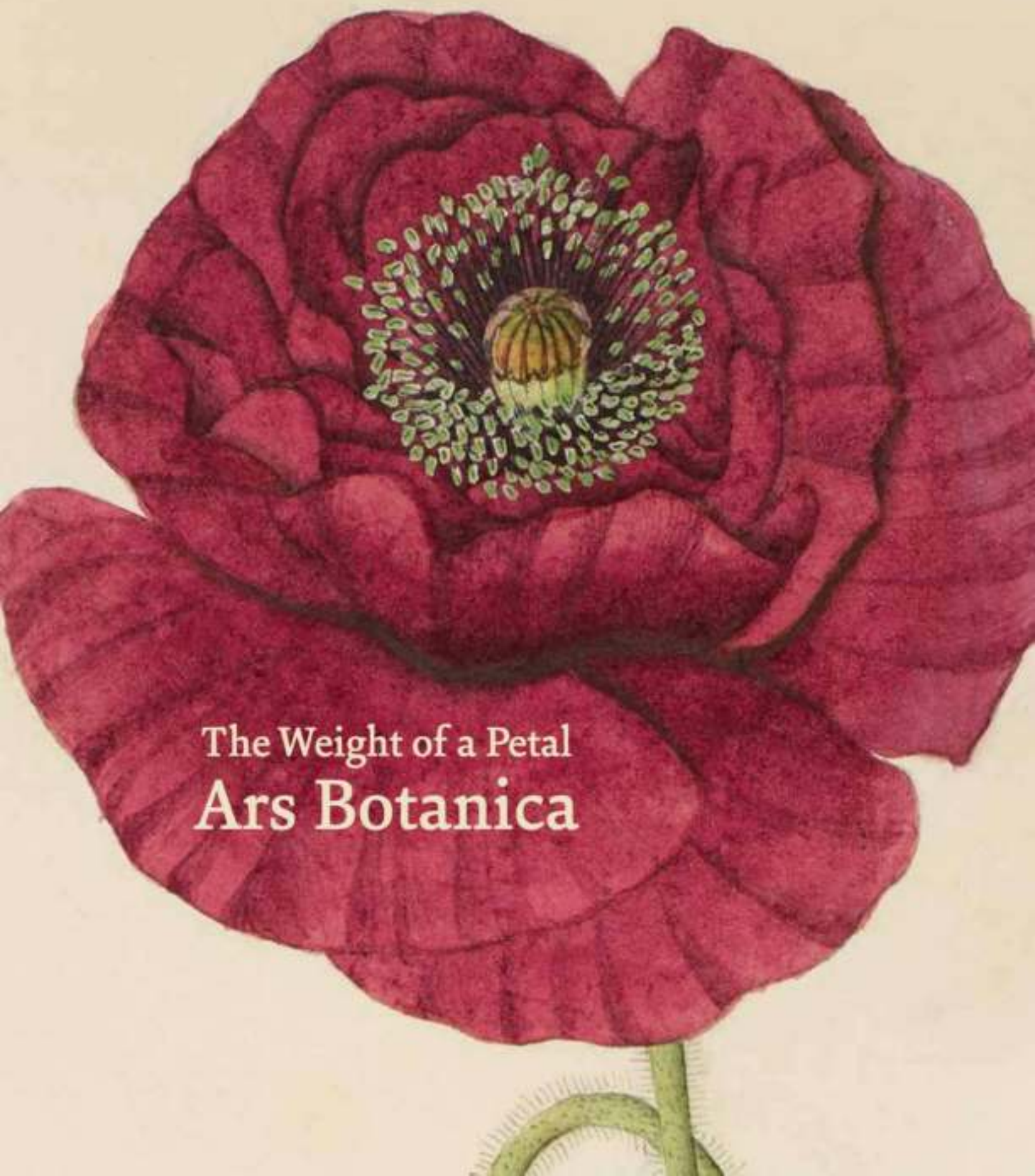


# MARG

A MAGAZINE OF THE ARTS

DECEMBER 2018-MARCH 2019 ₹350



The Weight of a Petal  
**Ars Botanica**



*Leucosceptrum canum* Smith,  
by Neera Joshi, 2016. Watercolour and  
gouache; 58 x 38 cm. Courtesy the artist.



**ENGINEERING &  
CONSTRUCTION**



# Himalayan Roots: Botanical Art Schools in the 21st Century

*If you can paint one leaf, you can paint the world.*  
—John Ruskin, “On Leaf Beauty”, *Modern Painters*

**B**OTANICAL ART AND ILLUSTRATION HAVE UNCOMMONLY long roots in the Himalaya. With its great diversity in altitudes, climatic conditions and habitat, the Himalayan region sustains more than 9,000 species of flowering plants, including orchids and rhododendrons, countless types of flowerless mosses, algae, fungi, and a large variety of trees, both evergreen and deciduous. In 1802, East India Company surgeon Francis Buchanan-Hamilton commissioned the first plant drawings—to accompany collected specimens—from Nepal. Nathaniel Wallich, Superintendent of the Calcutta botanic garden, did the same on his trips to study Himalayan plants in the 1820s. Some decades later, explorer-naturalist Joseph Dalton Hooker set off on a long Himalayan journey to “acquire a knowledge of exotic botany”. Despite local obstacles to botanizing for Empire—for Buchanan from the Raja of Nepal, for Hooker from the Raja of Sikkim—they persevered, each sending back to Britain drawings of more than 7,000 collected species.

Despite their differing views on using local artists, both Buchanan and Hooker believed that art could push botanical science forward through the accurate identification of new species; and could help preserve the endangered natural world for future generations. These twin impulses—the taxonomic and the ecological—would find expression in botanical art *pedagogy* two centuries later.

Two botanical illustration schools—founded by two remarkable South Asian women—follow in the footsteps of Buchanan and Hooker, one in Kathmandu, the other in Kalimpong. In Kathmandu, Studio Petals founded by Neera Joshi in 2004 was described by her collaborator the Royal Botanic Garden Edinburgh (RBGE) as the culmination of a 200-year relationship between Nepal and Britain. In Kalimpong, the Himalayan Institute of Natural History Art (HINHA) founded by Hemlata Pradhan walks in Hooker’s wake to revive the dying tradition of Indian botanical art, and awaken ecological ways of seeing the natural world by teaching art to young village children.

While both Neera and Hemlata trained at prestigious botanical illustration schools abroad—Kew and Edinburgh, with backgrounds in taxonomy—they also have

strong links to contemporary art movements and teaching institutions in Nepal and India. Neera’s studio was once located next door to the legendary Park Gallery of her father R.N. Joshi, a leading modern artist. Hemlata, hailing from four generations of horticulturists and botanists, trained as a printmaker at Kala Bhavana, Santiniketan. Contemporary art practice shaped their aesthetic sensibilities, their early professional lives. But it was “nature”—and their deep love for Himalayan botany—that led them to teach botanical art to Himalayan residents.

Neera’s career began in 1999 with the acclaimed exhibition *Flora of Kathmandu Valley*. In 2002, she went to Sarasota, Florida to train at the Marie Selby Botanic Gardens where, working with orchid specialist Stig Dalstrom, she created 14 botanical art works of rare endangered orchids on the IUCN red list. Later, she exhibited at the RBGE, where she honed her skills by learning to make scientific line drawings from the Herbarium, her work featuring in the third volume of *Flora of Nepal*. She was invited—as the only Nepalese botanical artist—to collaborate in the groundbreaking 2016 exhibition, *Flora of Nepal* (<http://www.floraofnepal.org/>).

Hemlata is the daughter of the renowned botanist Udai Chandra Pradhan; she grew up reading her father’s pioneering books on orchids, rhododendrons, cobra lilies and other Himalayan plants. She earned a Diploma in Botanical Illustration from Kew Gardens, and went on to the Royal College of Art for a Master’s in Natural History Illustration and Ecological Studies. But it was when returning home from the UK in 2002 that she had an epiphany: “...It was a heart-rending experience to see that large areas of trees had been felled, huge portions of hills cut away and unique spots of natural beauty irreversibly damaged by the Teesta Hydro-Dam Project...as well as other places in the Himalayan foothills. Thousands of orchids and other plants of great scientific and aesthetic interest...in the valley were eliminated without a second thought. In a situation like this, it is not just the flora but the whole ecosystem that gets ruthlessly disturbed...I thus began to question how I could possibly contribute as a botanical illustrator and join in the crusade to save our natural heritage.”

Hemlata and Neera learnt by doing and taught by example. One response was to change the way art schools taught botanical art. Hemlata began to incorporate in her art whole habitats and lifecycles of plants (which some-





**TOP LEFT TO RIGHT** 1. Field trip at the Kathmandu botanic garden, 2009. Courtesy Neera Joshi. 2. Anoushka Sharma making sketches in the field. Courtesy HINHA. 3. Student at work in Studio Petals, 2010. Courtesy Neera Joshi.  
**BOTTOM LEFT TO RIGHT** 4. Celestina Lepcha painting floral motifs on a vase. Courtesy HINHA. 5. Students painting a mural with natural colours. Courtesy HINHA. 6. Sumrita Gotamay colouring in flowers. Courtesy HINHA.

times take months and years to complete) to help bring public awareness of plant ecology so that conservation biologists as well as laypersons could take measures both in-situ and ex-situ. Neera developed a colouring book of 12 native flowers for the Kathmandu botanic garden as a pedagogical tool to educate children about endangered Himalayan flora (now adopted as a textbook model by the Ministry of Forest and Soil Conservation).

A second innovation was to change *who* could learn botanical art. India's botanical artist genealogies in its colonial-era "Company School" period were infamously caste-based, excluding groups even as they reproduced hierarchies across time. In post-independence India, these botanical art traditions died due to an absence of patrons, advent of new technologies and shifting of audiences. How then to rethink botanical pedagogy and structural change through art schools? It struck both Hemlata and Neera that children and non-specialist amateurs might be the best learners and the quickest change-agents.

When speaking of conservation and sustainability, Hemlata uses the term "grassroots"—the point at which to begin if our ecosystems are to be better managed. Her school focuses on children from underprivileged families in local villages, aged 6–12. At first, curricula—developed with artist friends from Santiniketan—introduced

colour and art to build field observation and drawing skills. Later, they included nature journaling, blind and contour drawing, the use of watercolour and pen-and-ink, how to create colour charts and mix colours (especially greens and browns for the Himalaya). Children learn how to make dried and spirit specimens, herbaria, seed banks, compost, all with a view to empowering them as ecological citizens.

Neera emphasizes that while children and laypersons are especially welcome at her studio, so are botanists, scientists and taxonomists. In addition to beginner courses, she offers advanced courses on taxonomic tools for Flora writers, some of which have been published by Tribhuvan University where her botanical illustrations provide reference ([http://dpr.gov.np/download/publications/taxonomic\\_tools\\_flora\\_writing.pdf](http://dpr.gov.np/download/publications/taxonomic_tools_flora_writing.pdf)).

Studio Petals and HINHA map the extraordinary promise of postcolonial Himalayan botanical art schools of, by and for the people. While the colonial roots may have been exploitative, the shoots have been transformative, hurling themselves skyward and into the future. As they blossom and flourish in Himalayan soil, one can only hope that word spreads in rapid, reticulate fashion, making the mountains come alive with botanical art for generations to come.

SITA REDDY





*Bergenia ciliata* (H.) Sternberg,  
by Neera Joshi, 2016. Watercolour and  
gouache; 58 x 38 cm. Courtesy the artist.

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*Phaius tankervilleae* (L'Her.) Blume,  
by Celestina Lepcha, 2012. Watercolour  
and pen-and-ink on Ivory paper;  
35 x 25 cm. Courtesy HINHA.





*Cardiocrinum giganteum* (Wall.) Makino,  
by Hemlata Pradhan, 2011. Watercolour  
and pen-and-ink on Fabriano paper;  
69.5 x 53.4 cm. Courtesy the artist.



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*Pleione praecox* (J.E. Smith) D. Don,  
by Hemlata Pradhan, 2003–04.  
Watercolour on Fabriano paper;  
70.2 x 52.6 cm. Courtesy the artist.





*Renanthera imschootiana* Rolfe,  
by Hemlata Pradhan, 2002.  
Watercolour on Fabriano paper;  
36 x 26.1 cm. Courtesy the artist.





100% white cotton  
100% blue = Sunbleed  
100% Tipt = Ummirake  
Leaf = 100% = 100%

Sumrita Gotamay  
15/12/15

*Coix lacryma-jobi* Linn., by Sumrita Gotamay,  
2015. Watercolour on Cartridge paper;  
19 x 13 cm. Courtesy HINHA.





*Lilium nepalense* D. Don,  
by Neera Joshi, Watercolour and  
gouache; 58 x 38 cm. Courtesy the artist.



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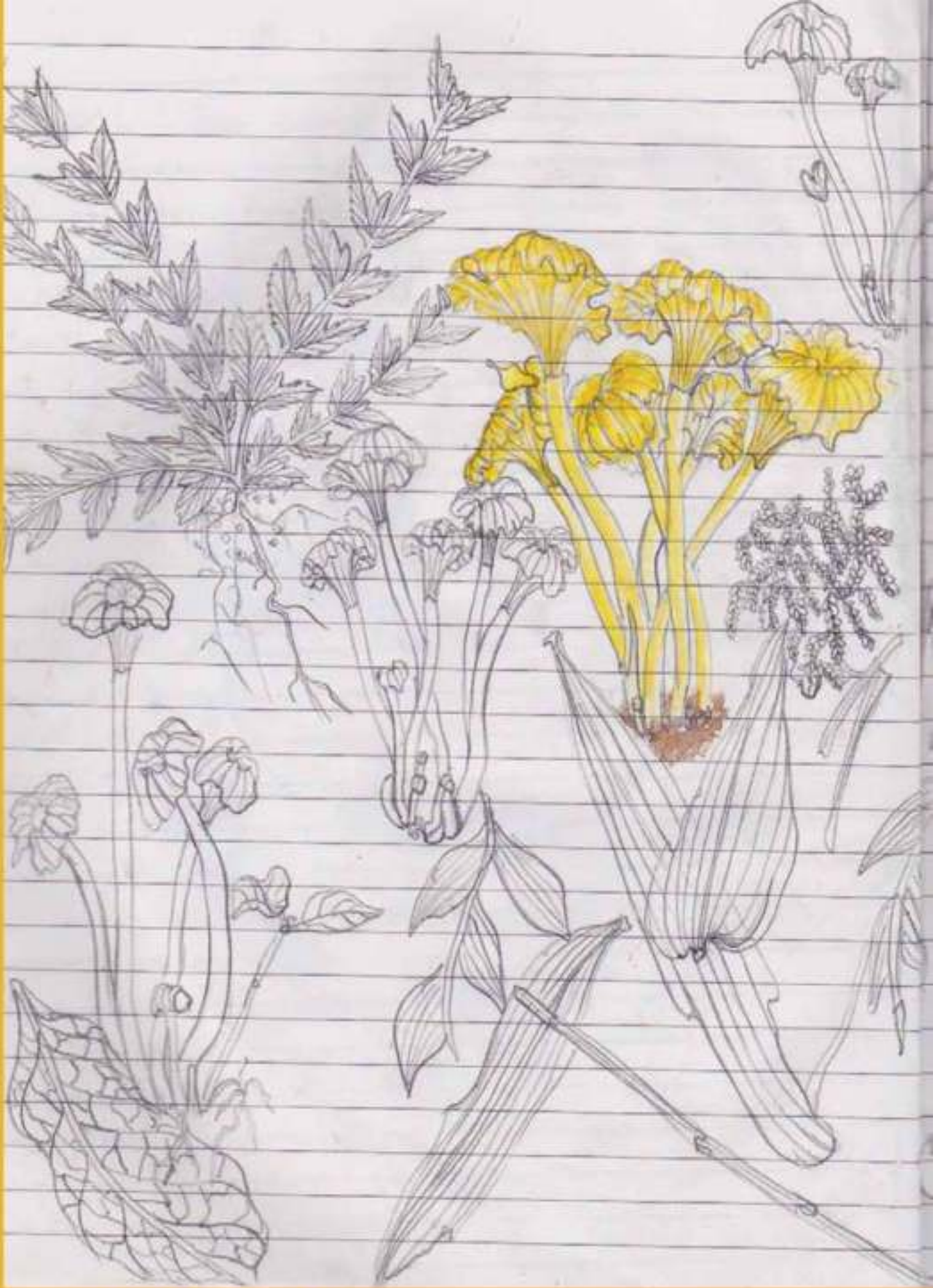
*Hedychium flavescens* Roscoe,  
by Neera Joshi, 2012. Watercolour and  
gouache; 58 x 38 cm. Courtesy the artist.





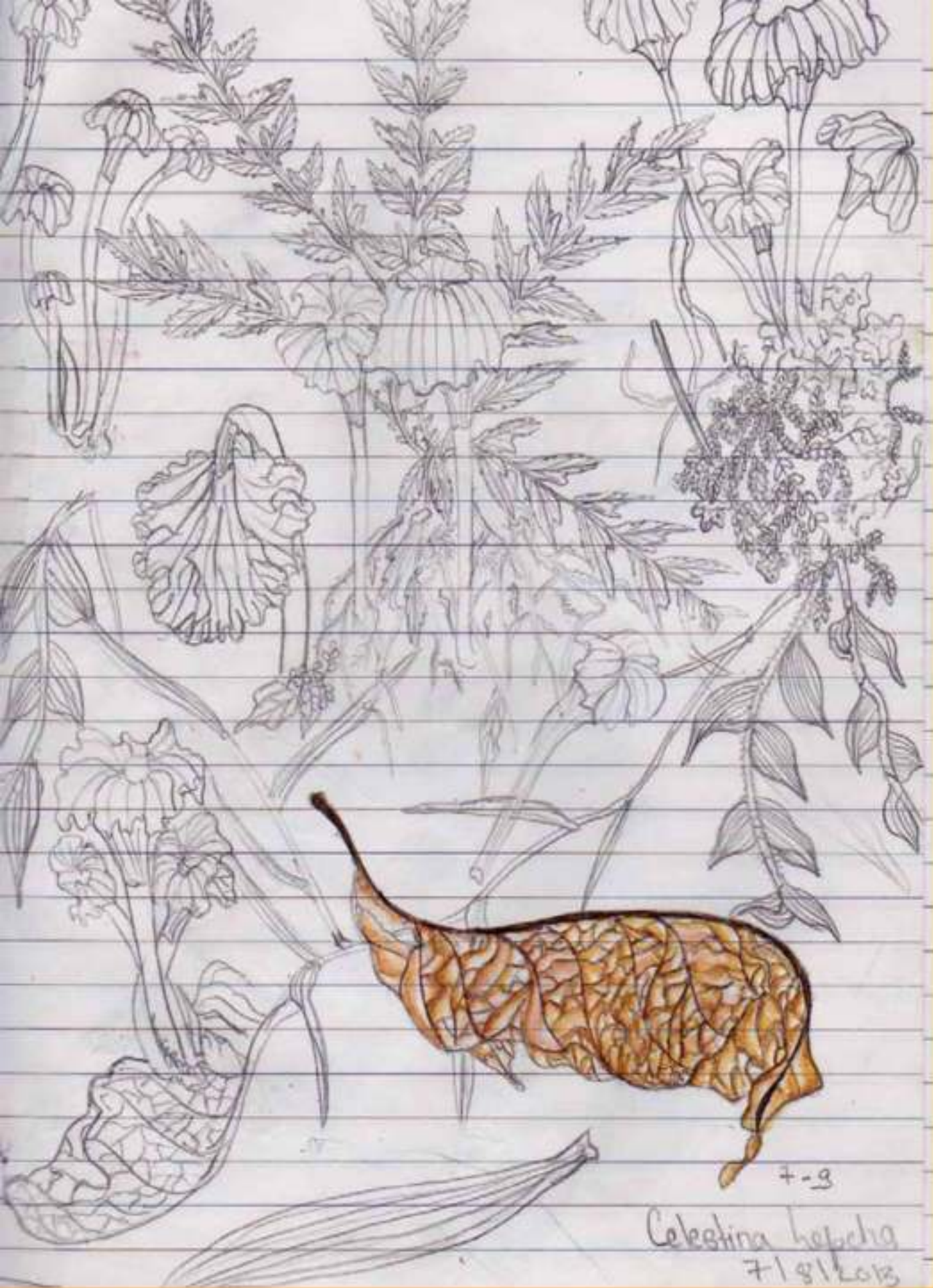


*Dendrobium densiflorum* Lindley,  
by Neera Joshi, 2012. Watercolour and  
gouache; 58 x 38 cm. Courtesy the artist.



Local mushroom in habitat, by Celestina Lepcha, 2013.  
Field-sketch in pencil and watercolour in diary; 25 x 35 cm.  
Courtesy HINHA.





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## EDITORIAL NOTE



The histories of plants, trees, forests and shrublands reveal complex stories. They provide insights into travel and knowledge-sharing in a pre-globalized world, highlighting the movement of species and the sociopolitical and economic contexts which led to detailed botanical studies across the centuries. Most botanical art originally served a scientific purpose where the emphasis was on realistic depictions of plants and flowers to illustrate empirical text. These works have now come to

be valued as much for their aesthetic appeal as for their utilitarian worth.

This issue of *Marg* explores a range of albums and images associated with India's botanical wealth. Essays trace the journey of botanical art from decorations on architectural edifices in 16th- and 17th-century Mughal India to contemporary artists' unique interventions in the field. A major focus is on revisiting works created for or by European and British company officials and amateur naturalists, many of whom took the help of local painters and craftsmen who travelled across the country to document its rich plant life. An attempt is made to insert the names of these hitherto anonymous Indian artists with a view to decolonizing the archives, which are otherwise known either by the names of the commissioners or the institutions that hold these images today. The creation of public gardens and their archives in India and abroad is also highlighted, along with key collections in museums and universities that continue research on these subjects. The section on contemporary art reveals both a continuation of traditional styles and forays into photography and video art, some of these being subjective takes that pay homage to but also critique older masters.

Botanical art studies have been put to multiple uses in contemporary times, for instance within industries such as medicine, cosmetics and perfumes, and textile and design. This interest also comes at a time of imperative debates around our relationship with nature and the environment. In the last few decades, the earth's fast-depleting resources and increasingly fragile ecologies have forced us to rethink our activities at both local and macro-planetary levels. Within urban spaces in particular, there is a growing awareness of the disastrous consequences of assaults on flora and fauna. Recently, in Delhi, the news that thousands of trees, many more than 80 years old, were going to be felled galvanized civil society against this massive destruction. What also came into the spotlight was the importance of preserving natural habitats rather than undertaking arbitrary tree-plantation drives, where most often alien species supplant indigenous ones, making for unsustainable ecosystems.

This issue underlines multilayered histories of botanical art and it is hoped that these will encourage an assessment of our current activities juxtaposed against older knowledge systems and instil a better understanding of the natural world.

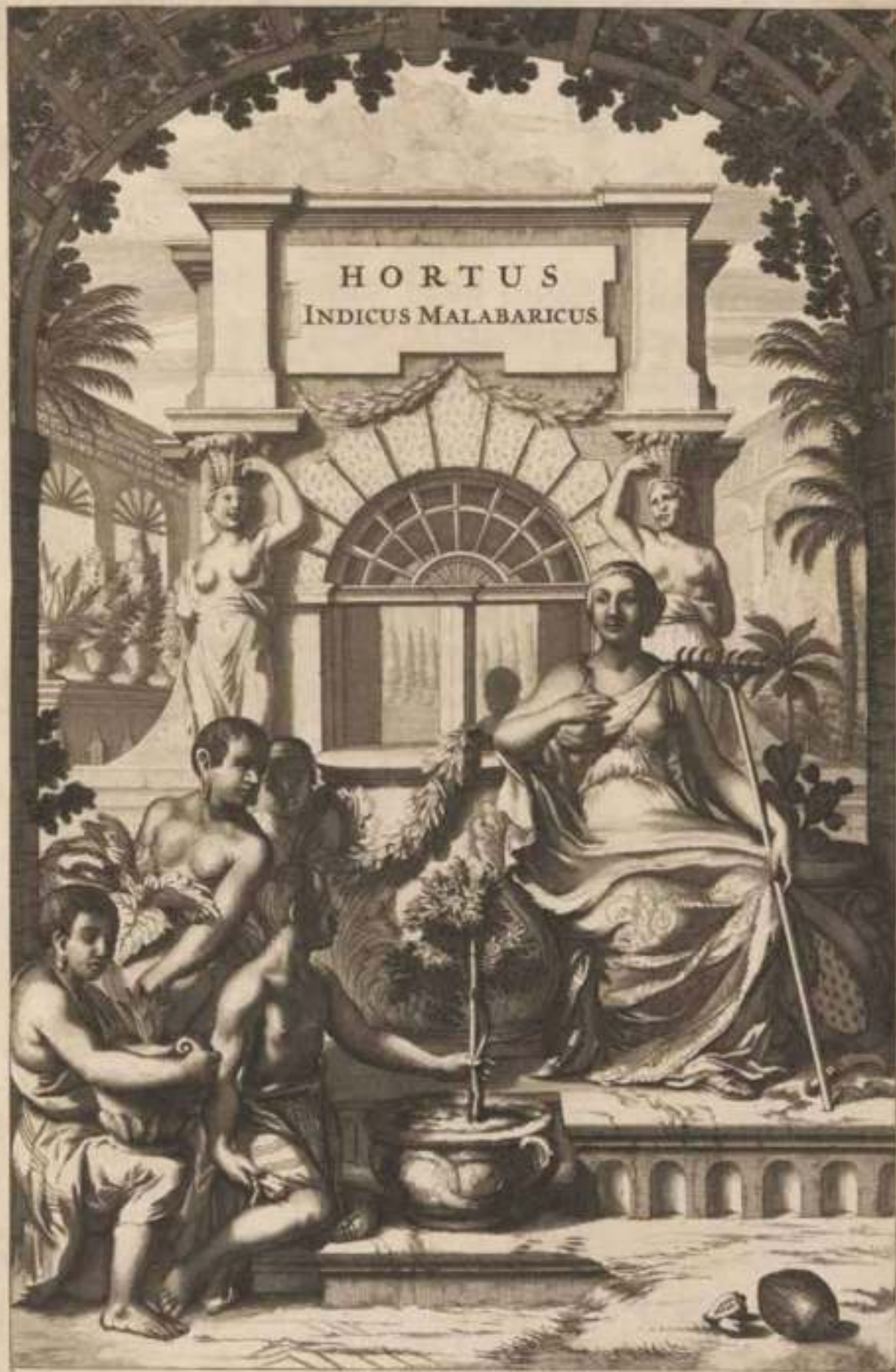
*Latika Gupta*



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AMSTELODAMI, Sumptibus { JOANNIS VAN SOMEREN  
et  
JOANNIS VAN DYCK. Anno MDCLXXVIII.



# Ars Botanica: Refiguring the Botanical Art Archive

SITA REDDY

*Without the gift of flowers and the infinite diversity of their fruits, man and bird, if they had continued to exist at all, would be today unrecognizable.... The weight of a petal has changed the face of the world and made it ours.*

—Loren Eiseley<sup>1</sup>

Ars Botanica / a:rs bəʊtænɪkə / n. Latin-derived for:

1. the arts of botanical science
2. the science of botanical illustration
3. the craft or process of botanical art production
4. the documentation of all the above, a visual genealogy of botanical art traditions at the interface between art and science

**B**OTANICAL ART, A GENRE POISED BETWEEN THE WORLDS OF ART AND SCIENCE, HAS genealogical roots that run both ways—toward beauty as well as utility; toward medieval flower paintings meant solely for pleasure as well as illustrated herbals of antiquity meant to identify medicinal plants. For as long as there have been these beautiful “plant portraits” in the service of empire or science or trade, there have been efforts to collect them by *region*. From Mughal-era florilegia (illustrations of flora from a specific garden) to colonial Floras (botanical catalogues of specific regions), these collections gathered plant images on the page through exquisite engravings, watercolours, lithographs or pen-and-ink drawings. This issue of *Marg* brings together some of these dispersed images in order to refigure the archive: to reunify the art that came from particular botanical gardens; the illustrations that once sat together in bound volumes; the artists who painted these images.<sup>2</sup> As the world’s first globalizers, plants travel constantly and rarely sit still; indeed, the very word diaspora has botanical roots (dia/across + spora/scatter). Portraits of plants from a specific place may be one way to trace and historicize these processes of dispersal.

In the Indian context, botanical artworks form a small subgenre of what has been called Company School painting (or *Kampani kalam*). Kampani style is a broad term applied to a variety of hybrid, Indo-European 18th- and 19th-century painting traditions that developed in India by Indian artists under the patronage of the East India Companies.<sup>3</sup> In one of its early definitions, Kampani style was thought to blend traditional elements from Rajput and Mughal miniature painting with a more European treatment of perspective, volume and recession, usually reflecting a change in medium from gouache and opaque layers of paint to watercolour or sepia wash on European paper.<sup>4</sup> Most Kampani paintings were small and intimate, although natural history paintings of plants and flora were usually life-size.

In defining the Kampani *botanical* subgenre, one has to begin with the fact that most Company commissioners were surgeon-botanists; that art (Ars) served science (Botanica). A key feature, then, was a unique visual tension between the naturalistic depiction

1. Frontispiece of *Hortus Indicus Malabaricus*, Vol. 1, 1678. Copperplate engraving. Courtesy Wellcome Collection. The illustration depicts a woman, presumably symbolizing Indian botany, seated in front of a conservatory, rake in hand and a pruning knife at her feet, being presented with plants.

of individual plant “specimens” (such as those in contemporary European botanical illustrations) and the lingering intimacy, stylization and flat depiction of composite floral “types” (drawn from Indian miniature and narrative painting genres). Although this is a heuristic division not so clear in practice, it reconciles two differing views of the natural world—one that aestheticizes nature relying on the *idea* of the plant, as motif or pattern, the other seeking to understand and document it, warts and all, relying on empirical observation in its natural habitat. By the mid-18th century, which marks the beginning of the “golden age of botanical illustration” (1750–1850), Kampani botanical art was taken to include some combination of the following: rich watercolour heightened by gum arabic; a highly developed sense of pattern (if not perspective); little or no empty space around the images; and a diagonal layout or composition such that the plant appears to spill over the paper edge, or is arranged to fit within.<sup>5</sup>

Artworks with these formal features constitute a rich and diverse visual archive. But like all colonial archives in which archival “remembering” can never be entirely separated from “forgetting”, botanical art archives do not just construct, they also *bury* colonial pasts, just as they ignore the indigenous communities whose knowledge constitutes these archives. And thus, while Kampani kalam is a useful category in some ways, it has recently been criticized for leaving out as much botanical art as it includes. By focusing on the Company commissioner it completely ignores the largely anonymous artists, native and European, who were the real creators of this art. Surely, argues Henry Noltie, a school of painting should not be named for its corporate sponsor but for its primarily Indian artists, the real foot-soldiers in this genre.<sup>6</sup> Still others point out that the Company School’s alleged differences from late Mughal art, a hallmark of earlier definitions, is a false distinction—given that the same artists were often working in different styles for different patrons.<sup>7</sup> Also missing, given the prior north Indian bias in early definitions, is the wide diversity of botanical styles especially in south India, including artists of the Tanjore moochy and jingar castes, or those in the so-called “contemporary vernacular” and “lesser” art forms, such as *kalamkari* textiles, leather puppetry (*tholabommalata*), Telangana scroll-painting (*cheriyal*) or woodcarving by *gudigars*.<sup>8</sup>

Finally, there is the issue of chronology and what the category excludes. If the label Kampani kalam refers primarily to the *British* East India Company-sponsored watercolours that peaked by the mid-19th century, then what are we to make of botanical art sponsored by other Companies (Dutch, Danish, French) that preceded the British, and in media other than watercolour, or commissioned and drawn by amateur botanists? Examples include engravings from the 17th-century Dutch *Hortus Indicus Malabaricus*, or the French *Jardin de Lorixa* or Danish botanicals from Serampore or Tranquebar; or even the albums produced in the early 20th-century Nilgiris by amateur botanist-artists like Lady Emily Tree Bourne or Father Aloysius Anglade.

This special issue of *Marg* addresses some of these gaps in the Indian botanical art archive—invisible artists, indigenous collectors, circulation of diverse art styles—from the point of view of regional clusters in the south and east coast of India. Throughout, the focus is on unpublished drawings, anonymous artists, unsung indigenous collaborators. By making the invisible visible, by inserting the names of indigenous artists, by decentring the colonial metropole, the intent is to begin the process of refiguring and decolonizing the botanical art archive.

## Gardens and Floras

Company interest in Indian botanicals began, not surprisingly, with the spice trade.



Portuguese colonists arrived on the west coast of India and the very first colonial treatise on Asian medical botany, Garcia da Orta's *Colóquios dos simples e drogas da India* (1563), painted pictures of the Indian flora in words if not images: "So strong and so delicious the scent (of cloves) that I thought there must be a forest of flowers." Funded by the Estado da India, *Colóquios* was a "herbal", a catalogue of medicinal plants in their native habitat—16th-century Europe's introduction to Indian *materia medica*, which is a body of knowledge on the therapeutic properties of medicinal substances, usually plant-based.

While *Colóquios* was not illustrated, its translations were. Cristóbal Acosta's (Cristóvão da Costa's) Spanish translation *Tractado de las drogas y medicinas de las Indias Orientales* (1578) borrowed heavily from Orta but added 23 woodcuts; in the supplement to his Latin translation, *Aliquot notae in Garciae Aromatum* (1582), Carolus Clusius included four woodcuts of recognizable Indian species: banyan, black pepper, betelnut and coconut.<sup>9</sup>

With the late 17th-century Dutch botanical masterpiece *Hortus Indicus Malabaricus*, the engravings took centre stage (figure 1). The 12-volume *Hortus* (1678–93) included wide-ranging information on the medicinal uses of 740 plants, most of them illustrated in gorgeous double-folio copperplate engravings. Much has been written elsewhere about the commissioner Hendrik Van Reed's reliance on indigenous healers, Ayurvedic scholars and Ezhava plant-gatherers. Here I will only flag the visual quality of the engravings in *Hortus* that led Carl Linnaeus to use it as the main source for knowledge of Asian tropical flora, yielding 200 new genera and species for his *Species Plantarum* (1753).

From the same period comes the only known illustrated herbal from French India: *Jardin de Lorixa*, or the Garden of Orissa (1698–1725), now at the Museum Nationale d'Histoire Naturelle. Compiled by Nicolas L'Empereur, a French surgeon, it included 725 paintings of the flora of Bengal and Orissa, and was the earliest known European manuscript to employ an unnamed Indian artist for botanical purposes.<sup>10</sup> Two other illustrated herbals from this period have come to light, both of which relied on Indian artists: one, a c. 1700 Dutch Company manuscript from Ceylon, the *Icones Plantarum Malabaricum*;<sup>11</sup> the other, a 1750 herbal illustrated in 228 watercolours and commissioned by a merchant Thomas Byfield in southern Kerala.<sup>12</sup>

But it was under the British East India Company surgeons that Company botanical paintings developed into a distinct genre coinciding with the golden age of botanical illustration. While the mid- to late 18th century did see private commissions of botanical paintings, such as the Lady Impey Album, it was in 1774 that Company surgeon James Kerr first employed an Indian artist to paint what are considered the earliest official Company botanical studies.<sup>13</sup> With the enlarged floral details because of Linnean classification schemes, this was the first Indian Flora of the Bengal and Bihar region, a Flora being a systematic collection of plants classified according to a universal taxonomic scheme.

A spate of Floras followed, perhaps the largest and most systematic being those commissioned by William Roxburgh, to be followed by Nathaniel Wallich, Francis Buchanan-Hamilton and John Forbes Royle in the Calcutta and Saharanpur botanic gardens; later by Robert Wight and Hugh Cleghorn from the Madras gardens.<sup>14</sup>

Roxburgh started his collection of paintings—his "icontypes" as he called them—in the Company's Samalkot acclimatization garden, focusing on the local plants from the Coromandel region (spices, coffee, breadfruit and agricultural crops). When he was appointed Superintendent to the Calcutta botanic garden in 1793 (figures 2, 4, 5), Roxburgh took at least one of his artists with him. By the time he left Calcutta in 1813, he had amassed 2,542 botanical "studies". Three hundred of these—known collectively as the Roxburgh *Icones*—were published in the lavish double elephant folio *Plants of the Coast of Coromandel*,



2.  
Director's Residence, Calcutta  
botanic garden, now Acharya  
Jagadish Chandra Bose Indian  
Botanic Garden, Kolkata.  
Engraving (mezzotint) for  
Hooker's *Himalayan Journal*.  
ID 17436. © Royal Botanic  
Gardens, Kew.

whose beautiful hand-coloured engravings offered a new benchmark for botanical flora even as the forbidding cost of production made it challenging to replicate.<sup>55</sup>

Teams of botanical artists were employed at the Company gardens of Calcutta and Saharanpur to paint these plant "studies". It is not known exactly how many artists Roxburgh employed during his 20-year tenure at the Calcutta botanic garden, but two of the finest helped—through stunningly beautiful paintings—to document the dramatic increase in the garden's species from 300 to 3,500.<sup>56</sup> Over the years, a few artist names were recorded especially as they worked with other Company botanists on their surveys: Vishnu Persaud, Gorachaud and Lakshman Singh. Though the larger number of these botanical artists remain unknown, we have a sense of the high appreciation for their work at the time. Maria Graham, a visitor to the Calcutta garden, said in 1810: "they are the most beautiful and correct delineations of flowers I ever saw. Indeed the Hindoos excel in all minute works of this kind."

Over the next few decades, Robert Wight and Hugh Cleghorn would continue this tradition, in Madras, of employing Indian artists in Company gardens to illustrate the great Indian Floras of the southeast coast of India. Wight was to transform the botanical publication process through lithography, surpassing even Roxburgh in the number of "studies" he eventually prepared: 4,000. He credited by name both his artists: Govindoo and Rungiah (see the article by Henry Noltie in this issue).

By the end of the 19th century when the primary documentation of India's flora was complete, Company interests turned again to the economic and medicinal uses of native plants, especially the cultivation of exotic plants for agriculture (cotton, coffee) and medicinal purposes (cinchona) (figure 3). And it is here that we see a few exceptions to the





formula of Company botanist–Indian artist. One example is from the Ootacamund garden, established in 1848, which became the base for “plant portraits” drawn by amateurs, the best known of these collections being the Bourne Album. Commissioned between 1910 and 1915 by Lady Emily Tree Bourne, it contained 225 detailed watercolours of indigenous flowers of the Nilgiris by 30 European women, all amateur naturalists and artists, some of which found their way later into print through the definitive floristic survey of the region.<sup>17</sup> Another exception came from explorer-naturalist Joseph Dalton Hooker, who in his illustrated *Himalayan Flora* famously did not use Indian artists—calling their work “rigid”—but made his own botanical field-sketches that could be turned into engravings at Kew. Hooker relied heavily on indigenous plant-gatherers, however, as can be seen in a portrait where he is surrounded by his Lepcha and Gorkha friends who helped on his field-trips from which he carried back almost 7,000 species to Kew Gardens (figure 6).

