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Reichenbachia, Imperial Edition: Rediscovering Frederick Sander's Late-Victorian Masterpiece of Botanical Art

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Reichenbachia, Imperial Edition: Rediscovering Frederick Sander's
Late-Victorian Masterpiece of Botanical Art

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts at
Virginia Commonwealth University.

By

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Abstract:

REICHENBACHIA, IMPERIAL EDITION: REDISCOVERING FREDERICK SANDER'S
LATE-VICTORIAN MASTERPIECE OF BOTANICAL ART

By Erica Borey, M.A.

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts at Virginia Commonwealth University.

Virginia Commonwealth University, 2013

Major Director: Catherine Roach,
Assistant Professor, Department of Art History

This thesis project examines the history, provenance, and contemporary treatment of a rare Imperial Edition of Frederick Sander's print collection *Reichenbachia, Orchids Illustrated and Described*, a high-quality orchid compendium dating to the late-nineteenth century. A local philanthropist loaned the *Imperial Edition Reichenbachia, number 86 of 100* to Lewis Ginter Botanical Garden in 2011 on a long-term basis as a promised donation. Research into the origins of this collection involves several disparate historical topics, including the Victorian period of "orchid mania," imperialist business practices, and chromolithographic printmaking. Discussion of the transition of this collection into a museum art collection covers its consequent registration, conservation, and exhibition. Finally, this thesis project considers the advantages and disadvantages of managing an art collection at a botanical garden.

Introduction:

Lewis Ginter Botanical Garden (henceforth, “LGBG”) opened to the public in 1989 and has since grown from the property of Major Lewis Ginter (1824-1897)¹ to over fifty acres of gardens. The mission states:

Lewis Ginter Botanical Garden enlightens and inspires its constituents through its outstanding botanical collections, horticultural displays and landscape design. We engage our constituents with the natural world through interpretation, programs, educational resources and outreach. We advocate for sustainability and stewardship of our planet.

The mission makes no mention of art, but LGBG is a living museum with a growing art collection. Dr. Arthur W. Burke, Jr, a philanthropic local orchid grower, brought a rare late-nineteenth-century orchid compendium to LGBG as a long-term loan and promised donation in 2011. The *Imperial Edition Reichenbachia, number 86 of 100* (henceforth, “IER”) is a collection

¹ Lewis Ginter was a Richmond businessman, entrepreneur, philanthropist, and Confederate Major in the Civil War. He made three fortunes in three separate businesses during his life, losing the first two to the Civil War and the Financial Panic of 1873, respectively. His third business with partner John Allen was in cigarette manufacture and sales. Allen & Ginter pioneered the use of collectible trading cards as promotional items, several of which are now part of the art collection at LGBG. Among other philanthropic works in the Richmond area, Ginter built the Lakeside Wheel Club in 1894, a social club for a growing community of bicycle enthusiasts. Ginter developed it into Lakeside Park, a popular suburban destination with a golf course, zoo, casino, and a trolley line from the city. His niece, Grace Arents, purchased the former Lakeside Wheel Club in 1913, renovated it for use as a convalescent home for sick children from the city, and renamed it Bloemendaal House. When Arents died in 1927, she left the property to her companion Mary Garland Smith, stipulating that upon Smith’s death the city would turn the property into a botanic garden honoring her uncle. The property passed to the City of Richmond in 1968 and in 1984 it was chartered as Lewis Ginter Botanical Garden. “Major Lewis Ginter (1824-1897),” Lewis Ginter Botanical Garden, http://www.lewisginter.org/about/history/lewis_ginter_history.php (accessed April 12, 2013).

of color lithograph prints of and text about orchids. The addition of IER to the art collection at LGBG has served as an example of the process of integrating new holdings into the collection and a catalyst to examine the conservation needs, research gaps, and opportunities for interpretation of both new and existing items in the collection.

This thesis project documents the research, registration, conservation, and exhibition of this collection. Chapter one discusses the historical context of *Reichenbachia*'s origins and traces the known provenance of IER. Chapter two records the registration, conservation, and restoration that it required as a museum object. Chapter three describes IER's first post-restoration exhibition, followed by a critical analysis and a re-imagined exhibition designed to improve upon the first installation. Chapters two and three also focus on how the priorities and limitations of LGBG as a botanical garden, rather than an art museum, affected the approach to the described processes.

Having studied and worked with the *Reichenbachia* since early 2012, it is my hope that this document will be useful to other holders of the *Reichenbachia* collection, botanical gardens with growing art collections, or any student or institution that could benefit from a similar pre-professional conservation project. Through this project, I have gained valuable experience and insight as a museum professional in the areas of research, registration, conservation, and curating.

Chapter One: Orchid Mania and the *Reichenbachia*

The late Victorian period in Great Britain witnessed a phenomenon called orchid mania. Starting around the 1850s, orchid importers collected specimens from around the world; by the 1880s the orchid trade was highly profitable. Henry Frederick Conrad Sander (1847-1920) dominated the orchid market during this period. Combining horticultural expertise with business acumen, Sander fueled the frenzy and became wealthy capitalizing on the popularity of orchids. Sander immigrated to England from Germany in 1865 and established a business importing, growing, and selling orchids in London in 1876.² In 1882, he imported a series of valuable new orchid species, which transformed his reputation from that of an upstart in a competitive business to the “Orchid King.”³ At his most successful, he operated a vast network of nurseries in England, Belgium, and the United States, and employed dozens of travelers to search the wildernesses of the world for beautiful and exotic orchids to sell. Described as “an absolute autocrat” and a business genius who overlooked no detail,⁴ Sander was also the quintessential orchid maniac. This thesis project examines his most lasting achievement, the orchid compendium *Reichenbachia: Orchids Illustrated and Described*. The *Reichenbachia* is the

² Carol Seigel, “The King, the Travelers, and the Endless Orchids,” *Orchid Digest* 74 (2010): 10.

³ Arthur Swinson, *Frederick Sander: The orchid king, a record of passion* (Great Britain: Hodder and Stoughton, 1970), 73-4.

⁴ Swinson, *Frederick Sander*, 77.

product of one of the most essential figures from the period of orchid mania; studying it helps shed light on why Sander and his contemporaries found orchids so captivating.

Sander had a penchant for embarking on complicated and expensive projects; he was frequently on the verge of ruin because as soon as he acquired wealth, he spent it on another one of his ambitious orchid-related plans.⁵ The subject of this thesis project, a rare Imperial Edition of the four-volume *Reichenbachia* collection, is one such project. The Imperial Edition of *Reichenbachia* is larger than the standard version, with identical images and text. The images are the same size in both versions, but mounted onto oversized paper in Imperial Editions. Sander produced a limited run of one hundred Imperial Editions, which he gave as gifts, although any record of the original recipients is lost.

Sander's foray into publishing is an outstanding scientific, historic, and artistic record of his favorite flowers. The *Reichenbachia* collection consists of two series of two volumes each, published every other year from 1888 to 1894. Each volume contains forty-eight color prints of life-size orchid subjects and corresponding text descriptions of each orchid. Sander named the collection for the prominent German botanist and orchid specialist H. G. Reichenbach (1824-1889). Sander also dedicated each volume to one of the reigning female monarchs of Europe, all of whom were his patrons.⁶ He sold completed volumes of the *Reichenbachia* as well as monthly subscriptions, which consisted of a folio containing four orchid prints and their text pages.

