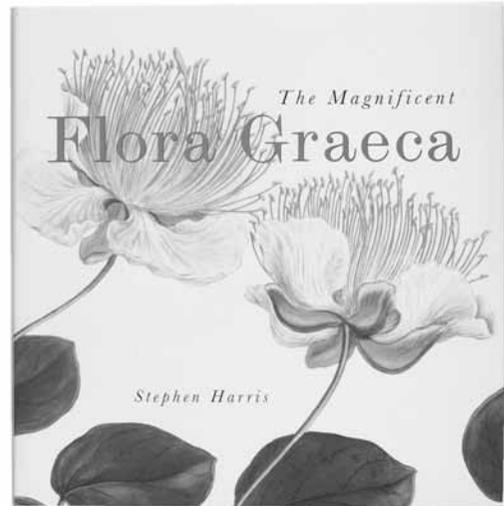
The early-19th-century *Flora Graeca* is, without exaggeration, one of the most extraordinary botanical works. The two expeditions to the Greek islands and Ottoman Empire were by John Sibthorp (1758–1796), the watercolors by the Austrian Ferdinand Bauer (1760–1826), engravings by James Sowerby (1757–1822), and the editing by James Edward Smith (1759–1828)—all important figures in the history of botany and art. Less well known is Sibthorp’s friend and traveling companion John Hawkins, a wealthy and well-educated Hellenophile.

Sibthorp was a professor of botany at Oxford University who was dedicated to the *Flora Graeca* project and had no difficulty financing his two expeditions. Alas, as a result of a “cold and cough” developed on the second one in 1793, Sibthorp died three years later after his return home of tuberculosis at the age of only 37, not having the opportunity to see his publication.

One of Sibthorp’s legacies was his contribution to horticulture, including *Crocus flavus* ssp. *flavus* from Turkey and *Cyclamen persicum* from Cyprus, and medicine, particularly *Digitalis lanata* ssp. *leucophaea*, source of an important heart drug. We are grateful that Sibthorp’s will requested publication of his work, deposition of his collections with Oxford University and establishment of a professorship.

Between 1806 and 1840 Bauer’s 966 watercolors were engraved for the 10 folio volumes of the *Flora*. Only 25 copies were printed and, even at that time, at an exorbitant price. This rareness explains why our founder Rachel McMasters Miller Hunt did not have a copy in her collection.

Among the images in *The Magnificent Flora Graeca* are selections of the engravings, the original watercolors and details of corresponding herbarium specimens collected



on Sibthorp’s journeys. Scattered throughout are the ten title pages with text in an oval surrounded by flowers, all surmounting small pencil, ink and wash vignettes by Bauer (including views of Constantinople, the village Ipsora in Cyprus, the Dardanelles, Mount Vesuvius, the summit of Mount Athos), and from his sketchbook charming pencil studies of plant details.

The square format of the book results in a number of the images extending right up to the margins or even running off the pages, which I find a bit disconcerting. Considering, however, the few copies of *Flora Graeca* that exist in the world and that few will have the opportunity to see the book (fortunately I did in 1989 with a tour group of botanical librarians), we are indeed fortunate to have any number of reproductions of the nearly 1,000 paintings by Ferdinand Bauer, along with excellent and thoroughly researched commentary by Stephen Harris, curator of the Oxford University Herbaria.

—James J. White, Curator of Art

Linnaeus, Carl. *Musa Cliffortiana: Clifford's Banana Plant*. Reprint and translation of the original edition, Leiden, 1736. Translated into English by Stephen Freer, with an introduction by Staffan Müller-Wille. Liechtenstein: Gantner Verlag, 2007. Distributed by Koeltz Scientific Books. 264 p., ill. €80.00. ISBN-13: 978-3-906166-63-6 (hardback).

Stephen Freer, who in 2003 published an English translation of Linnaeus's *Philosophia Botanica*, has followed with a translation of *Musa Cliffortiana*. Although at first glance this might seem like an odd choice, moving from the all-encompassing scope of *Philosophia Botanica* to a small monograph on the banana tree that grew and flowered in George Clifford's garden, in fact these two works are well-matched choices, and we are indebted to Freer for his work in opening these windows onto the mind of Linnaeus for a wider audience beyond those who read Latin. There is much to see, learn and ponder in *Musa Cliffortiana* that demonstrates yet again what a unique and powerful intellect Linnaeus had. Freer's translation is preceded by Staffan Müller-Wille's introduction providing historical context and an analysis of Linnaeus's method as seen in this early work.

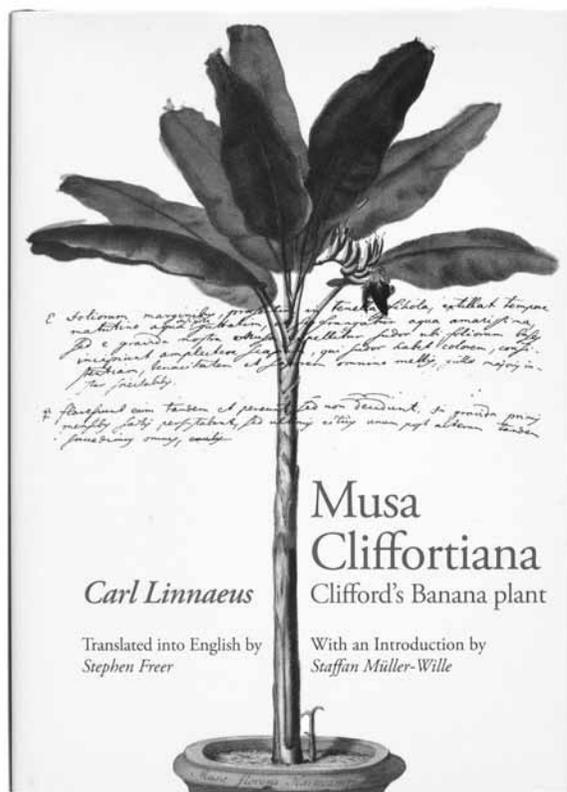
Musa Cliffortiana was published in 1736, written during the three years that Linnaeus spent in Holland and published the first editions of nearly all of his major works even though he had not yet established himself professionally. During this period, Linnaeus was employed by the wealthy merchant George Clifford to catalogue his extensive collection of exotic plants, a situation that Linnaeus benefited from in a number of ways. One such benefit was being able to observe firsthand a wide array of plants from all over the world, while another was the opportunity to consider their varied features in the course of cataloguing them, which stimulated Linnaeus's genius at description, assessment and classification. Yet another benefit was being able to observe and understand how these exotic plants grew, with a well-known example being the way that Linnaeus was able to ascertain the

horticultural needs of Clifford's banana plant and to meet those requirements by simulating tropical conditions so that the plant was able to flower, a rare and wondrous event in early-18th-century Europe. The banana was interesting enough for Linnaeus to make it the subject of his first monograph.

In a section of his introduction titled "Botany, patronage and global trade," Müller-Wille explains that wealthy collectors such as Clifford provided a gateway for the introduction of many exotic plants into the gardens of Europe. One of Linnaeus's tasks while in Clifford's employ was to correspond with other European collectors to solicit new plants for his garden. While Linnaeus's

Hortus Cliffortianus, the famous catalogue of Clifford's garden, was published to honor Clifford and advertise the wealth of his garden, both *Hortus Cliffortianus* and *Musa Cliffortiana* also served as gifts to be given to those botanical amateurs and botanists with whom Clifford wished to establish or strengthen exchange relations. These keepsakes commemorating Clifford's wealth and power as a connoisseur of rare plants also reflected well on Linnaeus in his position as administrator of such a notable collection. The banana was a focus of particular interest, being an important plant for trade, connected with European colonial expansion, and a rare sight in European gardens of the time.