### Ars Botanica

Contributions by scholars, curators, writers and artists in this issue reflect this diverse range of Indian botanical art, thus expanding and inverting the Kampani kalam category. The three lead essays trace botanical iconographies through encounters between Company and colony, each refiguring the archive in different ways. Ebba Koch shows how Mughal-era architectural monuments borrowed floral motifs from European florilegia and engravings. Henry Noltie draws from his detailed monographs on Robert Wight, Hugh Cleghorn and Alexander Gibson to reinsert some names and caste identities (moochies, jingars) of south Indian botanical artists in the 19th century. Savithri Preetha Nair suggests that the Tanjore

3. Sir W. Denison and others planting the first quinine tree in the Nilgerry hills, India. Wood engraving by Jackson. Courtesy Wellcome Collection. Wellcome Library no. 16327.



4. Calcutta botanic garden, c. 1910: image of the garden dispensary for its employees and families. The man pictured in the centre dressed in white is the doctor. ID 289. © Royal Botanic Gardens, Kew.

5. The Great Banyan Tree, the world's widest tree, at the Calcutta botanic garden. The image shows the tree at the beginning of the 20th century and the sign on the bench records that at this time the tree was 938 ft (286 m) wide. ID 288. © Royal Botanic Gardens, Kew.

court—especially through the figure of the famed Tanjore moochy (Coopan Sithar) and his atelier—offer “alternative centres of calculation” in the botanical imperial nexus of Company and colony, producing a body of work that redefines prevailing ideas of Company botanical art. Each suggests that hybridities in Company botanicals take different forms, showing European influences via art, print technologies and emerging taxonomies from at least the 17th century.

Three long notes follow on the earliest illustrated Company herbals from the subcontinent—each under the aegis of a different East India Company: the unpublished French *Jardin de Lorixa* of 1698–1725 (Kapil Raj); the newly discovered 17th-century English Gurney manuscript (Savithri Preetha Nair); and the late 17th-century Dutch *Hortus Malabaricus* (Sita Reddy).

Company gardens were often mini-museums, repositories for archives and art; and five short essays feature the Roxburgh *Icones* in the Kolkata botanic garden and the Botanical Gallery at the Indian Museum, Kolkata (Santhosh Sakhinala), Cheluviah Raju's paintings in Bengaluru's Lalbagh Botanical Garden (Suresh Jayaram), and two archives from Kew Gardens: the first on Joseph Hooker's Himalayan materials (Cam Sharp Jones); the second on Marianne North's Indian paintings from Kew's North Gallery (Michelle Payne).

Nor does botanical art only include paintings. The next five essays spotlight key collections across different media that now sit in archives unconnected to botanical gardens. Henry Noltie and Mark Watson write about the unpublished Buchanan-Hamilton collection in the Linnean Society. Meghan Lambert provides a glimpse of the Wellcome Collection's copy of *Plants of the Coast of Coromandel*. Lina Vincent concentrates on Bombay's Blatter Herbarium as a printmaker's resource. Rishika Mehrishi contributes a piece on Harvard University's Blaschka Glass Flowers collection. Emilia Terracciano's essay on J.C. Bose's “plant autographs” from the Bose Trust points to the unique graphic challenges of visualizing plant physiology, thus pushing the boundaries of botanical art beyond structures and surfaces.

Seven contemporary artists, whose work engages the “botanical” as an idea or a practice, are featured in this magazine. If the styles of Damodar Lal Gurjar and Mahaveer Swami exemplify those of traditional botanical ateliers, Sunoj D. and Rohini Devasher each go in search of a text (*Hortus Indicus Malabaricus*, Goethe's *Metamorphosis*) and Meena Subramaniam turns to an artist (Marianne North) for inspiration; while Waswo X. Waswo and R. Vijay foreground the colonial encounter by positioning Waswo (the gora in his topi) in paintings of botanically identifiable trees, some of them homages to Bundi and Kota traditions.

Finally, we present notes on three exhibitions, each of which reflects on botanical remembrance and archival loss: *The Lost Plants Archive*, 2015 (Ranjit Kandalgaonkar); *Such Treasure and Rich Merchandize*, 2009 (Anna Spudich); and *Ayurvedic Man*, 2017 (Bárbara Rodríguez Munõz).

The issue ends with artist's pages by Simryn Gill whose diverse oeuvre addresses botanical metaphors of place as well as the fragility and futility of documenting plant life. Here Gill revisits *Run*, her 2006 exhibition on her visit to Pulau Run, one of the tiny Indonesian Banda (or “Spice”) Islands, home to “fabled nutmeg gardens”. Gill's photographs avoid the intrusion of a botanist's taxonomic gaze; her text and images, like the floating motes and drifting islands she describes, shift on the page and refuse to be contained within narrow historical frames or horizons. I turn to a favourite theorist, Ann Stoler, who suggests that plants, or pictures of plants, as part of a colonial order of things, *must* be read along the archival grain, through gaps, uncertainties and rifts of archival production. I look again at Gill's pages; her work recalls (for me) an early 16th-century herbal: text and image printed







6. Idealized engraving of Joseph Hooker during his Himalayan travels, made from a portrait painted by William Taylor Frank in the rhododendron region of the Himalayan mountains, c. 1850. © Royal Botanic Gardens, Kew.

from the same blocks, the plants ciphers and barely identifiable, a portrait—not a record—of a place. The archival circle closes.

And yet, like a Jungian ouroboros, our foray into botanical art reveals that closings often circle back to beginnings. The title of the issue, “The Weight of a Petal”, draws from Loren Eiseley’s paeon to the “soundless, violent floral explosion” that transformed the world when seed-borne plants tipped evolutionary scales in the Mesozoic era. We borrow Eiseley’s poetic metaphor to paint an ode to the flower, to all flora, as represented in art. In the pages that follow, we hope that the weight of a *drawn* petal, botanical *image*, or plant *portrait*, makes an indelible mark on the arc of Indian art history and Kampani kalam.



- 1 Loren Eiseley, "How Flowers Changed the World", in *The Immense Journey: An imaginative naturalist explores the mysteries of man and nature*, New York: Random House USA, 1957. Thank you, Loren Eiseley, for the quotation and for continuing inspiration in mixing art and science through golden words.
- 2 For a pioneering project on the virtual reunification of botanical archives, see <https://www.kew.org/explore-our-collections/correspondence-collections/nathaniel-wallich-collection>.
- 3 Mildred Archer, *Natural History Drawings in the India Office Library*, London: HMSO, 1962, p. 55; Stuart Cary Welch, "A Confluence of East and West, of Art and Science. Company Botanical Painting: Its Background and Character", in Phyllis I. Edwards, James J. White, Dan H. Nicolson and Robert W. Kiger (eds.), *Indian Botanical Paintings*, Pittsburgh: Hunt Institute for Botanical Documentation, 1980, pp. 9–20.
- 4 Archer, *Natural History Drawings*, pp. 54–58; Wilfrid Blunt and William T. Stearn, *The Art of Botanical Illustration*, New York: Antique Collector's Club, 1994, p. 185; Ray Desmond, *The European Discovery of the Indian Flora*, Oxford: Oxford University Press, 1992, pp. 145–52; Phyllis I. Edwards, "Company Sponsorship and the Beginnings of Indian Botany", in *Indian Botanical Paintings*, pp. 23–31; Welch, "A Confluence of East and West", pp. 12–18.
- 5 Henry J. Noltie, *Indian Botanical Drawings 1793–1868 from the Royal Botanic Garden Edinburgh*, Edinburgh: Royal Botanic Garden Edinburgh, 1999, p. 29.
- 6 Henry J. Noltie, *The Cleghorn Collection: South Indian Botanical Drawings 1845 to 1860*, Edinburgh: Royal Botanic Garden Edinburgh, 2016, p. 2.
- 7 William Dalrymple and Yuthika Sharma, *Princes and Painters in Mughal Delhi, 1707–1857*, New York: Asia Society and Yale University Press, 2012, p. 10.
- 8 Moochy refers to the Telugu-speaking artisanal caste group, traditionally leatherworkers, who lived and worked around Tanjore (Thanjavur); while in Karnataka, leather toys and furniture were made by the jingars, and the gudigars were (sandal)wood-carvers.
- 9 I do not use Linnean names to describe any of these plants because these are pre-Linnean terms that were probably introduced in the texts not by taxonomy but by function, or curative properties.
- 10 Kapil Raj, *Relocating Modern Science: Circulation and the Construction of Knowledge in South Asia and Europe, Seventeenth to Nineteenth Centuries*, New Delhi: Permanent Black, 2006, pp. 27–59.
- 11 "Icones Plantarum Malabaricarum: Early 18th-Century Botanical Drawings of Medicinal Plants from Colonial Ceylon", *Journal of Ethnopharmacology*, Vol. 222, August 10, 2018, pp. 11–20.
- 12 Noltie, *The Cleghorn Collection*, p. 5.
- 13 We know this because Kerr sent this drawing—of the moving plant, the legume called *Codariocalyx motorius*—to his teacher in Edinburgh, John Hope, a great believer in art for science. See also Emilia Terracciano in this issue, for more on J.C. Bose's attempts to "graph" plant movement in this species as well as in *Mimosa pudica*.
- 14 The names of these Floras are (I am including here only the illustrated ones; there were also a large number that were unillustrated): William Roxburgh, *Plants of the Coast of Coromandel (1795–1819)*; Nathaniel Wallich, *Plantae Asiaticae Rariores, Descriptions and Figures of a Select Number of Unpublished East Indian Plants (1830–32)*; Robert Wight, *Icones Plantarum Indiae Orientalis (1840–53)*; and *Illustrations of Indian Botany (1840–50)*.
- 15 At least some of this history will be covered by essays in this volume by Henry Noltie (author of the lead essay as well as a short essay with Mark Watson on the Buchanan-Hamilton collections in the Linnean Society), as well as short essays on the *Plants of the Coast of Coromandel* (by Meghan Lambert), the Roxburgh *Icones* at the Kolkata botanic garden (by Santhosh Sakhinala) and the Lalbagh Botanical Garden collections, including the works of Cheluviah Raju (by Suresh Jayaram).
- 16 Edwards, "Company Sponsorship and the Beginnings of Indian Botany", p. 25.
- 17 Philip Farly Fyson, *The Flora of the Nilgiri and Pulney Hill-tops*, Madras: Government Press, 1921; Philip Furley Fyson, *The Flora of the South Indian Hill Stations*, Madras: Government Press, 1932.





# Flowers in Mughal Architecture

EBBA KOCH

BY THE 17TH CENTURY A PREDOMINANTLY FLORAL DECORATIVE VOCABULARY HAD established itself as mainstream ornament in the arts of the three great empires of the Islamic world: the Ottomans, the Safavids and the Mughals.<sup>1</sup> Flower and plant decoration took the place of the previously favoured “typical Islamic” geometrical patterns (*girib bandi*) which continued however to be used. In the court arts of Shah Jahan (1592–1666, r. 1628–58) the new floral aesthetic affected all art forms and objects of court life, but it was in the buildings of the emperor where they were expressed most noticeably and for all to see. The naturalistic flower representations of the Taj Mahal bring a long involvement of the Mughals with plants and botanical studies to its monumental apogee.<sup>2</sup>

The close observation of the visual world had been an interest of the Mughals from the beginning. The founder of the dynasty, Babur (1483–1530, r. 1526–30) expressed his interest in nature in detailed descriptions of plants, trees and animals which he saw on his peregrinations in his native Central Asia and during his conquest of India. He included these in his autobiography, an outstanding text both for its time and to have been written by a young Timurid prince of 16th-century Central Asia.<sup>3</sup> His great grandson Jahangir (1569–1627, r. 1605–27), the fourth Mughal emperor, showed himself as a first-rank naturalist, and in his own autobiography we find patient and exact observations of natural phenomena. To give an example, this is how he records the flower of *Fritillaria imperialis*, or crown imperial which he calls *būlanik*, a Mughal favourite, which he saw during a trip to Kashmir in March 1620, and in this context, also comments on the problem of methodology in assessing his material:

Among these flowers I saw (noticed especially) one extraordinary one. It had five or six orange-coloured flowers blooming with their heads downwards. From the middle of the flowers there came out some green leaves as in the case of the pineapple [he means obviously the topping crown of leaves] (...). This is the *būlanik* flower. The flowers of Kashmir are beyond counting and calculation. Which ones shall I write of? And how many can I describe? I have only mentioned the most remarkable.<sup>4</sup>

Jahangir directed his artists to turn such observations of natural phenomena into nature studies. He explained the advantages of a combined method, written and visual, and saw it as an improvement of his ancestor Babur’s approach. Commenting about it in the context of a detailed description of a turkey-cock which together with a monkey had been brought to his court to satisfy his interest for the rare and precious, Jahangir thus writes:

Although His Majesty Firdaus Makani [Babur] wrote in his memoirs of the shapes and forms of some animals, apparently he did not order the artists to depict them. Since these animals looked so extremely strange to me I both wrote of them and ordered the artists to draw their likenesses in the *Jahangirnama* so that the astonishment one has at hearing from them would increase by seeing them.<sup>5</sup>

We may ask then, how did Jahangir’s painters arrive at what was so important to their imperial patron, namely, depicting animals and plants in an exact manner, so that from description and depiction a full representation of the natural phenomenon could be obtained?

1. Flowering plant with narcissus and tulip blossoms, detail of marble relief on dado of northern *pishtaq* niche, Taj Mahal, late 1630s. Photograph: Ebba Koch, 1980.



2. Red tulip with dragonfly and butterfly, signed *banda-i dargāh nādīr al-'aṣr Maṣūṛ naqqāsh Jahāngīr Shāhī* (slave of the court, wonder of the age [title given by Jahangir], Mansur painter of King Jahangir), c. 1620. Opaque watercolour on paper; image 21.6 x 9.7 cm, Habibgarj Collection, Maulana Azad Library, Aligarh Muslim University, Aligarh, no. 60-1-ba-3. Photograph: Ebba Koch, 1991.

In the Islamic world, natural history illustration had lost its life and scientific relevance by the time of Jahangir, due to imprecise schematic stereotyped illustrations of classical works of science, especially Arabic and Persian translations of Dioscorides' *De materia medica*, or Qazwini's (1203–82) ever-popular cosmography, *The Wonders of Creation* (*Ajā'ib al makblūqāt*).<sup>6</sup> In pre-Mughal India no suitable models were available which satisfied the Mughals' understanding of nature.<sup>7</sup> Already in Akbari painting we discern attempts to render the flora and fauna of Hindustan with more naturalism than in Persian, Timurid or Deccani painting, by looking at European models.<sup>8</sup> In their endeavour to raise this naturalistic trend to a scientific level Jahangir and his artists turned again to Europe.

In Europe, scientific research and illustration had been on the rise throughout the 16th century, freeing itself from the restraints imposed by the Catholic church and finding sponsorship from European courts, most notably the court of the Medici at Florence, the Munich court of the Bavarian Dukes (Duke Albrecht V and Duke Wilhelm V), and the court of the Holy Roman Emperor at Vienna and Prague.<sup>9</sup> Robert Skelton has shown that Mughal painters based their studies of native flowers and plants on the illustrations of scientific European herbals.<sup>10</sup> Some famous herbals of the later 16th century were by Carolus Clusius or Charles d'Écluse (*Rariorum aliquot stirpium*, 1576), Mathaeus Lobelius or Mathias de l'Obel (*Icones stirpium seu plantarum...*, 1591) and Rembertus Dodoneus or Rembert Dodoens (*Stirpium historiae...*, 1576). All these works were printed by Christoffel Plantijn or Christophe Plantin in Antwerp who had also published the famous Polyglot Bible (1568–72) which the first Jesuit mission had brought to the court of Akbar in 1580.<sup>11</sup>

A key image of the Flemish inspiration for Mughal floral illustration is inserted in Jahangir's great album, a major part of which is kept today under the name *Gulshan*





3. Lilies and other flowers, signed 'amal-i Mansūr Jahāngīr Shāhī' (work of Mansur [servant] of King Jahangir), c. 1605–12, from the Gulshan Album. Opaque watercolour on paper; album page c. 40.8 x 25.2 cm. Gulistan Palace Library, Teheran, No. 1663, p. 103. Photograph: Ebba Koch, 2005.

4. Lilies, by Adriaen Collaert, *Florilegium*, engraving pl. 6, c. 1589. Courtesy Sarah Campbell Blaffer Foundation, Houston.

Album at the Gulistan Library at Teheran.<sup>12</sup> The album page is composed of three paintings showing different kinds of flowers (figure 3). The largest sheet depicts various types of lilies pasted together with two smaller botanical studies. The whole collage is surrounded by a Mughal border with golden plant ornament on turquoise ground on which appear in opaque colour tiny nature studies of pairs of birds native to India. The painting with the arrangement of various lilies is signed by Ustad Mansur, Jahangir's outstanding painter of natural history subjects, as 'amal-i Mansūr Jabāngīr Shāhī' (work of Mansur [servant] of King Jahangir). Recently Jerry Losty drew attention to an engraving by the Flemish designer and engraver Adriaen Collaert (c. 1560–1618) which shows exactly the same subject thus correcting previous scholarship.<sup>13</sup> It formed part of Collaert's *Florilegium* which was printed at Antwerp by Philipp Galle in c. 1589 (figure 4). Collaert took a compositional approach to botanical illustrations by arranging individual plants or elements of plants on one page. Another instance of the use of European plant models is in the flower studies of the so-called

Small Clive Album (late 17th or 18th century) at the Victoria and Albert Museum, London. Several, like the often-published martagon lilies are copied from the French Florilegium of Pierre Vallet, *Le Jardin du Roi très Chretien Henry IV* (Paris, 1608, 1623); second enlarged edition: *Roi très Chretien Louis XIII* (1623).<sup>14</sup>

The Mughal artists did not only copy flowers from European herbals. They also adopted the composition in the rendering of a flower, the use of front and side views of the blossoms, the progression from bud to full blossom on one plant, and the arrangement of the blossoms to display the botanical details of stamen and carpels.<sup>15</sup>

With these principles, the Mughal painters represented plants of their own environment, native to India and Central Asia. Ustad Mansur's famous Tulip, c. 1620, at the Maulana Azad Library, Aligarh Muslim University is represented according to the European herbal style and it seems to be the earliest botanical illustration of a Central Asian species which shows the characteristics of *Tulipa lanata* Regel and/or *Tulipa linifolia* Regel (figure 2).<sup>16</sup> Both species grow in western Central Asia and northeast Afghanistan, reaching into the Himalaya in Kashmir. Mansur depicts the broad glowing red petals that abruptly contract to a fine point and curve outward, both characteristic of the species *Tulipa linifolia* Regel, while the black basal spot fringed in yellow points towards *Tulipa lanata* Regel. Both species were only described at the end of the 19th century by Eduard August Regel (1815–92), since 1855 Director of the Imperial Gardens of St Petersburg who expanded botanical knowledge towards the regions of the Caucasus and Central Asia. But given that Mansur depicted it in microscopic detail to create a striking work of art, perhaps the tulip should be named after him, or after his patron Jahangir!

The flower studies of the Mughal court atelier were transferred by Shah Jahan's stone-carvers to marble and sandstone relief or *munabbat kari* (figure 1) and into inlay or *parchin kari* (figure 5) in the emperor's building projects. The most outstanding flower decoration is found in the Taj Mahal, the tomb which Shah Jahan built between 1632 and 1648 at Agra, capital of the Mughal empire, for his beloved wife Mumtaz Mahal who had died in 1631 after the birth of their 14th child. The monument was to be a magnificent burial place for Mumtaz Mahal but also a testimony to Mughal rule, with the emperor himself supervising its planning and its construction.<sup>17</sup>

For the Mughals the meaning of a building was as important as its form. The Taj Mahal was conceived in post-Platonic terms which prevailed in the world-view of the Mughal court. The entire potential of Mughal architecture was put into the service of creating a replica on earth of the house of Mumtaz in the other world, in paradise. Shah Jahan's chief historian 'Abd al-Hamid Lahauri makes this clear when he describes it as "the exalted mausoleum which imitates the gardens of Rizwan [the guardian of Paradise], and which gives an impression (*nishan*) of the holy abodes".<sup>18</sup>

As a material expression of an otherworldly building, the mausoleum had to be realized in what Shah Jahan and his builders considered ideal architecture. It has a geometrical plan based on perfect mirror symmetry. While the mathematical planning provided the correct structure of the ideal concept, accessible to the initiated, the facing of the buildings and the ornament appeal to the senses of the observer. The surface of the buildings and the architectural ornament is our most immediate window into the meaning of the Taj Mahal.

Paradise in the Quran was imagined as gardens (*jannat*, *rauza*) full of trees, flowers and plants and running water. For Shah Jahan and his conceptualists, one of the means to give the mausoleum paradisiacal qualities was to set it in a real garden with real trees and flowers. However, nature is perishable and impermanent. Lasting paradisiacal qualities could be ensured with artificial plants and flowers, which would bloom eternally. True, they





would not smell, as the poet Kalim conceded (as quoted below), but if realistically done they would surpass their counterparts in nature in perfection of form and beautiful colours (figure 5). The flower and plant decoration of the Taj Mahal was meant to invest the building with a permanent paradisiacal quality and therefore the floral decoration forms an integral part of the building.

Naturalistic ornament as a paradisiacal property was distributed among the buildings in a hierarchic progression.<sup>19</sup> Within the Taj Mahal complex, naturalistic plant and flower ornament appears only in the buildings of the funerary garden, not in the Jilaukhana (forecourt), the bazaar and the caravanserai complex. Within the funerary garden, the floral and plant decoration appears again only sparingly in the marginal buildings surrounding the garden. It culminates on the river-front terrace and its buildings, and above all in the mausoleum, the ultimate paradisiacal garden-house. Here the most precious materials and techniques were used to create the most compelling plant and flower images which would ensure perfect paradisiacal conditions.

In a direct appeal to our senses the concept of the paradisiacal garden-house is expressed in the delicate flowers which appear on the dados, at the eye-level of the beholder, which transform the lower walls of the mausoleum into ever-blooming paradisiacal flowerbeds.<sup>20</sup> They are arranged in perfectly symmetrical compositions and carved in sensuous detail. Their carving in deeply undercut relief with close attention to detail transferred the naturalism of the European source to the marble surface (figure 1). Spring flowers like tulip, narcissus, martagon lily and fritillaria can be easily identified. At the same time the designers and craftsmen handled the botanical models quite freely and mixed identifiable species in imaginary flowering plants, creating hybrids of various botanical species.<sup>21</sup> The newly created hybrids were perhaps meant to represent a species both naturalistic and otherworldly that was unique to the mausoleum, a selective naturalism mediating the real and imaginary.

The marble flowers of the dados are echoed in red sandstone in the flanking buildings of the mosque and its counterpart, the Mihmankhana or assembly hall. The arrangement is governed by the same principles of symmetry but several different species are introduced here. And, little noticed by visitors, the floral ornament covers the entire riverfront of the red

5. Pietra dura flowers, screen enclosing cenotaphs of Mumtaz Mahal and Shah Jahan, Taj Mahal, 1643. Photograph: Ebba Koch, 2016.

6.  
Flower vase, marble relief  
on dado of inner tomb  
chamber, Taj Mahal, late 1630s.  
Photograph: Ebba Koch, 2018.



sandstone terrace on which the white marble mausoleum stands.<sup>22</sup>

Vases filled with flowers in marble relief appear in the interior of the mausoleum. Their placement in the central hall of the Taj Mahal tells us that they were more highly valued than the single flowers arrayed in "beds" on the surrounding dado zones. Their naturalism and shape are inspired by the arts of contemporary Europe, wherein the 17th-century representational flower vases had become a distinct theme of Flemish painting and engravings, French and Italian engravings, marquetry and Florentine *pietra dura* inlays.<sup>23</sup> The shape of the vases of the Taj Mahal and their flower arrangements follow the European form very closely (figure 6).<sup>24</sup> As we have seen, the Mughals had no problems with borrowing from other art traditions; they saw it as accepting an offering from a foreign cultural region for use in their own artistic endeavours. And only those European elements were used in Mughal art which were able to give a new expression to already familiar artistic or literary concepts. This was true of the vases: representational vases filled with flowers have a long tradition in Islamic art. A striking example are the so-called Alhambra vases whose function is still under debate.<sup>25</sup> I would like to suggest that they were intended as flower vases on the basis of the flower vase on a stand decorating a Quran support, of carved wood, made by Hasan ibn Sulaiman al-Isfahani, Iran or Central Asia dated AH 761/AD 1360 in the Metropolitan Museum of Art, New York.<sup>26</sup> In an Indian context, vases filled with exuberant



flowers are related to the pot overflowing with plants, *purna kalasha*, the ancient symbol of prosperity and wellbeing.<sup>27</sup> The vases had thus a multiple "identity" which gave them the universal touch Shah Jahan's artists were aiming for.

The naturalistic decoration culminates in the central ensemble of the cenotaphs of Mumtaz and of Shah Jahan and the screen which surrounds them. They are covered with spectacular flowers and plants inlaid with semiprecious stones; a technique which the Mughals adapted from Florentine work called *commesso di pietre dure*. The Mughals called the technique *parchin kari* (figure 5). The Mughals knew *pietra dura* from European artists who were employed at the Mughal court and from Italian works which visitors brought as presents for the emperor. The technique required extreme skill on the part of the stone-cutter to create compositions of tiny pieces of semiprecious stones which were pressed into shallow forms carved out of the marble ground. A group of Italian *pietra dura* tablets showing the characteristic Florentine motifs of birds, flowers and flower vases is set in the back wall of Shah Jahan's throne in the audience hall of the Red Fort at Delhi (1639–48). It is supplemented with Mughal birds and floral motifs and demonstrates not only the closeness between the Italian *pietra dura* technique and the Mughal *parchin kari* but also that the Mughal creations surpassed the Italian models in subtlety and finesse.<sup>28</sup> The poet Abu Talib Kalim is the one to tell us that the painterly effects that could be obtained with *pietra dura/parchin kari* made it possible to create the desired naturalistic flowers, permanent and thus superior images of their counterparts in nature:

On each stone a hundred colours, paintings and ornaments  
Have become apparent through the chisel's blade.  
The chisel has become the pen of Mani<sup>29</sup>  
Painting so many pictures upon the translucent marble (*ab-i marmar*).

...  
Pictures become manifest from every stone;  
In its mirror behold the image of a flower garden.  
They have inlaid flowers of stone in the marble,  
What they lack in smell they make up with colour.  
Those red and yellow flowers that dispel the heart's grief,  
are completely out of carnelian and amber.

...  
When of such stones the surface of a tomb is made,  
The deceased will [want to] clasp the flower pictures to her heart.<sup>30</sup>

On both cenotaphs of Shah Jahan, which were placed next to those of Mumtaz in the lower and upper tomb chambers after his death in 1666, the decoration with paradisiacal flowers was given preference over inscriptions. Quranic inscriptions had decorated the sarcophagus-like tombstone of both cenotaphs of Mumtaz, and flowering plants appeared only on the platform of her upper cenotaph.<sup>31</sup> But both of Shah Jahan's cenotaphs are covered with flowers; with only a brief historical epitaph at the south end.<sup>32</sup> The weight given to floral decoration tunes in, on the one hand, with the overall concept of the mausoleum as paradisiacal garden-house, but the exclusive flower decoration of the emperor's cenotaphs makes a more specific statement. It relates, even after his death, to the floralization programme of his court settings. Here it was to express imperial propaganda. The court poets and writers tell us that Shah Jahan was "the adorning of the flowerbeds without autumn...the spring of the flower garden of justice and generosity",<sup>33</sup> he was the renewer, the *mujaddid* under whose rule "Hindustan has become the rose garden of the earth and his reign...has become the spring season of the age in which the days and nights are young".<sup>34</sup>

- 1 Gülru Necipoğlu, "Early Modern Floral: The Agency of Ornament in Ottoman and Safavid Visual Cultures", in Gülru Necipoğlu and Alina Payne (eds.), *Histories of Ornament: From Global to Local*, Princeton and Oxford: Princeton University Press, 2016, pp. 132–55.
- 2 The thoughts expressed in this paper are discussed in greater detail in Ebba Koch, "Jahangir as Francis Bacon's Ideal of the King as an Observer and Investigator of Nature", *Journal of the Royal Asiatic Society*, Series 3, 19(3), 2009, pp. 293–338; and Ebba Koch, *The Complete Taj Mahal and The Riverfront Gardens of Agra*, London: Thames & Hudson, 2006 and 2012.
- 3 Zahir al-Din Muhammad Babur, *The Baburnama: Memoirs of Babur, Prince and Emperor*, trans., ed. and annotated by Wheeler M. Thackston, Washington DC: Freer Gallery of Art and Arthur M. Sackler Gallery, Smithsonian Institution, and New York and Oxford: Oxford University Press, 1996.
- 4 Jahangir, *The Jahangirnama: Memoirs of Jahangir, Emperor of India*, trans., ed. and annotated by Wheeler M. Thackston, New York and Oxford: Oxford University Press and Washington DC: Freer Gallery of Art and Arthur M. Sackler Gallery, Smithsonian Institution, 1999, pp. 327–28.
- 5 Jahangir, trans. Thackston, p. 133.
- 6 See e.g. Stefano Carboni, "The Arabic Manuscripts", in Yuri A. Petrosyan (ed.), *Pages of Perfection: Islamic Paintings and Calligraphy from the Russian Academy of Sciences, St Petersburg*, exhibition catalogue, Milan: Electa, 1995, pp. 86–91.
- 7 For possible pre-Mughal examples see Barbara Schmitz and Ziyad-Din A. Desai, *Mughal and Persian Paintings and Illustrated Manuscripts in the Raza Library, Rampur*, Rampur: Raza Library Rampur and New Delhi: Indira Gandhi National Centre for the Arts and Aryan Books International, 2006, cat. no. 11.1; and the *Nujūm al 'ulūm* ("Stars of Sciences") (Bijapur 1570–71), in Linda York Leach, *Mughal and Other Indian Paintings from the Chester Beatty Library*, London: Scorpion Cavendish, 1995, Vol. 2, pp. 819–89.
- 8 S.P. Verma, *Mughal Painter of Flora and Fauna Ustad Mansur*, New Delhi: Abhinav Publications, 1999, pp. 21–23 et passim; Asok Kumar Das, *Wonders of Nature: Ustad Mansur at the Mughal Court*, Mumbai: The Marg Foundation, 2012, chapters I and II.
- 9 See the excellent study by Florike Egmond, *Eye for Detail: Images of Plants and Animals in Art and Science, 1500–1630*, London: Reaktion Books, 2017, with further literature.
- 10 Robert Skelton, "A Decorative Motif in Mughal Art", in P. Pal (ed.), *Aspects of Indian Art: Papers Presented in a Symposium of the Los Angeles County Museum of Art, October 1970*, Leiden: E.J. Brill, 1972, pp. 147–52; V.A. Rich, "Mughal Floral Painting and its European Sources", *Oriental Art*, xxxiii(2), 1987, pp. 183–89; Teresa Nobre de Carvalho and Clara Serra, *Conversas: As Flores do Imperador: Do Bolbo ao Tapete/Conversations: The Emperor's Flowers: From the Bulb to the Carpet*, Lisbon: Calouste Gulbenkian Foundation, 2018.
- 11 Ebba Koch, "The Influence of the Jesuit Mission on Symbolic Representations of the Mughal Emperors", in C.W. Troll (ed.), *Islam in India: Studies and Commentaries, 1: The Akbar Mission & Miscellaneous Studies*, New Delhi: Vikas, 1982, pp. 14–29; reprinted in Ebba Koch, *Mughal Art and Imperial Ideology*, New Delhi: Oxford University Press, 2001, pp. 1–11.
- 12 Gulistan Palace Library No. 1663, p. 103. I had the opportunity to study and photograph the folios of the Gulshan Album in October 2004 and in April and May 2005, and thank the Director of the Gulistan Library Mrs Parvine S. Seghatoleslami for the permission, and librarian Mr Hasan Alaienie for his assistance and help in reading inscriptions. On p. 103 see Koch, "Jahangir as Francis Bacon's Ideal", pp. 305–09; Susan Stronge, "The Gulshan Album, c. 1600–1618", in Elaine Wright (ed.), *Muraqqa': Imperial Mughal Albums from the Chester Beatty Library*, Alexandria, Virginia: Art Services International, 2008, pp. 76–81; and Das, *Wonders of Nature*, pp. 142–44.
- 13 [https://www.academia.edu/6285901/Further\\_Light\\_on\\_Mughal\\_Flower\\_Studies\\_and\\_their\\_European\\_Sources](https://www.academia.edu/6285901/Further_Light_on_Mughal_Flower_Studies_and_their_European_Sources) (accessed on May 8, 2018). For the 1589 edition of Collaert's *Florilegium* see <https://www.mfah.org/art/>



- detail/124505?returnUrl=%2Fart%2Fsearch%3Fnationality%3Dnetherlandish (accessed on May 9, 2018). For the lilies see plate 6.
- 14 The 1613 edition is available at <http://www.illustratedgarden.org/mobot/rarebooks/author.asp?creator=Vallet,%20Pierre&creatorID=57>. Skelton, "A Decorative Motif" draws attention to the connection between Vallet's *Le Jardin du Roi* and the Small Clive Album in the Victoria and Albert Museum I.S. 48-1956; see also Rich, "The Origins of Mughal Painting" (PhD thesis, SOAS, London, 1981) and "Mughal Floral Painting".
  - 15 Rich, "Mughal Floral Painting", p. 183.
  - 16 Das, *Wonders of Nature*, pp. 145–48, provides a detailed discussion of the painting and its various identifications as *Tulipa clusiana*, *Tulipa montana*, *Tulipa lehmanniana* Mercklin and *Tulipa lanata*. I owe the identification of *Tulipa lanata* Regel to Hans Walter Lack in an email of May 1, 2018, whom Florike Egmond kindly approached on my behalf with the query about the identity of the species. In Koch, "Jahangir as Francis Bacon's Ideal of the King", pp. 312–13, I suggested the identification of Mansur's tulip as *Tulipa linifolia* Regel. Mansur's drawing shows characteristics of both species.
  - 17 On this and the following see Koch, *The Complete Taj Mahal*.
  - 18 'Abd al-Hamid Lāhaurī, *Bādshāhnāma*, edited by M. Kabīr al-Dīn Aḥmad and M. 'Abd al-Raḥīm, 2 vols., Calcutta: Asiatic Society of Bengal, 1866–72, Vol. 2, p. 323; translation E. Koch.
  - 19 This point is explained in more detail in Koch, *The Complete Taj Mahal*, p. 217.
  - 20 *Ibid.*, pp. 158–59.
  - 21 Robert Skelton first drew attention to the ambivalence of these flower creations in "A Decorative Motif". See also Koch, *The Complete Taj Mahal*, p. 158.
  - 22 *Ibid.*, pp. 144–47.
  - 23 W. Oechslin, *Die Vase*, Zurich: Kunstgewerbemuseum der Stadt Zürich, 1982; for a further engraving close to the Taj vases see Collaert, *Florilegium*, plate 3; cf. Losty, "Mughal Flower Studies".
  - 24 Koch, *The Complete Taj Mahal*, pp. 219–22.
  - 25 Juan Zozaya, *Los Jarrones de la Alhambra: simbología y poder / The Alhambra Vases: Symbolology and Power*, exhibition catalogue, Granada: Consejería de Cultura, 2006–07, pp. 279–81.
  - 26 Rogers Fund, 1910 (10.218). Published in Linda Komaroff and Stefano Carboni (eds.), *The Legacy of Genghis Khan*, New York, New Haven and London: Metropolitan Museum of Art and Yale University Press, 2002, p. 132, fig. 159, and p. 281, cat. no. 176–82 where the flower vase is erroneously interpreted as "cypress tree".
  - 27 On the adoption of the *purna ghata* in Mughal architecture see R. Nath, *History of Decorative Art in Mughal Architecture*, Delhi, Varanasi and Patna: Motilal Banarsidass, 1976, pp. 6–10.
  - 28 Ebba Koch, *Shah Jahan and Orpheus: The Pietre Dure Decoration and the Programme of the Throne in the Hall of Public Audiences at the Red Fort of Delhi*, Graz: Akademische Druck- und Verlagsanstalt, 1988; reprinted without introduction in Koch, *Mughal Art and Imperial Ideology*, pp. 61–129.
  - 29 The founder of the sect of the Manicheans; in Persian lore the ultimate painter.
  - 30 Abū Tālib Kalīm, *Bādshāhnāma*, BL, Asia, Pacific and Africa Collections, Persian ms. Ethé 1570, fol. 164a margin; my translation differs somewhat from that of W.E. Begley and Z.A. Desai, *Taj Mahal: The Illumined Tomb: An Anthology of Seventeenth-Century Mughal and European Documentary Sources*, Cambridge, MA: The Aga Khan Program for Islamic Architecture, 1989, p. 83.
  - 31 Koch, *The Complete Taj Mahal*, figs. 117, 223, 241.
  - 32 *Ibid.*, figs. 233, 242, 243, 246, 345, 349.
  - 33 Hājī Muhammad Jān Qudṣī, *Zafarnāma-i Shāh Jahān*, BL, Asia, Pacific and Africa Collections, Persian ms. Ethé 1552, fol. 129a.
  - 34 Muḥammad Ṣāliḥ Kanbū, *'Amal-i Ṣāliḥ* or *Shāh Jahānnāma*, edited by Waḥīd Quraishī based on the Calcutta edition of 1912–46 by Ghulām Yazdānī, 2nd edition, 3 vols., Lahore: Majlis-i Taraqqī-yi Adab, 1967–72, Vol. 3, p. 24; see also Ebba Koch, "Mughal Palace Gardens from Babur to Shah Jahan (1526–1648)", *Muqarnas* 14, 1997, pp. 143–65, quotes on p. 159; reprinted in Koch, *Mughal Art and Imperial Ideology*, pp. 203–28, quotes on p. 227.