The thoroughness and variety of the information Sander provided about each specimen as, for example, in the text for the orchid *Oncidium loxense* (Figure 1), suggest that he tried to

⁵ Swinson, *Frederick Sander*, 80

⁶ Series I, volume I is dedicated to Queen Victoria; series I, volume II is dedicated to Augusta Victoria, the empress of Germany and queen of Prussia; series II, volume I is dedicated to Maria Feodorovna, empress of Russia; lastly, series II, volume II is dedicated to Queen Marie Henriette of Belgium.

appeal to both serious orchid enthusiasts as well as more casual hobbyists. Heading each text page are scientific remarks on the orchid depicted, which detail its physical and biological characteristics in Latin, unless the orchid in question was hybridized, in which case these remarks appear in English. Below this initial text is a scientific illustration meant to distinguish the flower according to its description. These illustrations provide the necessary accuracy for taxonomic identification while the print images give a more artistic representation of the same flower. Beneath the scientific illustrations, Sander introduced the flower in lay terminology, revealing its place of origin, circumstances of discovery, and advice for growing it outside of its native habitat. He ended each entry with French and German translations of this commentary, expanding the potential customer base to neighboring countries. Sander combined scientific knowledge, a touch of vivid travel writing, practical tips for cultivation, and aesthetically pleasing visual material in order to make the *Reichenbachia* appeal to a broad audience.

This chapter will consider how the textual and visual content of the *Reichenbachia* reflects elements of its historical context before exploring the significance of IER. The following section addresses the period of orchid mania, possible explanations for its occurrence, and how Sander presented these subjects in the *Reichenbachia* text.

Primary documents, technological developments, aspects of Victorian culture, and the unique botanical properties of orchids each contribute to an understanding of the curious late-nineteenth-century fever for orchids. Although Victorian orchid lovers gave no definitive indication as to why they, and many of their contemporaries in America and Europe, exhibited this botanical mania during this time, research shows that orchids symbolized a confluence of

cultural priorities and benefitted from a seemingly limitless cycle of discoveries fueling supply and demand among consumers.

John MacKenzie credits “distance-conquering” technology, such as railroads and the telegraph, for expanding the reach of the British Empire throughout the nineteenth century, leading to economic and scientific expeditions into newly accessible environments.⁷

Opportunities for the wealthy to travel, explore, and exploit the natural world, as well as its inhabitants, extended to places that had until recently been unfathomably remote.⁸ Through collecting, cataloguing, and classification, collectors in the Victorian era exercised a measure of control over the diversity of nature discovered during imperial expansion.⁹ The propensity to classify also was also applied to people. Ronald Hyam states that during this period, “There was a general conviction that the British had reached the top of a ladder of progress, and that it was their duty to improve the lot of others.”¹⁰ Tom Flynn asserts that imperial nations applied the trope of civilized versus barbarian to perpetuate a set of conceptual hierarchies.¹¹ Victorians subscribing to the ladder of progress hierarchy placed most Western nationalities directly below

⁷ John M. MacKenzie, *Museums and Empire: Natural History, Human Cultures and Colonial Identity* (Manchester: Manchester University Press, 2009), 2-3.

⁸ Robert Wood, *Victorian Delights* (London: Evans Brothers Limited, 1967), 122.

⁹ Barbara T. Gates, “Introduction: Why Victorian natural history?” *Victorian Literature and Culture* 35 (2007): 540.

¹⁰ Ronald Hyam, *Britain’s Imperial Century: 1815-1914* (London: B.T. Batsford, 1976), 49.

¹¹ Tom Flynn, “Taming the tusk: The revival of chryselephantine sculpture in Belgium during the 1890s,” *Colonialism and the Object: Empire, material culture and the museum*, eds. Tim Barringer and Tom Flynn (London: Routledge, 1998), 189.

themselves,¹² and people of other races and nationalities lower on a scale of civilization according to their adherence to specific measures of progress.¹³

The act of collecting reinforced an imperialistic attitude of dominion over the natural world. Founded in 1857, the South Kensington Museum, later renamed the Victoria and Albert Museum, displayed ethnographic material collected from throughout the empire.¹⁴ As Tim Barringer states,

The acquisition of objects from areas of the world in which Britain had colonial or proto-colonial political and military interest, and the ordering and displaying of them by a museum which was a department of the British state, formed...a three-dimensional imperial archive. The procession of objects from peripheries to centre symbolically enacted the idea of London as the heart of empire.¹⁵

The Royal Botanic Gardens at Kew also provided visitors with a “horticultural synecdoche for the entire globe.”¹⁶ Viewing ethnographic museum collections and diverse botanical collections stimulated visitors to collect for themselves.¹⁷ Possession of exotic objects and plants implied knowledge of the cultures and environments from which they originated, and their appropriation implied control.¹⁸ The increased perception of control over the environment among collectors

¹² Ronald Hyam, *Britain's Imperial Century*, 39.

¹³ Hyam, *Britain's Imperial Century*, 54.

¹⁴ Tim Barringer, “The South Kensington Museum and the colonial project,” *Colonialism and the Object: Empire, material culture and the museum*, eds. Tim Barringer and Tom Flynn (London: Routledge, 1998), 11.

¹⁵ Barringer, “The South Kensington Museum,” 11.

¹⁶ Harriet Ritvo, “The Natural World,” in *The Victorian Vision: Inventing New Britain*, ed. John MacKenzie (London: V&A Publications, 2001), 287.

¹⁷ MacKenzie, *Museums and empire*, 4.

¹⁸ Ritvo, “The Natural World,” 283.

allowed attitudes toward nature to develop from passive admiration or fear to active authority.¹⁹ Orchids suited both of these developments. Their diversity, exoticism, and seemingly endless supply fascinated plant lovers and engaged the Victorian instinct to catalog the natural world, while the untamed habitats of most orchids, and the local people, considered “uncivilized” by collectors who also relied upon them to help extract the plants, reinforced the notion of British superiority. Additionally, while ethnographic artifacts were in finite supply, the abundance of orchids ensured their widespread availability to Victorian consumers.

Orchid hunters and importers displayed an entitlement in their business practices indicative of the increased sense of authority that Victorian collectors perceived they had over the non-western world,²⁰ both human and natural. Nineteenth-century newspaper accounts of orchid collecting repeatedly relate the same few anecdotes illustrating this relationship. In one such story, a “wily collector” used beads and a wooden idol to persuade a group of natives to allow him to trespass on a gravesite, resulting in the collection of an orchid growing out of a human skull.²¹ The hunter’s conviction that the quest for scientifically and economically valuable specimens outweighed any sense of respect for foreign cultural beliefs is typical of late-Victorian imperialist attitudes.

Arthur Swinson writes of orchid hunters and importers colluding to advance in a competitive market. Some of the ways they did this was by spreading misinformation about the source of valuable orchids in order to provoke rivals to undertake time-wasting and potentially

¹⁹ Ritvo, “The Natural World,” 281.

²⁰ Barringer, “The South Kensington Museum,” 12.

²¹ “Orchids and Orchid Collectors,” *Pall Mall Gazette*, February 1, 1888.

dangerous journeys,²² stripping an area of all orchids so that none remained for anyone else to collect, sometimes burning these areas to prevent further orchid growth,²³ and tampering with rivals' shipments to ensure that their orchids would not survive the journey to Europe or America.²⁴ If a hunter managed through these morally questionable practices to secure the only source of a particular orchid, he increased the potential for it to become the most sensational, highly sought-after, and therefore expensive species on the market. Over time, through further importation and cultivation, importers reduced the rarity of any particular species and discovered a new one to replace it as the most valuable orchid on the market. This cycle was highly profitable for importers, but it also spread the destructive swath of their hunters around the globe in search of undiscovered species.

Sander's *Reichenbachia* text inscribes racist and imperialist attitudes surrounding the orchid trade. For example, Sander describes *Laelia autumnalis xanthotropis* as, "a plant of such great beauty as to delight an Indian,"²⁵ assuming a shared belief with the presumably Western reader in the racial inferiority of indigenous people, by implying a racially based inability to appreciate beauty as much Sander and his readers. At the same time, Sander's text censors a disregard for environmental preservation when he describes the collection practices of his orchid hunting employees, such as with the *Odontoglossum crispum Alexandrae*: "[W]e purchase the exclusive right to collect plants in the woods in certain districts; natives are employed to gather

²² Swinson, *Frederick Sander*, 50-52.