Linnaeus emphasized the fact that Clifford's banana was only the fourth to flower in a European garden, intimating the excellence of the conditions and resources that could support such a horticultural feat. In fact, the rare conditions that could be supplied by such wealthy and knowledgeable collectors with far-reaching connections were what allowed European botanists to study firsthand full-grown exemplars of rare tropical species. These opportunities enabled botanists to collect and systematize the burgeoning knowledge of new plants



coming to Europe from other parts of the world, which in turn strengthened the desire for further exploration and exploitation of global natural resources.

After laying out this historical context, Müller-Wille turns to Linnaeus's method and thought regarding the possibility of devising a natural system of classification. Bound into Linnaeus's own copy of *Musa Cliffortiana* was his single-page folio sheet outlining his *Methodus*, printed in Leiden in 1736. As Linnaeus sets out his methodical description of *Musa*, he doesn't purport to give the definitive *Musa* description "but rather aligns, discusses, and synthesizes various attempts at its definition, progressing towards an ever clearer and more detailed picture of this species' unique features" (p. 37). In this early part of his career, Linnaeus already had developed a careful method of observation and documentation—as Tod Stuessy says in his preface to Freer's translation, "His eyes were sharp and his intellect even sharper" (p. 12).

Linnaeus presents three lists of names for this plant with references: names used in other taxonomic systems, other names used in earlier publications and various vernacular names, the latter coming mostly from travelers' accounts. Following that, he focuses on identifying genus and species, progressively narrowing the definition. In the course of this work, Linnaeus distinguishes three types of definitions: artificial, which depends on a particular system; essential, which identifies the genus by a characteristic feature; and natural, which is really a description, recounting all morphological features shared by members of the same group. Müller-Wille notes that while artificial and essential definitions are limited by what is already known about the plant, a natural definition is independent of any system and of new discoveries. Linnaeus believed that natural definitions were more stable than other types, being able to accommodate new discoveries and grow cumulatively at the same time.

Müller-Wille also noted that *Musa Cliffortiana* is the first publication in which Linnaeus explicitly discusses his idea of a natural system, and that Linnaeus was the

first to make a clear conceptual distinction between artificial and natural systems, noting that his own sexual system was artificial and limited and saying that he would publish at least the beginnings of a natural system at some point. In this regard, Müller-Wille suggests that Linnaeus's own annotated copy of *Musa Cliffortiana* gives a window onto Linnaeus as he worked to pave the way to a natural system. Linnaeus considered taxonomy to necessitate open-ended research, as shown in the way he annotated his *Musa Cliffortiana* as he reviewed and revised his definitions. In fact, some further observations and corrections of *Musa* were incorporated as corrigenda in *Hortus Cliffortianus*. Linnaeus had the rare opportunity to witness a second flowering of the banana in Clifford's greenhouse, which enabled him to reassess his initial observations and correct or expand them.

Although I have concentrated much of this review on Müller-Wille's essay, Freer's translation requires emphasis, not only because it is the true core of the book but also because it does something important in making directly accessible the actual work that Müller-Wille has been explicating. Reading Müller-Wille's essay, one is able to much more fully appreciate the import of what Linnaeus was doing in this early monograph. Reading the essay and then the translation leads one to marvel at the workings of this as yet only partially trained mind at work on a careful method of observation and documentation, as Linnaeus shows how a proper description should be constructed. So much has been written about Linnaeus, his work and his impact that it is easy to forget that many who have an interest in these topics but who do not read Latin have never read the original works and so until now have not been able to directly experience these core writings in the history of science. Freer is changing that, and we owe him a debt of gratitude. His lucid and direct translations of some of Linnaeus's key writings are an important contribution to scientific and historical scholarship.

—Charlotte Tancin, Librarian

Maeterlinck, Maurice. *The Intelligence of Flowers*. Translated and with an introduction by Philip Mosley. Albany: State University of New York Press, 2008. xxvii, 77 p. \$38.50 (U.S., hardback); \$12.95 (U.S., paperback). ISBN-13: 978-0-7914-7273-6 (hardback); 978-0-7914-7274-3 (paperback).

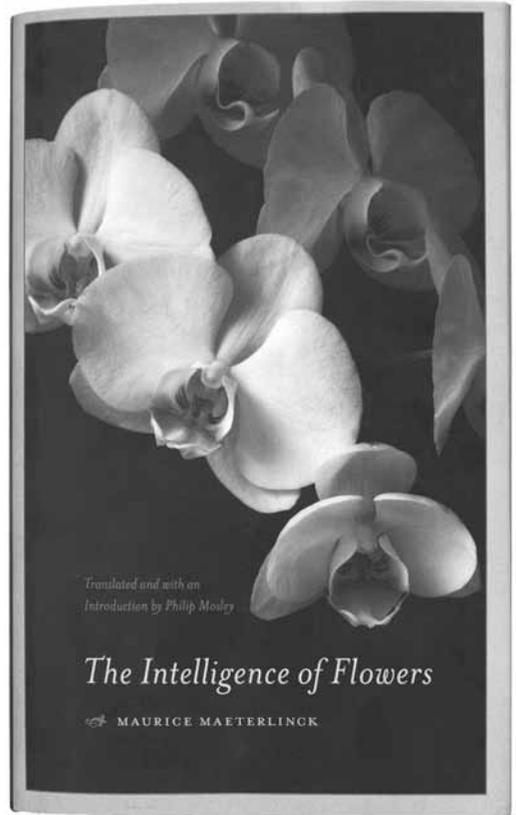
Maurice Maeterlinck (1862–1949) achieved international acclaim and was one of the most widely read literary figures in his own time largely due to the strengths and innovations of his dramatic works, but his receipt of the Nobel Prize for Literature in 1911 came chiefly upon his merits as an essayist. The essay *The Intelligence of Flowers* was published in 1907, six years after his

massively successful book-length essay *The Life of the Bee*. Similar studies of the termite and the ant would follow. There is no evidence that Maeterlinck had any formal training in the natural sciences, though it is apparent that he diligently apprised himself, as much as would seem possible, of traditional and modern scholarly work and clearly possessed an avid appreciation of the workings of the natural world. There are conflicting accounts regarding Maeterlinck's mental health during the years approximate the first two nature studies. However, found within these, more so than the others, is an aplomb and resolve of a congruent philosophy combining science, spiritualism and occultism and a decisive acceptance of an

imperfect natural balance, all imbued with a cheerfulness and optimism such that would unequivocally suggest that while he was surely ardent, and surely impassioned, his thoughts and the presentation of his observations remain in the end orderly, lucid and pleasing. Moreover, I think attempts towards contextualizing this work in regards to Maeterlinck's personal life (especially in light of his extraordinary fame) might somehow diminish what is an unabashedly poetical, yet engaging and approachable, offering to what was his contemporaneous popular plant science readership.

Ostensibly, the bulk of the work concerns itself with some of the most remarkable pollination mechanisms of certain flowering plants and posits the notion that flowers possess thought without knowledge. On a broader philosophical level though, Maeterlinck seems disposed at every turn to demonstrate a substantive analogue between plants and man. The tone of the essay is somewhat oratorical, somewhat conversational. There is much in the way of zealous marvel, but it is always mitigated with more practical scientific erudition. His enthusiasm is capital though, and he employs it to great effect. After a full measure of celebratory praise heaped upon the wonders of the *Orchis latifolia*, he asks, "Have I expounded the entire miracle? No . . .," and goes on.

Phillip Mosley's wonderful introduction suffers only from its brevity. His apprehension of Maeterlinck's work and philosophy are fascinating and fully merit a book-length biography. Mr. Mosley, it should be noted, is also the translator. Also translated and included here is a minor essay on scents. *The Intelligence of Flowers*, while certainly full of romantic vigor and somewhat dated rhetoric, is still a wonderfully enjoyable, insightful and worthwhile read. In short, the reader is presented here with a remarkable and fascinating subject treated by a literary giant at the height of his fame. Mr. Mosley states, "Balancing the scientific and artistic, emotional and cerebral, specific and general, his essay is a botanical tour de force written in lyrical and accessible prose." This work would be of interest to anyone excited by



Cover photo by Andrew Sovjani

the remarkable processes of the plant world and would expressly appeal to gardeners and flower growers. Also, I would support this work for inclusion into any young adult reading list for its markedly thoughtful and respectful view of nature and our place in it.