*Amelina*



# Moochies, Gudigars and Other Chitrakars: Their Contribution to 19th-Century Botanical Art and Science

H.J. NOLTIE

IN BRITAIN THE THREE BODIES NATIONALLY FUNDED TO UNDERTAKE RESEARCH INTO the naming and classification of plants are the Royal Botanic Garden Edinburgh (RBGE), the Botany Department of the British Museum (now the Natural History Museum, NHM) and the Royal Botanic Gardens, Kew (Kew). Given the depth and length of the connections between Britain and India, it is unsurprising that each of these has substantial collections of botanical drawings made in the subcontinent. What makes them all the more interesting is that they are largely the work of Indian artists, painted between the late 18th and late 19th centuries. They were commissioned by a wide range of men and women with scholarly interests in India's rich biodiversity, nearly all of them associated with the East India Company (EIC). Foremost among these were members of its medical staff, but also soldiers, civil servants and diplomats, missionaries, and wives of officials. Each of the three collections has different strengths—at NHM are three volumes from the collection of Sir Joseph Banks made for James Kerr in Bengal and Bihar in the 1770s, and a collection made in Calcutta at the turn of the 18th and 19th centuries for the surgeon John Fleming. Kew, which started collecting books and archives only in the mid-19th century, benefited enormously from the dispersal of the EIC's India Museum, which is how it comes to have one of the two sets of 2,542 drawings made for William Roxburgh on the Coromandel Coast and at the Calcutta botanic garden, and the original drawings for two of the great illustrated Indian folio botanical publications, Nathaniel Wallich's *Plantae Asiaticae Rariores* and J.F. Royle's *Illustrations of the Botany of the Himalayan Mountains*.

With a single notable exception (a Kerr drawing sent to John Hope), the assembly of the RBGE collection also dates from the mid-19th century. But although many of the key players in the story of the visual and written documentation of Indian flora studied medicine at Edinburgh from the 1770s onwards (Kerr, Roxburgh, Francis Buchanan and Robert Wight), this rich collection of Indian botanical drawings is largely a result of later gifts, above all by Hugh Cleghorn. At Edinburgh (as at Kew), the drawings were curated and stored in a taxonomic botanical sequence, so that the history of individual collections, including who commissioned them, had been lost and has had to be painstakingly reconstructed—a project that has occupied me for the best part of the last two decades. With a background in taxonomy and museum studies, and with no training in art history, my main aim has been to try to restore as much of this lost history as possible—drawing out the scientific importance of the drawings that, with closely related herbarium specimens, often form part of the original material on which botanists described new species. But another aim has been to try

1. *Gmelina asiatica*, by Rungiah, c. 1827. Bodycolour heightened with gum arabic and ink over traces of pencil; 25.6 x 17.4 cm.

22.  
*Dendrobium jerdonianum*  
 (plant habit), by Govindoo,  
 c. 1850. Bodycolour  
 heightened with gum arabic  
 over traces of pencil; 25 x  
 22 cm.



to understand the history of the collections—where, when and why the drawings were made, and how they reached Edinburgh. Underlying this lay a strong feeling that the collection should be made better known, and a belief that belated credit should be given to the Indian artists (known generically as chitrakars) responsible for creating such exquisite drawings—to try to find out more about them, at the very least their names and backgrounds.

Three of the major collections at RBGE have now been monographed, of which a brief summary is presented here, with an emphasis on what it has been possible to find out about the artists, ending with a plea to others to continue and develop this preliminary work.

### The Wight Collection<sup>1</sup>

Robert Wight (1796–1872) studied medicine at Edinburgh, taking the botanical class of Daniel Rutherford in 1816. Like his role model, William Roxburgh, Wight started his medicomilitary career in Madras where he arrived in 1819. His passionate interest in botany was clear to his EIC employers and in 1826–28 he was the last holder of the official Madras Naturalist's post. It was during this period that he almost certainly started to employ the



artist Rungiah. After a period of leave and various military postings, the Company put Wight to work on agricultural and economic botany, which from 1842 until his retirement 10 years later entirely concerned cotton, based in Coimbatore but within easy reach of the Nilgiri Hills. In about 1845 Rungiah dropped out of the picture to be replaced by the second of Wight's artists, Govindoo. During his 30-year career Wight used Indian plant collectors to build up vast collections of herbarium specimens that, with the drawings, he used as the basis of a series of illustrated Floras published in Madras. Whereas Roxburgh never named his artists, Wight acknowledged his on each and every one of the plates based on their drawings. He also dedicated the orchid genus *Govindooia* to his second artist (there already being a *Rungia*, named after a German chemist, meant that Rungiah could not be immortalized in this way).

The names Rungiah and Govindoo are not very revealing in terms of their background, caste or ethnic identity. Some of the drawings bear Govindoo's signature in Telugu script and the fact that the drawings are covered in annotations in Telugu as well as Tamil provided a hint that was confirmed with the discovery (in a name-dropping, autobiographical memoir of the 1890s)<sup>2</sup> that Wight's Rungiah was associated with a later artist called Rungiah Raju. The caste name Raju leads to a group of south Indian painters known as "moochies", based originally in Tanjore.<sup>3</sup> There is much conflicting information on them in the "tribes and castes" genre of literature, and one of the most informative sources is a little-known 1976 pamphlet on Tanjore painting written by N.S. Ramaswami who, with his artist colleague Koduru Ramamurthi, visited Tiruchirappalli and Madurai in search of the remnants of this community.<sup>4</sup> It seems that this group of Telugu-speakers probably first moved as artists to Tanjore with the breakup of the Vijayanagara empire, where they remained under the Nayaka and Maratha periods into British times. Skilled in the making of religious and devotional paintings, when shown suitable models they proved highly adaptable in the making of natural history drawings of the kind required by botanists and zoologists.

The Wight Collection is rather diverse, a reflection of the long period of its creation and the fact that it was a personal (and personally funded) project. The earliest drawings (figure 1), reveal most about Rungiah's traditional practice—tightly compressed compositions, in thick gouache, though with a background of white paper that would never have been allowed to remain thus unfilled for an Indian patron. This collection, made under EIC patronage, was surrendered with the abolition of the Naturalist's post and Wight's return to London, which is why most of this set is now at Kew. As Wight's ambitions to publish on his own account developed, Rungiah developed an attractive method of composition, with a balance of coloured and uncoloured parts of a plate, which not only gave some sense of depth, but allowed the meticulous depiction of leaf venation by means of ink-line alone. The range of his colours is relatively small, especially the greens that, with a comment by Cleghorn on watching Wight's artists "mixing their own colours", suggests that Rungiah and Govindoo may well have made their own pigments in the traditional manner, from minerals and vegetable matter, rather than using imported paints.

Govindoo took over around 1846, presumably having been taught by Rungiah and from a similar background, perhaps even the same family. His style was bolder than Rungiah's and his sense of composition not so refined, but this could be because of the publication project—the compositions would be recomposed on the uncoloured lithographed plates, and there was no point in making painstaking effort over fine colouring (figures 2a and 2b).



2b. *Dendrobium jerdonianum* (floral dissection), by Govindoo, c. 1850. Bodycolour heightened with gum arabic over traces of pencil; 12.6 x 11.1 cm.





3.  
*Kalanchoe olivacea*, by an anonymous Indo-Portuguese artist, c. 1848. Watercolour and bodycolour over traces of pencil; 35.9 x 25.6 cm.



4.  
*Papaver rhoeas*, by an anonymous Indo-Portuguese artist, c. 1848. Watercolour and bodycolour over traces of pencil; 35.7 x 25.6 cm.

After Wight left India in 1853 Govindoo continued to work for Cleghorn, and Govindoo's son worked for R.H. Beddome into the 1870s. Between 1884 and 1923 K. Cheluviah Raju made another fine collection of botanical paintings for the Lalbagh botanic garden in Bangalore, so that this group (I hesitate to say family) of Tanjore painters dominated botanical painting in south India for a century. Because of the outstanding quality of the plates and (from a botanical point of view) their all-important analytical details published by Wight (and later by Beddome), these artists made a unique contribution to the scientific documentation of the Indian flora whose recognition is long overdue.

### The Dapuri Collection<sup>5</sup>

The most distinctive of the RBGE collections is that made at the Dapuri botanic garden for Alexander Gibson (1800–67). Gibson, like Wight, studied medicine at Edinburgh and botany under Daniel Rutherford, ending up in Bombay in 1827. From then on his career was spent entirely in western India where, during medical travels, he pursued traditional Scottish “statistical” enquiries, including medical topography and botany. These led to his appointment to supervise botanical gardens for the Bombay Presidency in 1837/38, which included a more formal one at Dapuri near Pune and several economically motivated ones around Junnar in the Deccan. From 1840 Gibson was commissioned to work on the Bombay forests, trying to exert some control on felling to allow continuing supplies of teak for the dockyards, which led to his appointment in 1846 as the first modern-style Conservator of Forests for any part of India.

It was doubtless Gibson's links with Nathaniel Wallich in Calcutta, and his knowledge of Wight's Madras publications, that led him to employ a painter at Dapuri. Thanks to the very



thorough records of the Bombay Government, and various correspondents of Gibson's circle in the Hooker correspondence at Kew, a great deal more is known about the practicalities of this employment than in any other case—everything, that is, except for the artist's name! The letters reveal that the painter was [Indo-]Portuguese, that he was employed for a total of 26 months, in two periods between November 1847 and April 1850, on a monthly salary of Rs 20 (Gibson's was Rs 1,124), and that his paints were imported, made by Winsor & Newton. During this period about 200 drawings were made, depicting both indigenous and exotic species. The paintings are strikingly different from any other Indian botanical drawings of any period. The use of thin washes and some geometrical abstractions suggest that his background may have been technical, and Portuguese draughtsmen are known to have been used in map-making in the Bombay Presidency. The Dapuri artist, however, had an outstanding sense of design and he clearly developed in assurance during the progress of the drawings. From the spectacularly asymmetric layout of the *Kalanchoe* to the almost Mughal symmetry of his drawings of poppies he must surely have been aware of other traditions in Indian painting (figures 3 and 4). In western India at this time (in contrast to north or south India) there seems to have been no indigenous school of painters from which Gibson could have recruited an artist. Around this time, or slightly earlier, Indian patrons in the Bombay Presidency had even employed Chinese painters to make reverse-glass paintings of figurative subjects, both Indian and European.

Over and above the outstanding beauty of his drawings, the Dapuri artist, as did Rungiah and Govindoo, made a contribution to botanical science. Some of the paintings of exotic plants graphically illustrate the extraordinary intercontinental translocation of plants then being undertaken. And several of the drawings (including the *Kalanchoe*) proved to be of then undescribed native species, accurate enough to form part of the original material of new species described by Gibson's successor N.A. Dalzell.

### The Cleghorn Collection<sup>6</sup>

Hugh Francis Clarke Cleghorn (1820–95) was born in Madras but educated in Scotland where he studied botany at RBGE under Robert Graham in 1838 and 1839. In 1842, as with his father's friend Robert Wight, Cleghorn started his medical career as an EIC surgeon in Madras. Following the example of Wight and Roxburgh, Cleghorn built up, over the first 20 years of his Indian career, a collection of several thousand botanical drawings, but to do so he used artists from a much wider variety of backgrounds than his predecessors. His career started in Mysore, but after a home leave he spent most of the 1850s in Madras where the EIC recognized his broader interests by appointing him to teach at the Madras Medical School, while at the same time being actively involved with the Madras Agri-Horticultural Society. In 1856 Cleghorn was made the Presidency's first Conservator of Forests and in this role, from Madras, he continued to commission botanical drawings until 1860.

One of Cleghorn's earliest postings was to Shimoga in the princely state of Mysore and it was there, between 1845 and 1847, that he commissioned an artist to paint a different plant each day, resulting in a collection of almost 500 drawings. Curiously—and regrettably—Cleghorn did not follow Wight's example and nowhere did he name this artist, recording only that he was "Mahratta". In a contemporary account of the castes of the Shimoga district three groups are mentioned from which the artist might have been recruited—"jingars", said to be the same as the Madras moochies but who in Shimoga made only toys and "leather furniture"; "banagars" who made paintings of an unrecorded sort; and "gudigars" or sandalwood-carvers, denoted "Mahrattas", who were also painters. From the unusual and highly calligraphic style of the later Shimoga drawings (and their relatively simple painting

5. *Momordica charantia*, by an anonymous "Mahratta" artist, 1846. Watercolour and ink over traces of pencil; 29.1 x 23.4 cm.



6.  
*Passiflora caerulea*, by  
Govindoo, 1855. Watercolour  
heightened with gum arabic  
and ink over traces of pencil;  
29.3 x 23.1 cm.



technique) I have speculated that the artist may have been a gudigar, but this is unprovable, and if Cleghorn recruited him in Bangalore it is also possible that he was one of the Mysore branch of the Raju clan which is said to have been Marathi-speaking (figure 5).

When Cleghorn moved to Madras he had no need to summon his artist from Shimoga. In 1857, 142 "moochies and painters" were active in Madras but, as this period coincided with Wight's retirement in 1853, Cleghorn had "inherited" Govindoo.<sup>7</sup> Over the next eight years Govindoo made many drawings for him, both of exotic plants in the Agricultural Society garden, and on Cleghorn's three official forest tours between 1857 and 1860, in which the artist also participated (figure 6). In another curious break with Wight's example, Cleghorn published almost none of the drawings in his collection, so the artist's work for him remained unknown until recently. An exception came in 1855 when some of Govindoo's drawings were exhibited at the great public spectacle of the Madras Exhibition.

Also in this Exhibition were botanical drawings by another artist employed by Cleghorn (figure 7). This raises the matter of a new phase in the history of art in India, because P. Moorogasen Moodeliar was a student of the revolutionary Madras School of





7. *Boerhavia coccinea*, attributed to P. Moorogasen Moodellar, 1856. Watercolour heightened with gum arabic and ink over traces of pencil; 36.2 x 25.4 cm.

Art. The School was founded in 1850 by another Scottish EIC surgeon, Alexander Hunter, with the express purpose of training Indian and Anglo-Indian boys to obtain better jobs in artisan roles including pottery, draughtsmanship, furniture-making and silversmithing. Of the pupils whose names are known, only one bears the caste name Raju. But major changes in art practice were afoot at this time and work that would undoubtedly be classified as “Company School” (including botanical and architectural) was now made by specifically trained artists, but from non-traditional painting backgrounds—two caste titles that appear among the pupils’ names being “Pillai” and “Mudaliar”.

The copying of European prints is well known in Indian art history, particularly the engravings of religious subjects adapted and incorporated into Mughal miniature paintings in the 17th century. But botanists starved of rare, early, illustrated texts also required artists



8. *Crinum defixum*, by an unknown Madras artist after a 17th-century Dutch engraving, c. 1855. Ink-line and wash; 27.9 x 21.2 cm.

to copy book illustrations, which led to an overlooked category of hybrid Indian art. Most of this was probably regarded as ephemeral and has not survived, but the Cleghorn Collection is rich in such drawings, some extremely beautiful, and a fascinating demonstration of the to-ing and fro-ing of influences that has always been a part of Indian art history. My own favourites are copies made for Cleghorn of some of the plates from Hendrik Van Reedé's *Hortus Indicus Malabaricus*, such as the *Crinum* (figure 8). The original drawings were made by Dutch artists in Cochin in the late 17th century, reproduced in Amsterdam by Dutch engravers and returned to India in book form, where in mid-19th-century Madras one of Cleghorn's artists recomposed and reinterpreted the line engravings in subtle ink washes.

### Putting the Indian Back into "Company School" Art

One of the most interesting aspects to emerge from studies of the RBGE collections (with their bias towards the south and west rather than the better-known botanical drawings from Calcutta) is their demonstration that

naturalists could find painters wherever they were in India—from a variety of artistic practices, some of them newly established. This diversity is one of many reasons I would urge the abandonment of the term "Company School" as a category of Indian art. Apparently first coined by the art historian and collector Rai Krishnadas, it was always dubious as it put the emphasis on the commissioners rather than the Indian creators; it also stressed a dichotomy between work made for British and Indian patrons. Its emphasis on Western influence was not only somewhat xenophobic (Krishnadas' other name for it was "Firangi Art"!) but suggested that foreign influence was something novel, rather than something that had existed for centuries, whether in Mughal painting or the European and Chinese influences on 18th-century chintzes.

The "Company School" designation has become increasingly problematic, not least as it is now often used to include work made in Southeast Asia by Chinese artists. In south India the "lesser known", as well as more "courtly", schools of painting need to be considered:<sup>8</sup> the artist used by Nicolas L'Empereur in Orissa in the early 18th century,<sup>9</sup> certainly—and those used later in the century by Roxburgh on the Coromandel Coast, probably—were chintz painters. Instead of looking for distinction and difference, why not look for overlap and similarities? To find connections between paintings for Indian patrons and "Company" art, including transitional works such as the album of "Tanjour Grains" at NHM, discussed by Savithri Preetha Nair in this issue and elsewhere,<sup>10</sup> with its thick paint, schematic landscape backgrounds and naturalistic plants, but with painted borders and mounted in traditional, almost muraqqa (Mughal album), style. In 1828, the Calcutta botanical artist Lachman Singh painted a Mughal-style profile portrait of the nurseryman George Potter. And, allowing for



an easily imaginable mis-transcription of a "p" for a "y" in the handwritten caption, might the penetrating self-portrait of "Yellapah" in a superb album of castes/trades,<sup>11</sup> be one and the same as Yellayah, a painter of fine, late Mysore miniatures?<sup>12</sup>

Strides have already been made. For example, for the Delhi School William Dalrymple and Yuthika Sharma have pointed out that any distinction between Late-Mughal and Company-School styles is meaningless.<sup>13</sup> Continuity is also graphically illustrated in Anna Dallapiccola's catalogue of South Indian paintings in the British Museum collection.<sup>14</sup> The latter might be termed "unity by inclusion", in contradistinction to Mildred Archer who, throughout her long and distinguished career, maintained "Company Painting" as a distinct genre.<sup>15</sup> My suggestion of the term "Indian Export Art" as a replacement is only a tentative solution, as it still maintains an element of distinction.

Such distinctions may at least in part have been responsible for a neglect in the past of art-historical scholarship in India. For example, in his *The Spirit of Indian Painting*, B.N. Goswamy included only a single "Company School" painting, but as No. 101 it seems like an afterthought to what was doubtless originally a selection of the "hundred-best [truly] Indian paintings".<sup>16</sup> What is now required is for scholars with the necessary language skills to undertake new lines of research, including the unscrambling of castes if not of individuals, for example by looking into temple records or at oral histories.

#### FIGURE ACKNOWLEDGEMENTS

All images are from the collection of the Royal Botanic Garden Edinburgh.

#### NOTES

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- 4 N.S. Ramaswami, *Tanjore Paintings: A Chapter in Indian Art History*, Madras: Kora's Indigenous Arts & Crafts Centre, 1976.
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- 11 <http://www.sothebys.com/en/auctions/ecatalogue/2013/arts-of-the-islamic-world-l13220/lot.106.html> (accessed on June 12, 2018).
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- 13 W. Dalrymple and Y. Sharma, *Princes and Painters in Mughal Delhi, 1707–1857*, New York: Asia Society and Yale University Press, 2012, p. 10.
- 14 A.L. Dallapiccola, *South Indian Paintings: A Catalogue of the British Museum Collection*, London: The British Museum Press, 2010.
- 15 M. Archer, *Company Drawings in the India Office Library*, London: HMSO, 1972. Also, M. Archer, *Company Paintings: Indian Paintings of the British Period*, London: Victoria and Albert Museum, 1992.
- 16 B.N. Goswamy, *The Spirit of Indian Painting*, New Delhi: Penguin Books, 2014.





# Illustrating Plants at the Tanjore Court

SAVITHRI PREETHA NAIR

TANJORE'S ENCOUNTER WITH EUROPEAN NATURAL HISTORY AT THE TURN OF THE 19th century enriched the cultural and knowledge base that already existed at the Maratha court, but under the patronage of Raja Serfoji II (r. 1798–1832), far from simply mimicking existing practice, it resulted in the production of a new or hybrid knowledge; a knowledge that was relevant to the locality, and where the practice of natural history was articulated chiefly in the fields of medicine (including veterinary and animal management practices) and agriculture.<sup>1</sup> The raja developed a medicinal garden adjoining the Arogyasala (his medical establishment) and commissioned his artists to paint portraits of medicinal and other useful plants. To him, the practice of medicine was not merely an intellectual engagement, but involved such activities as collection of medicinal plants, their propagation in gardens, preparation of herbaria and botanical illustration besides the formulation of medicines, which were usually amalgams of plant extracts and minerals. Viscount Valentia, the British aristocrat-traveller, in his account of a visit to the Tanjore court in 1804, described Serfoji's drawing-room, where he saw a collection of plant paintings and a *hortus siccus* (a collection of dried specimens), as "furnished with English chairs and tables; and on the latter were paper, colours and every implement of drawing, another amusement of which he is very fond".<sup>2</sup> This essay will historically situate the albums of botanical art that were displayed before eminent visitors to the palace, while also bringing to light a hitherto unknown illustrated botanical/agricultural manuscript, pre-dating the albums, from the Tanjore regent Amar Sing's reign (r. 1787–98), titled "Tanjour Grains" held by the Natural History Museum (NHM), London.

The year 1792 was particularly significant for art in Madras; late that year, the British artists William and Thomas Daniell and Robert Home exhibited some of their work at Fort St George for the first time. That same year, the Daniells would travel to Tanjore, and paint the Brihadisvara Temple and other architectural views. We do not know if the young adopted prince Serfoji had the opportunity to meet the visiting artists, but it is unlikely given the oppressive situation he was in thanks to the regent Amar Sing. In early 1793, Serfoji was forced to move out of Tanjore and reside in Madras for protection and education. He might have just missed seeing the Daniell paintings at the Fort, but their aquatints had already reached the Madras shops. During his three-year stint in Madras, which ended in early 1796, many of the Daniell prints, including "Six original paintings of wild animals...consisting of Tygers, Bears, Buffaloes etc" were put up for sale. Public subscriptions had also been invited for the publication of their "*Oriental Scenery...twenty-four views in Hindostan from the drawings of Mr Thomas Daniell*", engraved by the artist himself.<sup>3</sup> Serfoji's European friends often borrowed his copy of *Oriental Scenery* for their own entertainment.<sup>4</sup> Amongst the other sets of prints in circulation in south India at the turn of the 19th century was artist Captain Charles Gold's *Oriental Drawings* described by the *Madras Courier* as "consisting of Extraordinary & Interesting Figures of many of the Natives of the Coromandel Coast & adjacent countries...and Interspersed with Landscape Views, As Drawn from Life".<sup>5</sup> To

1. *Ricinus communis* ("Mootocotteh"), from the "Tanjour Grains" album. © Library and Archives, Natural History Museum, London.

ensure his market, Charles Gold claimed that his *Oriental Drawings* were "coloured...in an easy Natural Stile...avoiding stiffness and finery of Moochy Pictures".<sup>6</sup>

It is believed that the Telugu-speaking moochy artists migrated to Tanjore and established roots in the early 18th century, attracted by the patronage offered by the royal court. They painted and sold miniatures to eager European travellers and colonial officials, and portraits of the royals were particularly popular. The Tanjore moochy-artists were much sought after by Europeans in India, a patronage that led to the production of a rich and distinct collection of paintings of a "hybrid" genre, referred to in general as "Company paintings".

### The Molesworth Collection

In the late 18th century, the Company's surgeon-naturalists and the missionary-naturalists of Tranquebar frequently travelled across the rich and fertile lands of Tanjore and its neighbourhood, collecting and studying plants; Tanjore in fact continues to be the agricultural heartland of the state of Tamil Nadu today, famed particularly for its variety of paddy. Amongst the collections of the Botany Library of the NHM, London, there exists a pocket-sized manuscript, measuring only 15 cm in height, containing miniature watercolour portraits painted by a moochy artist, of 13 food-crops from the region, accompanied by a tabular list detailing their names in Tamil, sowing and reaping seasons, and their yield per unit of land cultivated. Amongst the paddy species listed in this manuscript are the "Wellakar", "Muttakar", "Kulloondeh", "Yeruk Sumba", "Shermunnyen" and "Pishanum". And then there is the castor-plant, with its oil-rich seed, "Mootocotteh" in Tamil (figure 1). The short description reads: "This is the Seed of the Ricinus Palma Christi, the Oil used for burning as well as in Medicine, the Plant triennial. The Crop profitable but it exhausts the Ground."<sup>7</sup>

The only clue as to the author of this undated record is the inscription of the initials, "R.M." found on the last folio of the manuscript. The present author has been able to trace it to Richard Molesworth (1737–99) of Dorset Court, Parliament Street, grandson of Robert 1st Viscount Molesworth of Ireland who enjoyed a close relationship with Joseph Banks, the great British patron of science with a vast collecting network in the East, including India. A gentleman of science, Molesworth was a Fellow of both the Royal Society and the Society of Antiquaries of London, and cultivated an abiding interest in the botany of the East. Molesworth's friends in India included the likes of James Anderson and William Roxburgh, Company surgeon-naturalists based in Madras at this time.<sup>8</sup> Roxburgh had replaced Patrick Russell as the Company Botanist in Madras in 1789 and within a year had almost 700 plant descriptions illustrated by native artists, some of which found place in his *Plants of the Coast of the Coromandel* (1795–1820). The first batch of his illustrations was sent to Banks in the very same year as the Molesworth manuscript. Whether Molesworth actually visited Tanjore is not known, but it is evident from the manuscript that he had sound knowledge of agriculture in Tanjore. We can only make reasonable conjectures here, but it is more likely that he acquired this information through either Roxburgh, with his links with the Tranquebar missionary Christopher Samuel John, or Anderson who knew Serfoji's guardian, the Tanjore missionary Christian Friedrich Schwartz, or perhaps even Benjamin Torin, Resident of Tanjore, who would later become the chief procurer of all things curious and enlightening for the young Raja Serfoji.<sup>9</sup> The illustrations painted by a moochy artist were sent to Molesworth in London, and then bound together with the list of the cultivated plants, to make the small volume that we see now.

In July 1790, Molesworth presented the painted manuscript to Banks, with a promise that dried specimens of the grains would soon follow on board the *Pigot*.<sup>10</sup> The collection of grains did eventually reach Banks but its fate remains unknown today. After Banks' death,



the manuscript from Tanjore found its way to the British Museum, and later the NHM where it now sits, along with the other Banksian collections from the East, as an early example of the work of the Tanjore moochy, in the artistic genre of botanical illustration executed for a European patron.

We know from Molesworth's letter to Banks that he commissioned the "Tanjour Grains" in early 1790, which was during the regency of Amar Sing<sup>11</sup>—known to be a great patron of the arts. In the 1790s, for instance, Amar Sing invited Baron Thomas Joseph Reichel, an excellent illustrator of plants, to redesign a part of the palace where a wooden structure (after a European model) was incorporated for the ruler to make public appearances on festive occasions.<sup>12</sup> Understandably, the best among the moochy artists would have been employed at Amar Sing's court and it is quite likely that one of the most talented of these was hired to illustrate the plants in the Molesworth manuscript. The paintings are in a miniature format, in gouache, and painted red borders frame the folios; the plants have been rendered in a decorative rather than a naturalistic fashion. It would be at least another decade before moochy artists of Tanjore under the patronage of Serfoji II began to use watercolours to paint plant portraits in a naturalistic style.

### Modernizing the Tanjore Moochy

The Thanjavur Sarasvati Mahal Library, attached to the palace, holds three albums of botanical illustrations (in total 91 paintings), of which one or two are usually put on public display at its museum. No doubt these were the ones the early 19th-century visitors to the palace, like Valentia and Robinson in 1804, had the opportunity to view.<sup>13</sup> It is believed that at least until 1965, there were 300 such plant paintings of royal folio size (20 inches or c. 50 cm in height), but what exists today is but one-third of that number.<sup>14</sup> These albums were part of a large collection of natural history drawings commissioned by the enlightened Serfoji as soon as he began his studies in earnest around c. 1802. Although there may have been more than one artist responsible for the paintings, the chief executor was, I would like to suggest, a moochy named Coopan Sithar.

The young Raja Serfoji was a keen student of drawing and painting. The missionaries of the Society for the Propagation of the Gospel, Christian Friedrich Schwartz and Wilhelm Gericke, played significant roles in moulding Serfoji's personality in his formative years, but there were also others like the Tranquebar missionaries—Christopher Samuel John, John Peter Rottler, Johann Gerhard Klein, Augustus Frederick Cammerer—and the Kohlhoffs (Daniel and John) of the Tanjore Mission who supported his quest for knowledge and modernity. To aid the raja's drawing lessons, in 1802, John Kohlhoff solicited the help of C.S. John at Tranquebar. John was sorry that his copy of the book *Principles Instructing the Art of Drawing* was "old and torn in pieces" by the orphans who learnt drawing under his instruction, but suggested that if Serfoji wished he could have "the Rudiments of Eyes, ears, fingers, feet & Hands etc" copied from whatever remained.<sup>15</sup> The raja was convinced that the "Rudiments" would be of great use to him in learning to draw perfectly.<sup>16</sup> Amongst the other books he used for art instruction were Pinnock and Maunder's *A Catechism of Drawing & Architecture* and its companion volume, *A Catechism of Perspective*; the books followed a question-answer format and contained recipes useful for those who painted in watercolours.

Later, the young raja also consulted George Hamilton's illustrated *The Elements of Drawing, in its Various Branches for the Use of Students* (1812) with 51 engravings showing human anatomy, landscapes and natural history illustrations. The book claimed to be a substitute for live instruction in schools and dealt with colouring, and in separate sections the painting of natural historical subjects such as butterflies, shells, fish, fruit, flowers, birds and animals.<sup>17</sup>

CLOCKWISE FROM TOP RIGHT

2.

*Mimusops elengi*  
("Mahalamaram") with details  
of the "fragrant flower, fruit  
and seed", from the Tanjore  
botanical albums, c. 1802.

3.

*Gloriosa superba*  
("Karthigalkkizhangu" or  
"Kalappaikkizhangu"), from  
the Tanjore botanical albums,  
c. 1802. The decorative  
moochy style is clearly evident  
in this beautiful portrait  
arranged in a circular format  
to cover the entire sheet, with  
the root occupying the central  
position, instead of the striking  
flower.

4.

*Bauhinia purpurea*  
("Maramaundaray") with a  
detail of the pistil and stamens,  
from the Tanjore botanical  
albums, c. 1802.

5.

Plantain flower ("Vazhaipoo"),  
from the Tanjore botanical  
albums, c. 1802. Serfoji had  
the very special Cuddalore  
plantains planted in his garden  
at the little fort.

The raja persuaded his moochies to use the imported watercolours such as those sold by the colourists Reeves of London, and not just the water-based pigments prepared locally and applied in the opaque gouache style. As far as paper was concerned, reams of "Royal" (royal folio size) paper and marbled paper for painting reached Serfoji at regular intervals from England; the natural history illustrations including the botanical albums were executed on the royal folio size paper.

Some of the moochies were also trained in the naturalistic style by Tranquebar missionaries like C.S. John as per the raja's request. Besides the moochy artists, who were Hindus by caste, native Christians like Kiruba Samuthiram and Ayya Pullay were patronized by Serfoji, and they were trained by the Tranquebar missionaries to paint plants realistically.<sup>18</sup> A roll of Kiruba's drawings was sent to Serfoji by John in 1806 as a demonstration of his successful training under him.<sup>19</sup> Only two years earlier, John had expressed concern that the painter had not received his salary from the raja, for which reason he was unable to continue painting. Art materials such as Reeves watercolours were also in limited supply during these early times. The Tanjore missionary John Kohlhoff relayed John's concerns to Serfoji:

He [Kiruba] has wrote also for some colours to his acquaintance but has got no answer, & is stopt in his painting for that reason, as He does not approve of those which His former painter had left with Him: and He adds that Real Reeves' Colour Boxes are hardly to be got at Madras. The Painter has but little performed till now, However He will do more by longer Exercise, & good Colours and as He seems to be a good Man we must have patience.<sup>20</sup>

In the last decades of the 18th century, artists in Europe had begun purchasing small-sized hard cakes of watercolour, invented by William Reeves in 1780. As Reeves & Woodyer, the business advertised itself as the "colourmakers" to the Honourable East India Company, and grew in status in the 1820s and 1830s.<sup>21</sup> Hope, Reynolds & Griffiths and Gibson, Inverarity, Stevens & Jack of Madras stocked Reeves, Woodyer and Ackerman colours, "a general assortment of drawing utensils", crayons, spare camel-hair pencils, paint oil, paints of different colours in small kegs, painting brushes, linseed oil and spirits of turpentine.<sup>22</sup> To improve the quality of paintings by the Indian artists under his employ, the Company's surgeon-naturalist William Roxburgh procured a copy of Tingry's *Painters & Varnisher's Guide*, a book that Serfoji also consulted as soon as it was published.

Serfoji commissioned illustrations of flora found in and around Tanjore as early as 1800, even as he began teaching himself to draw and paint. Almost all plants that grew in his gardens found a place in the illustrated albums (figures 2–5). Serfoji was engaged in the systematic collection and exchange of useful seeds and plants of all sorts through his collecting networks, which included colonial officials and missionaries. He was sent cinnamon plants from the plantations at Courtallum in Tinnevely, teak trees from Travancore, as well as coconut saplings, all of which were planted in his gardens. Missionary C.S. John sent him exotic plants and even offered to design a botanical garden in Tanjore.<sup>23</sup> The Tanjore missionary Kohlhoff sent Serfoji "two Butterfly plants and two other curious plants called by Botanists the *Hastingia*", the Chinese Loquat, the "Gorka from Ceylon", reputed for its magical properties, a plant that produced the balm of Gilead (*Populus candicans*), the seeds of an invasive American creeper, "a Lair of the Olive Tree, as also another curious Flower plant, the Name of which is not known". Having heard that the Cuddalore plantains were of an eminent quality, Serfoji had had a few planted in his garden at the little fort; plantain varieties and saplings were frequently brought in from that place, which seems to have been a major centre for their cultivation. In 1819, in his introduction to the *Plants of the Coast of Coromandel*, Roxburgh describes a beautiful tree, *Bignonia suberosa*, which he





states was brought to Madras from the "Rajah of Tanjore's garden; from thence one plant was procured for the Company's Botanic Gardens at Calcutta, about twelve years ago".<sup>24</sup>

The paintings of local fauna, including quadrupeds, fishes, reptiles and insects and architecture that Serfoji commissioned his moochy artists to execute, were despatched on a regular basis to the former Tanjore Resident Benjamin Torin residing at Harley Street, London. Torin had great words of appreciation for the talent of the moochy who painted them: "Your Moochy has been so careful and correct in his representations." By 1807, Torin had received more than a hundred paintings, which were then presented in Serfoji's name to the Court of Directors as "The Natural Products of Hindostan"; this unique collection of 117 coloured drawings with descriptive notes by the raja himself in English and Tamil is today part of the collections of the British Library, London.<sup>25</sup> The botanical albums were never sent to London, perhaps because they were required for use at the Arogyasala attached to the palace. In a letter to the Lutheran Mission in Halle 1802 (at the time the natural history paintings, including the botanical albums were being made), the Tranquebar missionary Christian Pohle referred to an ingenious artist of the Tanjore court under the reign of Raja Serfoji, who was an expert illustrator of plants, animals and insects. Charles Gold, who criticized the moochy style as being in general stiff and excessively decorative, still spoke in great appreciation of one moochy, the "celebrated Tanjore Moochy...this ablest artist amongst the moochies...famed throughout the country, not so much for the specimens of his own invention as for his great skill and ingenuity in imitating the finest miniatures from the European pencil, so as to deceive persons of good taste, if not the connoisseur."<sup>26</sup> These descriptions lead us to one moochy, called Coopan Sithar, hailed as the "celebrated Tanjore Moochy", and who died c. 1810. When in 1814, the Tanjore Resident William Blackburne wanted a portrait copied he approached Serfoji because "since the Death of the celebrated Tanjore Moochy, the only tolerable painters" who remained were under the raja's employ.<sup>27</sup> The chief job of Serfoji's moochy artists, Venkataperumal, Venkatanarayana, Gopalakrishna Naik, Chinnasawmy Naik and Coopaloo, was to make copies of the paintings of their late illustrious predecessor Coopan Sithar, to be given away to the raja's European friends as presents. In 1821 for instance, while on a pilgrimage to Benares, Serfoji sent the Marquis of Hastings a portrait of his (Hastings'), copied by Chinnasawmy Naik from an original painted by Coopan Sithar.<sup>28</sup>

Being one of the most talented of the moochy artists in Tanjore, Sithar would have been in the employ of Amar Sing before becoming the chief artist at Raja Serfoji's court. Could Sithar then have painted the illustrations in the "Tanjour Grains" manuscript of 1790? The painting styles of the Molesworth manuscript (1790) and the Tanjore botanical albums (c. 1802) are however remarkably different. The albums demonstrate how within a period of 10 years, Serfoji was able to influence his moochy artists to adopt a more "modern" hybrid style, removed from their traditional decorative and miniature style used in painting portraits, religious or ethnographic subjects for the European patron, and to instead tackle new subjects European in origin such as natural history, which demanded accurate observation. The project of modernizing the Tanjore moochy, exemplified by the botanical albums, might be read as yet another facet of the Tanjore Enlightenment shaped up by Raja Serfoji II through the globally situated cross-cultural exchanges initiated by him in the early 19th century.

#### FIGURE ACKNOWLEDGEMENTS

All images except figure 1 are courtesy Thanjavur Sarasvati Mahal Library.