²³ Denise DeLaurentis and Hollie Powers Holt, *The Art of the Garden: Collecting Antique Botanical Prints* (Atglen, Pennsylvania: Shiffer Publishing Ltd, 2006), 64.

²⁴ Swinson, *Frederick Sander*, 49

²⁵ Frederick Sander, *Reichenbachia: Orchids Illustrated and Described*, Series I, Volume I. (London: H. Sotheran & Co., 1892), 21.

them, for which purpose parties of four to eight go into the woods, returning in about a fortnight with the result of their labour.”²⁶ He omits the unsavory details provided by this 1889 newspaper account of an orchid hunter’s method:

His first care on arrival in the neighborhood – which is unexplored ground, if such he can discover – is to hire a wood, that is, a tract of mountain clothed more or less with timber. . . .The arrangement concluded in legal form, he hires natives. . .and sends them to cut down trees. . . .Afterward, if he be prudent, he follows his lumbermen to see that their indolence does not shirk the big trunks, which give extra trouble naturally, though they yield the best and largest return. It is a terribly wasteful process. If we estimate that a good tree has been felled for every three scraps of *Odontoglossum* which are now established in Europe, that will be no exaggeration. And for many years past they have been arriving by hundreds of thousands annually!²⁷

While Sander shielded readers from potentially troubling facts about the source of orchids, the author of the above-quoted article goes on to deny any alternative to the practice. Both writers casually disparage native people, and both describe the same collection practice in ways that acknowledge the environmentally damaging nature of the orchid trade. The author of the article directly addresses that it is a wasteful, if unavoidable, process, while Sander does so by deliberate omission. Defenders of orchid collecting justified the practice by arguing that it brought economic prosperity to the inhabitants of the areas from which the plants were taken, and that the educational value of the study of botany outweighed other considerations.²⁸

The difficulty of importing orchids to Western nurseries from various locations abroad actually contributed to their availability to consumers, as explained in an 1889 *New York Times*

²⁶ Frederick Sander, *Reichenbachia: Orchids Illustrated and Described*, Series I, Volume I. (London: H. Sotheran & Co., 1892), 2.

²⁷ “Tracking for Orchids: The Dangerous Work of the Hardy Collector,” *New York Times*, March 17, 1889.

²⁸ “The Orchid Craze,” *The Western Daily Press* (Bristol), April 3, 1888.

article describing the laborious process of harvesting and shipping orchids.²⁹ Hunters faced the practical challenges of travelling to remote orchid habitats, hiring and supervising native people to help collect the orchids, transporting large amounts of collected orchids overland to a port, and preparing them for shipment. Considerable physical danger to the hunter and the risk of the total loss of a shipment at sea complicated these processes. As private importers abandoned the costly practice of hiring travelers to do their collecting, firms that were willing to import orchids prospered.³⁰ Sander imported between three and five million orchid plants every year.³¹ With such a large supply, auction prices for many orchid species lowered enough to be affordable to a wider class of consumer than the traditionally wealthy orchid hobbyist.

The difficulties that discouraged risk-averse collectors from privately importing orchids also heightened the appeal of orchids once growing in a conservatory.³² Barbara Gates characterizes the Victorians as having a tendency to romanticize nature,³³ and Harriet Ritvo asserts that gardeners were sometimes encouraged in gardening manuals to appreciate hunters' sacrifices, as represented by the availability of exotic plants.³⁴ The nature of orchid hunting guaranteed hardship, with injury and death due to falls, drowning, disease, animal attacks, and

²⁹ "Tracking for Orchids: The Dangerous Work of the Hardy Collector," *New York Times*, March 17, 1889.

³⁰ "Tracking for Orchids: The Dangerous Work of the Hardy Collector," *New York Times*, March 17, 1889.

³¹ "Orchids and Orchid Collectors," *Pall Mall Gazette*, February 1, 1888.

³² Ritvo, 286-287.

³³ Gates, "Introduction," 539.

³⁴ Ritvo, 287.

even rumors of cannibalism being relatively common occurrences.³⁵ Some hunters simply disappeared. Sander wrote of one missing employee, “Perhaps he is eaten...we hear *nothing*.”³⁶ Orchids inspired Victorian hunters to undertake arduous and dangerous journeys with the potential to result in various exotic deaths; the passion that plant-loving consumers displayed towards orchids seems mild by comparison to that of the hunters who risked their lives to gather the plants. As the author of the 1889 article “Tracking for Orchids: The Dangerous Work of the Hardy Collector” states, “It is supposable that for some rare specimens the personal risks taken by collectors enhance the value of the orchids.”³⁷

Sander also romanticizes the danger that hunters encountered on their quests for rare or undiscovered orchids in the *Reichenbachia* text. After recounting the traveler E. Seidl's journey to Mount Roraima in South America to re-discover a flower shown in a drawing in the British Museum, he states in the text for *Cattleya Lawrenceana*,

Importers may guide their travellers and put them on the track of novelties, but the serious part of the work belongs solely to the men who jeopardise their lives in the perilous search for new plants in trackless regions. Some, alas, lose their lives in the work, but their names live in the beautiful plants they have been the means of introducing. Orchidists are familiar with the names of Wallis, Endrès, Klaboch, Falkenberg, Schröder, Arnold, Douglas, and others, who have died in the cause of botanical science.³⁸

Even when Sander names hunters who died in pursuit of orchids, several of whom were once his employees, he gives their deaths the aura of noble sacrifice.

³⁵ “Tracking for Orchids: The Dangerous Work of the Hardy Collector,” *New York Times*, March 17, 1889.

³⁶ DeLaurentis and Holt, *The Art of the Garden*, 62.

³⁷ “Tracking for Orchids: The Dangerous Work of the Hardy Collector,” *New York Times*, March 17, 1889.

³⁸ Sander, *Reichenbachia*, Series I, Volume I, 27.

Sander's *Reichenbachia* text conveys a sense of adventure while also providing vital information about successful cultivation for his customers. Growing orchids was once a hobby restricted to the wealthy due to the cost of the plants as well as the cost of a nursery in which to grow them; two nineteenth-century developments made having a proper environment to grow orchids less expensive. In the 1830s, Nathaniel Ward invented the Wardian case, a portable glass terrarium that both increased the survival rate of plants shipped over long distances and reduced the scale necessary for indoor cultivation from a greenhouse to a parlor. In 1845 the British government repealed the glass tax, which had previously kept glass prices high; manufacturers began to mass-produce sheet glass,³⁹ making both greenhouses and Wardian cases more affordable. DeLaurentis and Holt state that during the Victorian period, "Collecting orchids bestowed a mantle of worldliness and sophistication upon the owner."⁴⁰ This association, combined with the decreasing cost of many orchid species and the glass in which to house them, placed orchids in the unusual position of affordable status symbols. Sander's advice about the proper environmental conditions for each orchid species helped an ever-widening community of growers increase the survival rate of imported orchids. Sander based his recommendations on his hunters' descriptions of the climate where the orchid grew and his own experience growing each species in his nurseries.

Orchid mania was not the first botanical fad, although it spread farther and lasted longer than the Dutch tulip mania of the mid-seventeenth century and the "great fern craze"⁴¹ of 1850s Great Britain. David Allen argues that subjects of natural history were susceptible to such crazes

³⁹ Allen, "Tastes and Crazes," 402-403.

⁴⁰ DeLaurentis and Holt, *The Art of the Garden*, 62.