—Donald W. Brown, Assistant Librarian
and Assistant Bibliographer

Magee, Judith. *The Art and Science of William Bartram*. University Park, Pennsylvania: The Pennsylvania State University Press in conjunction with the Natural History Museum, London, 2007. 264 p., ill. (chiefly col.), list of illustrations (including thumbnails of them). \$45.00 (U.S.). ISBN-13: 978-0-271-02914-6 (hardback).

Edmund Berkeley and Dorothy Smith Berkeley's *The Correspondence of John Bartram* (Gainesville, University Press of Florida, 1992) suitably impressed me some years ago with the fragility of early specimen collection in the colonies and the tenacity of the early American collector. John Bartram (1699–1777) would trudge miles in the underbrush, collect specimens, often unsked,

and hope they would both make it to their destinations and be welcomed by the recipients enough to ensure payment. The correspondence traces each transaction and his private worries and glories. I approached Judith Magee's in-depth look at William Bartram (1739–1823) with some rather specific curiosity, and, though they are very different publications, I was not disappointed.

The collecting Bartrams, father and son, overlap in their biographies such that the geography and saturation level of civilization had not changed as greatly as I had thought. Nonetheless, the next generation collected in a young nation, and Magee rightly notes that

An independent scientific establishment developed, one that contributed significantly to the forging of the identity of a new nation. The pursuit of the study of the natural history of America was in itself a patriotic activity because it described the productions of the New World. The desire to explore, discover, describe, name, and classify the natural world helped serve the utilitarian principles of the age and define the character and future of the young nation. The analogy of a social order with that of the natural order was a strong one and by giving identity to the natural world through the science of taxonomy, the identifying and naming of species, a national identity evolved (p. 2).

Until the mid-1770s, America was dependent on Europe for printing, publishing, naming and classification (by looking at American specimens, not necessarily by travel). In addition to this intellectual labor, the young nation also imported its material goods: pens, paper, instruments. There were no science organizations until the formation of the American Philosophy Society in 1743, and early American naturalists looked to Europe for its models.

Europe itself was undergoing a scientific paradigm shift with the growth of Newtonian mechanical philosophy and Enlightenment rationalism. From around 1660, with the founding of the Royal Society, English scientific endeavors were “distinctly separate” from religion and politics. “The personal relationships that existed through letter-writing and the debates they engendered stimulated the growth of scientific societies and their publications” (p. 4). Increases in scientific publications, accessible language and popular science works meant the exchange of ideas in a new population. Yet, power relations were not completely rewritten in the face of these exchanges in ideas, and Magee rightly points out that realms of influence were still mediated by private dealings: “Despite the increase in science literature, the major vehicle for such intellectual contact between the curious of the two continents remained the network of men who debated and developed ideas through their letters and exchanged natural objects and artifacts” (p. 7). These correspondents also traded plants and seeds. “John Bartram was one of the major participants in the exchange of plants during his lifetime and was responsible for introducing as much as one-third to one-half of all North American plants to Europe from 1730 to 1770. He created one of the first botanical gardens in America on the banks of the Schuylkill River at Kingessing, and was appointed the King’s Botanist in 1765” (p. 7). Later Magee asserts that “more than 320 plants were introduced from America between 1736 and 1776 (after which trade was disrupted

by the revolutionary war) and almost half of these plants were from John Bartram” (p. 21). The seed business for plants indigenous to America was lucrative for reasons that Magee rightly understands as deeply embedded in historical circumstances.

The 1689 so-called Toleration Act had been passed [in England], which gave greater freedom to those who had been oppressed in earlier decades. However, Unitarianism remained punishable by penal law and Catholics and non-Christians were still denied the right to public worship. Nevertheless, gone were the repressive laws that had forced William Penn and his fellow Quakers to seek refuge across the Atlantic. Religious toleration reflected other changes taking place in late seventeenth-century and early eighteenth-century England. ... Hand in hand with greater liberalism in law and religious toleration in England came material wealth for a certain sector of the country’s citizens. This wealth provided the opportunity for many to explore science and the natural world. ... Some expressed their interest by collecting natural objects. ... The desire to possess ornamental and curious plants from around the world was insatiable (pp. 19–20).

Magee stresses the Bartrams’ important role in the global plant trade. Their trade and its impact was so great that “it helped shape the appearance of English landscape gardens” (p. 26). That seems right from my own knowledge of this period, but I would like to see her support her claim with an example—a famous English garden’s Bartram plants or a nursery catalogue featuring Bartram introductions.

While *The Correspondence* leaves analysis of all the details up to the reader, Magee helps contextualize both the father and the son. While his father was imposing, William Bartram was sensitive and genuinely modest; he “believed personal ambition was a characteristic that led to avarice and war, and thereby to human unhappiness” (p. 2). Magee draws attention to some details that may otherwise be lost to a reader, such as how John wrote of William, “hard labour does not agree with him” (p. 35). Though he was not the oldest, William Bartram had a special affinity with his father, and indeed became associated with Bartram’s Garden, but William’s vision for his future was different from what his father imagined. William traveled extensively on collecting trips with his father starting at the age of 12. From 1754 William attended Philadelphia Academy (the only Bartram to do so), which later became the University of Pennsylvania. Though William’s artistic skills were

recognized and encouraged, John worried that his son would not make a proper living from them. Thus, at 17 William was training to be a merchant in Philadelphia. He lived there with Captain James Child and his wife for four years. After the apprenticeship, William went to live with his Uncle William in Cape Fear, North Carolina, arriving there 6 May 1761. Going to Cape Fear, William was seasick, he met with storms upon his arrival, his uncle had loaned out the boat William was to use (so he rented one), and his first shipment of plants to his father was washed overboard. John's complaints that "I have not received one single seed from my son who glories so much in ye knowledge of plants" (p. 46) did not fall on deaf ears. By the next May, William had successfully sent a box of plants from Cape Fear.

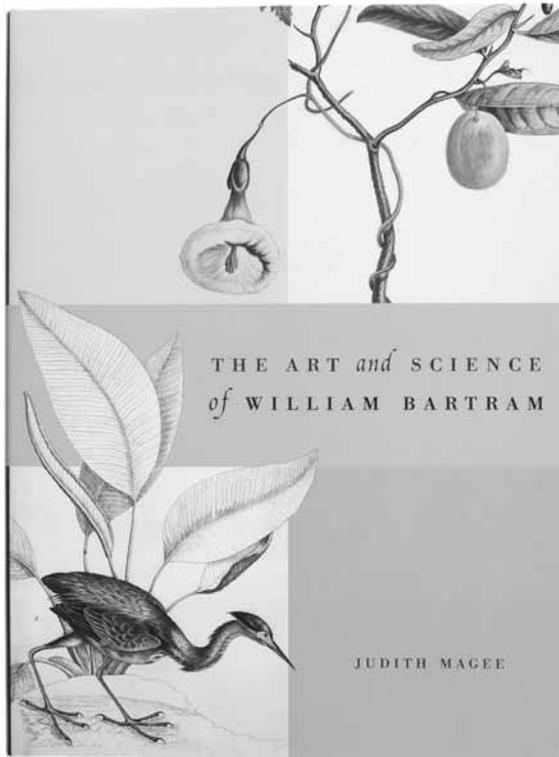
During both his studies and his apprenticeship, William kept at his drawing and contributed artwork to George Edwards' *Gleanings of Natural History* (1758–1764), (p. 34). William's artwork was compared to that of Georg Ehret (1708–1770) by family friend Peter Collinson (1694–1768, Collinson was a friend by correspondence only; they never met in person), and indeed, Ehret agreed to engrave some of them, but the project never materialized for reasons that are lost. An engraving from one of William's drawings was also published in Philip Miller's *Figures for Gardeners Dictionary* in 1758, but it was mistakenly credited to his brother, John Jr.