NOTES

- 1 For an extensive study that situates Tanjore at the turn of the 19th century as a centre of enlightenment, see Savithri Preetha Nair, *Raja Serfoji II: Science, Medicine and Enlightenment in Tanjore*, New Delhi: Routledge, 2012.
- 2 George Annesley (Viscount Valentia), *Voyages & Travels to India, Ceylon, the Red Sea, Abyssinia and Egypt in the Years 1802, 1803, 1804, 1805 and 1806*, London, 1809, Vol. 1, pp. 358–63.
- 3 *Madras Courier*, November 15, 1792, January 1793, March 25, 1795.
- 4 Tamil Nadu State Archives (TNSA): Thanjavur District Records (TDR) 3524, March 27, 1817, p. 159.
- 5 *Madras Courier*, February 18, 1800.
- 6 Ibid.
- 7 Natural History Museum, London: MSS Banks Coll M (Manuscript) "List of the Different Sorts of Grain...cultivated in the Tanjore Country".
- 8 British Library, London (BL): Add Ms. 33,979, ff. 290–91, W. Roxburgh to J. Banks; the letter refers to their mutual friend Molesworth.
- 9 For more details on their Tanjore connection, see Nair, *Raja Serfoji II*, Introduction, pp. xxix–xxx.
- 10 Letter from R. Molesworth to J. Banks, July 8, 1790, 18K/1/5 ff. 15, the Royal Botanic Gardens, Kew.
- 11 Ibid.
- 12 BL, India Office Records: P/241/52, January 1795, p. 270.
- 13 For a list of plants illustrated in the albums see James J. White, "Three Botanical Albums in the Thanjavur Maharaja Serfoji's Saraswati Mahal Library in India", *Huntia*, 9(2), 1996, pp. 161–63.
- 14 V. Narayanaswami (comp.), *A Bibliography of Indology*, Vol. 2: *Indian Botany*, Part II: K–Z, Calcutta: National Library, 1965, Serial no. 3815; cited in White, "Three Botanical Albums", p. 161.
- 15 TNSA: TDR 3473-74, August 30, 1802, pp. 663–64.
- 16 Ibid., p. 667.
- 17 Serfoji was also an avid reader of Ackerman's *Repository of Arts*; elegant prints from this periodical published from 1809 to 1829 were fashionable and in circulation in India, consisting of the "latest European and Indian richly coloured views and scenery". Serfoji placed orders for various kinds of drawing equipment, including lenses, microscopes, a camera obscura and a pantograph about this time. A pantograph made possible copying plans, maps and other drawings on the same, enlarged or reduced scale.
- 18 Archiv der Franckeschen Stiftungen zu Halle: Tagebuch von Christian Pohle, AFST/MZE 18: 21, 01.01.1802-31.12.1802/NHB, 5 Bd, 60 St., p. 1051. As a matter of fact, Ayya Pullay was not only a clever painter but also a fine translator of Tamil into English. TNSA: TDR 3479, April 25, 1804, pp. 543–44.
- 19 TNSA: TDR 3487A, February 18, 1806, p. 5.
- 20 TNSA: TDR 3481, September 15, 1804.
- 21 From the 1820s, Middleton of London began exporting to India "Cobalt blue, yellow oker, Indian red or cologne earth,... palettes, marble slabs, camel hair pencils, fitch pencils, pencil sticks, poppy oil drying tools,... copal, varnish, Verdigrease, and lamp black". Durable velvet colours by Thwaites were also to be had at the Madras market.
- 22 As early as 1803, the *Madras Courier* advertised the private sale by Branson, Jones & Reddy of "a colour box for botanical painting, very complete—a plateau for a Dinner Table, mounted with Vellum for Painting, and a Ladies Work Table of the same description", indicating the demand for such things in the cultured circles of south Indian society at the turn of the 19th century.
- 23 Unfortunately we do not know anything about the botanic garden, or even if anything of that description was actually executed, let alone in the manner that John had conceived of it.
- 24 W. Roxburgh, *Plants of the Coast of Coromandel*, London: W. Bulmer & Co., 1819, Vol. 3, p. 11 (plate 214).
- 25 TNSA: TDR 3492, letter dated Harley Street, September 15, 1807, pp. 87–91. About 117 beautiful drawings of animals, including several from his menagerie, are among the India Office Collections. See BL, 10R: NHD7/ 1001-1116.
- 26 C. Gold, *Oriental Drawings*, London: Bunney & Co., 1806, plate 40.
- 27 TNSA: TDR 3511, June 26, 1814, p. 171. Moochies who made the copies were paid 20 star pagodas (TNSA: TDR 3511, October 1, 1814, p. 243).
- 28 TNSA: TDR 4429B, April 8, 1821, p. 200.

# Jardin de Lorixa

KAPIL RAJ

**U**NDER THE TITLE *ELLEMANS BOTANIQUE DES PLANTE DU JARDIN DE LORIXA, LEUR vertu et quallite, tans conus que celle qui ne le sont pas, avec leur fleur, fruits et grainne, traduit de louria an frances*,<sup>1</sup> the Muséum National d'Histoire Naturelle's library in Paris holds a 14-volume folio herbal, 12 volumes of which contain 725 double-folio gouache-and-aquarelle paintings of 722 plant species. The first two volumes contain a description, in French, of each of these plants with an index of their vernacular names transcribed in the Roman script and a classification according to their uses. In addition, the first volume of the manuscript contains an intriguing frontispiece depicting five human figures, a potted tree in the foreground and a Greco-Roman ruin in the background (figure 1). Of the human figures, three are on the left—an artist painting the tree, a man sitting next to him and a woman carrying plants in a basket on her head; and two on the right—an ascetic holding a manuscript, and a European standing behind him. The style of the frontispiece and the human figures it depicts, as well as that of the plant paintings, leave no doubt as to the South Asian origins of the herbal.

The library's manuscript catalogue is not very forthcoming: we only learn that its author is a certain L'Empereur—probably the European in the frontispiece—and it dates from the 18th century. We now know that it was started in the late 1690s in Balasore, Orissa (then referred to by Europeans as "Orixa"), completed in 1725 in Chandernagore, Bengal, and shipped to the Paris botanical garden where it has since lain, largely ignored. The knowledge it contained was gleaned from a couple of local fakirs whom L'Empereur had befriended during his long stay as the chief surgeon of the French East India Company's settlements.

While collecting this knowledge, L'Empereur also employed local artists to paint each plant. Chandernagore being a major trading port, a number of craftsmen worked for the European export market. Many were painters who earned their livelihood executing floral designs on the painted cloth that formed one of the main exports to Europe, and L'Empereur found little difficulty in employing them for this gigantic task.

Their unambiguous South Asian style notwithstanding, the paintings also answer to prevailing European botanical conventions—the plants being systematically represented with their flowers and fruits, and a cross-sectional representation of the seeds at the bottom, or in a corner. This is worth remarking for, although painting floral motifs was the main livelihood of Indian artists, their painted calicoes did not, and were not meant to, respect botanical conventions.

The question then arises as to how they acquired these conventions, L'Empereur being a surgeon with no familiarity with botanical visual culture. There were, however, European precedents in South Asia to his enterprise. During the 16th century a number of Portuguese, such as Garcia da Orta and Cristóvão da Costa, had gathered material on Asian natural history, the latter even providing some ornate wood-block illustrations.<sup>2</sup> In the 1670s, the Dutch Commander of Cochin, Hendrik Adriaan Van Reede (1636–91), had a gigantic work commissioned on the region's flora. Its pen-and-ink wash drawings following botanical conventions of some 720 species were accompanied by a detailed description of each in Latin.



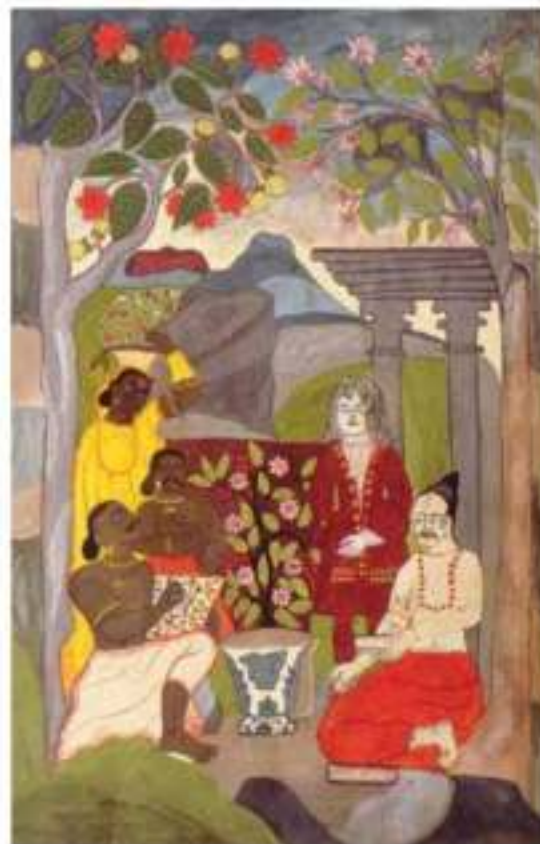
It appeared under the title of *Hortus Indicus Malabaricus* in 12 folio volumes in Amsterdam between 1678 and 1693 and soon became the standard reference work for southwestern India. Its volume, format and organization thus invite a comparison with *Le Jardin*.

Firstly, both have a frontispiece. *Hortus*'s portrays a vast tropical garden in the centre of which stands an ornamental summerhouse with two caryatids bearing an entablature whose tympanum is inscribed with the title of the work. In the foreground, beneath an arched pergola, sits the (apocryphal) goddess of Indian botany, holding a rake and with a pruning knife at her feet, while four kneeling Malabari cherubs offer her potted plants (see figure 1 in the introductory article by Sita Reddy).

At first sight, this engraving bears no resemblance to the painted frontispiece of *Le Jardin de Lorixa* apart from the respective locations of the plants and human groups. However, on turning to the woman in *Le Jardin* carrying plants in a basket on her head, we discover that she is a replica of the left caryatid in *Hortus*. L'Empereur's artists clearly had access to this work, but they tell a very different story from the allegory imagined by the Dutch engravers in faraway Holland, where the frontispiece was executed. Exactly as the caryatid is brought to life as a real woman, so too do the other figures of the *Hortus* take on a real existence as the different actors involved in the making of *Le Jardin*. The kneeling Malabari cherubs metamorphose into artists; the goddess into a fakir; the rake and pruning knife into palm-leaf manuscripts; the pergola into an arch formed by flowering trees; and the ornamental summerhouse into a Greco-Roman ruin. The central tree planted in a Chinese pot—witness to the lively intra-Asian trade—demarcates the different groups: the manual workers from the "cerebrals", with L'Empereur placed in front of the ruin just above the brahmin.

*Hortus* also provided the template for prevailing European botanical conventions. Indeed, some of *Jardin*'s illustrations are more or less directly inspired from the engravings of *Hortus Malabaricus*, the banana being one example. However, L'Empereur's artists did not copy the illustrations mechanically from the printed book: they coloured their illustrations, getting the colours of all parts right each time—*Hortus Malabaricus* was in black and white—removing all doubt on the matter. Besides, many plants, like nux vomica, are very different in the two works, given that they referred to two regions of different climes over a thousand miles apart.

One can fruitfully conjecture then that with the British colonization of Bengal and the Coromandel Coast a few decades later, a whole institutional space was to open up with the founding of botanical gardens and natural history surveys. Indian textile painters who had already shifted to paper-based projects like that of *Le Jardin* were to find employment on a massive scale to execute some of the great herbals of early colonial India.



1. Frontispiece from L'Empereur's, *Ellemans botanique des plante du Jardin de Lorixa...*, Archives of the Museum National d'Histoire Naturelle, Paris, France, MS 1915.

## NOTES

- 1 *Botanical Elements of the Plants of the Flora of Orixa, Their Virtues and Qualities, Both Known and Unknown, with Their Flowers, Fruits, and Seeds*, translated from the Odia into French.
- 2 Da Costa was the first European to provide illustrations of some of the plants he described in his *Tractado de las drogas y medicinas de las Indias Orientales* published in Spain in 1578.



# The Gurney Herbal

SAVITHRI PREETHA NAIR

**I**N THE 16TH AND 17TH CENTURIES, THE DUTCH AND PORTUGUESE WERE THE EUROPEAN colonial authorities on botany and medicine in the East Indies. Among the chief published works are the Portuguese Garcia da Orta's *Colóquios dos simples e drogas da India* (1563), the Dutch Jan Huygen van Linschoten's *Itinerario* (1596), Hendrik Van Reede's *Hortus Indicus Malabaricus* (1678–93) and Georg Eberhard Rumphius's *Herbarium Amboinense* on the plants of the island of Ambon in Indonesia (1741–50).<sup>1</sup> Recently, an unpublished early 18th-century French work on the flora of Odisha, the *Jardin de Lorixa*, has been brought to light.<sup>2</sup> By contrast, English contributions to East Indian botany and tropical medicine from this early period are surprisingly rare.<sup>3</sup> With the rediscovery of the Gurney herbal (henceforth "Gurney") in the Sloane Collection of the British Library, London, we may have the earliest known English contribution to medicine and botany in the East Indies, chiefly of Sumatra, Java, Malacca, the South Seas islands, Bengal, parts of the Mughal empire and the coast of Coromandel.<sup>4</sup> This illustrated botanical manuscript was acquired in the later part of the 17th century by the Irish physician-collector Hans Sloane<sup>5</sup> and was previously the property of an English merchant John Gurney, whose name and coat-of-arms appear at its head.

The "Gurney" is silent on its authorship, but given the elaborate notes on the medical properties of the plants described, it is only reasonable to surmise that it was compiled by an East India Company surgeon attached to an English trading post or factory in the East Indies.<sup>6</sup> This is further established by the author's frequent references to his practice as a physician, and to classical authorities such as Avicenna, Rhazes, Pliny, Mesue, Serapio and Galen. One of the smallest sultanates on the east coast of central Sumatra, Jambi, appears frequently in the herbal, suggesting that the author was stationed at this place for some time at least. Further, from official records we learn that John Gurney, to whom the manuscript initially belonged, was the son of William Gurney, a factor on the Coromandel Coast.<sup>7</sup> Obtaining precise and detailed information on the plants of the East Indies was of primary importance to a merchant like Gurney. All trading posts and factories appointed surgeons, but there was always a dearth of them in the tropics, where mortality was high and drugs limited. When Henry Greenhill became Agent of Fort St George in 1648 (John Gurney would become his son-in-law about this time), he was joined by a surgeon, Edward Whiteinge from Bantam. Whiteinge, who began his career in the East Indies in 1645, was the only surgeon to have lived both at Jambi and the Coromandel Coast. The author of the manuscript also botanized beyond the trading posts, the herbal informs us, for we find him describing plants in the Mughal dominions, in Aurangabad in particular. (Khadki or Fatehnagar, the former capital of Malik Ambar and his son Fateh Khan, was renamed Aurangabad by Aurangzeb and made his capital in 1658. We however know from records that Whiteinge left for England in 1657 and returned to India as surgeon only in 1662, which means he must have visited the place only sometime in the 1660s.) Putting together the several pieces of the jigsaw puzzle, we might state with certainty that the author of the "Gurney" was Whiteinge and the herbal was compiled over three decades, between the 1640s and the 1660s during his career in the East Indies.

1. The Coconut tree. © British Library Board BL Sloane MS 4013, f. 3r. The illustrations include "The younge Coconut tree" as well as such details as a coconut with "rinde" and one without. The suggestion of a landscape on which the tree stands and the decorative treatment of the trees (the young and the mature), are in the miniature style typical of native artists from the Coromandel Coast.



This Coconut without of Rinds



Coconut Tree

This Coconut with of Rinds



This young Coconut



The tree grows very tall and straight much like unto a tall coccoloba tree  
 in England not standing any longer than a bush which at some parts of the  
 Indies it grows into certain heights full of flowers, out of the end  
 of the head of the tree grows out a stalk in form of a thick woody  
 leaf, out of the end of which comes forth the blossom of flowers much like unto  
 the woman or Avorta tree and thence from these the fruits grow which are  
 a stalk containing a soft some more from the fruit which is a hard  
 substance that you shall see one coconut grows by it like the fruit of  
 a triangular form all the head but above the stalk, roundish at the top  
 Malacca you find them commonly as big as your hand (that is to say upon the  
 the coconut the fruit being taken off commonly are all round as a ball some  
 young they are filled not with a hard matter, as a very sweet and pleasant  
 ball the quantity of a nut or more when they be young they are com-  
 monly of a round colour but at Rodey and some say of a dusky colour  
 colour, there are some that I think little better than a nut, like unto a Quince  
 apple these are counted to be the best and to give the best water, this water is  
 counted first with a nut, as a walnut, full of berries which from them  
 is





2. John Parkinson's *Theatrum Botanicum*. Courtesy Wellcome Collection.

the tree, or a child eating a banana with the banana tree pictured in the background.<sup>13</sup> This last is clearly a nod to Linschoten's *Itinerario*,<sup>14</sup> which contains a similar image. As to the arrangement of the plants and accompanying illustrations, it follows a simple classification beginning with trees, followed by shrubs and herbs, within which are accommodated not only the wild and the domesticated kinds, but also the male and female—a trend that had already been set in herbals by this time. Herbs are further classified on the basis of their properties, such as aromatics, poisons, antidotes, milk-producing and flowerless plants. Plants that share the same habitat, or that depend on or are associated with each other commercially or otherwise, are described and illustrated within the same frame, like the areca palm and the betel-leaf vine.<sup>15</sup>

Unfortunately, the author was unable for some reason to see the herbal to completion, with descriptions left unfinished and several empty boxes set aside for illustrations. Largely unexplored by scholars, this trading-post herbal nevertheless remains invaluable as a repository of medico-botanical knowledge of the East Indies of the 17th century, and possibly the earliest illustrated English herbal of East Indian plants as yet known.

That it pre-dates the Dutch *Hortus Indicus Malabaricus* is of tremendous historiographic significance, although it hardly surpasses the latter in its scale or exquisiteness. Unlike the *Colóquios*, which it succeeds, and the *Hortus*, which it pre-dates, I argue that the "Gurney" is not based on a South Asian or an indigenous template but belongs firmly within a European herbal tradition,<sup>8</sup> being chiefly modelled after John Parkinson's *Theatrum Botanicum* (1640) (figure 2),<sup>9</sup> although it also drew from other sources as Linschoten's *Itinerario*.<sup>10</sup> The layout of the folios suggests that the author intended to eventually publish the manuscript with framed spaces for the painted illustrations, sometimes left incomplete, interspersed with the text as in a classical herbal.<sup>11</sup> A few of the illustrations in the *Theatrum* appear with remarkable fidelity in the "Gurney", such as that of the pomegranate tree, which is a painted version of a *Theatrum* woodcut.<sup>12</sup> While some of the original illustrations appear to have been painted by the skilful hand of unknown local artists (figure 1), there are several others rendered in an amateur fashion, perhaps by the author himself, the result of moving often between stations. Sometimes the painted illustrations incorporate human figures, such as a toddy-tapper climbing the palm, a person smoking a hookah at the foot of



- 1 The German-born soldier-naturalist Rumphius collected information on more than 2,000 Ambonese plants over five decades, between 1653, when he arrived on the island as a servant of the Dutch East India Company, until his death in 1702. The illustrated *Herbarium Amboinense* served as the basis for all subsequent explorations of the flora of the Moluccas (the Spice Islands). For an English translation see Georgius Everhardus Rumphius, *The Ambonese Herbal*, trans. E.M. Beekman, New Haven: Yale University Press, 2011.
- 2 Kapil Raj, "Surgeons, Fakirs, Merchants, and Crafts People: Making L'Empereur's Jardin in Early Modern South Asia", in Londa Schiebinger and Claudia Swan (eds.), *Colonial Botany: Science, Commerce and Politics in the Early Modern World*, Philadelphia: University of Pennsylvania Press, 2005, pp. 253–70.
- 3 A significant English contribution to the botany of the region from the late 17th century was that of Samuel Browne, the East India Company's principal surgeon and physician at Fort St George in 1688–97, who sent dried plants and descriptions to the London apothecary, James Petiver.
- 4 By the East Indies we refer here collectively to the Indonesian islands, which include Java, Sumatra, Celebes, Borneo and the Maluku islands (the Moluccas or the Dutch East Indies), and the Indian subcontinent.
- 5 Hans Sloane (1660–1753) was a great collector of all things natural history, including those from the East Indies, and his collections formed the basis of the British Museum and the Natural History Museum, London. The Gurney manuscript is today part of the European manuscripts collection, The British Library, London, with the shelfmark BL Sloane MS 4013.
- 6 For three decades subsequent to the founding of a factory (or trading post) at Bantam in 1603, English factories on the Coromandel Coast including Fort St George (founded in 1639) reported to it. Also called factors, merchants at the factories traded in piece-goods for export to Persia and Bantam.
- 7 For a lengthy discussion of the Gurney manuscript see Savithri Preetha Nair, "...To be Serviceable and Profitable for their Health: A Seventeenth-Century English Herbal of East Indian Plants Owned by Sloane", in A. Walker, A. Macgregor and M. Hunter (eds.), *From Books to Bezoars: Sir Hans Sloane and His Collections*, London: The British Library, 2012, pp. 105–19.
- 8 The 16th and the 17th centuries have been referred to as the great age of the herbals, which are books containing names and descriptions of plants and their medical, hallucinogenic, aphrodisiacal, culinary or ornamental uses. Most herbals contained illustrations for easy identification of plants.
- 9 *The Theater of Plantae. Or, An Universall and Compleate Herball*.
- 10 The early modern herbal was essentially derivative in nature. Carolus Clusius's reputation as an authority on Asian botany was in fact established by simply publishing a heavily annotated edition of da Orta's *Colóquios*. Cristóbal Acosta's *Tractado* (1578) was also almost entirely derived from da Orta. Parkinson's *Theatrum* was an improvement on John Gerard's *The Herball* (1597), which was itself an adaptation of Rembert Dodoens' *Pemptades* (1583). To illustrate it, Parkinson relied heavily on Gerard's woodcuts.
- 11 With the invention of printing, herbals began to be published rather than copied by hand. And with the use of woodcuts, which would be traded between printers, the same images began to appear in some of the herbals.
- 12 BL Sloane MS 4013, f. 26r. For the Parkinson and Gurney illustrations of the pomegranate plant compared, see Nair, *From Books to Bezoars*, p. 113.
- 13 BL Sloane MS 4013, f. 11v.
- 14 The English translation of the *Itinerario* was published in 1598.
- 15 BL Sloane MS 4013, f. 5v.

# Hortus Indicus Malabaricus

SITA REDDY

NOTHING PREPARES YOU FOR THE VISUAL SPLENDOUR OF “ADDITIONAL MANUSCRIPTS 5028–32” in the British Library. Between the vellum covers of this five-volume codex lie the original—and only surviving—drawings for the exquisite engravings in *Hortus Indicus Malabaricus*, jewel of late 17th-century Dutch botanical literature.<sup>1</sup>

*Hortus Malabaricus* is the monumental 12-volume illustrated herbal describing 740 Malabar plants, most accompanied by astonishingly beautiful double-folio copperplate engravings. Compiled by Hendrik Van Reede, a Dutch East India Company Commander of Malabar, it was published between 1678 and 1693 and was the first definitive survey of tropical botany in South Asia. The 25-year multilingual project was famously collaborative and much is known about Van Reede’s reliance on indigenous knowledge via local scholars, Ayurvedic physicians and Ezhava plant-gatherers to recreate this textual “Garden of Malabar”.<sup>2</sup>

Much less is known about its art history—the making, printing and visual translation from field to page to plate—which traces a remarkable story of colonial encounters and global exchange. Of how pen-and-ink drawings of plants gathered from the colony (Malabar) interacted with print technology of copperplate engraving in Dutch metropolises. Of the artistic process by which Dutch military artists in possible dialogue with local scholars, and Van Reede himself, also channelled Baroque styles of book illustration and late 17th-century Flemish painting styles dominated by still-lives and perspectival realism. Of how Dutch Company art inspired science and the first colonial botanic gardens in Amsterdam and Leiden, just as Company science would come to rely on art for its visual representations of tropical botany.

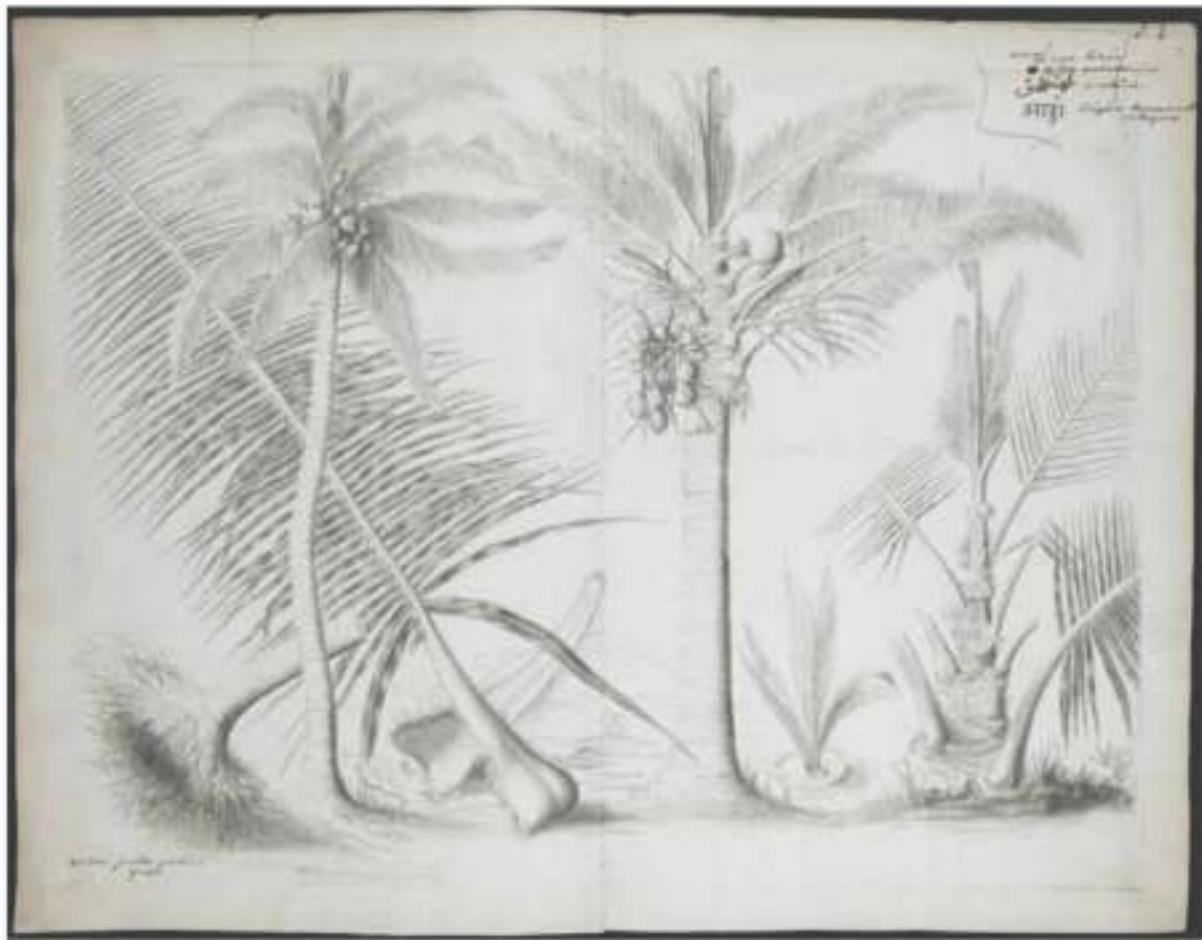
We know the names of only two artists of the original drawings—Antoni Jakobsz Goetkint and Marcelis Splintjer, both Dutch military draughtsmen.<sup>3</sup> The monochrome ink-wash drawings in the British Library codex—collectively known as *Horti Malabarici Icones* (henceforth *Icones*)—correspond exactly with engravings made for the first 10 published volumes of *Hortus Malabaricus*.<sup>4</sup> And indeed, only two among the 651 *Icones* folios bear artist signatures. A double-folio drawing (figure 1a) of Malabar’s ubiquitous coconut tree, signed by Antoni Goetkint—became the template for one of *Hortus Malabaricus*’s most celebrated engravings in print (figure 1b). Goetkint’s signature can be seen in the lower left corner of the drawing as well as in the engraving (on the right), which also includes the name of the engraver, Bastiaan Stoopendael.<sup>5</sup> Just as the artists were invisible and anonymous, so too were the engravers; only two plates were signed in the Latin edition of *Hortus Malabaricus*, the second being by Gonzalez Appelman.<sup>6</sup>

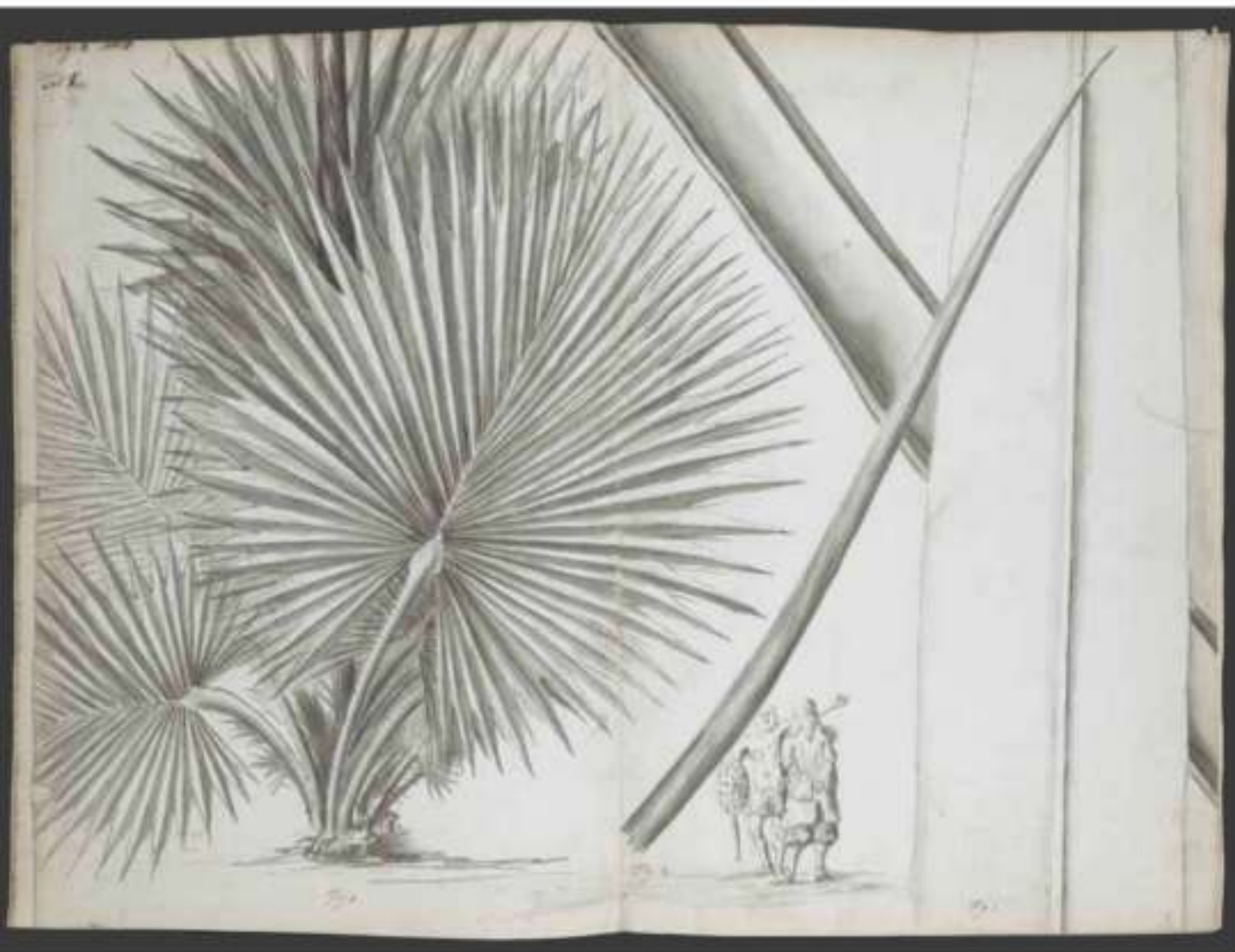
As models for the engravings, each of the 650 *Icones* drawings (590 in double-folio and 61 in folio) was carefully copied onto copperplates—chalk-blackened backs and burin outlines visible in verso.<sup>7</sup> Particularly interesting in this process of graphic conversion from drawings to engravings are not just the correspondences but the visual ruptures and omissions—what was left out of the print version. Print

1a.  
Tenga (Coconut/*Cocos nucifera*). Pen-and-ink drawing (double-folio) by Antoni Goetkint from *Horti Malabarici Icones*, BL Add MSS 5028, 1–2. Courtesy British Library.

1b.  
Tenga (Coconut/*Cocos nucifera*). Copperplate engraving (double-folio) by Bastiaan Stoopendael (after the drawing by Antoni Goetkint), *Hortus Malabaricus*, 1678, Vol. 1: 2–3. Courtesy Wellcome Collection. This magnificent engraving includes a composition that has mature coconut trees along with young ones and even, ingeniously, an uprooted tree to depict its rootball, all staged in a dynamic tableau that only highlights the superior quality of both draughtsmanship and engraving skills.





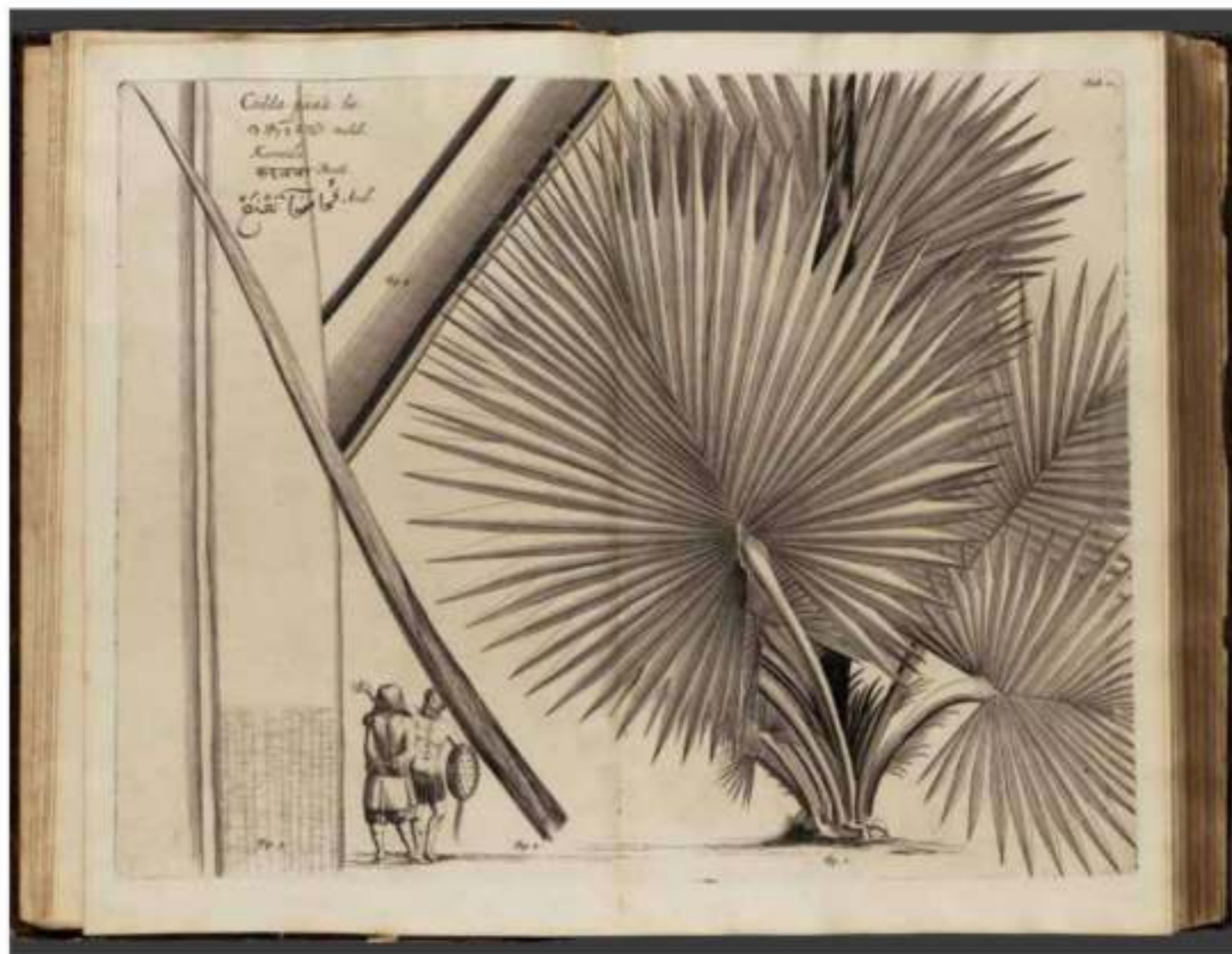


2a.  
Coccoloba palmetum (Great Fan Palm).  
Pen-and-ink drawing (double-  
folio), *Horti Malabarici*  
*Icones*, Bl. Add. MSS 5029, 2-3.  
Courtesy British Library.  
A European figure—possibly  
the artist or Van Reede—  
stands under the giant palm  
leaves in apparently amicable  
conversation with a Malabari  
local.

omissions range from leaves, flowers, fruits and seeds to decorative cartouches and a hundred fanciful insets featuring dragons, mermaids, animals and allegorical figures from the European Baroque.<sup>8</sup> The draughtsmen occasionally added human figures in the drawings; most were not printed. Figures 2a (drawing) and 2b (engraving) show one of the exceptions—the tiny European figure, possibly the artist, stands in front of “Coccoloba palmetum” (Great Fan Palm), conversing with a Malabari local as interlocutor, watcher or witness.<sup>9</sup>

Among the very few *Icones* double-folio drawings that remained unpublished is an image of a group of fakirs under a tree with climbing plants (figure 3), an astonishingly detailed composition, signed on the verso by artist Marcellis Splintjer, with text that reads: “Climbing pod-bearing leguminosae and other species of Apocynum....” A *Ficus* tree dominates this composition, but both the fakir in the foreground and the legume entwined around it seem poised to fly across the page on the diagonal. There is a dynamism and delicacy here that suggests it might have been drawn from field observation. It is one of only two *Icones* drawings of a habitat view, all others following botanical illustration conventions of the time—namely, isolated life-size plant specimens arranged on a white ground, seeds, fruits and flowers below them, with their pre-Linnean colloquial names printed in Roman, Arabic, Sanskrit and Malayalam scripts.





Most historical accounts describe the *Hortus Malabaricus* engravings as the first images of Malabar flora to reach Europe. But recent research suggests a fascinating addendum to this botanical art story. J. Heniger—author of the definitive biography of Van Reede and *Hortus Malabaricus*—points to an alternative set of drawings of Malabar flora by a Carmelite priest, Father Matthew of St Joseph, which in their published introductions to Western botany may have preceded *Hortus Malabaricus* by an entire decade.<sup>10</sup> Matthew was on Van Reede's original team of collaborators, and the initial conception of *Hortus Malabaricus* may have been entirely inspired by his extensive knowledge and drawings of Malabar flora. Even though Van Reede was to later reject Matthew's drawings (claiming they were neither life-like nor botanically identifiable), he credited him as the text's original "conditor" or founder.

Matthew's early drawings, sent to Italy before 1674, may well have been the first representations of Malabar flora to appear in print in the major 17th-century Italian botanicals of the time (Zanoni's *Istoria Botanica*, 1675, and *Rariorum Stirpium Historia*, 1742). As figure 4 shows, these engravings from Zanoni's *Rariorum*—after Matthew's drawings—were in fact Europe's print introduction to Malabar flora. Indeed, the Paris codex of *Viridarium Orientale*—which is comprised almost entirely of Matthew's sketches and notes—can be seen as the first model of *Hortus Malabaricus*; a proto-*Hortus Malabaricus*.

**2b.**  
Coddapan (Great Fan Palm). Copperplate engraving (double-folio), *Hortus Malabaricus*, Vol. 3, Tab. 1. Courtesy Wellcome Collection.



3. Performance of a Fakir. Pen-and-ink drawing (double-leaf) from *Horti Malabarici Icones*, BL Add MSS 5030: 122–23. Courtesy British Library.