⁴¹ Ritvo, "The Natural World," 286.

because of their aesthetic appeal to an audience otherwise uninterested in science, and that Victorians favored plants and shells in particular due to their potential use as decorative arts motifs.⁴² An 1888 newspaper discussing the orchid craze anticipated no end to it, saying, “It used to be thought that the taste for orchids would in time be forgotten in favour of a fuchsia mania; just now there seems but little prospect of any such horticultural *volteface*.”⁴³ The tremendous variety of orchids probably prolonged orchid mania; the diversity of orchid species far outnumbers that of both tulips and ferns. Annual conventions held during the 1880s in New York featured as many as 800 varieties.⁴⁴ As hunters’ pace of discovering new species declined, domestic growers’ popularized hybridization.⁴⁵ As with tulip mania and the fern craze, orchid mania would have eventually died down on its own as the introduction of new species, either through importation or hybridization, eventually slowed, but the outbreak of World War I brought Sander’s business and the orchid trade to an abrupt halt.⁴⁶

Finally, in addition to the economic and social factors that contributed to orchid mania, Victorians responded to unique characteristics of orchid flowers. First, once blooming, many varieties remain in flower for months at a time, making them convenient for long-term display. Second, they have an unusually thick texture for a flower, with assorted shapes, patterns, and vivid coloring that seduced those appreciative of botanical beauty. Even the stoic and reserved scientist Reichenbach described the variants of *Lycaste Skinneri alba* in poetic language:

⁴² David Allen, “Tastes and Crazes,” in *Cultures of Natural History*, eds N. Jardine, J.A. Secord and E.C. Spary (Cambridge: Cambridge University Press, 1996), 394.

⁴³ “Orchids and Orchid Collectors,” *Pall Mall Gazette*, February 1, 1888.

⁴⁴ “The Orchid Craze,” *The Western Daily Press* (Bristol), April 3, 1888.

⁴⁵ Swinson, *Frederick Sander*, 93.

⁴⁶ Swinson, *Frederick Sander*, 43.

Lycaste Skinneri alba, the pure white variety, begs all description. Its great flower seems to be sculptured in the snowiest of transparent marble. That stolid, pretentious air which offends one ... in the colored examples becomes virginal dignity in this case. Then, of the normal type there are more than a hundred variations recognized, some with lips as deep in tone and as smooth in texture as velvet, of all shades from maroon to brightest crimson.⁴⁷

Lastly, the diversity of orchid species ensured that a continuous supply of new species was brought to market, exciting wealthy collectors to compete for the most exotic flowers. Once an orchid species lost the luster of new discovery, sellers offered it at a much lower rate, ensuring that those admirers of orchids who lacked the means to compete with the wealthy collectors could get the same species they did at a later date.⁴⁸

The phenomenon of orchid mania is understandable given the combination of imperialist practices and attitudes, technological improvements increasing orchid availability, species diversity fueling a cycle of discovery that made orchids both profitable to importers and affordable to a wider audience, and the romantic view of nature present in the late-Victorian period. Sander's text in the *Reichenbachia* reflects his astute awareness of prevailing values among his audience regarding nature and scientific discovery. Similarly, the artwork he selected to illustrate the text reflects nineteenth-century attitudes about original art, print reproductions, and the democratization of fine art in the nineteenth century. The following section will address these subjects and how they may have affected the *Reichenbachia*'s reception both originally and today.

⁴⁷ "Tracking for Orchids: The Dangerous Work of the Hardy Collector," *New York Times*, March 17, 1889.

⁴⁸ "Orchids and Orchid Collectors," *Pall Mall Gazette*, Feb. 1, 1888.

The *Reichenbachia* prints are color lithographic reproductions of life-size watercolor orchid portraits painted mostly by botanical and landscape artist Henry George Moon.⁴⁹ With few exceptions, Sander hired Joseph Mansell, operating in London, England, and Gustav Leutzsch, working in Gera, Germany, to translate Moon's original paintings into print form in a complicated process known as chromolithography.⁵⁰ Moon refused to embellish reality in his paintings, even when Sander urged him to make an orchid look more impressive.⁵¹ Just as Moon strove to paint exactly what he saw in the live orchid, the printers attempted to reproduce exactly what they saw in Moon's paintings. Despite impressive work by all three men, Sander repeatedly expressed admiration for Moon's original paintings and disappointment in the printing in his text for the *Reichenbachia*. In the first volume of the second series of the *Reichenbachia*, Sander praised Moon's work: "It is no exaggeration to say that Mr. Moon's water-colour sketches and drawings are by far the best orchid portraits that have ever been reproduced by chromo-lithography."⁵² Of the printing, Sander states about the very first plate in the collection, "The beauty of its flowers is well shown in our plate, although it is impossible to reproduce by colour printing the pure wax-like texture of its flowers."⁵³ Sander's comments

⁴⁹ The other artists were Walter Hood Fitch, Charles Storer, John Livingstone MacFarlane, John Walton, George Hansen, and Alice Loch, who between them painted twelve plates. Two are unsigned.

⁵⁰ John Livingstone Macfarlane painted the originals and produced the prints in three cases. Alrich and Higgins, "*Reichenbachia*," 397; The last three Leutzsch prints in the second series are inscribed "Gustave Leutzsch, Nachfolger, Chromolith." *Nachfolger* means 'successor to' in German. M. Montefusco, "Sander's *Reichenbachia*: A Victorian Masterpiece," *American Orchid Society Bulletin* 50(1981): 542.

⁵¹ Swinson, *Frederick Sander*, 99-100

⁵² Sander, *Reichenbachia*, Series II, volume I, iii.

⁵³ Sander, *Reichenbachia*, Series I Vol. I., 109.

appear to be simply his judgment of each medium, but they also reflect the changing attitudes in nineteenth-century society about the artistic value of prints versus original media. An explanation of the chromolithographic process must precede a discussion of how these developments may have significantly affected the *Reichenbachia*.

Chromolithography is a process whereby a printmaker separately prints individual colors onto a single piece of paper, creating a multicolor blended image. Chromolithographers began by mentally separating an original image, such as one of Moon's watercolor paintings, into individual colors.⁵⁴ With a waxy crayon or similar greasy material, the printmaker drew onto a flat limestone or zinc plate only those areas of the image that he or she imagined consisted of one color. He or she then washed the stone in water and applied an oil-based ink in the chosen color to the entire surface. Due to the repelling property between oil and water, the ink only adhered to the portions of the stone covered by the greasy material, and not those washed in water. Lastly, the printer pressed paper against the inked stone, repeating this process with the same piece of paper onto a stone bearing another color of ink applied in the pattern appropriate to that color, and so on for every color included in the completed image. It required precise registration of the paper, so that the colors blended together seamlessly. This disassembly of a color image and later reassembly into an accurate color reproduction of that image required extremely skilled professionals.

Creating a new chromolithographic image was a difficult and time-consuming process. Increasing the number of colors that composed a chromolithographic print complicated the process, but also raised the quality of the print. Each *Reichenbachia* print is composed of up to twenty colors. The advantage to this method of printing was that once the printers prepared all

⁵⁴ Joni L. Kinsey, *Thomas Moran's West: chromolithography, high art, and popular taste* (Omaha, Nebraska: University Press of Kansas, for Joslyn Art Museum, 2006), 4.

the stones required for an image, they could continually make copies of that image until the surface of the stones began to degrade; indeed, disseminating numerous copies of a picture was the only way to offset the cost of preparing the stones. Thus the more widely an image was distributed, the less costly the print.⁵⁵ Sander would have known that he would not see a return on his investment into printing the *Reichenbachia* unless he sold many copies. As such, it represents another one of his ambitious and risky business endeavors. Sander's comments about the printing show that he perceived a difference in artistic merit between Moon's original paintings and the prints as necessary translations for publication. While he may not have praised his printers as much as his other collaborators, he relied on their expertise in chromolithography to create an exceptional-looking publication that had the potential to make a profit.