In 1761 William tried to send his father a specimen from Cape Fear of what would be called the Venus Flytrap, which was causing a splash in plant circles. Though William's first attempt of shipment was lost, John was growing it in 1762, whether or not from seed procured by William is unknown. Collinson first heard of the "sensitive" plant in 1759 and literally begged for specimens. Magee writes that "The allure of carnivorous plants such as *Dionaea* was that they appeared to possess an intelligence, that they were capable of intention and thereby deserved a higher position in the

Great Chain of Being" (p. 50). Venus Flytrap was first described by John Ellis in a letter to the editor of the *St. James's Chronicle*, 3 September 1768, and published as an attachment to his *Directions for Bringing Over Seeds and Plants from the East Indies*, published in 1770. Ellis also hired James Roberts to execute an engraving and had a colored plate to send his friends by September 1768. The engraving was not published until 1770, and both the egotistical William Young (1742–1785), Queen Charlotte's botanist, and William Bartram produced images first. Young went to England several times,

taking Venus Flytrap plants and seeds each time, was imprisoned for debt there and was returned to America by 1766. Young's stylized drawings of his specimens collected in the Carolinas were published in a book dated 1 December 1767 and included the Venus Flytrap. William Bartram's sketch is acknowledged as received by Peter Collinson on 2 February 1768, though it is not clear to me if William's sketch was published, and this chapter ends without an analytic conclusion. Is the circuitous but enjoyable story of the Venus Flytrap meant to show that William Bartram had his finger on the pulse of plant trends or that he was just repeatedly a victim of bad luck? Magee's clear wealth of research could be engaged to guide the reader's interpretation.

John and William Bartram traveled together in the Carolinas, Georgia and Florida from July 1765 to April 1766. Magee echoes John Bartram's contemporaries, saying that his journal is "very much a diary, the jottings of daily sightings and events. Bartram made no attempt to embellish his descriptions with florid language or literary analogy such as William would do in his own writings" (p. 64). Magee also notes that one shrub recorded on this trip, *Franklinia alatamaha*, "no longer exists in the wild and all remaining cultivated specimens are thought to



By permission of the Trustees of the Natural History Museum (London)

have originated from seed grown by William Bartram” (p. 65). William recognized and claimed *Franklinia* as a new discovery, but Magee notes that the dispute between American and European botanists as to the genus and official name continues to this day. Without delving into a lot of scandalous details, Magee briefly describes the 18th-century politics of celebrating Ben Franklin, and Europeans’ reluctance to accept an American name. With this anecdote the reader does have a sense of Magee’s purpose, showing how international politics did not favor William’s discovery.

In the spring of 1766 John Bartram returned to Philadelphia, and William stayed in Florida to plant rice and indigo, failing to succeed as a farmer. John bought the land, seed, equipment and slaves for the endeavor, but by the summer of 1767 William had returned to Philadelphia. That hardly seems like a real attempt at a vocation like farming, with its long turnaround on one’s investment. Indeed, Magee mentions here that modern historians wonder if William might have been clinically depressed, but her turn to the early American anti-slavery movement seems to challenge that diagnosis as the impetus of William’s failure. She writes that by the mid-1700s anti-slavery discourse was underway, especially in Quaker communities. In 1758 the Quakers officially stood against slavery, and Magee reports on abolitionist botanists such as Robert Barclay (1648–1690), John Coakley Lettsom (1744–1815) and John Fothergill (1712–1780). With her juxtaposition of possible depression and slavery, Magee seems to suggest that William’s bailout was slavery-based or political in some way, then backs off that. This is another instance where I would like to see more of Magee’s expert opinion.

William held an interactive, movement-based, active view of nature in contrast to the dominant Linnaean style of drawing, which instead included a clear and distinct representation of stipe and stamen. William Bartram’s patron John Fothergill even asks him “to be a little more exact in the parts of fructification and where these parts are very diminutive to have them drawn a little magnified” (p. 68). William clearly preferred contextualized specimen portraits over the Linnaean style of prioritizing the identificatory parts. Magee notes that prominent artists George Edwards (1694–1773) and Ehret depicted surface characteristics, while William Bartram portrayed “behavior, habitat, interrelationship between species” (p. 78). “William Bartram was unable to separate himself from nature and saw it as an organic whole” (p. 93), and this view of the natural world is made startlingly clear in the many wonderful reproductions of his work. We see a bird hunting a fish or a snake devouring a snake with surrounding flora and habitat portrayed. For William, nature was the manifestation of a benevolent creator; it was instructive and useful. Habitat

destruction and extinction were feared by William, as they were by his father. This holistic concern shows clearly in his artwork.

When William’s father and family refused to help him relocate to Augustine, Florida, he sought other patronage. He embarked on a four-year collecting trip and indeed sold much of his work from this trip to the Duchess of Portland (1715–1761) and John Fothergill.

This time William did not fail. It was his first major collecting trip without his father and he spent almost four years traveling through the Carolinas, Georgia, Florida, and as far as the Mississippi and Alabama. He collected plants, kept journals of his travels, completed sketches, and finished drawings. And through his contact with Native Americans, he became a close and accurate observer of their lifestyle (p. 89).

His success came in part due to a broken leg; during his nearly 12-month recovery, he worked on his manuscript. Through Georgia in 1773, he had a 16-year-old companion, the son of a family friend. Thus William was for the first time the “senior figure” (p. 101), which also seemed to help his focus.

During his travels William Bartram was reliant on regional traders, whom he found largely dishonest and violent. Various tribes of Native Americans, on the other hand, offered William protection. Bartram’s account of the Augusta Congress in June of 1773, the negotiations between the British and native Creeks and Cherokees, “is the only available report of the proceedings; nothing appears to have survived from the British side, apart from the clauses of the treaty itself” (p. 103). William “describes the lifestyle, culture, and history of the various native groups” (p. 128), incorporating their oral traditions and mythologies and noting the consistently immoral conduct of white people. William was traveling throughout the South as the American Revolution unfolded; some family friends were “pivotal in the events of the following few years in the region [Georgia]” (p. 120). Lachlan McIntosh, for example, was colonel of the first Georgian battalion. William accompanied him on some of the Revolution Skirmishes in 1776 and helped protect McIntosh’s home. Magee notes that such activities differ markedly from his Quaker roots. But many other Bartrams were Free Quakers, who believed it was lawful to take up arms for American liberty. Magee notes that William is not known to have committed himself to the Free Quakers but that his loyalty to the United States was never doubted. William moved to Savannah with the McIntoshes and then back to Philadelphia for the winter, where he lived with his brother and his family, and with their mother, for 46 years. This is another instance where Magee seems not

to interpret the historical facts but tells details from both sides. Are there not enough materials to resolve William's fighting with his Quakerism, or is she pointing out a personal contradiction? With all her obvious in-depth research, I would like to see Magee help the reader navigate what seem like contradictory facts.

A pioneering travel writer, William shaped the American style of the poetic and personal travel narrative. William's own writings and his encouragement of other naturalists, men such as Alexander Wilson (1766–1813), Thomas Say (1787–1834) and Benjamin Smith Barton (1766–1815), helped to shape American science in its struggle to be distinct and independent. President Thomas Jefferson (1743–1826) was a subscriber to *Travels*, which was published in 1791. Magee claims that William Bartram's work was important for countering European ideas such as those of Georges Louis Leclerc de Buffon (1707–1788), who held that New World species were inferior to older European species. William's dates are mostly incorrect in his narrative, but Magee points out the benefits of his play with chronology:

The rearrangement of events not only helps to make moral statements... but also creates a narrative tale that pulls together to give a cohesive picture of the region. Just as his drawings depict the interrelationship between species, so Bartram does the same in his writing. To give a complete view of nature in a particular region, he needed to show the interaction between species, the effects of weather and human interference on nature, and this sometimes meant altering the chronology of some of his experiences (p. 125).