Given these entangled print histories and the fact that the *Icones* drawings were sent to Amsterdam at least a year prior to *Hortus Malabaricus*' publication, it is not entirely surprising that both the British Library's catalogue record and accession notes (from 1771) mention Matthew as the artist: "Drawings in Indian ink, of the plates in the work 'Hortus Indicus Malabaricus' by Matthæus à S. Joseph". While we know now that this was a misattribution—the drawings in the codex were clearly made by Dutch artists—the insertion of Matthew into the story hints at this more complex prehistory of *Hortus Malabaricus* and its extraordinary art.

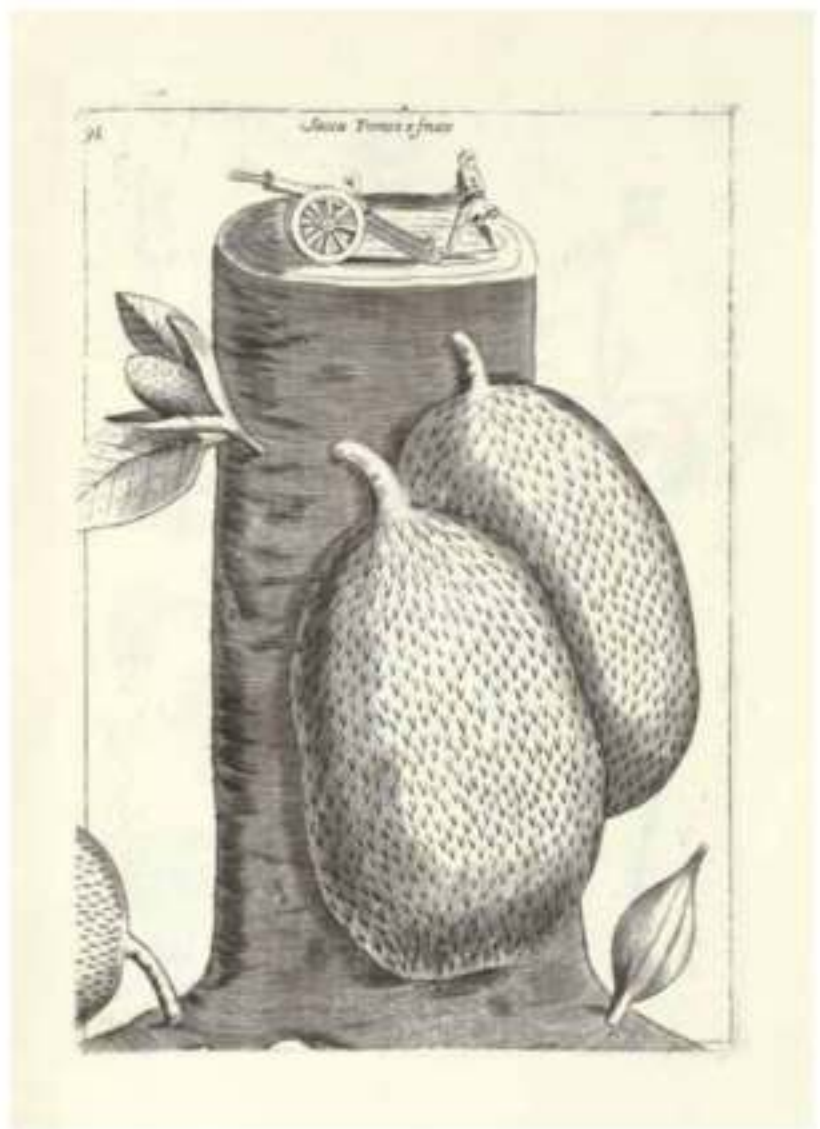
#### NOTES

- 1 The full name of the text is *Hortus Indicus Malabaricus, Continentis Regni Malabarici apud Indos celeberrimi omnis generis Plantas rariores* (1678–93). Or *Hortus Malabaricus* for short; Latin for the "Garden of Malabar".
- 2 See Richard Grove, "Indigenous Knowledge and the Significance of South West India for Portuguese and Dutch Constructions of Tropical Nature", *Modern Asian Studies*, 30(1), 1996, pp. 121–43; J. Heniger, *Hendrik Adriaan Van Reede Tot Drakenstein (1636–1691) and Hortus Malabaricus: A Contribution to the History of Dutch Colonial Botany*, Rotterdam and Boston: csc Press, 1986; K.S. Manilal, *Botany and History of Hortus Malabaricus*, New Delhi: Oxford and IBH, 1980; Vinita Damodaran, Anna Winterbottom and A. Lester (eds.), *The East India Company and the Natural*



World, New York: Palgrave Macmillan, 2015; Kapil Raj, "Thinking Without the Scientific Revolution: Global Interactions and the Construction of Knowledge", *Journal of Early Modern History*, 20, 2017, pp. 445–58.

- 3 In the Preface to *Hortus Malabaricus*, Vol. 3 (1682), Van Reede mentions three or four unnamed draughtsmen who "stayed with me in a convenient place, would accurately depict the living plants as the collectors brought them. To these pictures a description was added, nearly always in my presence."
- 4 The sixth and very last codex, presumably containing drawings corresponding to *Hortus Indicus*, Vols. 11 and 12, has been missing from the time of the British Library's acquisition in 1771. Heniger, *Hendrik Adriaan van Reede*, chapter 8, p. 125. The handwritten catalogue of accessions to the British Library Department of Manuscripts reads: "The volumes were bought at the auction of the collections of Bernard Siegfried Albinus in Amsterdam on 16 October 1971." The Albinus sale catalogue reads: "The original drawings of the Hortus Malabaricus gathered by J. Commelin in Amsterdam 1686 being the drawings of the first volumes after which the plates of the preceding work have been made. 10 volumes, 5 ribs."
- 5 Bastiaan Stoopendaal (1637–93) was a draughtsman, engraver and etcher in Amsterdam; he also engraved the plan of the Amsterdam Municipal Garden (1685). Heniger, *Hendrik Adriaan van Reede*, p. 104.
- 6 Gonzalez Appelman's signed engraving is of "Hina Paretti" in *Hortus Malabaricus*, 1686, Vol. 6, Tab. 39.
- 7 See 81. Add mss 5029: 2v. Heniger gives a description of production of engravings in *Hortus Indicus Malabaricus* following Kooiman and Venema (*Gedenkboek J. Valckenier Suringar*, 1942) who had done the same for Jan Commelin's *Horti Medici Amstelodamensis Rariorum Plantarum* (1697): "The engraver covered the back of the drawing all over with black or red chalk. He pasted the paper on a copperplate and pressed through the outlines of the figure with a burin in order to produce a rough sketch of the plant in black or red on the plate. In consequence, after the plate had been engraved and printed, the engraving turned out to be a



- reflection of the original drawing." Heniger, *Hendrik Adriaan van Reede*, p. 130.
- 8 *Ibid.*, chapter 6, p. 136.
- 9 Coddapan, 81. Add mss 5029: 2, *Hortus Malabaricus*, Vol. 3, Tab. 2. I speculate that the human figure could be the artist, based on another drawing of an identical figure engaged in the act of drawing (or writing): 81. Add mss 5029: 3.
- 10 Heniger, *Hendrik Adriaan van Reede*, chapter 7, p. 105.
4. Jacca (Jackfruit) with the figure of a militarist. Engraving from Zanoni, *Rariorum Stirpium Historia*, 1742, Tab. 91. QK41 .Z33 1742 folio. Courtesy Smithsonian Libraries.

# The Roxburgh *Icones* in the Kolkata Botanic Garden

SANTHOSH KR. SAKHINALA

1.  
*Garcinia mangostana*,  
1776–1813, Roxburgh number  
2136. Watercolour on paper;  
c. 44 x 58 cm. It may be noted  
that the composition of this  
painting at CNH is totally  
different from and double the  
size of the one at Kew of the  
same plant.

2.  
*Aralia umbraculifera*,  
1776–1813, Roxburgh number  
1816. Watercolour on paper;  
c. 44 x 29 cm.

A TREE STANDS ERECT IN THE CENTRE OF THE STAINED AND WEATHERED PAGE, painted with intricate detail until each and every vein on the small hanging leaves, and a variety of lines on the flower petals give the image its contour, form and volume. This seemingly naturalistic tree is brutally disturbed by a linear drawing of a pair of life-size leaves placed horizontally across the page, visually cutting the trunk in half. Layered over the unpainted leaves is an additional drawing of a thin branch of flowers cutting across it vertically. An unpainted stem floats across the lower part of the trunk, and two small flowers and their stigma or stamens are painted in microscopic detail. This juxtaposition and superimposition over the image of the tree of its own fragments and parts in successive layers was not meant to provide the viewing experience of a unified picture. But it is a realistic depiction of a plant, *Aralia umbraculifera* (figure 2)—one of the 2,595 paintings called the Roxburgh *Icones* stored and preserved in the







*Acacia verbenaculifera*, DC. 1816



3-  
*Eugenia jambolana*,  
1776–1813, Roxburgh number  
150. Watercolour on paper;  
c. 44 x 29 cm.

Central National Herbarium (CNH) of Kolkata's botanic garden—the Acharya Jagadish Chandra Bose Indian Botanic Garden.<sup>1</sup>

These life-size coloured botanical paintings were made by Indian artists under the supervision of William Roxburgh.<sup>2</sup> Through him two distinctly different approaches to making images were brought together. The technical skills of gouache painting with mineral and natural pigments were derived from Indian miniature painting traditions and were applied to the image-making of these botanical paintings that probably referenced Renaissance florilegia. This resulted in the displacement of conventions of traditional painting where the artists, accustomed to painting on prepared surfaces like *washi*, had to paint on plain factory-made paper. The paint application on unprepared surfaces resulted in unintended interactions between pigments and paper that, after 200 years, produce effects that expand the sensorial experience of viewing—such as the intense smell that fills our nostrils as we look at the *Icones* paintings.

Between 1776 and 1813, Roxburgh supervised the making of these botanical paintings as the Naturalist of the East India Company in Madras and later as the Superintendent of the Calcutta botanic garden. Painted for the purpose of documentation and identification of different plant species through observational methods of

study, the botanical drawings are organized into folios. Each page of the Roxburgh *Icones*—the whole bound into 35 volumes—is pasted on a thick paper for support, of more or less the same size, approximately 44 x 29 cm, and arranged taxonomically according to plant family, genus and species.<sup>3</sup> Due to the constant contact over years, the natural pigments have not only diffused into the paper on which they were applied, but also have penetrated the adjacent page, sometimes interfering with the overall visual experience. This staining or discolouration of paper with the impression of leaf shapes can be seen in the painting of *Garcinia mangostana* (figure 1). While such impressions left a faint silhouette, the pigments applied on the surface of the paper bled off the contours, producing a soft, hazy effect—which enhances the aesthetic appeal of the Roxburgh *Icones* beyond the strictly scientific.

Radically different from the conventions of post-Renaissance naturalism and the late Mughal realism of painting flora, botanical drawings are composed around isolated specimens—with cut stem or detached branches bearing leaves emphasizing the detailed anatomical and physical structures. Among the Roxburgh *Icones*, *Eugenia jambolana* (figure 3) is a good example—the line drawings of two large isolated leaves behind the painted branch contain handwriting, perhaps Roxburgh's, noting the characteristics of the leaf and fruit of the plant and that it is found in Bengal as well as on the Coromandel Coast.

The logic of visual organization in these botanical paintings through juxtaposition and superimposition of elements can be said to be pictographic, made as pictorial notations (figures 4 and 5). The fragments of plants against the neutral background were meant to represent their anatomical parts to be identified and compared against each other and the whole; thus as pictorial notations they convey taxonomic information without invoking





the unity of a picture. At the same time, the *method* of painting with subtle rendering of gouache and efforts to accurately represent all the parts as well as their differences can offer an engaging visual and aesthetic experience. Dual elements of the paintings—*aesthetic* and *scientific*—thus merge in the way plants are pictured in the Roxburgh *Icones*. The *aesthetic* component of these graphically intense images of botanical science offer new approaches to understanding the making of visual images.

#### FIGURE ACKNOWLEDGEMENTS

All images have been sourced from the Central National Herbarium (СNH), Kolkata, and photographs are by the author.

#### NOTES

- 1 The number 2,595—which is different from the number of the Roxburgh *Icones* copies at Kew—comes from M. Sanjappa, K. Thothathri and A.R. Das, *Roxburgh's Flora Indica Drawings at Calcutta*, Kolkata: Botanical Survey of India, March 1994.
- 2 J.R. Sealy, "The Roxburgh Flora Indica Drawings at Kew", *Kew Bulletin*, 11(2), 1956, pp. 297–348. <http://apps.kew.org/floraindica/html/roxburghlife.htm> (accessed on July 10, 2018).
- 3 Sanjappa, Thothathri and Das, *Roxburgh's Flora Indica Drawings at Calcutta*.

4. *Luffa clavata*, 1776–1813, Roxburgh number 1692. Watercolour on paper; c. 44 x 29 cm.

5. *Careya herbacea*, 1776–1813, Roxburgh number 1437. Watercolour on paper; c. 44 x 29 cm.

# The Botanical Gallery in the Indian Museum

SANTHOSH KR. SAKHINALA

**M**USEUMS ARE SPACES WHERE DISLOCATED OBJECTS ARE INVESTED WITH narrative agency. With natural history objects in colonial museums, typically displayed in botanical or ethnographic galleries, narratives tend to highlight the economic and utilitarian approaches to nature in the former colony.

The Botanical Gallery in the Indian Museum in Kolkata is a classic case in point; it displays the colonial accumulation and organization of “economic botany” encased in Victorian-era glass vitrines (figure 1).<sup>1</sup> At its inception in 1901, the Botanical Gallery was called the Economic Botany Gallery categorized under the Industrial Section of the Indian Museum.<sup>2</sup> In 1912, it was brought under the supervision of the Botanical Survey of India (BSI) and renamed the Botanical Gallery. The cavernous Gallery room on the second floor of the brick-red three-storeyed BSI building on Sudder Street can be accessed from the main building of the Indian Museum, which for the casual viewer links Art with Science.<sup>3</sup> Plant-based economic products are displayed along with dried seeds, flakes, barks and fibres of botanical specimens in glass bottles, while vitrines depict the varied uses of plants in industry, commerce and daily life—all brought together originally to demonstrate colonial authority over India’s natural resources.

1. Vitrine with wax models of tropical fruit. Botanical Gallery, Indian Museum. Photograph: Santhosh Kr. Sakhinala.





In the Gallery, the act of looking at the specimens and botanical products in the glass vitrines becomes a way of *seeing* colonial botany. Each exhibited specimen is labelled in three languages: English, Hindi and Bengali. The English names of the plant specimens supplement their post-Linnean Latin botanical names, a taxonomic practice that entered Bengal in the late 18th century with the colonial interest in natural history collections. Exhibits are organized into eight bays: (1) Gum, Resin, India Rubber, Lac, Kino; (2) Oils, Oilseeds, Oilcakes, Soaps and Waxes; (3) Dyes and Tans etc.; (4) Fibres, Silk, Cotton, Jute, Wool; (5) Medicinal Produces and Indigenous Drugs; (6) Narcotics, Opium, Indian hemp, Tobacco; (7) Food substances, Sugar, Starch, Cereals; (8) Indian Timbers.

Traversing the centre of the Gallery are factory-produced commercial articles—paper, cotton cloth, matchboxes, lacquer articles—displayed along with intricate dioramas narrating the industrial processes by which raw botanical materials are transformed into commercial products for the market, street or table. While almost all the glass beakers, flasks and bottles are inherited from the time of the Gallery's birth, these dioramas appear relatively new. Their narrative structure—displaying the stories of Paddy, Sugarcane, Lac, Arrowroot, Tea, the Matchbox, Jute, Cotton and Indigo—offers a pedagogical opportunity to view colonial botanical production quite literally through a looking glass. Despite their quotidian familiarity, looking at the inert botanical materials as objects of curiosity in the glass vitrines introduces a wonder-filled distance. It is this distance that reconstitutes those familiar materials as objects of scientific knowledge presented in the format of taxonomic classification. The experience of this distance captured in selfies taken by visitors re-enact the moment in history when wonder was created in Victorian-era museum galleries.<sup>4</sup> While the cabinets of curiosity thus anticipate the form of the modern museum, the visitors' selfies transmute the institutional "regime of curiosity" into personal and private memory.

#### NOTES

- 1 Economic Botany as a field of knowledge and practice, in which plants are divided according to their use, emerged as part of the longer history of colonial exploitation of natural resources. The economic and utilitarian imperative required botanical specimens and their raw material extracts to be systematically documented, organized and displayed to demonstrate their potential use and utility, and to expand colonial authority. In this connection, it is pertinent to note that the history of the Indian Museum in Calcutta began when botanist Nathaniel Wallich urged the Asiatic Society in 1814 to store duplicates of botanical specimens and raw materials from his collection. This initial botanical collection underwent several processes of expansion (and attrition) until it was housed in the present Botanical Gallery in the Indian Museum. Information is from *The Indian Museum 1814–1914*, published by the Trustees of the Indian Museum, 1914.
- 2 Brochure from the Botanical Survey of India, May 2018.
- 3 Before moving to the Indian Museum, the collection was housed in the Bengal Economic Museum, a regional collection that evolved from the early 19th-century Asiatic Society.
- 4 Museums in Britain, involving geology, natural history, archaeology, paleontology etc., had a strong influence on late Victorian public culture. Exhibition practices in the museums of late 19th-century Britain worked as translations of the past as well as of colonial cultures for the British public. Principally the exhibition involved an experience of seeing the objects through an inbuilt distance in terms of their time and space. The wonder evoked in the British public then can be compared to the experience of the present-day visitor to the Botanical Gallery in the Indian Museum, expressed by the excitement of capturing the exhibits in the souvenir of a selfie.





## Lalbagh Botanical Drawings

SURESH JAYARAM

**T**HE EYE OF THE COLONIAL RULER, INTENT ON VANQUISHING TIPU SULTAN IN THE late 18th century and driven by the desire to conquer what he surveyed, perceived the local landscape as “naked country”, a description that refers to the openness of the flat Deccan plateau, the local people and the paintings that represented this landscape.

As with landscape and paintings, so with colonial botanical gardens and their representations. Over centuries, the botanical garden of Lalbagh has been the site (physical and symbolic) of various political ambitions and agendas. Aptly called the Kew of India, Lalbagh is known for its diverse holdings of botanical illustrations which reflect the garden’s key role in the botanical cosmos and network of Empire’s desire to document local and imported plants. Both illustrations and plants were cultivated for their aesthetic and commercial value, with the scope to expand Bangalore as a fertile laboratory to introduce, acclimatize and disseminate plant species in India.

Historically related to the formation of Bangalore, and its former reputation as a “garden city”, Lalbagh is the focal point of some of the most significant landscape decisions taken to establish this city. It includes at least three types of garden landscapes—the Mughal “charbagh”, the colonial garden and the agri-horticultural laboratory of national and regional botanical aspirations—all of which played a decisive role in the history of horticulture and botanical studies of species and their migration into India.





The legacy of Hyder Ali (1722–82) and Tipu Sultan's (1750–99) involvement in the gardens (even as late as 1798) are apparent. It is recorded that Tipu obtained plants and seeds from the Isle of France (Mauritius) and Africa; all a measure of his "horticultural diplomacy". Lalbagh grew to be a house of exotic plant species from other tropical and subtropical parts of the world. In 1870, in his journey from Madras through the countries of Mysore, Canara and Malabar, Francis Buchanan notes the distinctiveness of Lalbagh.<sup>1</sup>

Lalbagh's origins go back even further to the beginnings of the 18th century when Major Gilbert Wagh, a colonial officer of the Madras European regiment and paymaster of Mysore, saw immense potential for a garden in the suitable climate and soil conditions under the gaze of the British soldier-merchants in 1700 combined with perspectivalism to compose images of what has been referred to as the "picturesque", to map techniques of cartography, to measure and triangulate for land surveys, and to cultivate gardens in the tradition of community-led urban planning. The walling of Lalbagh from its surroundings is very significant in dividing the local community from a horticultural zone. The map and picture became the visual translation of land as a physical entity into an image to be conquered by the eye. John Cameron, Superintendent of the gardens in 1874, was responsible for a systematic structuring of the garden and exploring the possibilities of agriculture and horticulture.

It is in this setting that we encounter the archival home for Lalbagh's botanical illustration collections: the Dr M.H. Marigowda National Horticultural Library. Set in a charming colonial bungalow in the gardens, the unpublished collection is safely guarded and rarely seen in public.<sup>2</sup>

The very first set of botanical illustrations was done under Benjamin Heyne in 1799, when he took charge of Tipu Sultan's cypress gardens under the instruction of Governor-General Wellesley. These botanical illustrations became the first attempts in the region to look at nature and natural history through the modernist lens.

The diversity of the Lalbagh illustrations is fascinating and extensive, including

1. *Ipomoea superbiens*, Hort., by K. Cheluviah Raju, late 19th to early 20th century.

2. *Lantana camara*, Linn., by K. Cheluviah Raju, late 19th to early 20th century.

3. *Magnolia pterocarpa*, Roxb., by K. Cheluviah Raju, late 19th to early 20th century.



common kitchen herbs and vegetables, local and exotic plants, shrubs and trees. The most prolific artist was K. Cheluviah (or Cheluvayya) Raju; his skill is unmatched and he is recognized as one of the finest botanical painters of his time. He was appointed by Superintendent John Cameron to illustrate the garden collections and was the chief artist from 1884 to 1923 (figures 1–3).

According to James J. White who conducted research as a Fulbright research scholar at the library in 1996 and catalogued more than 1,000 of the 19th-century watercolours and drawings in the collection: "Annual reports were published by Lalbagh between 1888 and 1904 and described the collection as it was being formed. In 1894, fourteen plates were forwarded to the Chicago exposition. In 1899, almost 400 of the drawings were forwarded to the Royal Botanical Gardens, Kew and acknowledged by botanist, Sir William T. Dyer, who responded to John Cameron, Superintendent of Lalbagh, that a section might well be published in Bangalore. The drawings were then forwarded to the Royal Botanical Gardens, Calcutta where Superintendent Major D. Prain made authentications, corrections, and additions. Eventually, the drawings were returned to Bangalore. In 1907 Cameron authored a 56-page list of botanical drawings, in watercolours, in the collection of the State Botanical Gardens, Lalbagh, Bangalore, stating that the Garden now possessed a fine collection of 750 colour drawings. Further, this report<sup>3</sup> acknowledges that K. Cheluviah Raju was the best and chief artist who worked between 1884 and 1923."<sup>4</sup>

Town planning and landscape design during the colonial period were signifiers of modernity. British surveyors sought to map the territory and artists captured the "native" landscape in picturesque landscape paintings. However, the main goal of botanical illustration was scientific accuracy. It must portray a plant with precision and detail for it to be recognized and distinguished from another species. Thus practising botanical art instilled discipline, observation, patience, and encouraged a new intimacy with and appreciation of the functionality and diversity of the living world through a scientific and modern perspective.

#### ACKNOWLEDGEMENTS

All images are copyright of the Dr M.H. Marigowda National Horticultural Library, Lalbagh, Bengaluru. The initial restoration was done by INTACH Chitrakala Parishath Art Conservation Centre (ICKPAC) Bengaluru with The Department of Horticulture, Government of Karnataka.

The cataloguing of the paintings was done with the help of Archival Resources for Contemporary History (ARCH), a unit of Srishti Institute of Art, Design and Technology, Bengaluru.

The fragile condition of these drawings needs climate control and further vision to curate them into a public exposition. These plans are yet to be realized.

#### NOTES

- 1 Francis Buchanan, *A Journey from Madras through the Countries of Mysore, Canara and Malabar*. It runs into three volumes and was first published in 1807 in London. The book was reprinted by the Karnataka Gazetteer Department in 2010.
- 2 "The old drawings had weathered, faded and were attacked by silverfish. They have been now restored, scanned, catalogued and published in three limited edition volumes—two volumes of watercolour illustrations and a third of pencil sketches." From the article "Century Old Botanical Illustrations Rediscovered, Restored", by Poornima Dasharathi, in *Citizen Matters*, November 6, 2011.
- 3 Annual reports published by Lalbagh between 1888 and 1904 describe the collection.
- 4 James White, *Bulletin of the Hunt Institute for Botanical Documentation*, 11(1), Spring 1999.



# Marianne North's Sacred Hindu Plants at Kew Gardens

MICHELLE PAYNE

**T**O STEP INTO THE MARIANNE NORTH GALLERY FROM THE SERENE, AIRY OPEN SPACE of the Royal Botanic Gardens (RBG), Kew is to experience a sensory shock. Light falls from high clerestory windows, illuminating boldly coloured paintings below. Jet-black frames press against each other horizontally and vertically, leading your eye on a dance across, back, up and down (figure 1). The paintings number 848. All portray plants: but not the isolated water-coloured specimens of traditional botanical illustration. These are unconventional nature studies, painted by an unorthodox artist. Her plants grow in landscapes, on roadsides and in temple grounds; all are rendered in thick, vibrant oils. Gold-lettered headings indicate where the scenes were drawn and, in some cases, painted. Facing the entrance: Ceylon, India, Singapore and Borneo. Just the centre label differs. It reads "Sacred Plants of the Hindus".

Twenty-eight oval paintings are hung beneath, filling two sides of an archway. They are the result of a proposed joint project between Marianne North (1830–90), artist and traveller, and Dr Arthur Coke Burnell (1840–82), a Sanskrit scholar and expert in southern Indian language and literature. North arrived in India in November 1877 with a letter of introduction to Burnell from Edward Lear, recommending her as "a great draughtswoman

1. Interior of the Marianne North Gallery Collections of RBG, Kew. Photograph: Andrew McRobb, 2010. The Marianne North Gallery first opened in June 1882. In 2009 a restoration was completed which renewed or reinstated several original features, giving the gallery an appearance similar to its early years.





2.

312. The Asoka, by Marianne North, 1878. Oil on paper; 37.7 x 27.5 cm. Collections of 1886, Kew. Portrays *Saraca indica*. According to the *Official Guide*, the flower growing through honeycomb was picked for North by the priest of Karli.



and botanist" and "altogetheraciously clever and delightful".<sup>1</sup> She stayed with Burnell in Tanjore for a fortnight from Christmas Eve 1877, sparking an affectionate friendship which continued in correspondence beyond her 15 months in India.

*Recollections of a Happy Life*, North's posthumously published memoir, tells us she painted sacred plants collected by Burnell during her stay; it also suggests that a joint publication on Hindu plants was agreed at that time.<sup>2</sup> Yet she throws the idea out in a letter written shortly afterwards, as if for the first time: "I sometimes wonder if it would be worthwhile when these Indian Plants are done to publish them in Chromo...."<sup>3</sup> Whenever the matter was originally raised, future correspondence suggests Burnell responded positively.<sup>4</sup> North left Burnell's with a list of sacred plants in hand. Finding and painting these was one of her primary concerns while touring India, influencing where she visited and when.

By early February 1878 she had confirmed the identity of most listed plants using William Roxburgh's volume *Flora Indica* (1820, 1824). The majority flowered from March to April and could be found around Bengal. It was specifically flowering specimens she sought. Her host in Trivandrum during late January/early February provided her with several of the plants she wanted to paint, including *Mimusops elengi*, but all only in leaf. She





sketched this, most likely using ink, but rather than develop it into a painting decided to await the flowering.<sup>5</sup>

From Kerala she travelled by steamer to Bombay and on to Lonavala. She wished to see the Karli Caves, her appetite doubtless whetted by reading *The History of Indian Architecture* by James Fergusson, the architectural historian who subsequently designed her gallery. At Karli she was amazed by an Ashoka (*Saraca indica*) flower growing through honeycomb (figure 2). "I have painted it so," she wrote to Burnell, "and you may write a romance about it if you will."<sup>6</sup>

Throughout her travels she updated Burnell with her progress and frustrations. In June she was "much provoked on returning to Seharumpore [Saharanpur] to find two of my sacred plants had flowered.... Now be good and write how you are and how my book is getting on—I love so much to know about the plants—I have only 6 more to do."<sup>7</sup> One of those six was *Mimusops elengi*, which she had sketched flowerless in Trivandrum (figure 3). Evidently she found a flowering and fruiting specimen while in Simla, for by mid-July she reports: "I have done all your plants but the two Acacias, Catechu and Soma...I long to see your account of them all."<sup>8</sup>

Her hopes for the two remaining plants rested on Calcutta. She arranged a few days' stay en route to Darjeeling but heavy rains washed those plans away, along with the roads to both Calcutta and Darjeeling. She didn't reach Calcutta until September. At the botanic gardens there she discovered the two plants she sought were not yet flowering; even so, the trip was far from wasted. The supervisor introduced her to a Hindu gardener employed in the gardens for over 30 years, with impressive knowledge of sacred plants. Besides correcting a misidentification he suggested additions, three of which North included in the gallery collection.<sup>9</sup> Having returned to Calcutta in late October, North reports she "went

3. 301. Foliage, Flowers, and Fruit of a Tree sacred to Krishna, by Marianne North, 1878. Oil on paper; 37 x 25.9 cm. Collections of RBG, Kew. Portrays *Mimusops elengi*. The *Official Guide* states that the flowers are distilled to produce "an odoriferous water", its bark is used medicinally and its fruits are edible.

4. 308. The Soma-lata, by Marianne North, 1878. Oil on paper; 37.6 x 27.3 cm. Collections of RBG, Kew. Portrays *Ephedra Gerardiana*, as *Sarcostemma aphylla*. Described in the *Official Guide* as containing a liquid extracted for use in brahminical sacrifices but differentiated from the unidentified soma juice referred to in the Vedas.



to the Botanic Gardens at daybreak, and got all I wanted at last".<sup>10</sup> Paintings of both elusive plants, the Catechu and Soma-lata, were selected for the gallery (figure 4).<sup>11</sup>

With the sacred plant paintings complete, North awaited Burnell's proposed text. After several months she sent a gentle enquiry: "write me word here how you are and how do the sacred plants get on?"<sup>12</sup> Burnell's health—never strong—was failing after a serious attack of cholera. North's final letter from India, written three days before her departure in late February 1879, implies he may also have suffered a partial paralysis.<sup>13</sup> Correspondence continued intermittently until August, when she nonchalantly raised the matter one final time: "and how about the sacred plants? Don't hurry yourself the world will not much care and you and I will only lose money by publishing them probably but they may be done in time perhaps."<sup>14</sup>

North's irrepressible mind was moving on. Following a successful exhibition of her India paintings she determined to find her collection a permanent home. Burnell may have been the first she confided in: "I should like to build a Gallery close to the pleasure grounds (or in them) at Kew, hang my pictures and have coffee and tea for all the poor tired visitors—with a cottage attached to boil the kettle in—and a spare room for myself to go and sulk and paint in when I want rest and green trees. If Sir Joseph could find me a bit of ground I would build this.... Do you think my scheme will ever come to pass?"<sup>15</sup>

#### ACKNOWLEDGEMENTS

All images © The Board of Trustees, Royal Botanic Gardens Kew.

Marianne North's life and work is explored in Michelle Payne's illustrated book *Marianne North: A Very Intrepid Painter* (London: Kew Publishing, 2016). The complete gallery collection of North's paintings are published in *Marianne North: The Kew Collection* (London: Kew Publishing, 2018) and described in the facsimile of the sixth (1914) edition of the *Official Guide to the North Gallery* (republished, London: Kew Publishing, 2009). All titles are available from <http://shop.kew.org/kewbooksonline>.

#### NOTES

- 1 Lear to Burnell, August 17, 1877. London. MN 1/1 f. 159. Edward Lear (1812–88) was a British landscape painter and poet with a talent for inventive wordplay.
- 2 Marianne North, *Recollections of a Happy Life, Being the Autobiography of Marianne North*, 2 vols., London: Macmillan, 1892. Quotation from Vol. 1, p. 327. North's autobiography, which she worked on throughout her later years, was published posthumously after extensive cutting and editing by her sister Catherine Symonds. The resulting text is sometimes confusing, with unclear chronology.
- 3 North to Burnell, January 18, 1878. Begpore. MN 1/1 f. 57.
- 4 North to Burnell, February 5, 1878. Cochin. MN 1/1 f. 67.
- 5 Ibid.
- 6 North to Burnell, February 26, 1878. Malabar Point. MN 1/1 f. 79.
- 7 North to Burnell, June 2, 1878. Lahore. MN 1/1 f. 99 & 101.
- 8 Ibid.
- 9 Paintings 302, 314 and 319. North to Burnell, September 14, 1878. Darjeeling. MN 1/1 f. 121.
- 10 *Recollections*, Vol. 2, p. 34.
- 11 Paintings 314 and 308.
- 12 North to Burnell, January 18, 1879. Bombay. MN 1/1 f. 132.
- 13 North to Burnell, February 21, 1879. Bombay. MN 1/1 f. 133. For Burnell's health and paralysis see Stanley Lane-Poole, "Burnell, Arthur Coke (1840–1882), Sanskritist and Expert on Southern Indian Language and Literature", *Oxford Dictionary of National Biography* (online, accessed on June 23, 2018).
- 14 North to Burnell, August 9, 1879. Perrystone, Ross. MN 1/1 f. 146.
- 15 Ibid. North's letter to Joseph Hooker laying out her offer is dated August 11, 1879.



# Joseph Dalton Hooker and Indian Botanical Art at Kew Gardens

CAM SHARP JONES



1. *Rhododendron dalhousiae*, by Walter Hood Fitch, hand-coloured lithograph from Joseph Hooker, *The Rhododendrons of Sikkim-Himalaya*, 1849. This lithograph was the first image published in this work and Hooker's description of the species explains that it was named for Lady Dalhousie, the wife of the Governor-General of India and supporter of Hooker's botanical expedition in India. The naming of species after friends and contacts was a key way for Hooker to acknowledge their support and reinforce his position in scientific circles.

ONE OF THE FOREMOST COLLECTIONS OF BOTANICAL ART IN THE WORLD, THE ROYAL Botanic Gardens, Kew (referred to henceforth as Kew) holds more than 200,000 drawings, paintings, sketches and prints, including works by G.D. Ehret, the Bauers, Margaret Mee and Pandora Sellars, reflecting the diversity of global flora. Within this collection illustrations of South Asian flora are both numerous and noteworthy.

Many of these Indian botanical paintings and drawings were commissioned by botanically inclined Europeans and made by local artists during the 18th and 19th centuries. Represented within the Kew collections are examples of botanical illustrations





2. *Rhododendron argenteum*, by Joseph Dalton Hooker, a detailed watercolour-and-pencil field-sketch painted on April 24, 1848. In the lower right corner a small colour swatch is included to give viewers an accurate idea of the vibrancy of the coloured flower. The field-sketch also contains notes regarding the size and form of the plant and detailed diagrams of the internal and external structures of the flower and bud.

rhododendron specimens but rather the illustration of these wondrous blooms in a three-part publication titled *The Rhododendrons of Sikkim-Himalaya* (henceforth referred to as *Rhododendrons*) published between 1849 and 1851.<sup>2</sup> Penned by Hooker whilst still in India, these volumes comprised botanical descriptions of 31 species of rhododendron found in Sikkim and neighbouring regions, accompanied by hand-coloured lithographs by the botanical illustrator Walter Hood Fitch (figure 1).

To produce these lithographs, Fitch relied on the dried botanical specimens and field-sketches sent by Hooker to Kew. Whilst herbarium specimens could give a sense of the size and shape of the leaves and flowers, Fitch would have relied on the field-sketches created by Hooker whilst “on the march” to accurately represent the colour and fine details of the plants (figure 2). As such, Hooker’s artistic talent played an important role in the popularity and wider scientific understanding of Indian and Nepalese rhododendrons.

Hooker’s formative training, led by his father Sir William Jackson Hooker, taught that artistic skills were a must for any aspiring botanist. He learned by drawing living plants and copying printed botanical illustrations. This instruction instilled in Hooker an attention to detail that would be vital during his botanical expeditions to India.

Over 30 field-sketches produced by Hooker whilst in India survive in the Kew collections, and provide valuable insight into the process of botanical visualization.<sup>3</sup> Hand-drawn and partially coloured, these free-hand sketches of Indian plants are marked by an “unfinished” quality when compared to Fitch’s lithographs (cf. figures 1 and 3). However, completion was not the aim of these works—rather, accuracy and detail were

created for East India Company surgeon-botanists William Roxburgh, Francis Buchanan-Hamilton, Nathaniel Wallich and John Forbes Royle; as well as works created for, and by, Hugh Falconer, James Cathcart, Marianne North and Joseph Dalton Hooker.

Joseph Dalton Hooker’s (1817–1911) exploration of Indian botany had one of the most visible impacts on European and British horticulture during the 19th century. Hooker’s lifelong interest in botany took him around the world, including on botanical expeditions to India and Antarctica, and led to his appointment as Director of Kew and President of the Royal Society. Through his identification and transportation to Britain of 25 species of rhododendron new to Western science from Sikkim and the Himalayan foothills between 1847 and 1851, Hooker became part of a growing trend towards “wild gardening” that stepped away from the previously favoured formal, manicured landscapes and created a craze for the woody and colourful rhododendron.<sup>1</sup>

What captured the attention of horticulturists and botanists following Hooker’s discoveries were not just the living



the desired outcomes. They conformed to the established conventions of scientific botanical illustration in their inclusion of different stages of the plant's life cycle (as opposed to still-life studies), dissecting the plant into its constituent parts and depicting the essential features of the plant necessary for identification.

An example of this can be seen in a field-sketch of *Rhododendron dalhousiae* (figure 3). Showing five views of a flower, detailing colouration, stamen and ovary, Hooker's illustration is accompanied by additional textual notes such as: "parasitical on large trees". Another note on this sketch shows that part of Hooker's working practice was to lay specimens on the paper to create an accurate outline of the flower.

Other field-sketches contain colour swatches and details of the larger woody plant (figure 2). The connection between Hooker's field-sketches and Fitch's lithographs is especially evident in the case of the *Rhododendron dalhousiae* field-sketch, where it is possible to map features of Hooker's drawings directly on to those included in Fitch's work (figures 1 and 3).

For Hooker, these works of art were not merely decorative images of botanical wonders. Instead they were scientific documents that could be placed alongside specimens and textual descriptions to accurately identify a species or genus.

It appears, that unlike many of his contemporaries, Hooker did not use local artists in his visual documentation of Indian botany even though he did use local guides and assistants to collect material. The reasons for this remain unclear, but when introducing his later work *Illustrations of Himalayan Plants*, Hooker stated that Fitch had corrected the "stiffness and want of botanical knowledge displayed by the native artists".<sup>4</sup>

Hooker's artistic talent is evident throughout his field-sketches—often created when 1,800–5,800 metres above sea level, whilst battling altitude-sickness, leeches, ticks and avalanches. However, Hooker believed that published botanical illustrations should be simple in form—black-and-white outlines that conveyed the necessary information for identification rather than coloured works. It is interesting then that *Rhododendrons* was one of his more commercially successful publications, establishing Indian and Nepalese rhododendrons as desirable plants across the UK.