Critics of chromolithography, including the prints in the *Reichenbachia*, claimed that the prints were technically proficient, but artistically void.⁵⁶ A 1905 reviewer stated, "The public rarely got to see the beauty of the drawings owing to the drawbacks of even the best colour-printing, in which all the more delicate work of the artist is often injured."⁵⁷ Willard Blunt stated in his 1971 edition of *The Art of Botanical Illustration*, "[T]he methods of color reproduction in use at the end of the nineteenth century were not satisfactory, and in particular the chromolithographic plates of the *Reichenbachia* are singularly disagreeable."⁵⁸

⁵⁵ Peter C. Marzio, *The Democratic Art: Pictures for a 19th-Century America: Chromolithography 1840-1900* (Boston, Massachusetts: David R. Godine, Publisher, Inc., in association with the Amon Carter Museum of Western Art, Fort Worth, 1979), 176.

⁵⁶ Marzio, *The Democratic Art*, 176.

⁵⁷ D. I. Duveen, "Classics of Orchid Literature—*Reichenbachia*," *American Orchid Society Bulletin* 46 (1977): 150.

⁵⁸ Duveen, "Classics of Orchid Literature," 151.

Although some viewers found fault with the visual effect of chromolithography, especially in comparison to an original painting, it had a profound effect on nineteenth-century society. Patented by Godefroi Englemann in 1837, chromolithography immediately became popular in the printing of cheap ephemera, such as Christmas cards, calendars, Sunday school texts, and advertising cards.⁵⁹ When printers, advertisers, and publishers discovered its potential to produce accurate copies of original works of art, they reignited disputes about the artistic value of reproductions. Printing copies of original artworks had long been the practice with other printing methods, but there was never before such verisimilitude to the original works as that provided with chromolithography. Other established and popular printing methods, such as intaglio and lithography, were limited to monochromatic images. Hand-tinting brought color to pictures, but it could not be mass-produced. Cruder forms of color-washing prints also existed, but chromolithography was the first technique of accurately copying color pictures that could also be mass-produced and, as a result, inexpensive. The working class had unprecedented access to affordable, realistic color pictures, previously only available to wealthy consumers who could afford to buy original paintings. Critics worried that chromolithographic copies corrupted both the original artist's intentions and a public whom they considered too ignorant to be able to tell a copy from an original or good art from bad. In 1882, art historian Philip Gilbert Hamerton summarized these objections:

The money spent upon a showy chromo-lithograph which coarsely misrepresents some great man's tender and thoughtful colouring might have purchased a good engraving or a good permanent photograph from an uncoloured drawing by the same artist. ... Some of them, no doubt, are wonderful results of industry, but in a certain sense the better they are

⁵⁹ Ryan, "Images and Impressions," 214-239.

the worse they are, for when visibly hideous they would deter even an ignorant purchaser who had a little natural taste, whereas when they are almost pretty they allure him.⁶⁰

Despite critics' objections, the public responded eagerly to the new abundance of affordable color pictures. Chromolithography contributed to an expansion of visual imagery in the home and in public spaces. According to James Ryan, by the end of the nineteenth century it was difficult to avoid encountering the printed word or image on a daily basis.⁶¹

When Sander published the *Reichenbachia* between 1886 and 1894, the popularity of chromolithography was in decline. At the 1893 Chicago World's Fair, chromolithographers began to use the medium for original graphic art or for copies of paintings that did not attempt to imitate the original in exact detail,⁶² and in the same year *The Lithographer's Journal* announced the obsolescence of the "garish in color and crude in form...chromo."⁶³ Among other technological advances in printmaking, the development of photography had focused attention on technological reproduction, challenging previous conditioning to accept the aura of art in reproductions.⁶⁴

Sander began and abandoned a third series of the *Reichenbachia* for unknown reasons. Moon painted at least forty-two more orchid paintings than there are *Reichenbachia* prints – nearly enough for an entire volume. The cost of the first two series, £7,000,⁶⁵ equivalent today to

⁶⁰ Philip Gilbert Hamerton, *The Graphic Arts*, (London: Seeley, Jackson, and Halliday, 1882), 375, quoted in Marzio, *The Democratic Art*, 207-8.

⁶¹ James Ryan, "Images and Impressions, Printing, Reproduction, and Photography," in *The Victorian Vision: Inventing New Britain*, ed. John MacKenzie (London: V&A Publications, 2001), 239.

⁶² MacKenzie, *Museums and Empire*, 202.

⁶³ MacKenzie, *Museums and Empire*, 210.

⁶⁴ Tedeschi, "How Prints Work," 97-98.

⁶⁵ Duveen, "Classics of Orchid Literature," 154.

over \$1 million,⁶⁶ suggests that Sander stopped production on the third series for financial reasons. However, calculations of *Reichenbachia* sales show that he should have earned back roughly double his investment.⁶⁷ Although the estimated sales figures indicate that Sander made a considerable profit on the *Reichenbachia*, he chose to discontinue the project. Judging from his business aptitude and willingness to take on ambitious ventures, the most likely reason that no further volumes of the *Reichenbachia* exist is because Sander lacked confidence in their continuing profitability. Sander's choice to use chromolithography to depict his orchid collection, in spite of or in ignorance of the late-Victorian public's disenchantment with chromolithographic copies, could have affected the perceived artistic value of the collection and contributed to lower than expected sales.⁶⁸ The *Reichenbachia* may have simply been too expensive despite Sander's efforts to increase its aesthetic quality, content, potential audience, and reputation. Perhaps the rising affordability of both orchids and color pictures made the *Reichenbachia* less desirable to those who could afford to buy it.

Regardless of whether Victorians' souring view of chromolithography or the lessening exclusivity of orchid collecting discouraged Sander from creating more volumes, the existing

⁶⁶ Measuring Worth, "Seven Ways to Compute the Relative Value of a U.S. Dollar Amount, 1774 to present," <http://www.measuringworth.com/uscompare/> (Accessed May 30, 2013).

⁶⁷ Sander printed around 1,000 copies of the first two series in total, 100 of which were given away as Imperial Editions. Alrich and Higgins, "*Reichenbachia*," 392; Each of the market versions, whether by subscription or as an entire volume, were sold. Seigel, "The King...", 22; The subscriptions cost seven shillings sixpence per month. Alrich and Higgins, "*Reichenbachia*," 400; Today that amount equals around \$50 per folio. Measuring Worth, "Seven Ways to Compute the Relative Value of a U.S. Dollar Amount, 1774 to present." 900 copies of the *Reichenbachia* containing forty-eight folios each, priced at approximately \$50 per folio in modern U.S. currency comes to over two million dollars in sales.

⁶⁸ Other possibilities are that there were unspecified fees involved in distribution, or that Sander was losing money elsewhere than through the publication of *Reichenbachia* and used the profits from its sale toward other expenses.

volumes of *Reichenbachia* are a masterpiece of art and orchid literature. Having investigated the various historical figures and trends which helped shape this collection, the chapter will conclude by examining the provenance of the IER held by LGBG.

Few known editions of the *Reichenbachia* remain complete.⁶⁹ Like other lavishly illustrated books, it has been a victim of its own magnificence. Over time and changes of ownership, people dismembered both standard and imperial versions for individual sale of the prints. For an expensive item like the *Reichenbachia*, selling an entire volume is more difficult than individual plates. This also occurred with IER; at some point, four single plates were sold, given away, or lost.⁷⁰ Fortunately for LGBG, the owner of IER purchased each missing print from other sources. While these replacements are not Imperial Edition prints, they are useful reminders of what is missing, as well as the fact that at some point they were also removed from their respective collections.

The Imperial Edition *Reichenbachia* in LGBG's art collection lacks a complete provenance. Dr. Burke owns the collection; he acquired it from an acquaintance to whom he had provided a loan, Hazel Bridges. According to his recollection, it was sometime prior to 1960 that Ms. Bridges settled the loan by giving Dr. Burke the *Reichenbachia* collection. It came into her possession as a bequest from Judge William A. Way, an orchidist from Southern Pines, North Carolina. Judge Way died in 1948, at which time his orchid collection was sold and Ms. Bridges, who had been his secretary for many years, inherited IER. *The Pilot*, a local Southern Pines

⁶⁹ Seigel, "The King..." 22.