As with Jefferson's *Notes on Virginia*, William Bartram's *Travels* helped American science assert its independence. Bartram's book was more greatly appreciated in Europe, where poets such as William Wordsworth (1770–1850) and Samuel Taylor Coleridge (1772–1834) were immersed in *Travels*, and Magee nicely traces that intellectual history. Overall, this book is well worth reading. It is lavishly illustrated, well researched and evocatively written.

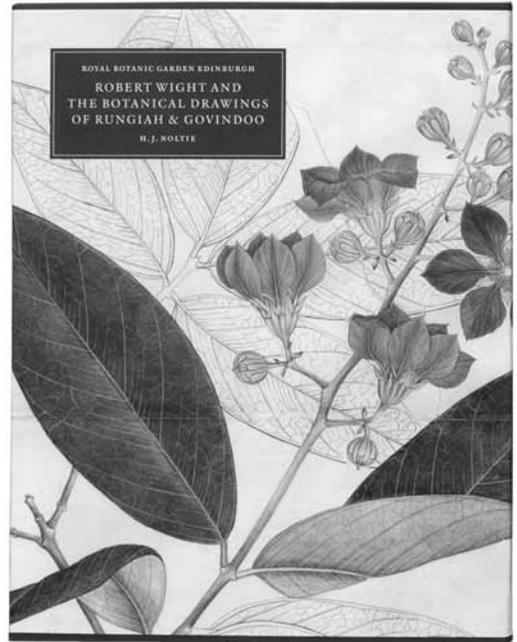
—Angela L. Todd, Archivist

Noltie, H. J. *Robert Wight and the Botanical Drawings of Rungiah & Govindoo*. Vol. 1, *The Life and Work of Robert Wight*; vol. 2, *Botanical Drawings by Rungiah & Govindoo: The Wight Collection*; vol. 3, *Journeys in Search of Robert Wight*. Edinburgh: Royal Botanic Garden Edinburgh, 2007. 3 vols., ill. (chiefly col.), facsimils., map, ports., plans. £75.00 for the boxed set. ISBN-13: 978-1-906129-03-3 (vol. 1); 978-1-906129-00-2 (vol. 2); 978-1-906129-01-9 (vol. 3); 978-1-906129-02-6 (boxed set, paperback).

H. J. Noltie, in his three-volume work on Robert Wight and his artists Rungiah and Govindoo, has painstakingly researched and documented his sources, much of the work done on one four-month trip to India, based in Madras (now Chennai) in late 2002 (plus a three-week trip to Calcutta). The volumes are divided into Wight's life and work, the drawings of Rungiah and Govindoo, and the journeys taken to document these subjects. He began the Wight project as a similar one to his *The Daipuri Drawings* (2002), watercolors in Edinburgh commissioned by East India Company surgeon Alexander Gibson in the first half of the 19th century. Wight's career required more space, resulting in these volumes.

Volume 1, *The Life and Work of Robert Wight*

This volume of H. J. Noltie's opus is an in-depth look at the Scottish surgeon, naturalist and botanist Robert Wight (1796–1872). This excellent biography is organized broadly into five parts: "Birth and education" (including



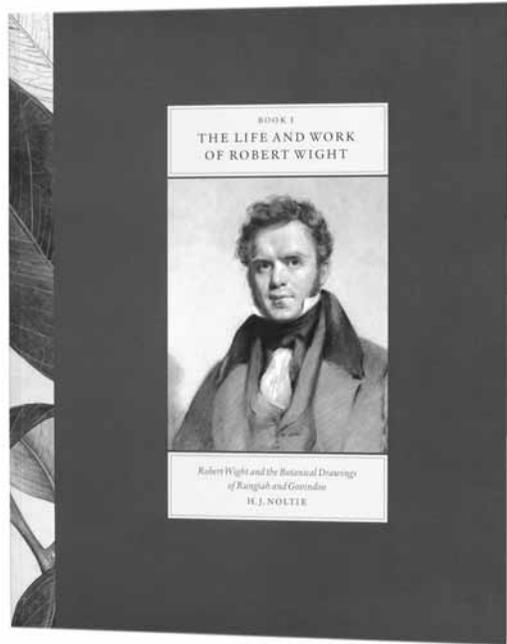
significant genealogical work), "First Indian period, 1819–31," "On furlough, 1831–4," "Second Indian period, 1834–53," and "The later years, 1853–72" (including a family tree showing his descendants). Nearly comparable

to a diary in its overall level of detail, this work is nicely augmented by engravings, lithographs, daguerreotypes and photographs, from the crayon-drawn portrait of Daniel Macnee on the cover to the family and headstone photographs at the close of the volume. Noltie engages discussions of Wight's views on religion, evolution, taxonomy, nature and India (Wight always considered himself Indian despite being born in Scotland).

There is little documentation of Wight's early years apart from his rare reminiscences, and Noltie has gone to great lengths to ferret out details from the period that shed light on Wight's career and life in "Part I: Birth and education." To flesh out Wight's school days, for example, Noltie garnered what he could from the "sadly incomplete" (p. 19) archives of The High School of Edinburgh and otherwise scoured published histories and personal memoirs of Wight's contemporaries. Documenting Wight's college years was not much easier. Noltie writes:

It is not possible to be certain which subjects Wight studied each year, or, indeed, for how many years Wight matriculated, despite the fact that such information would seem to be easily ascertained from the University Matriculation Rolls and from the class lists given in the Medical and General Registers, which survive almost intact for Wight's period. One difficulty comes from curious anomalies and inconsistencies in the student's place of birth as given in the Matriculation Roll (where it was written by the student when he signed up and paid £10 at the start of each academic year), and which is sometimes (but not always) given in the class lists. Unfortunately the matriculation ticket number, which would make an incontrovertible link, is not always recorded in the class lists, making correlations problematic. An even greater difficulty comes from a positive plethora of Robert Wights, whose signatures are not distinguishable with certainty, and who all came from Midlothian or East Lothian. While at the High School there had been a mere two, at the University there seem to have been four Robert Wights—all there at the same time! (pp. 21–22).

Noltie continued undaunted, scouring archives and reading institutional histories, biographies and autobiographies. When correspondence exists, Noltie quotes it liberally or transcribes it entirely, adding significantly to the intensity of the book. His accounts of attempting to do research in some of the archives in India made my hair stand on end, and I applaud his tenacity in the face of some dramatic conditions,



unhelpful personnel and borderline disasters. Noltie's account is wonderful, clearly laying out the historical moment with detail and panache; yet he does not succumb to guesswork about what Wight might have said, done or felt.

Wight obtained his M.D. from Edinburgh University in 1813. "Part II: First Indian period" recounts how in 1819, as an assistant surgeon, he set sail on a four-month journey to Madras where for the next twelve years he spent his leisure time botanizing. With paper, books and botanists a scarcity, Wight's work has been subject to much revision, though still of vast importance. Indeed, Noltie's patient explanations of imported versus local papers, the lack of book production, and the ravages of climate on both books and specimens all work to flesh out Wight's situation and still keep the reader moving avidly through the text. Wight traveled in Mysore, Vellore and Madras, where he was appointed by the Madras government as naturalist on the Madras Establishment in 1826. Tragically, in 1828 the Madras government completely abolished the Office of Botanist and Naturalist and with it Wight's plans for a journey through the country's richest botanical regions—the south. Wight then was ordered back to military medical duties, as garrison surgeon of Negapatam, where long hours added to the lack of resources to intensify Wight's struggle to botanize.