This duality between the impact and popularity of *Rhododendrons* and its Indian botanical illustrations, and Hooker's own views on botanical illustration is perhaps best reflected in the frontispiece (figure 4). A composite of numerous Hooker field-sketches and topographical views, this Fitch lithograph shows *Rhododendron dalhousiae* in the wild—with the Himalayan peaks in the distance and the fertile landscape in between. This work, that for Hooker might have been too showy in its colour and contents to be of scientific use,



3. *Rhododendron dalhousiae*, by Joseph Dalton Hooker, a watercolour-and-pencil field-sketch painted between April 22 and 24, 1848. This field-sketch presents five views of a single flower, detailing the colour and shape of this bloom. In the lower right corner, detailed diagrams of the ovule and stigma are included, drawings that were transferred directly by Walter Hood Fitch into his lithograph of the same plant.

4.  
*Rhododendron dalhousiae*  
 (in native locality), by  
 Walter Hood Fitch, hand-  
 coloured lithograph from  
 the frontispiece of Joseph  
 Hooker, *The Rhododendrons  
 of Sikkim-Himalaya*, 1849.  
 This lithograph shows a  
 rolling landscape of fertile  
 vegetation with *Rhododendron  
 dalhousiae* growing wild with  
 the Himalaya in the distance.  
 The image is more picturesque  
 than scientific but captures  
 in many ways the botanical  
 riches that attracted Hooker to  
 travel through the region.



creates an image of India as a temple of flora, filled with an abundance of botanical riches that had so inspired Hooker's desire to explore them.

#### FIGURE ACKNOWLEDGEMENTS

All images © The Board of Trustees of the Royal Botanic Gardens, Kew.

#### NOTES

- 1 Ed Ikin, "Introduction", in Joseph Hooker, *Joseph Hooker's Rhododendrons of Sikkim-Himalaya*, London: Kew Publishing, 2017, p. ix.
- 2 Joseph Hooker, *The Rhododendrons of Sikkim-Himalaya*, London: Reeve, Benham and Reeve, 1849–51.
- 3 It is likely that the number of field-sketches produced by Hooker held in the Kew collections is far greater than 30—in one letter Hooker describes how he has produced over 500 drawings of plants he encountered in India and which were sent back to Kew. Letter from Joseph Hooker to William Hooker, March 18, 1850, Royal Botanic Gardens, Kew Archives, JDH/1/10 ff. 268–70.
- 4 The original works used by Fitch for this publication were created for J.F. Cathcart, a botanist whom Hooker met in India. Upon Cathcart's untimely death Hooker received these illustrations and undertook to publish them as a posthumous collection of botanical illustrations—see Joseph Hooker, *Illustrations of Himalayan Plants, chiefly selected from drawings made for the late J.F. Cathcart Esq. of the Bengal Civil Service*, London: Lovell Reeve, 1855, p. i.



# The Buchanan-Hamilton Collection of Botanical Drawings at the Linnean Society of London

H.J. NOLTIE AND M.F. WATSON



FOR THE REASONS WHY THE LINNEAN SOCIETY OF LONDON POSSESSES A COLLECTION of early 19th-century botanical drawings commissioned by Francis Buchanan-Hamilton<sup>1</sup> (1762–1829) in Mysore and Nepal, the answer must be sought in Enlightenment Edinburgh several decades earlier. Between 1761 and 1786 Professor John Hope annually gave a series of innovatory botanical lectures to medical students at the Royal Botanic Garden Edinburgh (RBGE) of which he was Regius Keeper. Among much else he introduced his students to the work of Carolus Linnaeus and to the value of the *senses*, including the visual, in the study of botany and the making of plant descriptions. As a result, one of his students, James Edward Smith (class of 1782), was inspired to acquire Linnaeus' own pre-eminent natural history collections and to found the Linnean Society of London. Hope's influence on three other students—William Roxburgh (1772), James Kerr (1774) and Buchanan-Hamilton (1781)—led to their commissioning indigenous artists to record the flora (and fauna) they encountered as East India Company (EIC) surgeons in India, to supplement their specimens and written descriptions.

In 1794, following nine years as a ship's surgeon on a series of oriental voyages, Buchanan-Hamilton became an Assistant Surgeon in Bengal. He was supported by Roxburgh, Superintendent of the Calcutta botanic garden, who was by now adept at describing the Indian flora in words and, with the help of Indian artists, in coloured drawings. Buchanan's career over the next 21 years as a statistical surveyor, botanist, geographer, zoologist, antiquarian and anthropologist is one of the most extraordinary in the annals of

1. *Utricularia reticulata* (Malayalam: nelipu) (left) and *Epaltes divaricata* (right), painted in Kerala, December 1800, by Haludar. Opaque watercolour over traces of ink and pencil; 30 x 48.2 cm. Linnean Society of London (MSS 4020, Buchanan-Hamilton Mysore Collection plate xii). The *Utricularia* is one of the few drawings published by J.E. Smith.



2. *Plectranthus barbatus* (Kannada: dodiputra), painted in Karnataka, September 1800, by Haludar. Opaque watercolour over traces of ink and pencil; 48.2 x 30 cm. Linnean Society of London (MSS 4020, Buchanan-Hamilton Mysore Collection plate Iviii).

3. *Cymbidium cochleare*, painted in Nairanhetty, Nepal, November 1802, by Haludar. Opaque watercolour over traces of ink and pencil; 50 x 31.3 cm. Linnean Society of London (MSS 4010/1/34, Buchanan-Hamilton Nepal Collection, un-numbered plate).

Indian history, though much of his research has never been published. His first excursion, in 1795, was to Burma where he pioneered his information-gathering techniques of recording data from local informants on a wide range of subjects including the botanical. In addition to noting local names and uses of plants, and teaching the mission's draughtsman Singey Bey<sup>2</sup> to make botanical drawings, Buchanan wrote copious scientific descriptions of plants and animals in Latin. The botanical collections ended up in London with Sir Joseph Banks, who published some of Buchanan's descriptions and drawings, but these new species ended up being published under Banks' name. The next five years were spent in eastern Bengal, a botanically dull but richly aquatic region where Buchanan became interested in fish. Here he employed an experienced local artist to paint fish, and also trained a younger man named Haludar. From stylistic similarities between four large botanical paintings from this period (inspired by those of Roxburgh's artists)<sup>3</sup> and the Mysore and Nepal collections discussed below, it seems likely that Haludar was the artist of all of these works.<sup>4</sup>

### Mysore

With Tipu Sultan's defeat at the 1799 Siege of Seringapatam, Mysore fell to the EIC; the newly acquired territory required surveying to establish the revenue potential of its natural resources. The Governor of Madras, Lord Clive, planned an extensive three-year survey, but the impetuous Governor-General Wellesley required quicker results and, on Roxburgh's recommendation, Buchanan was appointed to make a year-long investigation of the region's natural resources, arts and manufactures. Between May 1800 and July





1801 Buchanan travelled extensively in south India.<sup>5</sup> Wherever he stopped he recorded the information required by the government, but also botanical information, writing descriptions of 318 plant species not already treated by Roxburgh. With him he took an experienced artist, most probably Haludar, who painted 132 of these plants on 95 folio sheets of English paper (figures 1 and 2). That Buchanan and his artist were constantly on the move accounts for any limitation in the drawings in terms of technique, and their lack of analytical details. The botanical information was intended as a supplement to Buchanan's report but, without his knowledge, the undigested text was rushed into print in London, where it appeared in 1807 as *A Journey from Madras through the Countries of Mysore, Canara and Malabar*, lacking the botanical supplement which Buchanan could not have prepared in time.

## Nepal

From Madras, Buchanan returned to Calcutta but was on the move within a week as surgeon-naturalist on a mission to the Court of Nepal under Captain William Knox. The Nepalese tried to impede the mission, but it reached Kathmandu in April 1802, where the party stayed effectively under house arrest in the Queen's Palace at Nairanhetty. With the help of Ramajai Bhattacharjee, a brahmin from Calcutta, Buchanan sent collectors into the countryside to record the local names and uses of plants. Over the next year an artist, almost certainly Haludar, made drawings of 113 species on 96 sheets, concentrating on orchids and succulent species that were hard to dry (figures 3 and 4). Buchanan sent seeds and living plants to Roxburgh in Calcutta and made extensive notes on more than 1,200 plant species, of which almost two-thirds were new to science. These he arranged according to Jussieu's natural system of classification, realizing that in many cases their geographical affinities lay with Japan and Europe.

4. *Prinsepia utilis* (Newari name: toshibu) (left) and *Edgeworthia gardeneri* (Newari name: baimutswa) (right), painted in Nairanhetty, Nepal, January 1803, by Haludar. Opaque watercolour over traces of ink and pencil; 32.3 x 49.7 cm. Linnean Society of London (MSS 4010/1/71, Buchanan-Hamilton Nepal Collection, un-numbered plate).

The mission ended suddenly in March 1803, and Buchanan returned to his old job in Calcutta, but was appointed by Wellesley as his personal surgeon and asked to run an ambitious project on the natural history of India, based at the Barrackpore menagerie. Here Haludar with three other Indian artists<sup>6</sup> and two Europeans, made numerous zoological drawings; they also copied the Nepal and Mysore botanical drawings for Wellesley's own collection and made an additional set for the physician John Fleming.<sup>7</sup> It was here that Buchanan completed his manuscript on the Mysore plants and began work on the Nepalese collection.

### The Collection's Fate

When Wellesley was recalled for extravagance in 1806, Buchanan accompanied him back to Britain where he canvassed to succeed Roxburgh at the Calcutta botanic garden. With the bitter experience of the fate of his Burmese descriptions and drawings, and the realization that he might never have time to complete work on the Nepalese species in India, Buchanan left his collections with someone he trusted to deal with them more efficiently than had Banks. This was James Edward Smith, a friend from Edinburgh days. The trust was misplaced: Smith had only 10 of the Nepal and two of the Mysore drawings etched, by James Sowerby, for publication in Volume 2 of *Exotic Botany* (1805) (figure 1—left), and published a further 37 species in un-illustrated botanical accounts for Rees's *Cyclopaedia*. Smith then churlishly denied access to the drawings by others, including their commissioner after his retirement to Britain in 1815. After Smith's death in 1828 the material all ended up in the Linnean Society where it remains to this day and only recently has it come to be studied with the attention that it so richly merits.

### FURTHER READING

- Watson, M.F. and H.J. Noltie (2016). "Career, Collections, Reports and Publications of Dr Francis Buchanan (later Hamilton), 1762–1829: Natural History Studies in Nepal, Burma (Myanmar), Bangladesh and India. Part 1". *Annals of Science* 73: 392–424.
- Watson, M.F. and H.J. Noltie (in preparation). "Career, Collections, Reports and Publications of Dr Francis Buchanan (later Hamilton), 1762–1829: Natural History Studies in Nepal, Burma (Myanmar), Bangladesh and India. Part 2". *Annals of Science*.

### NOTES

- 1 Born Buchanan, in 1818 he took the name Hamilton to inherit his mother's estates. He is known to botanists as Buchanan-Hamilton. But in this essay, for simplicity, he will be mostly referred to as Buchanan.
- 2 Brought from Bengal by the embassy's leader Michael Symes.
- 3 These paintings are also in the Linnean Society collection (GB-110/40110/2/1, 2, 3, 6).
- 4 After this period, at Barrackpore (see below), Haludar continued to work for Buchanan.
- 5 He crossed the Tamil plain ("Draveda") from Madras to Bangalore, travelled extensively on the Carnatic plateau and around Coimbatore ("Chera"), and along the west coast from Thrissur northwards almost to Goa (the provinces of Malayala, Tulava and Haiga).
- 6 Possibly borrowed from the Calcutta botanic garden.
- 7 The Wellesley set is now in the British Library; the Fleming one in the Natural History Museum, London.



# The Hands that Painted *Plants of the Coast of Coromandel*

MEGHAN LAMBERT



**T**HE SHEER SIZE AND WEIGHT OF THE LAVISH ELEPHANT-FOLIO FORMAT OF *PLANTS of the Coast of Coromandel* sets a task for its handler. Three hundred life-size hand-coloured copperplate engravings with detailed botanical descriptions, together, in three volumes. The massive volumes held in London's Wellcome Collection are bound in dyed green goatskin and buckram, with gilt lettering on the spine. Only 20 other libraries in Britain house copies of this work. It is no surprise that *Plants of the Coast of Coromandel* (henceforth referred to as *Plants*) is among the Wellcome Library's rare books collection.

1. *Caesalpinia sappan*, from *Plants of the Coast of Coromandel*, artist unknown, 1795. Hand-coloured copperplate engraving; 47 x 33 cm.

2.  
*Borassus flabelliformis*,  
from *Plants of the Coast of  
Coromandel*, artist unknown,  
1795. Hand-coloured  
copperplate engraving;  
47 x 33 cm.



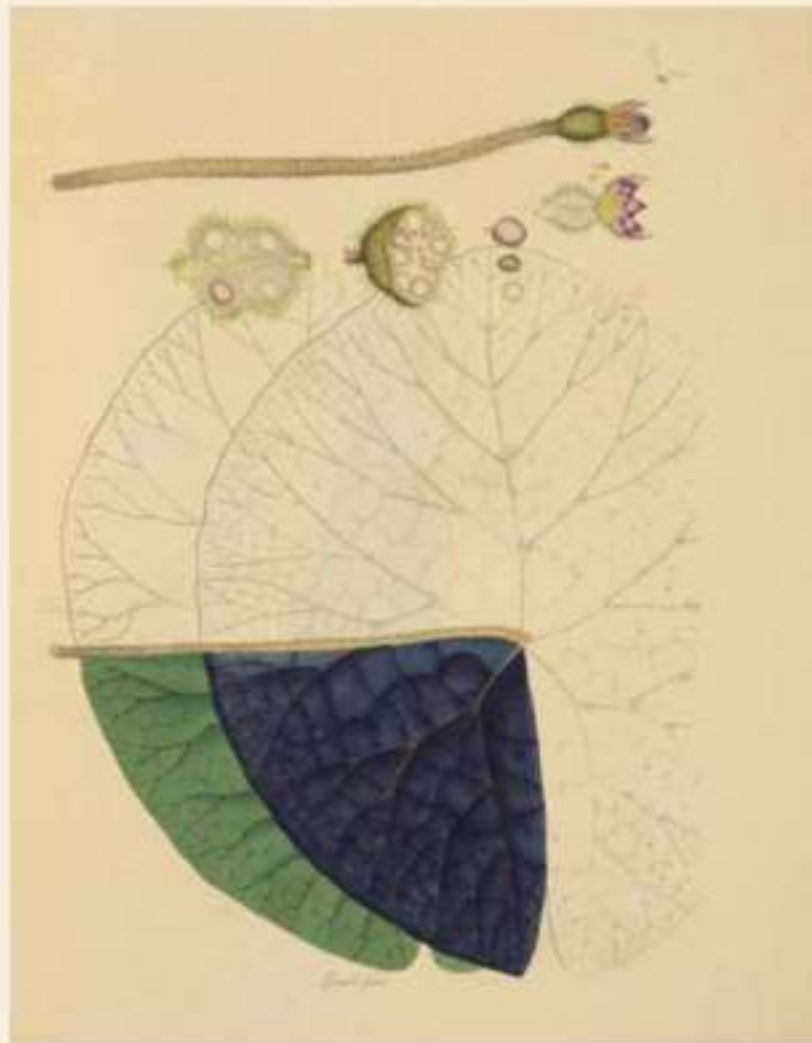
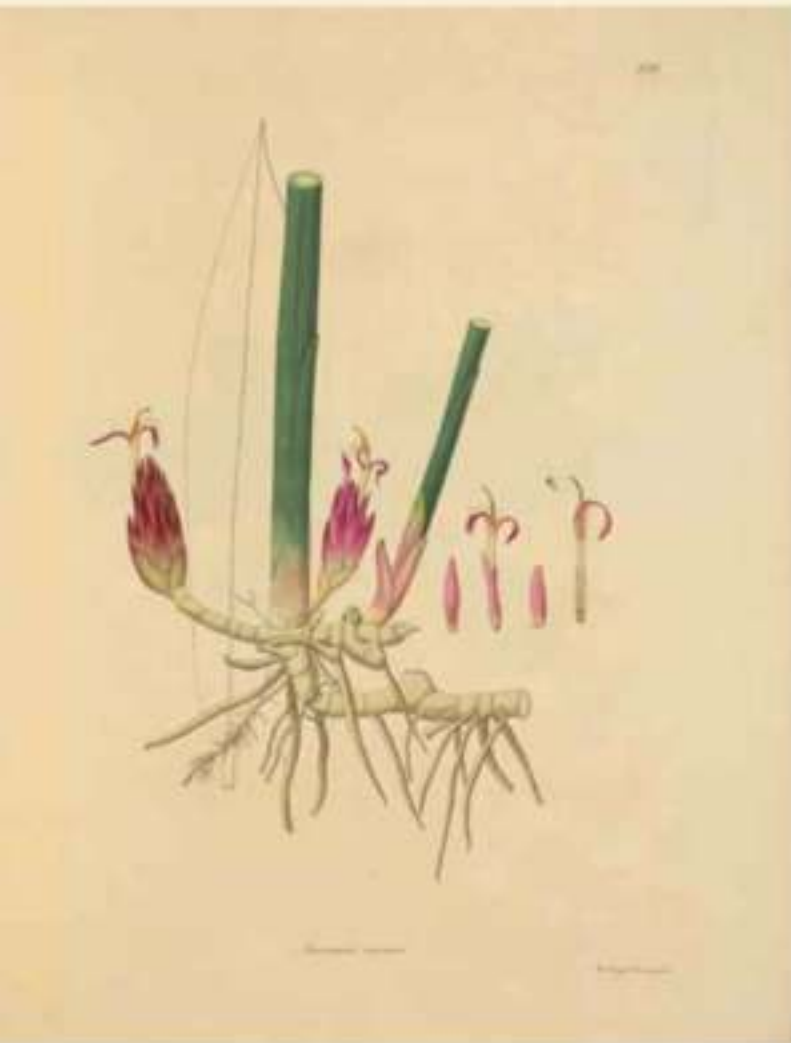
Henry Wellcome (1853–1937), pharmacist, entrepreneur and collector—fascinated by the “art and science of healing throughout the ages”—acquired artworks, artefacts, manuscripts and books tracing social and cultural histories and practices of medicine.<sup>2</sup> Accounts describing indigenous knowledge for medicinal plant use, and specimens, were collected for research at the Wellcome Chemical Research Laboratories.<sup>3</sup> Wellcome’s *Plants* was purchased through auction in two parts between 1931 and 1932.

The author of *Plants* was William Roxburgh (1751–1815), a Scottish surgeon in the East India Company, known as the “Father of Indian Botany”.<sup>4</sup> Published for the King’s bookseller between 1795 and 1819 by Joseph Banks, then Director of Kew Gardens, print copies were distributed in London and India. The volumes were expensive and found a limited readership among “wealthy gentlemen of science”; while the first two were well received in terms of sales and reviews, the third was not a commercial success.<sup>5</sup>

In 1798 the pro-abolition periodical *Analytic Review* appraised Roxburgh as ingenious and an excellent observer for *Plants*. The reviewer stated that “they [the illustrations] were drawn in India, probably by a *Hindoo* artist whose name we hope Dr. R [Roxburgh] will not omit in his future communications.”<sup>6</sup> Identities of these artists remain, for the most part, unknown.

In documenting Indian flora for the first time Roxburgh understood the importance of drawings as “iconotypes” which act as specimens when herbaria are not available. Prior to his appointment as Superintendent at the Calcutta botanic gardens, Roxburgh employed Indian artists to study local Coromandel flora: as he described it, “drawings and descriptions





[...] were taken from living plants, repeatedly examined and corrected during a period of twenty years' constant application to the study of Indian Botany.<sup>7</sup>

The initial drawings Roxburgh sent to Kew failed to impress Banks. Subsequent revised works, less rigid in style, displaying precise depictions of plant structures were finally commended. The "improved" skills<sup>8</sup> and artistic style fused together delicate and ornamental patterning and composition characteristic of miniature painting traditions, with a naturalism more typical of European plant illustration deemed more accurate for scientific representation.<sup>9</sup> By 1793 Roxburgh had sent up to 500 drawings produced by two Indian artists.<sup>10</sup>

Very fine brushes—sometimes single squirrel hairs<sup>11</sup>—were used to sharply portray the miniature surface detail and texture of a plant specimen. Burnishing paintings on the back side of the specially produced Whatman's *wove* paper was a colouristic technique commonly deployed.<sup>12</sup> As illustrated in the Palmyra Palm (*Borassus flabelliformis*, figure 2) the method allows the artist to paint successive layers of brilliant opaque colour, juxtaposing meticulous detail with thick coats of pigment.<sup>13</sup>

An illustration from Volume 1, *Caesalpinia sappan* (figure 1), depicts a source of valuable red dye. The yellow flowers blend into more decorative green leaves. Paintings in this style, typical of the earlier works sent to Banks, are lightly painted with little variation in shading giving a flatness and uniformity, as if intended for print on fabric. Two engravings from later volumes, *Amomum roseum* (figure 3) and *Euryale ferox* (figure 4), demonstrate different uses of shading, with a brilliantly stylized sense of pattern and perspective.

3. *Amomum roseum*, from *Plants of the Coast of Coromandel*, artist unknown, 1795. Hand-coloured copperplate engraving; 47 x 33 cm.

4. *Euryale ferox*, from *Plants of the Coast of Coromandel*, artist unknown, 1795. Hand-coloured copperplate engraving; 47 x 33 cm.

Tensions can be read into these visual representations. The East India Company was acutely aware of the economic value of botanical research in India and *Plants* was very much part of this commercial enterprise. The illustrations, part of a monumental unpublished collection—the Roxburgh *Icones*—indicate the sheer scale and influence<sup>14</sup> of the colonial project.

Scientific ideals and humanitarian concerns may have been central to the Enlightenment, of which Roxburgh was a part. Yet the link between imperialism, science and commerce leaves lingering dis-ease. Colonial records valorize “gentlemen of science” while faint archival traces conceal the identities of the artists who created the works. The names of the Indian illustrators of *Plants* may never be known, but their monumental legacy is a feast for the eye to behold.<sup>15</sup>

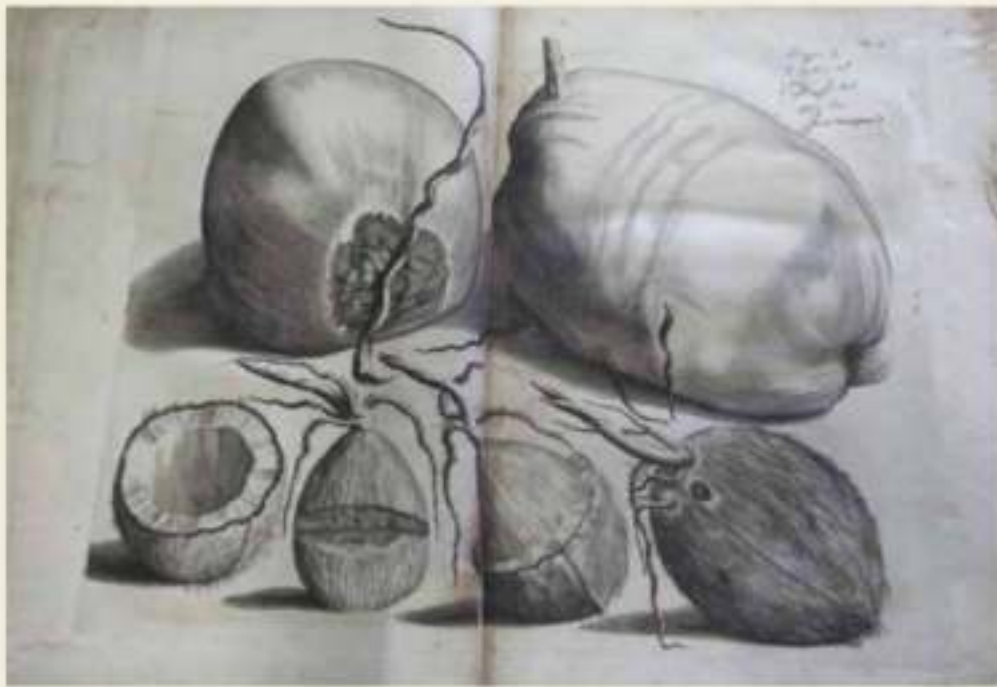
#### FIGURE ACKNOWLEDGEMENTS

All images are photographed by Steven Pocock. Courtesy Wellcome Collection, London.

#### NOTES

- 1 <https://wellcome.ac.uk/about-us/history-wellcome> (accessed on July 25, 2018).
- 2 Wellcome Library Archives, correspondence between Wellcome Historical Medical Museum curator C.J.S. Thompson and Wellcome's India-based collecting agent Dr Paita Mall. WA/HMM/CO/Eat/564.
- 3 Frederick Power, *Wellcome Chemical Research Laboratories*, London: Royal College of Surgeons of England Anglo-American Exposition, 1914, p. 7: <https://wellcomelibrary.org/item/2486069#c=0&m=0&s=0&cv=76&z=-0.3352%2C0.2738%2C1.8487%2C1.012>.
- 4 Tim Robinson, *William Roxburgh: The Founding Father of Indian Botany*, Chichester, West Sussex: Royal Botanic Garden Edinburgh, 2008.
- 5 Khyati Nagar, “Between Calcutta and Kew: The Divergent Circulation and Production of Hortus Bengalensis and Flora Indica”, in B. Lightman, G. McOuat and L. Stewart (eds.), *The Circulation of Knowledge Between Britain, India and China: The Early-Modern World to the Twentieth Century*, Leiden and Boston: Brill, 2013, p. 163.
- 6 *Analytical Review* 27, 1798, p. 508.
- 7 Mildred Archer, *Natural History Drawings in the India Office Library*, London: HMSO, 1962, p. 21.
- 8 Ray Desmond, *The European Discovery of the Indian Flora*, Oxford: Clarendon Press and the Royal Botanic Gardens, Kew, 1992, p. 48.
- 9 Richard Mabey, *The Cabaret of Plants: Botany and the Imagination*, London: Profile Books Ltd., 2005, p. 235.
- 10 Theresa Kelley, *Clandestine Marriage: Botany & Romantic Culture*, Baltimore: Johns Hopkins University Press, 2012, p. 192.
- 11 Ibid.
- 12 The wove paper used in *Plants* was produced by English paper-maker James Whatman who was the key supplier of the East India Company and had developed a moisture-resistant drawing paper specifically for artists and to meet the demands of engravers. Laurence Chatel de Brancion, *Carmentelle's Landscape Transparencies: Cinema of the Enlightenment*, Los Angeles: J. Paul Getty Museum, 2008, p. 24.
- 13 The official state tree of Tamil Nadu and valuable as a food source, with many other uses.
- 14 For example, Charles Darwin held Roxburgh's work in high esteem, as illustrated in a 1839 letter Darwin wrote to his mentor and teacher J.S. Henslow (*Charles Darwin's Letters: A Selection*, Cambridge: Cambridge University Press, 1996, p. 73).
- 15 Link to digitally accessible copy of Roxburgh's *Plants*: <https://www.biodiversitylibrary.org/item/9711#page/1/mode/1up>.





1.  
Tenga, from Van Reede's  
*Hortus Malabaricus*, Volume I.  
Photograph: Lina Vincent, 2018.

## Palms at the Blatter Herbarium

LINA VINCENT

IN THE HEART OF MUMBAI'S ST XAVIER'S COLLEGE LIES THE BLATTER HERBARIUM, NAMED in 1941 for its founder Father Ethelbert Blatter (1877–1934), a Swiss Jesuit in British India. As a Professor of Botany, he had received a consignment of herbarium species from Coimbatore Herbarium in 1906–07,<sup>1</sup> that inspired him to study them and further develop a platform for laboratory and field analysis of regional plants. Blatter travelled extensively to research and collect flora, making the Blatter botanical collection one of the best in western India. Among his most important contributions were a set of articles written and published between 1904 and 1918 titled “The Palms of British India and Ceylon, Indigenous and Introduced” that were later compiled into a book by Oxford University Press.<sup>2</sup> In the volume, Blatter gratefully acknowledges O. Beccari, J.D. Hooker and in particular William Griffith for his drawings, microscopic analysis and description of plants,<sup>3</sup> as well as several others who did valuable botanical work on palms in the latter half of the 19th century.

Blatter's *Palms* provides extensive descriptions of palm flora and seed supported with rudimentary line drawings and photographic reproductions that include human figures for scale. Until then, various printmaking techniques—woodcut, engraving, lithography—had been utilized for the depiction and dissemination of botanical specimens. But Blatter himself was in favour of newer technologies, stating in the volume's preface, “Even the most elaborate description and detailed analysis will never, in that respect, come up to a tolerably good photograph.”<sup>4</sup>

Despite Blatter's views, however, printmaking—as photography's predecessor in making multiple copies—has been enormously successful in reproducing botanical nature

2.  
Fichi del l'India, from Cristóbal Acosta's *Tractado*, f56.  
Courtesy Blatter Herbarium.

3.  
Trattato del l'elefante, from Cristóbal Acosta's *Tractado*, f320. Courtesy Blatter Herbarium.



on the page. Prints are created through a repeated process of ink transfer from a matrix (that holds the reverse of the image) to another surface like paper using a press. This could be surface-relief printing as in woodcut or lithography—or intaglio methods in which the ink is drawn onto the paper from thin grooves on a metal matrix. The Blatter Herbarium holds several treasures of printed botanical art: five original volumes of Adriaan Van Reedé's *Hortus Indicus Malabaricus* (1678–93), older books including Cristóbal Acosta's *Tractado de las drogas y medicinas de las Indias Orientales* (1578), Garcia da Orta's *Colóquios dos simples e drogas da India* (1563) and Robert Wight's *Icones Plantarum Indiae Orientalis* (1840–53).

The Palm family (*Arecaceae*) is distinctive in its formal characteristics—slender trunk, rhythmic fan-like leaves, globular fruits and profusion of flowers—that lend themselves beautifully to linear and compositional arrangements in the print medium.

In *Hortus Malabaricus*, Van Reedé described nine palm species under seven genera. Volume 1 opens with four double-folio copperplate engravings of Tenga (*L. Cocos nuciferos*). As in most printing projects, the artist was distinct from the engravers. While the first drawing features a full composition of a young and mature tree, with finely rendered fronds and naturalistic curve of the trunk, the next two are creatively composed toward the centre of the folio spread, showcasing complex clusters of floral bouquets and a bunch of fruits, respectively. The strength of line in building depth and volume is apparent in both, as well as in the final spread depicting solid forms of mature coconuts (figure 1).<sup>5</sup>

Though Cristóbal Acosta's *Tractado* borrowed extensively from Orta's earlier published work, it enjoyed greater popularity because of 23 woodcut illustrations.<sup>6</sup> It contains an entire chapter on Palms ("Della Palma, et, del suo Frutto", f76), with illustrations in graphic black and white line, composed on plates that were forced to inhabit the rectangular space within a folio. The banana or "Fichi del l'India" (f56, figure 2) exhibits the typical stylization of these drawings, with strategic thick and thin lines being the only artistic device offered by woodcut. Similarly, "Avellana Indica" (f72) exhibits core elements of the Arecanut tree



with strict economy of line and tight compositional space. Interestingly, the only image of a coconut palm appears as a visual prop in the final chapter, extending the narrative of the elephant on its home turf (F320, figure 3).

Robert Wight's *Icones Plantarum Indiae Orientalis* or *Figures of Indian Plants*, while being a compilation of flora from Madras, famously lacks any prints of palms. "Wight was a great believer in the power of images, and in the context of botanical illustration wrote that: 'the insufficiency of language alone to convey just ideas of the forms of natural objects has led naturalists, ever since the invention of engraving, to have recourse to pictorial delineation to assist the mind through the medium of the senses.'<sup>7</sup> Significantly, he employed skilled local artists to make drawings and used lithography to reproduce them. Invented in Germany in 1796 by Alois Senefelder, lithography—based on the repelling of grease by water—was adopted in India as being simpler and cheaper than engraving. Wight learnt lithography and bought a press, but facing difficulties he employed instead Winchester and Dumphy in Madras to print his *Icones Plantarum*. His artists Rungiah and Govindoo had many drawings attributed to them, but the lithographer often composed many parts of their drawings to accommodate them in the same plate, sometimes losing the fine detailing of form in the illustration. Despite this, the quantity and quality of images distributed through lithography transformed the history of botanical art in India.<sup>8</sup>

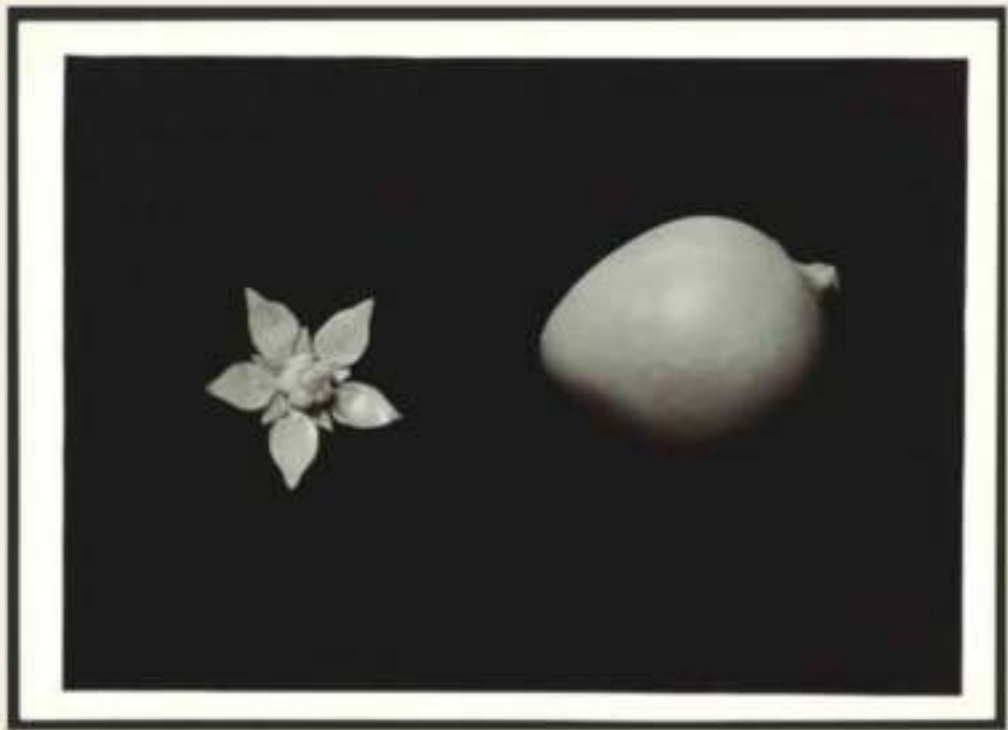
Notwithstanding the long history of traditional printmaking techniques—which continue to be practised by contemporary artists—it seems that the botanical sciences (with their taxonomic focus on plant identification) no longer see them as relevant. Here the Blatter Herbarium is no exception. From its promising beginnings under Father Blatter, today it is an internationally recognized centre for taxonomic studies, holding 300,000 botanical specimens. As exemplified in the prints reproduced here, Blatter's Herbarium also remains a valuable source for botanical art—a site for the preservation of irreplaceable heritage including original woodcuts, engravings and hand-coloured lithographs.

#### ACKNOWLEDGEMENTS

Thanks to Dr Rajendra Shinde (Director, Blatter Herbarium and Principal, St Xavier's College) and Praveen V. Kale (Assistant Curator, Blatter Herbarium) for their assistance.

#### NOTES

- 1 Fr. H. Santapau, SJ FNI, *The Blatter Herbarium*. Reprinted from "Madras State Herbarium 1853–1953 Centenary Souvenir", August 20, 1954, pp. 38–47.
- 2 [https://en.wikipedia.org/wiki/Blatter\\_Herbarium](https://en.wikipedia.org/wiki/Blatter_Herbarium). Ethelbert Blatter SJ, *The Palms of British India and Ceylon, Indigenous and Introduced*, London: Oxford University Press, 1926.
- 3 William Griffith, *Palms of British East India*, posthumous papers bequeathed to the East India Company—arranged by John McClelland 1850.
- 4 Blatter, *Palms*, Preface, p. i.
- 5 The palm species is remarkable for its healing, nutritional and shelter-giving abilities, and for its association with fertility. It has been symbolically considered the sacred "Tree of Life" in West Asian and Indic cultures.
- 6 Orta's *Colóquios* lacked visuals; however in the supplement to Carolus Clusius' Latin translation of *Colóquios*—are included woodcuts of four Indian species—banyan, black pepper, betelnut and coconut.
- 7 Henry Noltie, "Robert Wight and the Illustration of Indian Botany—The Hooker Lecture" (December 8, 2005), *The Linnean*, Special Issue No. 6, 2006, p. 8.
- 8 Wight himself produced *Illustrations of Indian Botany* containing hand-coloured lithographs.



## Harvard's Blaschka Glass Flowers

RISHIKA MEHRISHI

WHEN GEORGE LINCOLN GOODALE BECAME THE HARVARD UNIVERSITY Botanical Museum's first director in 1879, he started a desperate search for botanical teaching aids that—in their precision and rigour—would match the “faultless” displays of the zoological and mineralogical departments. In an 1893 report, he criticized the limitations of two-dimensional flower drawings or dried specimens that get distorted and decoloured, and even bemoaned the three-dimensional possibilities: “flowers, when copied in wax, become like the cheerless elements of funereal wreaths; when given in papier-maché, they are necessarily exaggerated and grotesque. What remains? In what material can plants and their magnified parts be rendered permanent?”<sup>1</sup> German glass artists Leopold Blaschka (1822–95) and Rudolph Blaschka (1857–1939) were the answer to Goodale's conundrum.

The father-son duo was already popular among private collectors and museums in the late 1880s for their impeccable, intricate glass models of marine invertebrates.<sup>2</sup> Blown away by the models' life-like quality, Goodale visited the Blaschkas' Dresden workshop, and convinced them to shift their focus from sea creatures to solely create botanical models, exclusively for Harvard.<sup>3</sup> With the generous support of Boston-based benefactors Elizabeth C. and Mary Lee Ware, Harvard University created what is now officially known as the “Ware Collection of Blaschka Glass Models of Plants”, or, to its numerous fans, simply the “Glass Flowers”.