⁷⁰ The plates missing from #86 are 1-1-2-5 *Cattleya Dowiana aurea*, 1-2-3-57 *Vanda coerulea*, 1-2-7-73 *Oncidium Lanceanum*, and 2-1-10-38 *Cypripedium Laucheanum* & *Cypripedium Eyeranianum*.

newspaper, references Judge Way and his orchid greenhouses throughout the 1930s and '40s, but mentions neither his *Reichenbachia* nor any clues of assistance with provenance research. No known connection links Judge Way to the only other clue about the early provenance of IER, an undated slip of paper included with the collection that appears to be a mailing address on the letterhead of Sander's publisher, H. Sotheran & Co. Handwritten below the letterhead it reads, "Mrs. Castlemaine / 3963 Lindell Avenue / St. Louis Mo USA." The year in which the unknown Mrs. Castlemaine in Missouri purchased the IER, as well as how and when it was transferred from her ownership to Judge Way's in North Carolina remains unknown. The slip of paper suggests that she ordered it directly from the publisher; how and when it came to be in their possession, when multiple sources assert that Sander gave away all copies of the Imperial Editions of *Reichenbachia*, are other questions.⁷¹

Unless and until a historical figure can be identified as the original owner of IER, it will remain simply Imperial Edition number eighty-six. The identity of the unknown first recipient of IER and his or her relationship to Frederick Sander is, in a way, the identity of this collection. Without the full story, the significance of the collection rests on its other qualities. Despite the unsatisfied curiosity from the incomplete provenance of IER, all editions of the *Reichenbachia* are gorgeous works of art that also tell the story of a fascinating moment in history. Even if the full provenance of IER is never discovered, this collection has acquired a new identity through its connection to the Richmond community and its use at LGBG.

⁷¹ H. Sotheran & Co. is now Henry Sotheran's Books, and my inquiries were not answered.

Chapter Two: Conservation, Restoration and Registration Report

Prior to loaning IER to LGBG, Dr. Burke noted that it was generally unsuitable for casual perusal due to damage. He stored the collection in his attic, where it remained undisturbed for almost fifty years. Dr. Burke's restraint in examining the *Reichenbachia* prevented the occurrence of further damage due to repeated handling, and his storage solution protected it from the harmful effects of rapid fluctuations in temperature and humidity on paper objects. When I began to work with this collection in the spring 2012 semester, it lay in three loosely organized stacks in the archives room in the basement of the LGBG Education and Library Center. What follows is an account of the registration, conservation, and restoration of this collection as a treasured part of LGBG's growing art collection.

Soon after the *Reichenbachia*'s arrival at LGBG, Randee Humphrey, Director of Education, and Janet Woody, librarian, consulted with local paper conservator Mary Studt. Studt examined a portion of the collection and wrote a treatment proposal with several tiers of recommendations ranging from simply rehousing to fully restoring the collection to its original appearance. Nearly all of the prints had suffered to some degree from various kinds of damage. Fingerprints, abrasions, mold, insect debris, dust, and occasionally wax marred the surface of many prints, especially around the edges. Moisture stained and weakened the paper, leading to brittleness, tears, fractures, and losses. The most conspicuous problem, however, was the adhesion of the protective cover sheet to the image surface on many of the prints. As will be

discussed in more detail later in this chapter, this adhesion resulted from a combination of moisture and pressure that slowly caused the cover paper to fuse to the images.

A discussion of conservation ethics is necessary to explain the decisions made regarding the treatments I applied to the *IER*. Conservation is an evolving field; in the past, conservators have emphasized different aspects of the objects being conserved, sometimes with results later considered detrimental to the conserved objects. Current-day conservators follow a code of ethics to guide the treatment of art and cultural objects which prioritizes the material needs of the objects over more subjective concerns.⁷² Unfortunately, conservators cannot always ignore subjective concerns that arise from unique conservation problems, such as when material damage to an object represents historical value but limits aesthetic value.⁷³ Other, more practical concerns, such as financial limitations, are an increasing burden of many museums.⁷⁴ Both of these subjective and practical considerations arose in the conservation of the *Reichenbachia* prints.

Conservators distinguish between preventative conservation, meaning non-invasive treatment, and active conservation, in which the treatment goes beyond that which is necessary to prevent or retard the natural processes of decay. Preventive conservation includes maintaining proper temperature and humidity, using only acid-free storage materials, practicing safe

⁷² Kimberly Hamilton Scotland Muir, “Wounded Masterpieces: Restoring Works of Art When Damage Carries Meaning” (PhD diss, Queens University, 2007), 16; Ethics and Standards Committee, “Code of Ethics and Guidelines for Practice,” American Institute for Conservation of Historic and Artistic Works, <http://www.conservation-us.org/index.cfm?fuseaction=page.viewPage&pageID=858&nodeID=1> (accessed August 11, 2013).

⁷³ Muir, “Wounded Masterpieces,” 1.

⁷⁴ Catherine Sease, “Codes of Ethics for Conservation,” *International Cultural Property Society* 7 (1998): 105.

handling, and carefully assessing the objects in question.⁷⁵ This type of passive care is uncontroversial and was applied to the *Reichenbachia*.

In active conservation, the ideal of reversibility guides the conservator's decision-making process. Reversibility means altering an object from its condition in such a way that the alteration can be undone by a future conservator, perhaps motivated by a different subjective standard.⁷⁶ When treatment encompasses an irreversible alteration of the object to address a subjective quality, especially in order to imitate its perceived original state, this process is referred to as restoration.⁷⁷ Codes of ethics cannot give specific guidelines for degrees of restoration, as these are subjective decisions based on different factors. The appropriate level of restoration must be decided by the conservator, in consultation with an art historian and the owner of the work in question.⁷⁸

The damage accumulated by an object is a record of its personal history, which can be considered of equal importance to the historical moment represented by its creation. For example, a *Reichenbachia* print in pristine condition has aesthetic value as well as historical value about the original context of its making, but one with rips, stains, and a cover sheet adhered to the image testifies to its history from its year of publication to today. The damage carried by a cultural object may hold meaning, for example if it was sustained as a result of

⁷⁵ Robert E. Child, "Ethics and museum conservation," in *Museum Ethics*, ed. Gary Edson (London: Routledge, 1997), 211.

⁷⁶ Child, 212-213.

⁷⁷ Child, 213.

⁷⁸ Sease, "Codes of Ethics," 103.

deliberate destruction, natural disaster, or war.⁷⁹ In such cases, restoring the work to a state resembling how it appeared prior to the damage may not be the best way to honor it. Changes to an object, including damage, “carry tangible evidence of how it has been used, valued, modified, and neglected from one era to the next. How these changes are dealt with in the conservation process, and how conservation itself acts to further transform the object, therefore, is more of a social and cultural issue than a strictly technical one.”⁸⁰ In many cases, removing this damage erases information that cannot be recovered. However, not all damage is meaningful;⁸¹ its contribution to the objects’ historical value must be carefully evaluated before any restoration work begins.

A current trend in conservation ethics is to preserve the inherent nature of an object, rather than to continuously restore it to a subjective former state.⁸² However, while refraining from restoring a broken clock or a tarnished silver table setting to a fully functioning and original aesthetic adheres to the standard of reversibility, in those cases viewers are not prevented from appreciating the objects in a museum setting. The viewer does not need to use the silverware to eat or the clock to know the time. However, a print that cannot be seen has lost its original and only function. As restoration proponent Philip Hendy argued, allowing visibly damaged works of art to remain so violates the intentions of the artist as well as the *raison d’être* of the work itself.⁸³ Even minor damage can be distracting.

⁷⁹ Muir, “Wounded Masterpieces,” 1-2.

⁸⁰ Muir, “Wounded Masterpieces,” 18.