“Part III: On furlough” recounts Wight’s visit back to Britain, where he arrived with “‘probably better than 2 tons of cargo,’ containing his herbarium, botanical books and ‘nearly 200 drawings’” (p. 45). Noltie expertly contextualizes Wight’s return with a discussion of the distribution of the larger East India Company herbarium, consisting of specimens collected over the years that needed to be named, with duplicates dispersed to 66 individuals and institutions in Europe and India. In total, 226,000 East India Company specimens were sent out in some 641 parcels, amidst distrust, clamoring and competition. In the summer of 1831 Wight returned to Scotland, walking 25 miles to visit his sister Anne, collecting plants and meeting his longtime correspondent Sir William Jackson Hooker (1785–1865) in Glasgow. Indeed, Wight’s regular correspondence to Hooker is a substantial source of evidence for Noltie. Wight was elected a fellow of the Linnean Society the winter of 1732 in the midst of his work back in London, identifying and organizing his prolific herbarium. The following summer he returned to Scotland to collect and to meet with George Arnott Walker-Arnott (1799–1819), who would prove to be an important collaborator and supporter. Noltie adds a nice touch in telling of how, at Hooker’s request, in November 1732 Wight sat for the Macnee drawing that graces the book’s cover. During this furlough in Britain “two parts of Wight’s herbarium *Catalogue* (May 1833, September 1834), the *Prodromus* (August 1834) and *Contributions* (September 1834) were all published” (p. 55). Though Wight’s leave ran out before he could complete all of his projects, Arnott tidied up much of his unfinished business.

“Part IV: Second Indian period” finds Wight back in India, serving as a traveling military surgeon in Bellary, Palamcottah and Courtallum, collecting all the while and publishing in the *Madras Journal*. Wight also published in McClelland’s *Calcutta Journal of Natural History* and in the Agri-Horticultural Societies’ journals in Madras and Calcutta. Noltie writes of international communication: “The large circulation of such journals in India has been noted, but copies were also sent to Britain where they were read with more than cursory interest. Important articles, however, gained a wider circulation by being abstracted for periodicals such as those edited by Hooker, and the *Annals of Natural History*. This was of particular importance in establishing priority of names of new species, which might otherwise have been overlooked in Europe” (p. 63). In November 1835 Wight was appointed to a position with the Revenue Board, investigating natural resources in Ceylon and Malabar. The new position would allow him to focus on improvements in agriculture and commerce, two areas always intertwined; Wight notes: “‘whatever tends to extend the one, must give a forward impulse to the other’” (p. 71). Indeed, Wight wrote a report, “On the

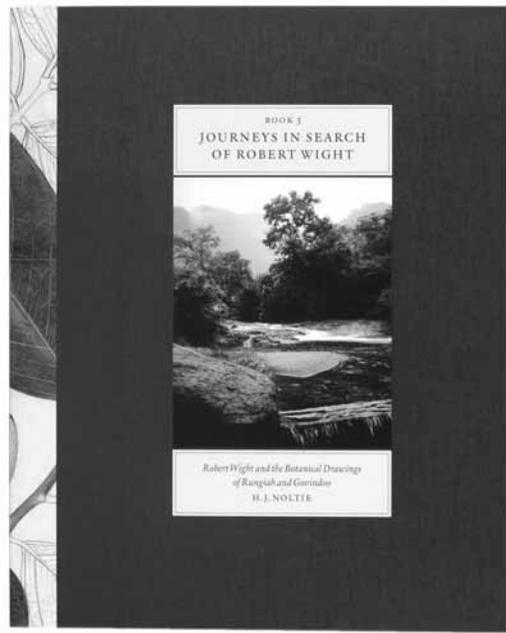
means of inducing the Native of India to devote more time and attention to the culture of commercial or mercantile produce than they have hitherto done,” in this position. While he was renewed for a second year, government officials pushed him to do more condensing of existing reports, rather than original fieldwork. In 1838 Wight married Rosa Harriette Ford (fl.1830s), whose album of botanical paintings serves as evidence of her own interest in her husband’s work. The couple had five children who lived to adulthood. That year he also began publication of *Illustrations of Indian Botany*, the *Icones Plantarum Indiae Orientalis* and *Spicilegium Neilgherrense*, with ten volumes produced in the following fifteen years. During these productive years, Wight also continued to serve as the roving economic botanist of the Madras government. From 1842 to 1853 Wight was employed by the East India Company in Coimbatore, working on cotton—introducing American varieties, improving native varieties, and introducing American techniques for cultivation and cleaning. During this period, there is so much documentation that Noltie’s work is to sort it out and make sense of what happened. Noltie does this with skill, mapping out Wight’s early interests; the stakes of the East India Company and Wight’s various supervisors; interests of the American planters and their system; season-by-season reports of struggles, progress, infighting, procrastination; and Wight’s final, perhaps overly optimistic, interpretation of the project.

“Part V: The later years” recounts the Wights’ return to Southampton in April 1853. They joined their children, who had moved to England in 1846. In his retirement, Wight published very little, in spite of his intentions to continue working on Indian flora. In 1861 he published eight letters on cotton in *Gardeners’ Chronicle*, which were then reprinted as a pamphlet the next year. In 1865 the secretary of state for India appointed a committee of folks to produce *Pharmacopoeia of India*. Wight was one of the elders of the committee, and the appointment inspired him to happily return to the herbarium and botanical meetings through 1868. After that his work waned, and Wight died in 1872. Noltie judges “Wight’s most lasting achievement was his role in aiding identification by means of the publication of illustrations based on the works of his Indian artists” (p. 178).

—Angela L. Todd, Archivist

Volume 2, Botanical Drawings by Rungiah & Govindoo: The Wight Collection

“The validity of botanical art as a scientific tool” emphasizes that the history of botany is recorded not only in text but also in pictures, of which there are a good 200 reproduced here, many full-page and all in color. Accompanying each image is a complete catalogue—the



common name (citing English, Tamil or Telegu when available), taxonomy, description, uses, annotations on the artworks (botanists have traditionally treated artworks in the manner of herbarium specimens) and literature, including publication sources. Noltie has diligently pursued data about the two artists, Rungiah and Govindoo, about whom little has been known. Some evidence indicates that Rungiah, and possibly Govindoo, came from a school of painters in Tanjore (now Thanjavur or Tanjavur) and Trichy (Tiruchirappalli). Small sections include Wight's views on botanical art, art as an Indian contribution to Western science, the Tanjore background, Wight's employment of the artists, their styles and a comparison of the techniques of the two artists. The annotations, written by artists or botanists, are historically important. These works were treated more as specimens than artworks and—to the displeasure of the art curator—the same holds true today. Noltie elaborates on papers and watermarks, paints and colorists.

"The Wight collections" acknowledges the paintings at the Royal Botanic Gardens, Kew, and the Natural History Museum in London and a collection at Edinburgh University. As best as possible, the collections are categorized, sometimes according to when and to whom they were sent, such as those from Wight to the British botanist W. J. Hooker (1785–1865), or their size and format (some on small thin paper, larger ones depicting dissections; some designed for Wight's *Icones*).

Noltie addresses the collections and their provenances at Edinburgh University Library and the Natural History Museum, London.

"Copying and the hybridity of Indian botanical art" reveals that Wight extensively used copies of the unpublished Roxburgh *Icones*. Hundreds of them were published by Wight in his *Icones* (1838–1845). William Hooker (1785–1865) also copied drawings in Calcutta collected by William Roxburgh (1751–1815). A friend of Wight, H. F. C. Cleghorn (1820–1895), made copies on a larger scale. Likely none of this was frowned on. Artworks had been copied in India from at least the early 18th century. Those by the botanists, before photography and photocopying, were made chiefly for research. (The tradition of copying (anything) in India continues to this day. When I organized my first exhibition of contemporary Indian paintings at Hunt Institute and in mid-stream realized that many of them were copies—if not original, technically faultless, the thrust of the catalogue was diverted to the theme of copying.) "Wight and lithography" covers lithography in Scotland and in India—a process first used for botanical illustration in 1811. Noltie discusses the importance of government lithographic presses in Calcutta and Madras. My own search in 1994 at the Government College of Art and Craft in Calcutta, important for lithography in the late 19th century, revealed only bound volumes without pages but with hundreds of scampering silverfish!

Volume 3, Journeys in Search of Robert Wight

This volume is of particular interest to me since in the 1990s I made five trips to the subcontinent searching for botanical art. In several locations Noltie and I share common experiences. Noltie mentions his visit to the Lal Bagh Botanic Gardens in Bangalore to see the collection of paintings by K. Cheluviah Raju (active 1884–1923). I had the good fortune in 1996 to spend two months there on a Fulbright scholarship cataloguing and photographing (with a colleague) this collection. Toward the end of my stay, a retired horticulturist and I traveled by the infamous three-wheeler to sites and people with possible Cheluviah Raju connections, alas, without success.