Out of about 4,000 models that Harvard acquired between 1887 and 1936, only a few hundred are currently on display. Among these is a model of the mango (*Mangifera indica*) that was created after son Rudolph Blaschka's visit to study flora in North America

1. The exquisite model on the left shows the five-petaled mango flower magnified ten times. The fruit on the right is made to scale. Both are masterpieces of artistic skill and botanic identification. Courtesy The Archives of Rudolf and Leopold Blaschka and the Ware Collection of Blaschka Glass Models of Plants, Harvard University Herbaria.



and Jamaica. In a letter written from Jamaica to his father in 1892, young Rudolph shared the joy of seeing several tropical fruits and flowers in their “massive” scale, unlike what grew in their greenhouse in Germany.<sup>4</sup> The result was an elaborate model of several parts of the mango tree representing typical Blaschka artistry with clear and coloured glass, wire, and occasional use of pigments and glue.<sup>5</sup> The fruit and flowering branch with leaves are made to scale in perfect bloom while a single flower, stamen, and pistil are magnified 10–50 times for pedagogical purposes (figures 1 and 2). Known as the “apple of the tropics” with its origins in India, *Mangifera indica* is displayed next to its cousins from the *Anacardiaceae* family—the tropical American “Cashew Tree” (*Anacardium occidentale*) on the left and “Peruvian Pepper” (*Schinus molle*) on the right.

Often called “more authentic than their originals in Nature”, the Glass Flowers completed Goodale’s vision of securing botanical specimens in their permanent, unblemished bloom.<sup>6</sup> The Blaschkas’ extraordinary skill of making these glass flowers was not about representing the specimens in their utmost perfection: they played not only with scale, but also depicted a shrivelled daylily, rotting apples, a bee pollinating a *Papbiopedilum insigne* flower, and fungal strawberry leaves. Thousands visit Harvard’s Natural History Museum each year to marvel at the precarious glass blooms secured behind cherry cabinets. They have become ultimate museum art objects, where wonder over their artistry has outstripped their original pedagogical purpose.



2. This mango branch with leaves, buds and flowers represented in perfect panicles is the centerpiece of the Blaschkas’ *Mangifera indica* or “Model no. 554” made in 1895, currently on display at Harvard’s Natural History Museum. Courtesy The Archives of Rudolf and Leopold Blaschka and the Ware Collection of Blaschka Glass Models of Plants, Harvard University Herbaria.

#### ACKNOWLEDGEMENTS

Special thanks to Jennifer Brown (Collection Manager, Ware Collection of Blaschka Models of Plants, Harvard University) and Rebecca Hopman (Outreach Librarian, Rakow Research Library of The Corning Museum of Glass).

#### NOTES

1. George Lincoln Goodale, “The Blaschka Glass Flower Collection”, *The Harvard Graduates’ Magazine*, 1, 1892–93, pp. 602–03.
2. Apart from Harvard, and several collectors in Europe, a few specimens of marine invertebrates were also bought by museums in Calcutta, Jaipur and Lahore. For more, see [https://dm.cmog.org/blaschka/blaschka\\_web.html](https://dm.cmog.org/blaschka/blaschka_web.html) (accessed on June 30, 2018).
3. Susan Rossi-Wilcox, “A Brief History of Harvard’s Glass Flowers Collection and Its Development”, *Journal of Glass Studies*, 57, 2015, pp. 197–211.
4. Letter from R. Blaschka to L. and C. Blaschka, March 6, 1892 (translated), the Archives of Rudolf and Leopold Blaschka and the Ware Collection of Blaschka Glass Models of Plants: Blaschka Studio Correspondence 1892: Botany Libraries, Archives of the Economic Botany Herbarium of Oakes Ames, Harvard University Herbaria, Cambridge, Mass. <http://nrs.harvard.edu/urn-3:FMUS.WARE:22853358?n=59> (accessed on July 9, 2018).
5. It is often claimed that the Blaschkas’ process of making the glass models died with the father-son duo, and only Goodale and benefactor Mary Ware were allowed to watch them in action at their Hosterwitz workshop. The technique—that involved working the hand-crafted glass under heat, instead of blowing it—was detailed in Mary Lee Ware’s 1928 letter published as “How Were the Glass Flowers Made?” in *Botanical Museum Leaflets* (Harvard University), 19(6), January 9, 1961, pp. 125–36.
6. Lorraine Daston (ed.), *Things that Talk: Object Lessons from Art and Science*, New York: Zone Books, 2004, p. 22.



## Jagadish Chandra Bose and Plant Autographs

EMILIA TERRACCIANO

**B**ENGALI POLYMATH SIR JAGADISH CHANDRA BOSE (1858–1937) IS BEST KNOWN FOR his pioneering contributions to the fields of microwave physics, optics, radio, wireless telegraphy and science fiction. Bose was also a botanist and plant physiologist whose experiments in the world of plants led him to merge the boundaries of what had been historically separate disciplines—botany and physics—to develop the nascent field of biophysics.<sup>1</sup> Amongst the first to advocate the view that plants are active and exploratory organisms, capable of remembering and learning from experience, Bose believed that vegetal life was the shadow of human life.<sup>2</sup> To back these findings he focused his experiments on the mimosa plant and designed the extraordinarily delicate High Magnification Crescograph machine to produce what he called “plant autographs”. These autographs conveyed in graphic form the plant’s growth under stimuli and were used to support the view that the vegetal kingdom, although seemingly mute, was not passive, mere morphological stuff subject to the botanist’s dissecting gaze; plants could “chronicle” their inner life for the human eye if equipped with the appropriate technology (figures 2 and 3).<sup>3</sup> Reformulating the coordinates of the visible world, Bose transfigured the very possibilities of what could be seen and was feted by his colleagues and artist friends at the time.<sup>4</sup> Indeed as Nobel Laureate Rabindranath Tagore put it: “nature spoke to this brilliant empathetic man.”<sup>5</sup>

According to an apocryphal story dated 1921, Bose turned to the world of plants and the realm of botany after encountering an unidentified “roadside weed in Calcutta”; from

1. Jagadish Chandra Bose Demonstrating His New Apparatus, by Gaganendranath Tagore, 1925 (before restoration). Watercolour on paper. Courtesy J.C. Bose, Science Heritage Museum, Acharya Bhavan J.C. Bose Trust, Kolkata.





2. Pages from Experimental Notes, Graphs etc.: The Electric Phytograph (?), by Jagadish Chandra Bose. Courtesy Bose Institute, Kolkata.

3. Pages from Experimental Notes, Graphs etc.: Photograph of Balsam drooping under drought and subsequent survival under irrigation, by Jagadish Chandra Bose. Courtesy Bose Institute, Kolkata.

then onwards, his entire trend of thought moved “from the study of inorganic matter to that of ‘organised life’”.<sup>6</sup> The mysterious weed could well have been the tropical plant *Mimosa pudica*, known in Bengali as Lajjabati, meaning “coy maiden”, and in Hindi as Lajwanti or Chui Mui. In Telugu it is called Attaapathi, and Thottavadi in Malayalam, literally meaning “that which wilts on touch”. This perennial creeper-plant of the pea-legume family (*Fabaceae/Leguminosae*) is noted for its highly touch-sensitive leaves. With their rich illustrations of flora, Bose’s own botanical notebooks list the numerous and often affectionate names accrued by the mimosa that attest to the historically shared, global infatuation with this plant. Various known across the Western world as Humble Plant, Sleeping Grass, Prayer Plant and Touch-Me-Not, the mimosa is a popular house plant in Asia, known as Makahiya meaning “shy” in Filipino, Mori Vivi or “shame” in the West Indies, and translated as “shyness grass” in Chinese.<sup>7</sup>

The mimosa, displaying apparent elements of a nervous system, had been central in 18th- and 19th-century English literary culture and natural history circles which featured analogies between animal and plant worlds. The mimosa variously became a bawdy metaphor for male and female genitalia (James Perry’s “Mimosa: or, The Sensitive Plant” of 1779, a poem that contained explicit botanical phallic imagery and was dedicated to botanist Joseph Banks); a symbol of humanized sensitivity (William Cowper’s “The Poet, The Oyster, and Sensitive Plant” of 1782); and a means to explore sentience in nature and human feeling (Percy Bysshe Shelley’s “The Sensitive Plant” of 1820).<sup>8</sup>

Although the mimosa appears in Darwin’s *The Botanic Garden* (1791), it was Bose who for the first time sought to make the touch-sensitive plant “speak”, along with *Codariocalyx motorius* (the Indian Telegraph Plant), a plant that performed apparently spontaneous movement.<sup>9</sup> Driven by his desire to unify principles underlying behavioural disparities and congruities between animals and plants, Bose created a number of highly complex, minute clockwork instruments. These enabled him to simultaneously measure bioelectric potentials of the mimosa and to quantify visually its very small and slow movements—movements that were hidden or invisible under normal conditions and therefore only available to machine-perception.<sup>10</sup> The crescograph in particular, an incredible instrument capable of recording plant growth under the influence of various stimuli (gases, temperature, chemicals, electricity) measured increments of growth at intervals of a second, magnifying plant response up to 10,000 times.<sup>11</sup> The stuff of science fiction, such visionary findings are





4. A botanical cartoon by Gaganendranath Tagore, 1915. Watercolour on postcard. Courtesy Victoria and Albert Museum, London.

5. Inanimate Scream, Inanimate Nature Responding to the Professor's Musings, by Gaganendranath Tagore, 1921. Watercolour on paper. From the series *Reform Screams*. Reproduced in *Modern Review*, xxx (1), July 1921, not paginated. Tagore wrote a humorous and extended caption to accompany the cartoon on pp. 122–24.

featured in a 1925 watercolour by Gaganendranath Tagore (figure 1). We find Bose operating the crescograph in the quietude of his futuristic laboratory, contemplating a plant autograph performed by the mimosa pictured below. Bose's attention appears seemingly transfixed on the luminous autograph, projected in the form of a magical, uninterrupted film strip above him.<sup>12</sup>

Bose's identification of a fundamental physiological motif linking measured pulsations in cellular electric potentials with oscillations in cell turgor pressure, cellular contractility and growth, led him to postulate that plants and animals share essentially similar fundamental physiological mechanisms.<sup>13</sup> Flying in the face of Victorian mechanistic philosophies of science, the view that plants are sensate and intelligent explorers of the world rather than passive automata caused much stir in London, particularly amongst members of the botanical Linnean Society.<sup>14</sup> Described in terms similar to Mary Shelley's novel *Frankenstein*, Bose's plant experiments tapped into broader colonial fears, particularly in Britain, challenging the anthropocentric position of humans as central forces in the world. Bose disrupted visions of purity, unsettled distinctions between human and non-human worlds and raised questions about science, death and the limits of human agency. Gaganendranath Tagore humorously capitalized on these anxieties surrounding plant intelligence in his botanical cartoons (figure 4). Shedding light on the transformations effected by colonialism on young elite Bengali students, Gaganendranath offers a bleak analogy to comment on the dubious, enlightened mutation of the *bhadralok* from seed, to plant, to hybridized human. In another painting (figure 5) we are invited to step into a rebellious and potentially aggressive plant world, in which we hear the Swadeshi chants of "Bande Mataram" and "Strike Strike!"<sup>15</sup>

What Gaganendranath's playful, science-fiction botanical testimonies evidence is Bose's own remarkable tuning into nature. The mimosa, and the rest of the vegetable kingdom, despite their apparent lack of eyes, ears or brain, accumulate knowledge in similar ways to animals just as Bose had anticipated. Bose's discoveries continue to inspire visual artists



working with plants worldwide as well as plant neurobiologists studying kin-recognition, complex foraging strategies, intelligence and long-distance chemical, molecular and electrical signalling.<sup>16</sup> The mimosa continues to speak and Bose, through his empathetic experiments, taught us how to listen to it.

#### NOTES

- 1 V.A. Shepherd, "At the Roots of Plant Neurobiology: A Brief History of the Biophysical Research of J.C. Bose", *Science and Culture*, May–June 2012, p. 196.
- 2 Jagadish Chandra Bose, *Plant Autographs and Their Revelations*, New York: Macmillan, 1927 (1st edition 1914), p. 2.
- 3 Shepherd, "At the Roots of Plant Neurobiology", p. 203.
- 4 The Royal Botanic Garden in Kolkata was renamed the Acharya Jagadish Chandra Bose Indian Botanic Garden in 2009.
- 5 Rabindranath Tagore in Sisir Kumar Das, *The English Writings of Rabindranath Tagore*, Vol. III, New Delhi: Sahitya Akademi, 1966, pp. 826–29.
- 6 Jagadish Chandra Bose quoted in Ashim Kumar Mukhopadhyay, *Colonialism, Nationalism and Scientism: A Study of Acharya Jagadish Chandra Bose*, Kolkata: K.P. Bagchi & Co., 1995, p. 63.
- 7 All the names listed come from Bose's own diaries stored at the Jagadish Chandra Bose Institute, Kolkata. I thank Sita Reddy for pointing out mimosa's other identities and lives.
- 8 Richard Mabey, *The Cabaret of Plants: Botany and the Imagination*, London: Profile, 2015, pp. 329–38.
- 9 See Pratik Chakrabarti, *Western Science in Modern India*, Delhi: Permanent Black, 2004.
- 10 Bioelectric potentials are currents produced by or occurring within living organisms. These are generated by a variety of biological processes and generally range in strength.
- 11 Shepherd, "At the Roots of Plant Neurobiology", p. 196.
- 12 For more on Gaganendranath Tagore see Emilia Terracciano, *Art and Emergency: Modernism in Twentieth-Century India*, London: IB Tauris, 2017.
- 13 Shepherd, "At the Roots of Plant Neurobiology", p. 196. Bose was a prolific writer; his publications include: *Response in the Living and Non-Living* (1902); *Researches on Irritability of Plants* (1913); *Plant Autographs and Their Revelations* (1914) and *The Nervous Mechanism of Plants* (1926).
- 14 Bose presented his findings at the Linnean Society in 1902. See Patrick Geddes, *The Life and Works of Sir Jagadish Chandra Bose*, London: Longman, Green and Co., 1920, pp. 146–47.
- 15 Gaganendranath Tagore, *Modern Review*, xxx(1), July 1921, not paginated.
- 16 See Rebecca Graham, "Greenhouse Experiments Show Plant's Long-term Memory", March 27, 2014. Retrieved on May 22, 2017 from: <https://phys.org/news/2014-03-greenhouse-long-term-memory.html>.











## Sunoj D.

What is a sky without the water, what is soil without the light, what is air without the plant and what is a plant without its comrade?

"Somewhere between living and dying" by Sunoj D. emerged from this premise, drawing inspiration from research on *Hortus Malabaricus* (Garden of Malabar). *Hortus Malabaricus* is a botanist's paradise, where each plant is meticulously examined and illustrated to the minutest detail of every vein. But when each plant was studied in isolation, what happened to the sky, the air, the light, the water, the other plants in the community and the songs of the hands that knew what each plant did and did not?

"Somewhere between living and dying" reverses this process of isolation. The work unfurls as a scroll where the plants as illustrated in the *Hortus Malabaricus* were redrawn, overlapping each other, creating a visual illusion of a sacred forest in conversation; with the juxtaposition getting progressively darker towards the end of the scroll. "Somewhere between living and dying" suggests that the beauty of nature lies in the vicious duality of the manner in which historical knowledge posits that a plant could either kill you or cure you.

What emerges from this work is a cacophony of relationships—of comradeship and war, of survival and growth, of conversations and silence—all manifesting quietly and sometimes violently around us. The sky with the plant, the air with the soil, the hands with the roots, the sound with the light and the water on skin. When each plant, each leaf, each root grows in communion with the other, beneath and above the land, absorbing, mutating and evolving over generations in a space, how can one understand a single plant in isolation? How can one forge a relationship without seeing all the relationships that unfold in a forest? How can one understand the complexity of that forest without hearing their sounds of living?

As told to Namrata Neog

1 and 2. Somewhere between living and dying, by Sunoj D., 2013. Exhibit and detail from the scroll displayed at the Natural History Museum, London.

### FIGURE ACKNOWLEDGEMENTS

The images are courtesy the artist and the Natural History Museum (NHM), London.

# Rohini Devasher

...for that which we imagine must be either something already seen or a composite of things and parts of things seen at different times; such are sphinxes, sirens, chimerae, centaurs etc.

—Galileo Galilei, Sagredo quoted from the *Dialogue Concerning the Two Chief World Systems (Dialogosoprai due massimisistemi del mondo)*, 1632.

British artist Paul Morrison has described his interest in "cognitive landscape. the terrain that one sees, somewhere behind the eyes". This idea of a landscape that looks back, of a nature that is non-passive, in turn idyllic, uncanny, threatening and seductive, is something I have been working with for some time now.

My training as a printmaker provided the foundation for my interest in self-organization of pattern in nature. This led to experiments with video-feedback and the idea of the gradual articulation of a surface became the means to construct something entirely new.

Similar to kaleidoscopes, video-feedback is created when an ordinary hand-held camera is plugged into a TV and pointed at itself. The optical equivalent of acoustic feedback, a loop is created between the video camera and the television screen or monitor. Through a process of trial and error, it becomes possible to explore a vast arena of spontaneous pattern generation by varying the available controls (brightness, contrast, hue, focus, camera angle etc.). The result is an amazing array of spatio-temporal patterns, mimicking those exhibited by physical, chemical and biological systems, i.e. plant structures, tree forms, bacteria, snowflakes.

1.  
Seed, by Rohini Devasher, 2004. Charcoal, acrylic, colour pencil, oil pastel, wood; 245 x 457 cm. "Seed" is the first of several wall drawings that explore landscape as a living entity. Through the process of the drawing, done on site over three months, the relationship between the drawing and the forms from which it is derived is gradually blurred. The curve of the wall further heightens the sense of being engulfed, of being destabilized.

2.  
Arboreal, by Rohini Devasher, 2011, single-channel video, duration 16 minutes. "Arboreal" began with an exploration of L-systems, a formal grammar most famously used to model the growth processes of plant development, introduced in 1968 by the Hungarian theoretical biologist and botanist Aristid Lindenmayer. "Arboreal" or "relating to or resembling a tree" is not modelled on any algorithms or programs. This slowly growing tree was constructed through the gradual manual layering of more than 700 individual layers of video.

*What happens in the case of mutation? Consider the example of the genetic code. Mutation normally occurs when some random event (for example, a burst of radiation or a coding error) disrupts an existing pattern and something else is put in its place instead. Mutation is crucial because it names the bifurcation point at which the interplay between pattern and randomness causes the system to evolve in a new direction.*

—N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*, University of Chicago Press, 1999.

Where Freud held that the uncanny is very often neither supernatural nor particularly mysterious in its origin, but rather, completely familiar, conversely I am interested in working with material that is quite extraordinary in its origins, and its subsequent making into the familiar, the almost mundane. Yet, because of the nature of its origins, it retains a quality of the uncanny. A tree is many things; it could be bone, or cartilage, but, bone or cartilage that is digitally generated via the process of video-feedback. The flower appears to be not quite plant, not animal, nor human, not exactly machine, but something else entirely; something of all those, but none of them alone. The result is a feeling of it being uncomfortably strange or uncomfortably familiar.

These creatures exist because of processes of both embodied and disembodied digital mirroring. They are both material and method, object and subject, of the machine and the viewer.

## FIGURE ACKNOWLEDGEMENTS

The images are courtesy the artist and Project 88, Mumbai.







## Meena Subramaniam

1. Spring in Waltere, by Meena Subramaniam, 2017. Acrylic on canvas; 80 x 109 cm. This is inspired by a visit to a birding lodge in Dehradun and depicts *Beaumontia grandiflora*.

2. Blue Tales, by Meena Subramaniam, 2018. Acrylic on canvas; 121 x 91 cm. Two red-billed blue magpies and other birds are set against a *Passiflora* creeper that has crept into the woodland.

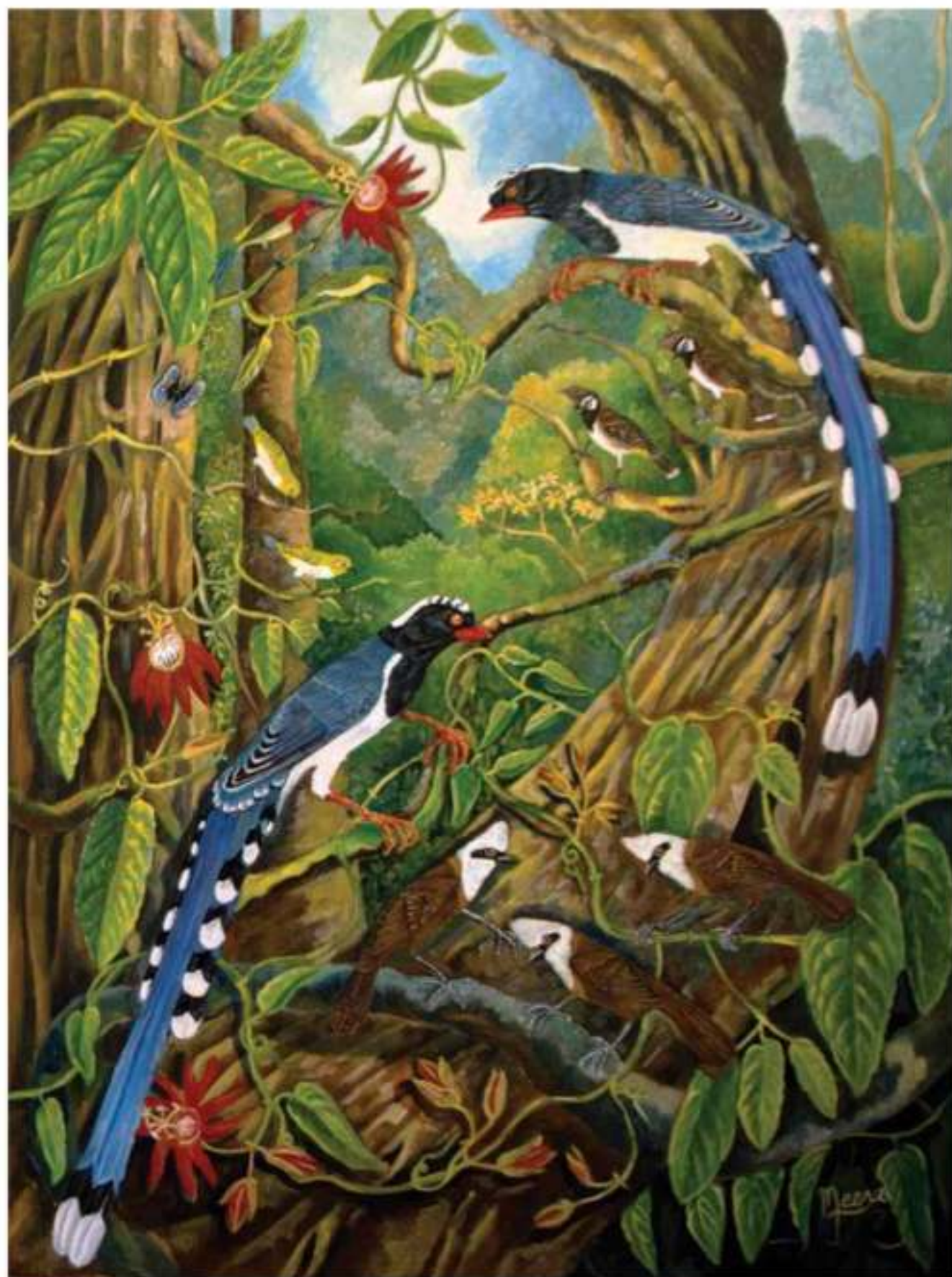
As a self-taught artist who takes inspiration from Marianne North (1830–90), a pioneering 19th-century English botanical artist who travelled the world, I credit floral and faunal wildlife as my true educators. My life-size paintings combine keenly observed naturalism with an element of magic realism. The paintings do not focus on individual plants but instead aim to conjure up rich bio-diverse zones of predominantly hill and mountain flora and fauna—focusing on rare balsams, orchids and ferns—particularly areas around my home in the Western Ghats and in remote parts of northeast India, often referencing digital images to ensure accurate depictions of botanical species.

I work with acrylic paints, the flexibility of which lends well to the signature *trompe l'oeil* effect that I strive to achieve in my works on canvas. I use a technique that interpolates light and dark pigments, creating grainy textures and varied tonal values.

### FIGURE ACKNOWLEDGEMENTS

The images are courtesy the artist.









*Demodar*





## Damodar Lal Gurjar

I draw much of the inspiration for my paintings from native gardens and crop fields. I am particularly drawn to botanical specimens that are rich in colour, and have intricate textures and structures. Watercolour is my preferred medium and my artistic process has several stages. Following early botanical artists, I lay emphasis on keen observation of the actual specimens, which I then draw and occasionally photograph. In the final composition, careful consideration is given to the colour balance of the plant components. While painting the final image—for which I use watercolours, sable brushes and smooth hot-press and cold-press paper—I work with a mix of colours which are consistent with the specimen, and a range of techniques like tempera, to carefully describe the unique beauty of the specimen as well as its scientific botanical structure.

### FIGURE ACKNOWLEDGEMENTS

The images are courtesy the artist.

1. Indian Jujube trunk (*Ziziphus mauritiana*), by Damodar Lal Gurjar, 2017. Tempera on paper; 45.7 x 30.4 cm.
2. Indian Almond (*Terminalia catappa*) leaf and fruit, by Damodar Lal Gurjar, 2017. Tempera on paper; 38.1 x 55.8 cm.



## Mahaveer Swami

In my work, I draw on a diverse range of artistic traditions and practices ranging from the art of illustrated folios of the medieval era to the continuum of the living arts in today's India. I have developed a style of my own that brings together decorative ornamentation with abstractions derived from the natural world. I use traditional techniques and material, layering sheets of handmade paper that are better suited to pigment colours. I also use silk pasted on board and other types of acid-free paper for my paintings. My palette derives from natural pigments such as lapis, malachite, mica and other earth stones, sourced during my travels across India, as well as some rare indigenous minerals and pigments like *bara bhata*, *shilu*, *munga* and *gougali*, which were collected by my forefathers. Minerals are ground with a variety of fine *kharai* (mortars and pestles) for the desired consistency and are then mixed to get different shades and tones for a rich and varied palette.

My four-stage process starts with making the basic layout on paper; this is known as *khaka* in the local dialect. This is followed by *bharai* or colouring in many layers, then *chirai* to draw a fine and firm line, and finally *pakai* or the finish, where the painting is embellished with *pradasb* or fine strokes to create velvety textures using brushes made of slender squirrel tailhair. Other techniques that I employ include *sujan*, where a master drawing is transferred to another composition by passing pigment through minutely pinned holes. I also use a drybrush technique that is popular worldwide among botanical artists. Through the entire preparation of the artwork, the technique of *gbutai* or burnishing is done at every stage of colouring and line work, in which the surface of the painting is burnished with *akik* or agate stone on both sides of the base so that the pigment bonds with the paper and the painting achieves a jewel-like lustre and sheen.

As told to Anurag Swami

1.  
*Pulsatilla koreana*  
(Grandmother Flower),  
by Mahaveer Swami,  
2012. Natural pigments on  
handmade paper; 16 x 11 cm.

2.  
*Paphiopedilum venustum*  
(Wall. Ex Sims) Pfitzer  
(Orchid), by Mahaveer Swami,  
2018. Natural pigments and  
watercolour on hot-press  
paper; 41.5 x 23.5 cm.

3.  
Mughal Botanicals, by  
Mahaveer Swami, 2017.  
Natural pigments and gold ink  
on layered handmade paper;  
33.5 x 23.5 cm.

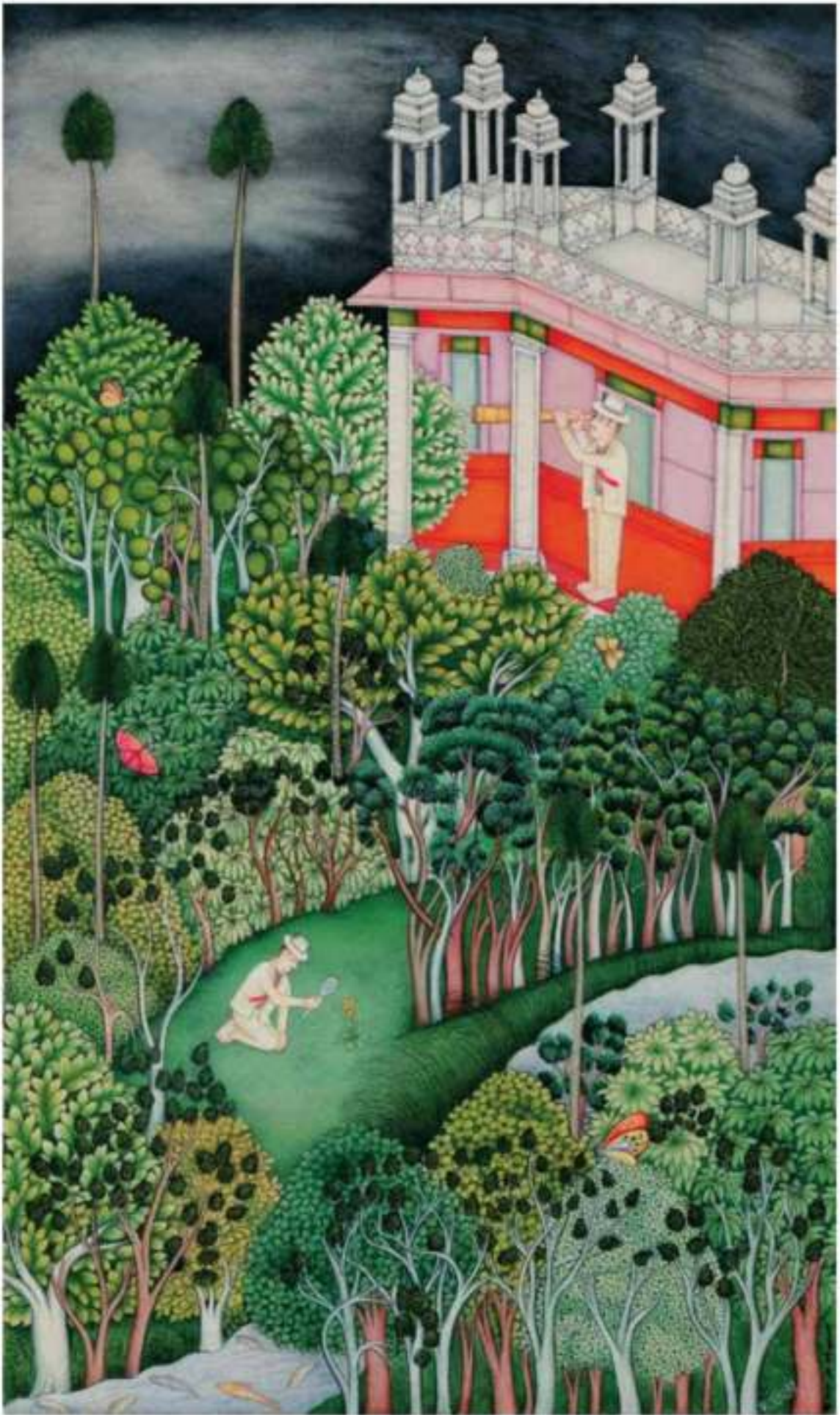
### FIGURE ACKNOWLEDGEMENTS

The images are courtesy the artist.











# Waswo X. Waswo and R. Vijay

As Kavita Singh writes in the introduction to her book *Real Birds in Imagined Gardens* (Getty Publications, 2017), "...stylistic hybridity was a pervasive device in Indian painting and was the result of conscious, willful, and self-reflexive choice. It was produced by dexterous artists for sharp-eyed audiences who together played a game of citation and interpretation." In my decade-long collaboration with the Rajasthani miniaturist R. Vijay (a grandnephew of Ramgopal Vijayvargiya), we have employed this licence of freedom, hopefully astutely and sparingly, while formulating our compositions. As the primary conceptualizer of the series, I sometimes fear I have behaved like a toddler in a playbox, eagerly grabbing at disparate imagery and styles with childlike abandon. Rakesh helps temper this free-spirited contemporaneity, advising with a deeper knowledge of cultural propriety than I've yet to master. Neither of us has rigorously informed academic minds, but we both have a love of picture books, spending long hours looking at and reading about art in all its forms.

Sometimes we have outright stolen, though we do so with homage and acknowledgement. Our latest series, "The Observationist in a Stolen Garden", takes a stroll through the history of Indian miniatures. The gora sahib, always in his white fedora, finds himself surrounded by the lush earthiness of a Kota garden: spindly tall khajur palms, dark agariya bushes and white-trunked arjuna trees. At other times he finds himself in a hybrid landscape of Bundi and Udaipur, with the bending tops of conical saru trees punctuating a fertile landscape of jamun, banana, and mango. In "Picnic", a troop of monkeys enjoys the fruits of a well-tended orchard: papaya, kela, cheeku, mosambi and apple. A detail from "A Dream of Discovery—Homage to Mansur" shows a flowering iris lifted straight from one of his better-known miniatures; the brilliant blue blossoms singing counterpoint to the rich red of the border. In a small untitled work, a seeding gulmohar sheds its soft scarlet flowers in a perfect ring around the gora sahib apparently asleep. Gulmohar petals on his back hint at a very deep and undisturbed rest. We are left with a tension that this quietude of the fedora man might mean something more fearful. I want to shake him myself. Will he wake?

Aged 64, death is something I ponder. Our miniature titled "A Second Dream of Death", with its tarot-card fool carrying his flag and camera blithely over a cliff while all of nature seems to vibrate with joy, reminds us that the world goes on once we're gone. A banyan tree sends its roots downward overhead, a symbol of life's uninterrupted flow. Ferns, banana plants and distant palm trees reinforce that we are in the global South, yet the style has veered into almost that of a Northern European storybook. A few red leaves hint at autumn, just as they do in the chilly late Octobers of Rajasthan. The image I have conceptualized is broadened and deepened by R. Vijay's imaginative skill; the lushness of foliage, or its absence, so often seeming a part of the story.

## FIGURE ACKNOWLEDGEMENTS

The images are courtesy Gallery Espace, New Delhi.

1. The Observationist in a Stolen Garden, by Waswo X. Waswo and R. Vijay, 2017. Gouache on wasli; 30 x 16 cm.

2. Three Nights in Bundi, by Waswo X. Waswo and R. Vijay, 2014. Gouache on wasli; 30.4 x 30.4 cm.





## The Lost Plants Archive

RANJIT KANDALGAONKAR

As part of my work for *Geographies of Consumption*, I revisited the history of loss of flora and fauna due to citywide reclamation of land, a loss that is ongoing in Mumbai.<sup>1</sup> My research-based art installations at two sites—Bombay Natural History Society (BNHS) and the Directorate of Archives—were designed for a particular set of local publics: researchers, scholars and library-goers who access city archives.

My research with retired ecologists suggested that the life sciences use a form of documentation to record flora and fauna stemming from the field of geology, wherein species are located by habitat and identified by *type locality*.<sup>2</sup> Loss, therefore is spoken of as “lost *habitat* of *type localities*” as opposed to “extinction”.

The project also highlighted lost fauna—a pond heron in a tamarind tree at Marine Lines; the last wild tigers shot while the city burgeoned; hammerhead sharks caught in fishing nets; sea-dugongs washed up on Bombay beaches. But here I focus on the specific artworks that had plants, botany and botanicals at their core.

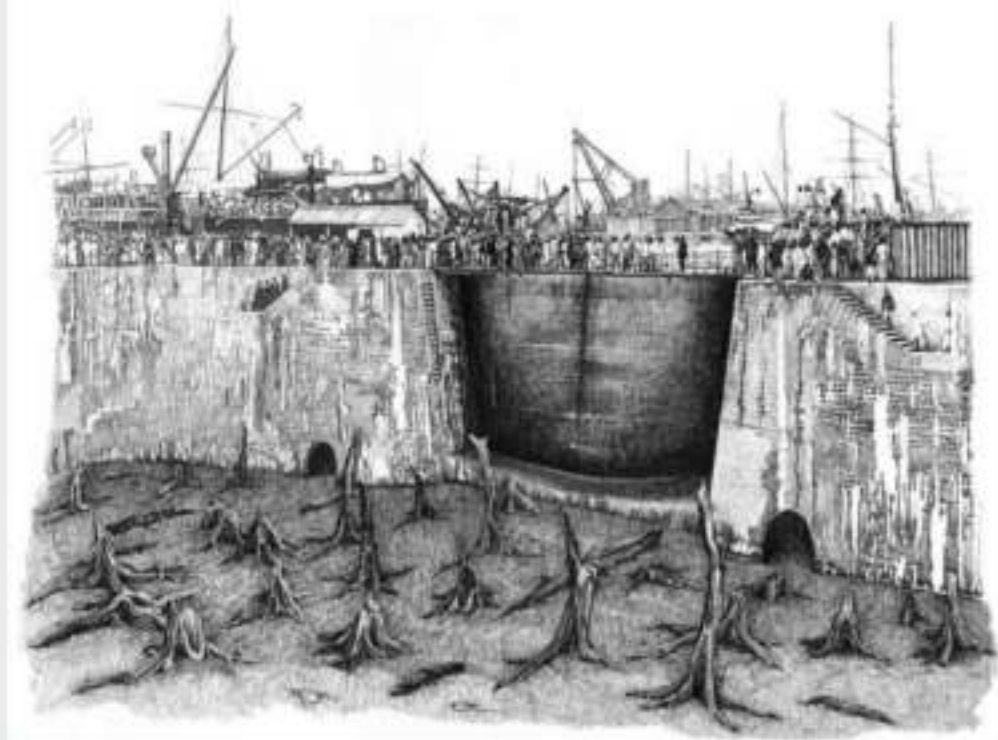
The project relied on three sets of botanical drawings which enacted these “re-readings”: one on lost flora through collated narratives found in archival records; a second on larger ecological transformation due to land reclamation; and a third set on a planetary-survival scenario through reworked Flash Gordon comic-book panels.

Drawings were made on deliberately-aged “official” stationery announcing the loss of habitat of flora in specific areas. Some examples: an artwork specifying the former location of an ancient Mahogany tree in an urban area not hitherto associated with nature, as remembered by Dr B.F. Chhappgar;<sup>3</sup> or a well-known historian describing a submerged forest found at the excavation site of the Prince’s Docks (figure 2);<sup>4</sup> and a sawmill company involved in a 30-year deforestation drive (figure 1).

1. Worli Sawmill Company, by Ranjit Kandalgaonkar assisted by Rhea Shah, 2015. The work included laser paper cut-outs of a grove of palm trees wedged between two research tables referencing the Worli Sawmill Company which was active in deforestation during 1760–90, as gleaned from East India Company records.

2. Submerged Forest, by Polly Phipps-Holland and Tarek Salhany, 2014. Pencil on paper; 29.7 x 42 cm. Collaborators from the project *7 Isles Unclaimed*. The work references the discovery of a submerged forest in the Bombay docks.