⁸¹ Muir, “Wounded Masterpieces,” 5-6.

⁸² Child, 209.

⁸³ Muir, “Wounded Masterpieces,” 64.

LGBG prioritized the public's ability to view the prints over maintaining them in their damaged state. While restoring the prints would enhance their aesthetic value, removing the adhered cover sheets in order to do so would not be reversible. Likewise, not removing the adhered cover sheets would preserve the historical value represented by this damage, but it would preclude the possibility of seeing the prints. In this case, the damage resulted from natural processes of decay; there was little value to this aspect of its history. While ideas about the value of different kinds of damage can change over time,⁸⁴ at the time of this restoration, the aesthetic value of the prints was felt to outweigh the historical value represented by their damage. LGBG staff, Dr. Burke, and Mary Studt decided on a plan of action that would adhere to the American Institute for Conservation (AIC) Code of Ethics⁸⁵ while taking the priority of visibility and limited resources for conservation into account. A detailed description of the processes of registration, conservation, and restoration of the *Reichenbachia* follows.

Before any restoration work could begin, I needed to document and re-house the collection. According to Studt's advice, LGBG purchased a Japanese-hair brush for dusting, an air blower for surface cleaning, and a squirrel-mop brush for lifting mold, as well as acid-free backing boards and folders, Hollytex synthetic fabric, and a set of large sliding drawers for storing the collection. One by one, I carefully placed each print onto a backing board, carried it

⁸⁴ Muir, "Wounded Masterpieces," 4.

⁸⁵ Paragraph IV of the Code of Ethics states, "The conservation professional shall practice within the limits of personal competence and education as well as within the limits of the available facilities." The only restoration work that I applied to the collection was specifically what I was trained to do by Mary Studt. Ethics and Standards Committee, "Code of Ethics and Guidelines for Practice," American Institute for Conservation of Historic and Artistic Works, <http://www.conservation-us.org/index.cfm?fuseaction=page.viewPage&pageID=858&nodeID=1> (accessed October 11, 2013).

to a separate area, cleaned it and examined its condition. I recorded each print and folio's condition on a worksheet prepared in consultation with Studt – noting the description, severity, and location of any damage, as well as the corresponding treatments [Appendix 1]. I then photographed each print or folio and placed it into a large folder, labeled with the title and object number.⁸⁶ The titles are the species name(s), and the object number consists of four numbers which give, in order, the series, volume, folio, and tab.⁸⁷ To prevent further adhesion damage, I placed Hollytex, a highly stable and ultra-smooth polyester fiber material, between the image and the cover sheet wherever possible. As each print in this amount of packaging is somewhat heavy, I limited the depth of each pile to no more than nine prints, in order to avoid undue pressure to those at the bottom of the pile. The archives room at LGBG does not have humidity and temperature control, but monitoring shows that both are relatively steady and within acceptable museum standards. These conditions will preserve the collection from dilapidation and loss for the foreseeable future.

Alongside the cleaning and rehousing, I also prepared digital records in order to integrate each print and folio into the existing LGBG art collection. The LGBG library catalogue uses the

⁸⁶ The collection was given object numbers rather than accession numbers for two reasons. 1. LGBG does not own the collection. Items cannot be accessioned into the permanent collection until transfer of ownership. The collection could have been given a loan number pending accession but was not for the second reason; 2. LGBG currently has no collection's policy for its art collection. Assigning accession numbers to the *Reichenbachia* would preempt the conclusion that a collection's policy, once implemented, is supposed to decide. However unlikely it may be that LGBG drafts a collection's policy and then rejects accessioning the *Reichenbachia*, it is inappropriate to make assumptions about the future decisions of a committee acting on the guidelines of a document that does not exist. Rebecca A. Buck and Jean Allman Gilmore, *Museum Registration Methods*, 5th ed. (2009: American Library Association, 2011), 90.

⁸⁷ For example the first print in the first folio in the first volume of the first series is *Odontoglossum crispum Alexandrae*, numbered 1-1-1-1. The object number of the folios follows the same pattern as the prints, without the last number indicating tab. The first few folios are numbered 1-1-1, 1-1-2, 1-1-3, etc.

Presto database, software designed for libraries that need to manage multiple collections of diverse material while also fostering interaction with the user community.⁸⁸ This is useful in a botanical garden with a separate living collection, library collection, art collection, and photograph database. In Presto, I created a record of each print and folio with the help of LGBG's librarian, Janet Woody. These records detail all of the known facts related to each print, such as object number, title, artist, lithographer, orientation, location, original habitat of the orchid or orchids depicted, year published, and several other fields. After cleaning, examining, photographing, and re-housing each print and folio, I uploaded their condition reports and photographs into their corresponding records on Presto. The public can search the Presto database via keyword, or any of the other fields included in each record to access any of this information. When visitors use the Garden's website to search for orchids, they will discover not only the relevant books in the library, the live plants of the living collection and archived photographs of orchids, but also the stunning and rare *Reichenbachia* in the art collection.

The prints damaged by adhered paper and tearing required attention because these two kinds of damage preclude the possibility of displaying the prints or removing them from storage for research purposes. The adhesion damage was visually distracting; the most severely damaged prints could not be seen at all beneath their cover sheets. Leaving tears untreated puts the tears in danger of worsening when the print is not at rest. Leaving the prints in storage may keep them safe, but it also does not allow anyone to benefit from viewing them. The paper adhesion and tear repair treatments provided a compromise between the safety of storage and the value of research and interpretation. Most of the other kinds of damage which many prints continue to

⁸⁸ "Inmagic® *Presto* for Social Libraries: Expanding and Socializing Today's Library," InMagic, www.inmagic.com/sociallibraries (accessed May 25, 2013).

manifest are not physically harmful and, if desired, can be disguised under a mat. As the remaining conservation issues do not threaten the welfare of the collection or prevent it from being shared, they have not yet been addressed.

Nearly half of the prints were damaged by paper adhesion and most had tears. With so many prints damaged by adhesion and tearing, it was clear that LGBG did not have the budget for professionally conserving the entire collection. Randee Humphrey arranged for me to go to Studt's studio and learn how to safely address these problems. Luckily, the conservation process for both proved to be straightforward. I do not mean to give the impression that conservation work is easy. Rather, I believe Studt felt comfortable teaching me these two particular procedures *because* they are not complicated. Other treatments that may have benefitted the collection, such as addressing the loss of original ink, will require a much higher level of expertise. After several days of supervising my training, she felt I was sufficiently prepared to continue the process on my own.

The adhesion damage occurred in the central image area of each affected print, because the cover sheets were adhered to certain inks or varnish used in the image. As Studt explained, the adhesion process occurred because some of darker colors of ink had more binder to make them shinier and to deepen the color. Over time, this extra binder or varnish was softened by heat and moisture, which then stuck to the soft, wood pulp cover sheets when pressed together under the weight of all the other prints stacked on top of each other.⁸⁹ This problem of adhered paper is not uncommon with either the standard version or Imperial Edition of *Reichenbachia*. D. I. Duveen blames the German printer's excessive varnish use for the majority of this problem.⁹⁰ A

⁸⁹ Mary Studt, email message to author, April 5, 2013.

⁹⁰ Duveen, "Classics of Orchid Literature," 151.

survey of those prints in IER with adhesion damage supports that assertion; a much higher percentage of Leutzsch's prints had their cover sheets adhered to the images than those printed by Mansell. It would not be possible to preserve the cover sheet paper where it was adhered to the print during the restoration process. This raised the question of whether to proceed with restoring the images, as it meant destroying the cover sheets. Their relative value was felt to be unequal, and with the damaged prints unusable in their untreated condition the decision was made to pursue the goal of restoring visibility to the images at the cost of the cover sheets.