Confirming Noltie's accounts, I too seldom encountered a civil servant dedicated to his subject; exceptions include the botanists M. Sanjappa at the Indian Botanic Garden in Calcutta and the late Fr. K. M. Matthew (1930–2004) of St. Joseph's College in Trichy. Noltie and I both were honored with their enthusiasm, hospitality and helpfulness. For me personally, I remain indebted to the late Fr. Joseph Saldana (1926–2002) also a botanist and priest at St. Joseph's College in Bangalore, who facilitated my early visit to the Lal Bagh Garden to

see the Cheluviah Raju paintings. The three are/were in my opinion India's leading botanists.

Like Noltie, I had my share of seemingly unnecessary red tape and witnessed years of accumulated documents, inaccessible, filthy, vermin-infested, and fast becoming fit for nothing but garden compost. As an example of his careful documentation, Noltie elaborates on his experience at the Tamil Nadu State Archives in Madras. I'm delighted that he did. The experience would be hilarious if not so painful—to the author and us readers! Perhaps this account will end up in the hands of someone who might make some changes, but unlikely.

Few books so closely approach my own interests. Any reader with the slightest curiosity about Indian botany, history and art will find this work absorbing and the meticulous research (excellent even when the findings turn out negative) overwhelming. Five stars! Incidentally Noltie gets none of the income from sales, which go toward conservation of the next collection of drawings on which he is working—ones done in Karnataka for the physician and forester H. F. C. Cleghorn in the 1840s.

—James J. White, Curator of Art

Ruiz, Hipólito. *Relación del viaje hecho a los reinos del Perú y Chile por los Botánicos y Dibujantes Enviados por el Rey para Aquella Expedición, Extractada de los Diarios por el Orden que Llevó en Éstos su Autor.* Introducción, transcripción y notas de Raúl Rodríguez Nozal y Antonio González Bueno. Madrid: Consejo Superior de Investigaciones Científicas, 2007. 330, [36] p. €40.00. ISBN-13: 978-84-8319-329-7 (paperback). Available from CSIC <publ@orgc.csic.es> or Libros Catarata <catarata@loslibrosdelacatarata.org>.

In 1777 during the reign of Charles III and under the supervision of Casimiro Gomez Ortega, the Spanish botanists Hipólito Ruiz López (1754–1816) and José Antonio Pavón Jiménez (1754–1840) set out on what would be an 11-year expedition to Chile and Peru. It was the first of three major expeditions undertaken by the Spanish crown with the charge of collecting and documenting the flora and fauna of their colonial territories in Central and South America. Accompanying Ruiz and Pavón were the French physician and botanist Joseph Dombey and the artists Joseph Bonete and Isidro Gálvez. The expedition collected and described thousands of specimens, including many new species, and compiled close to 2,500 wonderful drawings of plants in situ. The intention was to publish a prodigious multivolume illustrated flora, but due to a concurrence of various problems, only 3 of the planned 11 volumes were completed, though 100 plates that were to accompany



volume 4 and some for volume 5 were prepared. I would like to note here that the work is digitized in full thanks to the Missouri Botanical Garden Library and can be found at the following URL <<http://www.illustratedgarden.org/mobot/rarebooks/index.asp>>.

A firsthand accounting of this long and fruitful expedition was kept in journal form by Ruiz and is here transcribed from the original documents held at the Consejo Superior de Investigaciones Científicas in Madrid by Raúl Rodríguez Nozal and Antonio González Bueno. The transcription is preceded by a biographical study of Ruiz and an explication of the multiple versions of the journals, as curiously Ruiz revised his work twice.

Those revised works were lost for 150 years before resurfacing in the British Museum in the 1940s (this transcription is of the first version). The journal includes accounts of harrowing trials against weather, illness and brigand attacks as well as much detailed information on the specimens collected. In addition to the introductory essay, Nozal and Bueno have also included a timeline, a robust bibliography, an appendix listing all of the plants described by Ruiz and Pavón, and a common name index. Absent are maps, which would have been an undoubtedly good addition. The text is in Spanish.

—Donald W. Brown, Assistant Librarian
and Assistant Bibliographer

Schmitz, Helene, Nils Uddenberg and Pia Östensson. *A Passion for Systems: Linnaeus and the Dream of Order in Nature*. English translation by Rachele Puryear and Håkan Lövgren. Stockholm: Natur & Kultur, 2007. 255, [1] p., including 94 p. of pl. (chiefly col.). kr530.00, €59.00. ISBN-13: 978-91-27-11522-4 (hardback). Available from the publisher <info@nok.se>.

There have been a number of high-quality works about Carolus Linnaeus published recently, each having its own particular orientation and historical emphasis. *A Passion for Systems* joins this literary cohort, with an unusual composition that brings together eye-popping photographs, informative and contextual botanical captions, and a set of historical essays that support the visual aspect of the book and lend insight into the mind of Linnaeus. Helene Schmitz is credited on the title page with the book's conception and photography, Nils Uddenberg with the text, and Pia Östensson with botanical information and picture captions.

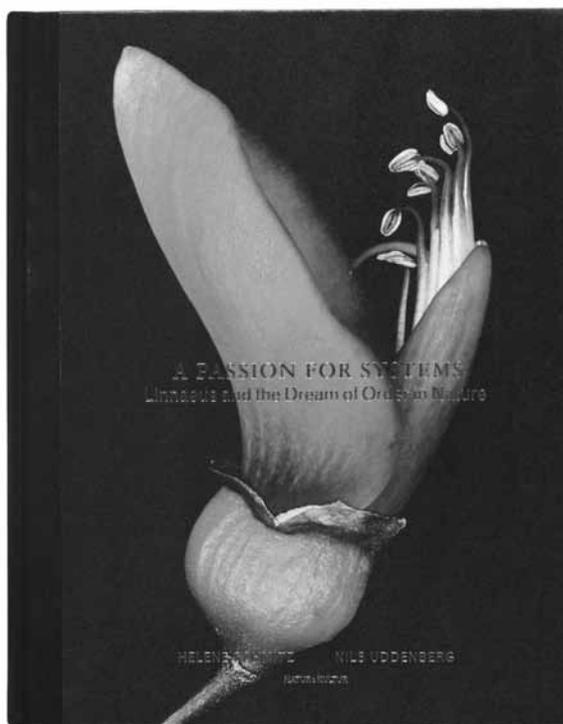
Helene Schmitz's photos are naturally what strike one first, one of which (*Erythrina crista-galli* L.) dramatically graces the front cover. Her 77, full-page, color photographs illustrate Linnaeus' famed sexual system of classification in a very direct and marvelous way. However, if this book sounds like another pretty book of flower pictures, please set that thought aside and consider something along the lines of what might result from an imaginary meeting of the minds between Georg Dionys Ehret (1708–1770) and Robert Mapplethorpe (1946–1989). Schmitz's images illuminate Linnaeus' "fantasies about the erotic chaos among plants," (p. 83) showing flowers from the point of view of their sexuality and thus bringing to life the details of the famous engraving made by Ehret in 1737 to illustrate Linnaeus' system. It is all very well to see one of Ehret's elegant miniature details showing a few stamens and pistils, but at this historical distance they seem almost diagrammatic and removed from real life. However, oblige the authors of this book and look at those same details next to their corresponding Schmitz photos,

and the connection is instantaneous and electrifying, the embodiment of Linnaeus' system in nature intimately revealed. Go further and read the historical and botanical underpinnings contributed by Nils Uddenberg and Pia Östensson, and you will have seen nature, and Linnaeus, in a new way. The essays average approximately 18 pages each and are further illustrated by 16, full-page, color photographs of selected dried specimens from Linnaeus' herbarium, annotated in his hand.