These works were placed amongst researchers' tables or hidden on library shelves. Some had overlapping maps, others reworked frames or plaques placed against unused sections in the main catalogue cabinet.

The project was informed by numerous conversations with BNHS stalwarts and enthusiasts who had been active in life science departments in the 1950s, mainly Dr B.F. Chhappgar, whom I interviewed a couple of times. In choosing specific flora, I relied not just on his writings but also on what I perceived as nostalgia for a greener, bio-diverse Bombay—a city-map of loss seen through the lens of scientific knowledge and personal accounts. My work questioned notions of historical recording, and engaged with the act of making within archival spaces that I had been familiar with as a researcher since 2003.

Three years on, the artworks on forgotten species have themselves been forgotten in the archives—that is, some of them were never de-installed. Much like archival records, they remain calcified, hidden: a lost archive of lost plants.

#### NOTES

- 1 *Geographies of Consumption*, 2015, a public art project in Mumbai, was curated by Amrita Gupta Singh and Nikhil Purohit of Mohile Parikh Centre. Two architect colleagues, Deepshikha Jaiswal and Rhea Shah, assisted me with drawings towards my project.
- 2 In botany and zoology specifically—the place in which a type specimen is found.
- 3 Boman Framji Chhappgar (January 1, 1931–August 5, 2018) was an Indian marine biologist specializing in carcinology, and a scuba diver. His famous publication is *Marine Crabs of Bombay State*, published by the Taraporevala Marine Biological Station, Bombay (1957). He also wrote many other books, as well as articles under the pen-name "Beefsea".
- 4 "Further evidence of prehistoric eruption

and depression is furnished by the discovery of a submerged forest below the Prince's Dock. The remains were 32 feet below the high water mark, and consisted of a thick forest of upright stump of trees of a species still existing in the neighbourhood of this island, the Khair (*Acacia catechu*). There were in all 382 trees, 223 still standing erect and 159 prostrate, though still rooted in the soil." Stephen Meredyth Edwardes, *The Rise of Bombay: A Retrospect*, reprinted from the 1901 Census of India Series in 1902 by the Times of India Press, Bombay (India), 345 pages. The book examines the growth of the great Indian port city, giving contemporary statistics as well as recounting its long history before and during British rule (the East India Company had begun trading there in the 1660s).



## Such Treasure and Rich Merchandize

ANNAMMA SPUDICH

In 2008, the National Centre for Biological Sciences (NCBS)/TIFR, Bangalore, hosted a pioneering exhibition, *Such Treasure and Rich Merchandize*<sup>1</sup> that focused on Indian medical and botanical knowledge in 16th–18th-century European books (figure 1).

Shortly after Vasco da Gama arrived in India in 1498, large numbers of Europeans followed and they relied on Indian medical knowledge systems to combat unfamiliar tropical diseases. The NCBS exhibition featured reproductions of excerpts and botanical illustrations from several European books compiled during the period. The books listed below were the focus of the 2008 exhibition in Bangalore and document the extensive knowledge transfer of medical botany from India to the West during the 16th–18th centuries.

- *Colóquios das simples e drogas da India*, Garcia da Orta (Goa, 1563);
- *Tractado de las drogas y medicinas de las Indias Orientales*, Cristóbal Acosta (Spain, 1578), with woodcut illustrations from drawings Acosta made in India;
- *Itinerario*, Jan Huygen van Linschoten (Amsterdam, 1596), with maps and woodcuts of life in India;
- *The Great Herball*, John Gerard (London, 1597), with woodcut illustrations of 200 Indian plants;
- *Hortus Indicus Malabaricus*, Hendrick Adriaan Van Reede (Amsterdam, 1678–93), 12 volumes with copperplate engravings of 742 plants.

Viewers entered the exhibition at the NCBS through a textile drop-down of the Indian Fig Tree, from *The Great Herball* (figure 2). The highlight of the exhibition was the *Hortus Indicus Malabaricus*, the most extensive study of Asian medical botany published in Europe before the 19th century.<sup>2</sup> Images of selected botanical illustrations from all 12 volumes of the original Latin edition of *Hortus Malabaricus*, with curator's descriptive texts, were reproduced on free-standing panels in halls and in an herbal garden at the NCBS; with 50 plants listed in the *Hortus Malabaricus* provided by Foundations for the Revitalization of Local Health Traditions (FRLHT) Bangalore.

The double-folio copperplate illustrations with details of flowers and seeds occasionally included additional figures to provide a sense of scale to the images—rare glimpses of daily life in Malabar at the close of the 17th century.

Also displayed at the exhibition were reproductions of handwritten statements by four Indian scholars—Itty Achudem, Ranga Botto, Vinaique Pandito and Apu Botto—whom Van Reede acknowledged as primary sources of the knowledge in the volumes;

1. Cover of exhibition catalogue for *Such Treasure and Rich Merchandize: Indian Botanical Knowledge in 16th and 17th Century European Books*, NCBS/TIFR, Bangalore 2008. <http://www.ncbs.res.in/hortus/hortus.html>.

2. Textile drop-down of Indian Ficus Tree at the entrance to the exhibition *Such Treasure and Rich Merchandize*, NCBS/TIFR, Bangalore 2008. 7 panels; 487.6 x 121.9 cm each, printed on cotton muslin.



a rare example in the annals of colonial botany of crediting the sources of indigenous knowledge.

As one of the first exhibitions combining art, science and social history held in a basic sciences institution, *Such Treasure and Rich Merchandize* was unique in many ways. Formulas of molecules with medicinal properties derived from plants that were displayed were incorporated into several panels. Audiences included members of the scientific community, science and art historians, school children and the general public (a modified version of the exhibition was later installed at the Regional Museum of Natural History, Mysore). Reviews in the media and a scientific journal were positive and appreciative.<sup>3</sup> The herbal garden, two original copperplate engravings from the 17th-century *Hortus Malabaricus* donated to the NCBS, and a quote from Van Reede on Malabar scholars etched on a glass panel in the main lobby, remain at the Centre as reminders of the compelling power of images to convey Indian scientific traditions.

#### NOTES

1. The exhibition was curated by Annamma Spudich and co-curated/ designed by Sarita Sunder (of Trapeze Arts). <http://www.ncbs.res.in/hortus/hortus.html>.
2. D.H. Nicholson, C.R. Suresh and K.S. Manilal, "An Interpretation of Van Reede's *Hortus Malabaricus*, Konigstein, Germany", *Regnum Vegetabile*, 119, 1988.
3. S. Priyadarshini, "Herbs of History", *Nature India*, February 29, 2008, <https://www.natureasia.com/en/nindia/article/10.1038/nindia.2008.133>, doi:10.1038/nindia.2008.133; B.N. Goswamy, "Art & Soul, The Lure of Indian Spices", *Spectrum, The Sunday Tribune*, April 13, 2008, <http://www.tribuneindia.com/2008/20080413/spectrum/art>.



# Botanical Dispersals in *Ayurvedic Man*

**BÁRBARA RODRÍGUEZ MUÑOZ**

On October 12, 1917 C.J.S. Thomson, the curator of Henry Wellcome's Historical Medical Museum in London, sent a letter to Dr Paira Mall that read—

I am asked by them [Wellcome Chemical Research Laboratories] to point out for our future guidance, when similar plants come under your notice with some local reputation that you should obtain:

1. The Native Name
2. The botanical name if possible, indicating the locality in which the plant grows
3. If it's obtainable in quantity and if ample supplies could be got with certainty
4. What price it could be obtained for and transported to this country.

Paira Mall was a doctor born in India and trained in Europe, who was also a scholar of Asian cultures, and a linguist fluent in German, French, Italian, Sanskrit, Persian, Hindi, Punjabi and Arabic. In 1911 he was sent to India to source material related to the "art and science of healing through the ages" for Wellcome's Museum. These words—buried amongst 11 years' correspondence between the two men—reveal that Mall was not just instructed to collect artworks and artefacts, or copy Sanskrit and Persian manuscripts, but also to acquire traditional botanical knowledge by bringing indigenous medicinal plants to the Wellcome Research Laboratories to be used in the manufacture of Western pharmaceutical products. They also reveal that the dispersal of Indian cultural objects during British rule was intrinsically connected to the dispersal of medico-botanical knowledge across the world.

This notion of botanical "dispersal", deeply rooted in Wellcome's institutional history, shaped the curatorial narrative for the 2017 exhibition *Ayurvedic Man: Encounters in Indian Medicine* (figure 2). Taking its title from an eponymous 18th-century Nepali painting, the exhibition traced—through a collection of botanical art, South Asian anatomical maps, Kalighat paintings and medical artefacts—narratives of healing as contested sites of global encounters that expanded new cultural meanings but also consistently misinterpreted and eroticized.

At the centre of the exhibition, the ownership of botanical heritage was problematized by a display of three key illustrated botanicals. Cristóbal Acosta's 1578 *Tractado de las drogas y medicinas de las Indias Orientales*, which aimed to "provide Occidental medicine new remedies from distant lands" was open on a page illustrating black pepper (*Piper nigrum*). In an adjoining glass vitrine were two books: a volume of the exquisitely engraved 17th-century *Hortus Indicus Malabaricus* (a 12-volume botanical tracing the medicinal properties of 742 Malabar plants); and the 1812 *Catalogue of Indian Medicinal Plants and Drugs*, open at turmeric/*Curcuma longa* (figure 1). The display flagged colonial spice trade routes, the gathering and exploitation of indigenous knowledge for commercial purposes, as well as recent legal cases won by the Indian government against US and European patents filed on turmeric and neem's medicinal properties. In the background, Nilanjan Bhattacharya's two-channel video projection *Quiet Flows the Stream* presented two medical practitioners discussing the rapid extinction of botanical plants and uncodified knowledge, evoking





1. Display of *Hortus Indicus Malabaricus*, Hendrik Adriaan Van Reede, 1683–1703, Volume 6; and *Catalogue of Indian Medicinal Plants and Drugs, with Their Names in the Hindustani and Sanskrit Languages*, 1812. From *Ayurvedic Man: Encounters with Indian Medicine*, Wellcome Collection, 2017. Photograph: Thomas S.G. Farnetti.

2. Installation view of *Ayurvedic Man: Encounters with Indian Medicine*, Wellcome Collection, 2017. Photograph: Thomas S.G. Farnetti.



the labyrinthine nature of traditional medicine in India. Botanical art was able to collapse historical record and current discourses in the gallery space, ultimately asking viewers to reflect on ownership: Who owns botanical knowledge? Is it the nation? The global market? The practitioners? Or the commons?

*Ayurvedic Man: Encounters with Indian Medicine*, Wellcome Collection, London, November 16, 2017–April 8, 2018. Curated by Bárbara Rodríguez Muñoz with curatorial advisor Sita Reddy, and new art commissions by Ranjit Kandalgaonkar and Nilanjan Bhattacharya. Exhibition Design by Andres Ros Soto and Graphic Design by Hato.



People often ask artists: what medium do you work in? Or, in a more direct way: what do you do as an artist? It's not an unreasonable question and is often asked with real interest. The truth is that most of us don't have a straight answer, not these days, anyway.

When Sita Reddy invited me to make a new work for this special issue on botanical illustration, I assumed it was because she had seen my becoming-plant photographs—of books and people (mostly me) made into flora. When we met to talk about what might be possible for my contribution, sitting outside a crowded café in London's Victoria Station, Sita reminded me that she had seen an exhibition of mine in 2006 in which I had shown photographs of my going to the spice islands.

I was surprised she knew that exhibition. It had been my first show in New York and, even then, it felt like a too-fragile, or maybe brittle, thread I was trying to pull. I had used an invitation to Manhattan as a way to go to those islands, the Banda Islands in Indonesia. There was no *art* in the photographs, in the sense that nothing had been remade or transformed. They were a mixture of snapshots of a visit to a place, and some more self-consciously formal frames taken on a larger camera.





It's a well-known story by now, that as part of the Treaty of Breda between Britain and The Netherlands in 1667, the British and the Dutch swapped one of the five Banda Islands, Pulau Run, for the island of Manhattan, then called New Amsterdam. It must have been a good trade at the time: nutmeg, for which the Banda Islands were the main source, was valuable and hugely sought after. You might say that each tree, in its time, was like a small oil-well a few centuries later.

Growing up in the shadow of Malacca, as I did—it lies about forty miles south along the coast, and was, at one time, well before that treaty of exchange, the epicentre (as historians like to say) of the spice and especially the nutmeg trade—those islands have always been there in the background, and have always beckoned, and so here, at last, I had permission to go and see them.

I didn't need permission, of course, perhaps permission is the wrong word. In many ways, I reckon my job is figuring out the job; you could say that's my medium. Going to Manhattan by way of the Banda Islands was for me a way to throw into the air for a brief moment a whole lot of dots, like motes in the early-morning shafts of sunlight in these parts—one may or may not want to make them join.

Looking at the proof-sheets of the photographs I took, what I notice most, twelve years later, is how they are vague and seem to be looking at nothing in particular. Maybe it was the old friend in Kuala Lumpur quietly urging me not to go to Banda to "make art" there, worrying that the burnt mosques and churches of the last few years would only ever be seen in narrow, ill-informed and prejudged ways, and why would I want to feed that depressing shallowness. I told him I wasn't going there to "make art" about any of that, but can the threads be separated?



"The asymmetrical occupation of the page, the apparently arbitrary cropping of the specimen at the top, bottom, or side of the sheet, the equally arbitrary chopping off of pieces of leaf and root . . . elegant script-like curves, and fine-point tendrils and tapering of shapes to look like the trailing ends of Indian graphology—all combine to suggest the other end of the world."

Carol Armstrong wrote this description of botanical drawings made by named and unnamed native artists in India under the instruction of medics of the East India Company, drawings so expressive in the way they draft the specimen on the page, and so apparently disdainful of the size of the paper and especially of the requirements of good scientific documentation. And coincidentally, but is anything ever a coincidence, these cropped and truncated and so-exquisite arrangements were simultaneously echoed in the home country by the

natives there, in the new magical methods of making drawings on paper coated with light-sensitive chemicals. Those early, camera-less, direct impressions of leaves and seaweed and flowers (nature drawings they were called) uncannily mimicked the life-making process of their subject matter—photosynthesis—requiring the specimens to be exposed to light after being placed directly onto the paper. Many needed to be folded and curled or cut off at various points simply to fit the page. Two ends of the circle coming together. Round and round.

And so I turn back round to my proof-sheets from more than a decade ago, and wonder at what fills these frames, what is curtailed by the four edges of the view—cropped or incompletely contained by the demands and requirements, but also the style and habits of this way of "drawing". Here are remains of the fabled nutmeg gardens, which carry the weight of the entire forest clear-felled for this favoured child—all except the spectacular buttress-rooted kenari trees that were spared for the shade their lofty branches gave the precious crop. And here are some island children keeping us company as we tramp through the old plantations, cutting open the kenari nuts with large, deftly wielded knives to snack on the kernels. And here is the best bedroom in an island home, kindly offered to us by a householder after the terrifying near-capsize of our small boat that forced our return to Pulau Run.

On a map these islands are tiny dots in the open sea beyond the shallow Sunda Shelf that holds aloft much of the archipelago. My friend Charles Lim in Singapore pulled up some charts of the Banda Sea for me while I was writing this. It's very deep, he said in an email, over five thousand metres, and at that depth its temperature is only slightly above freezing point. Charles is researching the tepid temperature, what he calls the "blood-heat", of the water on the Shelf. Sometimes he does this by floating for a long time in the sea—where the water outside and the blood inside might be said to be equalised—allowing the current and the wind and the tide to carry him. He reminds me that we're very lucky our boat didn't turn over.

The deep ocean trench which runs west of these islands was named after Alfred Russel Wallace who came this way in 1861. The Wallace Line marks the separation of the Sunda Shelf from the scattered islands as they drift down towards the larger landforms of Papua and Australia. The very different flora and fauna on the two sides of this divide was a big part of how he figured his theory of natural selection, pretty much at the same time as Darwin did, in another place. Wallace was impressed by the Dutch monopoly of the nutmeg trade. In his journal of his travels around here, published in 1869 as *The Malay Archipelago*, he also notes that "the aborigines of Banda were Papuans, and a portion of them still exist on the Ke Islands, where they emigrated when the Portuguese first took possession of their native island."

We—I was travelling with my friend Mary Maguire—arrived on the main island Banda Neira on the state ferry, which would return in two days from Pulau Kel (previously Ke Island), its farthest reach eastwards in its continuous circuit of the archipelago. We had two days to do my work, whatever I figured that to be. In the early morning we dashed across to Pulau Run in a small prau with an outboard motor, and, after our unexpected stay there overnight, we made the four-hour return to Banda Neira in a larger, safer vessel, sitting alongside mostly women, some with small children, some carrying bundles of produce for the market, everyone lying down on the split bamboo floor to counter the inevitable seasickness.



Back on the main island someone went to get the key to the tiny museum on the waterfront. We were shown western-style paintings made with oil on canvas commissioned from painters in Java to remember the old stories. Portraits of Portuguese and Dutch adventurers, administrators and much worse; portraits of dissidents and nationalists exiled here by the colonisers; and, among all that, matter-of-fact depictions of mercenaries from Japan carrying out beheading, dismembering and more. You were killed for refusing to work, they told us, and you were killed if you tried to take nutmeg seeds out of the islands.

Everyone we spoke to was determined to tell us they were not the original people of the island. It was an amiable and yet very persistent and present conversation; we never asked but were simply told: they started killing Banda people who didn't want to work in the nutmeg plantations. Those who could run away to Pulau Kel, from where the state-run ferry would soon return and pick us up. We're from many different places, the *ibu*, or mother, at our homestay told us—from all the islands around here, and Java and Sumatra. "Mongrels", according to Wallace, in the charming language of the day. Indentured labour in some accounts, slaves in others. Whichever way you tell it, here are the descendants of the people transported to tend the nutmeg gardens. As for the indigenous Banda folk, "emigration" may not be the best word for their flight.

We filled our pockets with seeds, which we were told should be planted as soon as possible as they don't remain viable for long. Some people were taking already sprouted plants onto the boat. We had eyes for the incredible beauty of the volcanic islands only as we were leaving, from a stunning vantage point on the deck of the ferry, a retired French working vessel seeing out its last days in the tropics. The next stop on its route back to the centre of Indonesia was Ambon. We would catch a plane there to Jakarta and then Kuala Lumpur. And later I would go to Manhattan.





# Contributors



**Sita Reddy** is an independent scholar and curator based in Hyderabad who has been Fellow at the Smithsonian Institution and visiting professor at the University of Hyderabad. She has written widely on the visual history of Ayurveda and Yoga and the decolonization of museum collections. Her current project on botanical art grows out of grants from IFA and Wellcome Trust, and the resulting book is provisionally titled *The Jangala Books: Refiguring Botanical Archives*.



**Ebba Koch** has taught at the universities of Vienna, Oxford and Harvard; she specializes in the architecture and art of the Great Mughals of South Asia and their artistic connections to Central Asia, Iran and Europe. Her books include *The Complete Taj Mahal* (2006/2012) and the edited volume *The Mughal Empire from Jabangir to Shab Jaban* (2019).



**Henry Noltie** is a Research Associate of the Royal Botanic Garden Edinburgh, where he worked as a taxonomist and curator from 1986 to 2017. His taxonomic work focused on the monocots of the Sino-Himalayan region, which led to an interest in the history of the Garden's rich Indian collections. He has written extensively on the botanical drawings made by Indian artists for Scottish East India Company surgeons.



**Savithri Preetha Nair** received her doctorate from the School of Oriental and African Studies (SOAS), University of London, in 2003 for her dissertation on the museum and the shaping of knowledge in colonial India. Among Nair's research interests are science, modernity and enlightenment at the turn of the 19th century, the public museum, and women in science in colonial and post-colonial India.



**Kapil Raj** is a historian of science at the École des Hautes Études en Sciences Sociales, Paris. His research is focused on the construction of

scientific and technical knowledge through processes of circulation and intercultural encounter, especially between Europe and South Asia from the 17th to the 20th centuries.



**Santhosh Kr. Sakhinala** is a research scholar at the Centre for Studies in Social Sciences Calcutta, who is pursuing his PhD. He teaches Art History courses to the MFA students at the University of Hyderabad as a Guest Faculty. He studied at Santiniketan, Baroda and at the English and Foreign Languages University, Hyderabad.



**Suresh Jayaram** is a visual artist, trained as an art historian, arts administrator and curator from Bangalore. He taught Art History at Karnataka Chitrakala Parishat, Bangalore and was its Principal from 2005 to 2007. He is the founder of 1.Shanthiroad Studio, an international artist's residency. He is currently involved in art practice, urban mapping, archiving, curation and education. His keen interest in environmental and urban developmental issues influences his work.



**Michelle Payne** is a writer from London, UK. She holds an MA with Distinction in Creative and Life Writing and is author of four published books including *Marianne North: A Very Intrepid Painter* (2nd ed. 2016). She has lectured on North's life and work at The Linnean Society, Words by the Water literary festival, and Dimbola Museum and Gallery.



**Cam Sharp Jones** is Visual Arts Curator at the British Library. Prior to this she held positions at the British Museum as Project Curator and in the Archives of Royal Botanic Gardens, Kew as Project Officer for the Joseph Hooker Correspondence Project, supported by Sir Hugh and Lady Stevenson.





**Mark Watson** is Head of the Major Floras Research Programme at the Royal Botanic Garden Edinburgh, where he specializes in plants from China and the Himalayan region, especially Nepal. His interests include the history of natural history explorations, and the continuing relevance of the discoveries of early collectors.



**Meghan Lambert** works with the Research Development team at Wellcome Collection. Her research interests include medical and social anthropology, study of religions, ethics, Buddhist studies, science fiction, oral history, museum anthropology and women's health.



**Lina Vincent** is an art historian and curator with over 15 years' experience in research, exhibition design and public art programming. She is committed to socially engaged arts practice that reflects in multidisciplinary projects she has developed. She is Associate Curator with ARTPORT\_making waves and Chief Program Designer, Visual Art & Design for Sublime's ArtEd Bangalore. Photograph: Gopal—GK Professional Photography.



**Rishika Mehrishi** is a PhD candidate at Stanford University's Theater and Performance Studies department. She holds an MA in Performance Studies from Jawaharlal Nehru University, and Tisch School of the Arts, NYU. With a focus on human-nonhuman encounters in South Asia, her current research intersects multispecies ethnography and postcolonial studies.



**Emilia Terracciano** is the A.W. Mellon Global South Fellow at Wadham College, Ruskin School of Art and TORCH at Oxford University. Her expertise lies in global modernism and contemporary art, focusing on South Asia and its diasporas. Her

major publication is *Art and Emergency: Modernism in Twentieth-Century India* (2017). Her research and teaching interests also include: documentary art practices, film and new media; plant-human encounters, bio-piracy and botanical conflicts; laughter and science fiction.



**Sunoj D.** trained as an artist at the Karnataka Chitrakala Parishat, Bangalore. His solo exhibitions include: *Today—Yesterday's Future Tense* (Zilberman Gallery, Istanbul, 2018) and *Romanticized objects from drunken nights* (Exhibit 320, New Delhi, 2016). He has participated in the following projects: *Whorled Explorations* (Kochi-Muziris Biennale, Kochi, 2014), *Kindling* (Fotopub, Slovenia, 2017), *Nakivubo Food Forest Project* (Kampala, Uganda, 2015), *When you watch them grow* (NMNH, New Delhi, 2012). Sunoj currently lives and works in Parudur, Kerala.



**Rohini Devasher** is a painter and printmaker who works with a variety of media including sound, video, prints and large site-specific drawings. Her work has been shown at the 7th Moscow Biennale, Kochi Muziris Biennale, Spencer Museum of Art, USA, ZKM (Karsruhe) and Whitechapel Gallery, London, among others. She has had solo exhibitions at the Bhau Daji Lad City Museum in Mumbai (2016), Vis-a-Vis Experience Centre in New Delhi (2016), Project 88, Mumbai (2013, 2009). Photograph: Manisha Gera Baswani.



**Meena Subramaniam** is a self-taught artist residing near Periyar Tiger Reserve, Kerala. Her focus is entirely on the flora and birds of the Western Ghats and Himalaya. She has published her works in *EarthLines Magazine*, *The Indian Quarterly* and *Sanctuary Asia*. Her works can be viewed at [meenart@artwanted.com](mailto:meenart@artwanted.com).



**Damodar Lal Gurjar** is a freelance artist, currently working in Jaipur, India. A graduate of the Art Foundation Course, Rajasthan School

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of Arts, Jaipur, he works in watercolour, oil, gouache and tempera. His major solo exhibition was *Enduring Perfection: Paintings by Damodar Lal Gurjar* (Hunt Institute for Botanical Documentation, Carnegie Mellon University, Pittsburgh, 2001). He has also showcased at the Crafts Museum, New Delhi (1995), Manhattanville College USA (2015), and Borelli-Edwards Galleries, Pittsburgh (2011), and has participated in the American Society of Botanical Art's *Weird, Wild, Wonderful* group exhibition (2014).



**Mahaveer Swami** is a painter based in Bikaner, Rajasthan who works with traditional styles. Since 1986, he has exhibited in over 60 galleries, and has conducted and participated in a variety of workshops and training programmes in India and internationally. His artworks are in many museums and private collections.



**Waswo X. Waswo** has lived and travelled in India for over 17 years, and has made his home in Udaipur, Rajasthan, for the past 11. He is best known for his photography, and for his collaborations with various Rajasthani artists that explore the foreigner's role in Indian society.



**R. Vijay** is a grandnephew of the historic Rajasthani painter Ramgopal Vijayvargiya. He was tutored by the traditional miniaturists Sukhdev Singh Sisodiya and Laxmi Narayan Sikaligar. His works in collaboration with Waswo X. Waswo have been the subject of a book *The Artful Life of R. Vijay* (2016) by Annapurna Garimella.



**Ranjit Kandalgaonkar** lives and works in Mumbai. His city-related projects such as *cityinflux*, *Gentricity* and *Stories of Philanthropic Trusts* map vulnerability and blindspots within informal urbanization or histories of reclamation/speculation with projects such as *Isles Amidst Reclamation* and *Seven Isles Unclaimed*. *Modelled Recycled Systems* is a long-term project recording ship-breaking practices at Alang, Gujarat. His grants and awards include the Majlis Visual Arts Fellowship, UDRI Architectural

Fellowship, Leverhulme Trust Artist Residency, SA1 Harvard University Artist residency and a Wellcome Trust Seed Award.



**Annamma Spudich** was trained as a cell biologist at Stanford University and now studies influences of Indian scientific traditions in botany and medicine in the early modern world. She has curated exhibitions of her work at Stanford University Museum and at the National Center for Biological Sciences, Bangalore, where she is a visiting professor.



**Bárbara Rodríguez Muñoz** holds a Master in Curating Contemporary Art from the Royal College of Art, London and is currently Exhibitions Curator at the Wellcome Collection where she has worked on the exhibitions: *This is a voice, Bedlam: the asylum and beyond* and *Ayurvedic Man*. Bárbara has curated other projects in the UK and internationally, and as a writer has contributed to *Afterall*, *Concreta* and *Les Laboratoires d'Aubervilliers*.



**Simryn Gill** works in different modes including photography, drawing, making collections of various kinds, and writing. She divides her time between Sydney, Australia and Port Dickson, Malaysia.



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Maharaja Ari Singh on a boar hunt  
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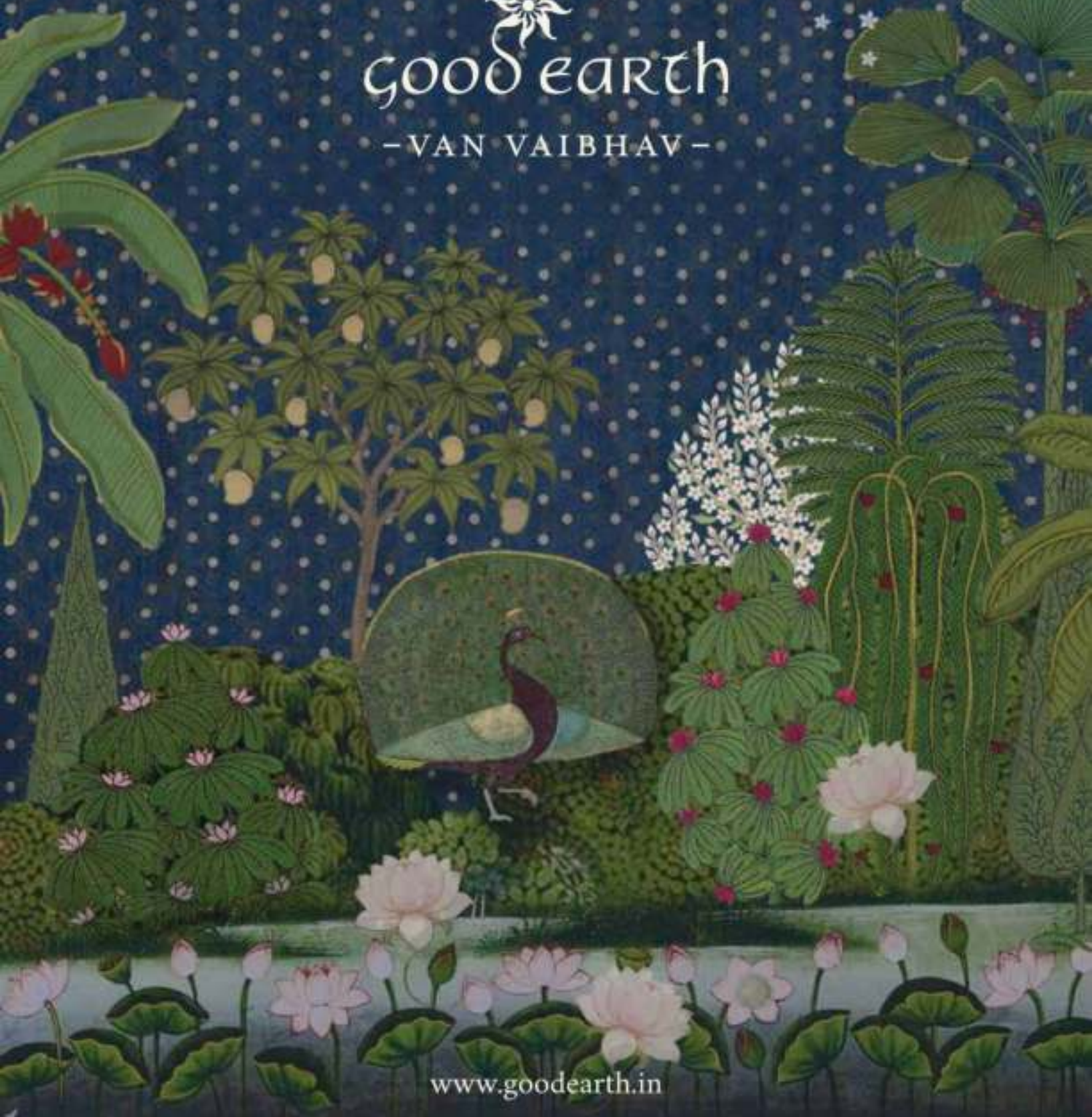
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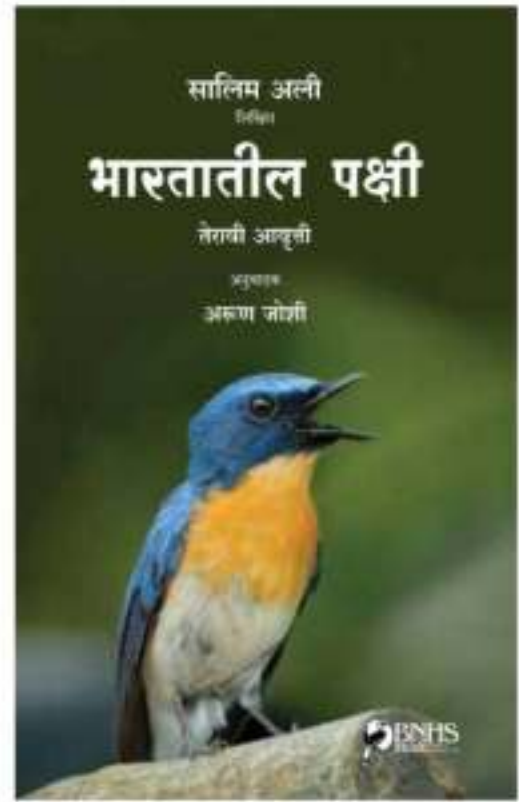
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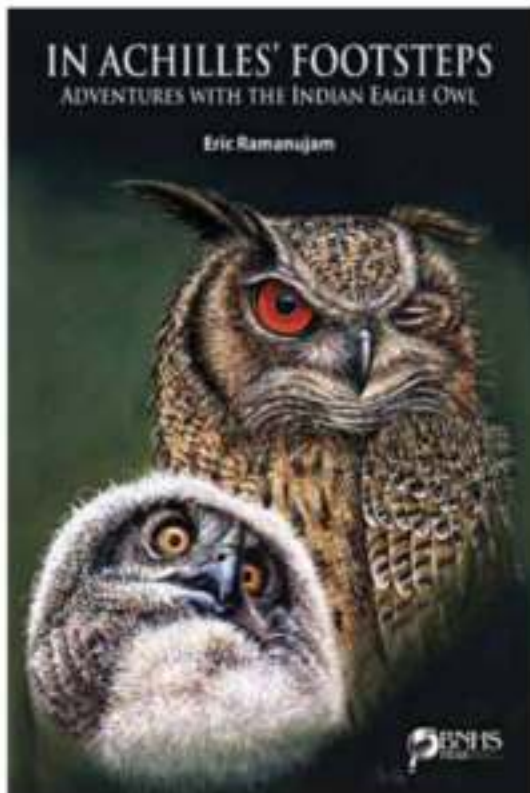


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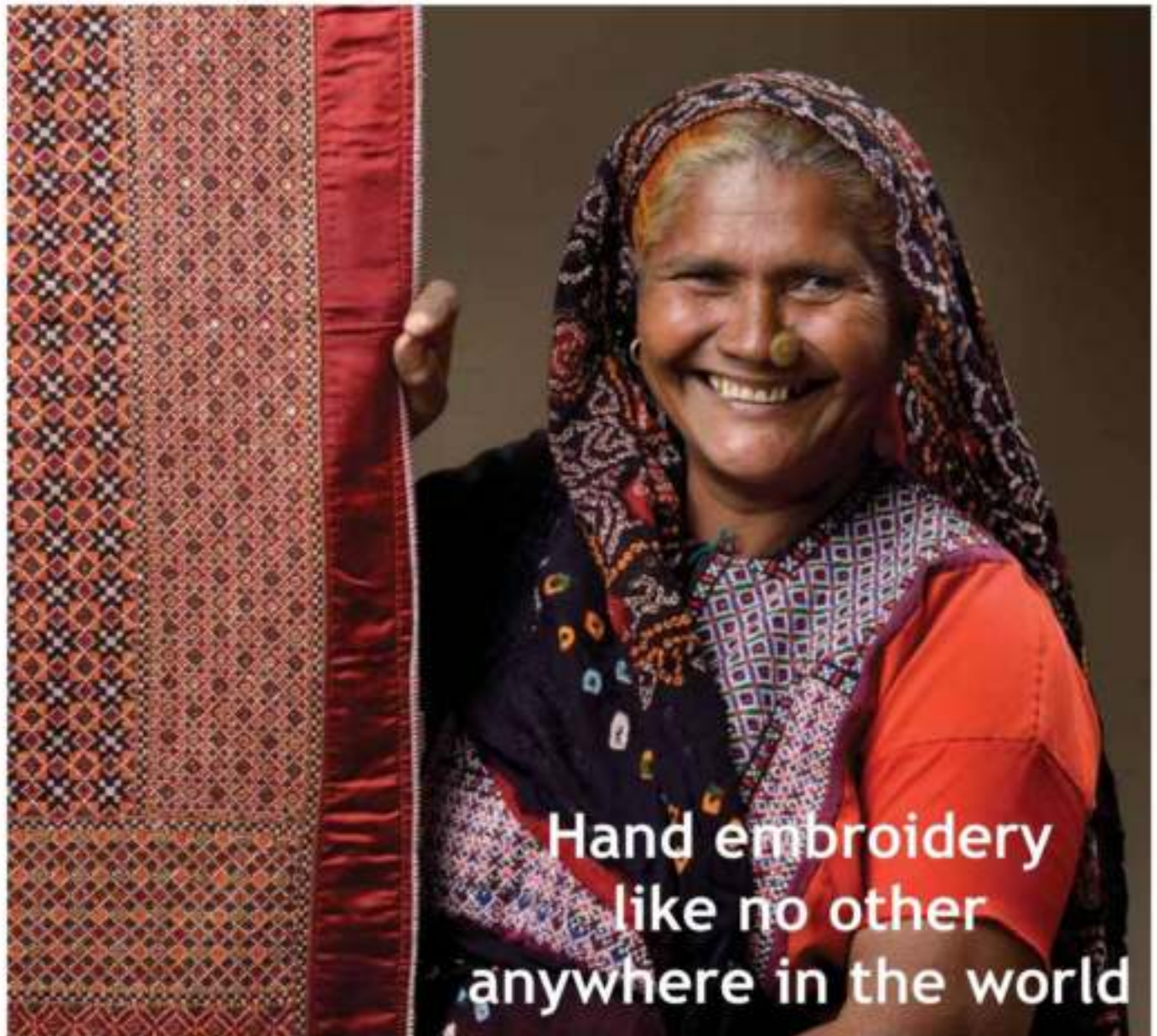


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## A trip to Santiniketan



*Sunrise Santiniketan*

48" x 66" - Oil on canvas

Sanjay Bhattacharyya stepped on the ground of Santiniketan for the first time in 1989. From Bolpur station, traversing across Ratanpalli, beyond Shyambati on the other end of the canal, he reached Boner Pukur Danga, a santhal village. Having been raised in the city, Sanjay's eyes saw for the first time the mud-huts, the paddyfields, the lotus-pond and the reflection of the setting sun in a placid pond. With these memories he returned to Kolkata and thereafter went to Delhi. After a few exhibitions with other themes, his heart returned to Santiniketan. Not once, but many a time, in canvas after canvas, capturing the green and white lotus pond, golden green fields extending in to the horizon, silhouettes of palm trees against the pink sky and the reflection of the sun's molten gold in the deep blue water of a pond. Having emerged from the mechanized life of the city, Sanjay is now a worshiper of the unbounded earth.

-Arijoy Bhattacharya

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Sanjay's early watercolours were marked by his pristine thirst for the fleeting light and colours of the city in a wide range of moods. His watercolours sing about the magic spell of the City of Calcutta he comes from. He had been under its spell since the very beginning of his student days.

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