The many forms that flowers take are what flower lovers love, with all nature's variety in color, shape and other aspects. All of that is in these photos, but Schmitz's real focus is deeper and rather startling, particularly in combination with the historical essays, yielding a compelling perspective on what Linnaeus saw in flowers and what that meant to him. Uddenberg sets out to show Linnaeus as both a pioneer and a typical conservative representing a longstanding traditional worldview and tries to understand how Linnaeus reasoned and to show Linnaeus' theories in the context of the development of modern systematics. Schmitz is interested in Linnaeus' *modus operandi* in creating his system and in his obsession with discovering order in nature. Östensson drew strongly on Linnaeus' own work in formulating her captions for the photos as well as on more modern sources. Her understanding of botanical systematics supported Schmitz in selecting suitable plants to photograph for this project, and indeed the two of them worked together in choosing and locating the plants that appear in this book.

Although intellectually one might expect this book to begin with an introductory historical essay, *A Passion for Systems* seeks to deliver a different experience. Thus, after a brief foreword the reader is presented with a copy of the chart engraved by Ehret, "Caroli Linnaei Classes S. Literae.," that shows all 24 classes of the sexual system using 24 numbered diagrams. Many readers will be familiar with this chart while others will encounter it for the first time here. Turn the page, and the little detail

numbered “1” on the chart is repeated on the left-hand page, faced by a full-page photograph, shot close-up against a black background, of the flower of *Canna indica* L., showing exactly what it is that the little Ehret diagram is meant to tell us. Turn the page and another photo, this one of *Hedychium coronarium* K. D. Koenig, the ginger lily, repeats the demonstration. After a few photos, there is a page of text from Östensson telling the reader what that particular Linnaean class or category contains and how the plants in the photos exemplify it. She also gives some descriptive information about each photographed plant, along with history, names, uses and other botanical notes. Turn the page and the process repeats, this time



with the second detail from the Ehret chart, the second class in Linnaeus' system, another set of photographs and captions. After a few Linnaean classes have been treated in this manner, Uddenberg contributes the first of five essays that together give a well-written and very readable overview of the history of plant systematics, the development of Linnaeus' own scientific understanding, how Linnaeus' theories were received by some, rejected by others and applied, used and later discarded during his own lifetime and afterward, and how our scientific understanding continues to grow and change in the 21st century. In the first essay, "Systematizing creation," Uddenberg writes about the search for a natural or divine order of God's creation and how conformity to law in nature both fascinated and frightened Linnaeus. He shows how the belief that God intended nature to serve the purposes of humanity provided an economic incentive for discerning the order of nature and systematizing knowledge of the natural world so that it could be appropriately exploited. This first essay also gives an overview of the development of plant systematics up to and including the work of Tournefort. This essay provides the background for impending dramatic developments.

Several more of the Linnaean classes are illustrated with photos and explicated by captions, and then the second essay, "A young man thinking about sex," is presented. This essay is truly delightful and shows how

the mystery of sex in nature caught and kept Linnaeus' attention and shaped his understanding of the workings of the natural world. Linnaeus was 23 years old when he first developed his sexual system of classification. His early years in Uppsala are discussed here, including his early relief at studying Tournefort's system and finding that there was more to botany than learning about the medicinal virtues of plants. An early teacher allowed Linnaeus access to his library, and there Linnaeus read Sébastien Vaillant (1669–1722) on the idea of sexual reproduction in plants. According to Uddenberg, "Linnaeus

immediately began looking for proof" (p. 77), and in 1730 he presented to Olof Celsius, who was dean of Uppsala Cathedral, his benefactor and interested in botany, a small original pamphlet, "Praeludia Sponsaliorum Plantarum," as a New Year's gift. This was his first scientific treatise, written at age 22 and dealing with sexual reproduction in plants, with flowers as the sexual organs. This work held an insight that Linnaeus felt profoundly, reinforced a few years later when, above the key to the sexual system in the first edition of his 1735 *Systema Naturae*, he wrote, "The flower is the joy of the plants" (p. 80). The remainder of this essay discusses Linnaeus' early insight further and recounts his time in Holland, his brief travels on the way home to Sweden and the influential naturalists whom he met while abroad.

The third essay, "Dreaming about order in nature," focuses on basic qualities of the sexual system, Linnaeus' quest to ascertain the inherent order of the natural world, and his willingness to consider radically new information and to revise some of his most basic assumptions when he felt it to be necessary. Linnaeus' doubts about his own system in terms of the natural relationship between plants are well discussed here, as are his attempts to establish a framework for such a natural system, some of which we know about only through notes published in 1792 by Paul Dietrich Giseke (1741–1796), who spent a summer in 1771 studying with Linnaeus at Hammarby and then

published a pamphlet 20 years later that contained some of Linnaeus' ideas on the subject. Also discussed is the shift in Linnaeus' thinking about the nature of species. Despite his early and frequent insistence that there were no new species beyond those initially created by God, he found himself confronted with plants that made him question this assumption. Uddenberg tells the story of Linnaeus' encounter with a toadflax that led him to consider the implications of cross-breeding, and Uddenberg has high praise for Linnaeus' flexibility in revising basic assumptions in the face of new evidence.

The fourth essay, "A despot in flora's empire," treats the depth and breadth of Linnaeus' ambitions. When he was an adolescent, he became determined to catalogue all of life on earth. While most botanists focused on a particular region or aspect of botany, Linnaeus' ambition and his work encompassed the entire world. In this essay Uddenberg discusses several prominent dissenters against the sexual system, including Johan Georg Siegesbeck (1686–1765), Albrecht von Haller (1708–1777) and Georges Louis Leclerc de Buffon (1707–1788). He also discusses the shift in scientific thought during the European Enlightenment and how new ideas eventually led beyond the Linnaean system. But for awhile, and despite his influential critics, Linnaeus' system spread worldwide. He had unified nomenclature to an unprecedented degree, and his survey of previous botanical works created a set of updated and integrated references. Most of the floras in the latter half of the 18th century were organized according to Linnaean systematics and nomenclature. Also, "the natural history collections being amassed in the capitals of the European empires became at the same time a tribute to the Swedish naturalist who once upon a time in the 1730s had decided to give a name to every living thing" (p. 195). Uddenberg notes the widespread pedagogical uses of the Linnaean system and its role in spreading an interest in plants and natural history as a popular pastime for amateurs as well as professionals.

In the final essay, "The continuing story," Uddenberg strongly makes the point that Linnaeus' work, although surpassed by later scientific developments and especially the theory of evolution, was itself a necessary precondition for the development of that theory. The new 19th-century biological disciplines of plant geography, evolutionary theory and ecology all required the ability of researchers to be able to define and name the animals and plants so that they could agree about which life forms they were discussing. Thus plant systematics formed the foundation of other biological disciplines and has itself continued to change and develop.

Uddenberg examines the pros and cons of Linnaeus' work from the perspectives of 18th-century French scientists Michel Adanson (1727–1806) and Antoine Laurent de Jussieu (1748–1836), continuing with a discussion of the work of Augustin-Pyramus de Candolle (1778–1841). He then brings the story forward to the present, giving a good overview of systematics work done post-Linnaeus, and introduces speculation as to how Linnaeus would think of the systematics of today, arguing: "that the systematics developed by Linnaeus has been fundamentally revised is not an expression of the fact that his tradition is dead, but rather the contrary, that it is alive," (p. 252) in a new age with new knowledge and new tools.

A Passion for Systems is that rare combination of a book that covers a lot of ground intellectually and is remarkably beautiful, too. Schmitz's photographs serve not only as illustrations of the Linnaean system but also are totally arresting in the immediacy of their presentation and help the reader to comprehend the Linnaean vision. That she is an expert photographer is evident, as is the fact that apparently she, too, has a passion for systems that has led her to collaborate with Uddenberg and Östensson to produce this interesting study. Although there is no index, there is a section at the end giving "Sources and suggestions for further reading" that looks quite useful.

—Charlotte Tancin, Librarian