In cases of severe damage the first step was to use a small flexible spatula to lift up the edges of the adhered paper wherever possible in order to tear it off. This may sound crude, but the use of handheld tools to physically separate layers is not unusual.⁹¹ The adhesion only occurred over the dark green and dark red inks of any image, meaning that in many instances large portions of the image surface were obscured by paper that was only adhered in certain areas, depending on where these colors fell in the design of the orchid. I could safely tear the paper not directly adhered to the surface of the image from the paper that was adhered to the dark red and dark green inks. After gently removing as much un-adhered paper from the image surface as I could in this way, I proceeded to the second phase.

Using a wedge of cotton for large areas, or the corner of a strip of blotter paper for small areas, I lightly moistened the adhered paper with distilled and de-ionized water. Then I rubbed at the paper with a dry corner of a strip of blotter paper as though using a pencil eraser, only much more delicately. The moisture loosened the bond between the cover sheet paper and the ink

⁹¹ See Conservator Elizabeth Hollyday's report of removing a fraktur drawing from the lid of a mid-nineteenth century blanket chest. Elizabeth C. Hollyday, "Conservation of a Shenandoah Valley Fraktur," *Journal of the American Institute of Conservation* 17 (1977): 27-36.

enough to rub off the adhered paper. However, this method also made it possible to remove original ink, so it was of the utmost importance to proceed cautiously. When the blotter paper got too flimsy I trimmed it back and began with a fresh piece. Ideally, I would have proceeded with this technique while looking through a desk-mounted magnifying lamp. The magnification ensures that while rubbing off the cover sheet paper, the absolute minimum of ink is removed from the surface, less than what can be perceived with the human eye. Even under magnification at Studt's studio, a very small amount of ink loss was a consequence of this treatment. I did not have such a magnifying lamp at my disposal at LGBG, so I had to be extremely careful and work at a deliberate pace to avoid damaging the prints. I continuously examined the discarded blotter paper as well as the image surface. If there was any color visible on the blotter paper, it meant I was picking up too much of the ink and I would move on to another area in order to prevent further damage.

A similar problem arose with the conservation of a collection of Chinese shadow puppet figures at the American Museum of Natural History.⁹² Each figure was elaborately cut out of thin, translucent skin, painted, and coated with tung oil. Environments lacking climate control aggravated the adhesion properties of the oil, causing the puppets to adhere to whatever substance they contacted. The tung oil exposed the figures to tears, as well as adhesion to each other and various materials on which they were stored. However, it was considered to have ethnographic significance and so could not be altered or removed. As the museum considered the cost of a certain Teflon backing material that would resist adhesion to be too high, conservators researched alternative non-reactive backing materials. Eventually they found one, but hundreds

⁹² Lisa Kronthal, "Conservation of Chinese Shadow Figures: Investigations into their Manufacture, Storage, and Treatment," *Journal of the American Institute of Conservation* 40 (2001): 1-14.

of the puppets had to first be treated to remove the adhered non-original materials before they could apply it. “In most cases, the coating had saturated the storage material, and separation would inevitably involve some loss of coating. The goal in removal of the storage materials from the puppet surfaces was to retain as much of the original coating as possible along with its original, reticulated texture.”⁹³ This adhesion problem is comparable to that with the *Reichenbachia*, in which the removal of the adhered paper would inevitably cause some loss of original ink; my goal was to minimize this loss. Unfortunately, there is always a level of risk involved in restoration procedures; even experienced conservators must sometimes accept the imperfections of a treatment.⁹⁴

Eventually I restored all eighty-four prints suffering from adhesion damage to the best of my ability. Figures 2 and 3 show one such print before and after this restoration process. The inevitable minor ink loss was unnoticeable in all but a few instances. Wishing to avoid repeating this mistake, I was not always able to remove enough paper from the surface to reveal the image because it would also remove too much ink and damage the image irreversibly. In those few instances, I preferred to leave the image intact but hidden beneath a stubborn layer of adhered paper, rather than to rub it away entirely along with the ink. A professional conservator will have to address these conditions if and when the time comes. Fortunately the vast majority of adhered prints did not present this problem.

⁹³ Kronthal, “Conservation of Chinese Shadow Figures,” 9.

⁹⁴ See Conservator Peter Poldervaart’s account of separating prints that had fused together into nearly solid blocks after being abandoned by sailors to Nova Zembla in 1596. Willem P. van Oort, Peter M. Poldervaart and Judith H. Hofenk de Graaf, “The restoration, conservation and examination of the sixteenth-century prints found on Nova Zembla,” in *Conservation of Library and Archive Materials and the Graphic Arts*, ed. Guy Petherbridge (London: Butterworths, 1987), 71-83.

After conserving each print with adhesion damage I returned to Mary Studt to learn how to treat the tears. Nearly every print in the collection had some degree of tearing. As with the paper adhesion, the severity of the tearing problem ranged from barely noticeable to extensive. Age and exposure to moisture had embrittled the biscuit paper onto which the orchid prints were mounted, making it easy to tear. Stabilization of these tears was necessary to prevent existing tears from worsening when the prints were put into frames for display or examined for research purposes. Fortunately, the reversibility of this treatment simplified the decision to proceed with it.

After training me to repair the tears in her studio, Studt provided me with a large sheet of specially prepared remoistenable tissue paper with a prominent directional grain and adhesive properties on only one side. I cut the tissue paper across the grain into strips approximately one quarter of an inch wide and the length of each tear. Where tears were not in straight lines, I cut several shorter strips to follow the curve of the tear. The only other tools necessary to carry out the procedure at LGBG were several three-pound soft lead weights, distilled and de-ionized water, and blotter paper. As the paper on which these prints are mounted is thick, tears exposed multiple layers of paper fibers. The goal was to get the fibrous paper layers joined precisely where they were separated when the tear occurred. A clumsily-repaired tear would be weaker and more noticeable than one repaired properly. I lightly moistened the adhesive side of the strips of tissue by pressing them against wet blotter paper and then placed these over the carefully joined tears. I then allowed them to dry beneath dry blotter paper and a soft lead bag that evenly distributed its weight over the entirety of the tear. The grain of the tissue paper runs perpendicular to the tear, which provides the necessary tension to keep the pieces from separating. The non-adhesive side of the tissue faces outward, preventing any unintentional

occurrences of adhesion. If for some reason these repairs became undesirable, the tissue paper can easily be removed by moistening it.

At the encouragement of LGBG's PR & Marketing Coordinator, Jonah Holland, I wrote a post for the LGBG blog that was published on June 8, 2012 [Appendix 2]. Titled, "*Reichenbachia*: Conserving the Imperial Edition," it briefly describes the collection, explains the conservation problem with adhered paper, and discusses the planned restoration. It includes a slideshow of all the undamaged prints as well as the folio covers, with a link to the full *Reichenbachia* album in LGBG's online photo gallery.⁹⁵ A second blog post published on September 18, 2012 describes the then-completed paper adhesion restoration [Appendix 3]. Its title, "Extreme Makeover: *Reichenbachia*, Imperial Edition" references the popular appetite for projects with dramatically different "before" and "after" pictures. The post gives an overview of the cause of the adhesion and the restoration process. Again, a slideshow links to an online photo album showing the before-treatment and after-treatment photos of each restored print. While many of the prints had only minor adhesion to begin with, there are several satisfyingly dramatic comparisons between the two photographs. (There is no such gallery for the tear repairs as they are very difficult to see.) As each print was restored, I also updated the full *Reichenbachia* online photo gallery to include its most recent photograph. Both of the digital galleries have continuous unrestricted access online.

Having discussed the motivations to proceed with restoration and described the treatments I performed on the *Reichenbachia* collection, I will conclude with an analysis of the benefits and drawbacks of pre-professional conservation.

⁹⁵ The gallery does not include the four prints missing from the original collection and purchased from other sources, but these replacement prints do have accession records on Presto.

The benefit to digitizing the *Reichenbachia* in Presto and the online photo galleries is clear; access to the collection is broadened with no damage and little cost. The pre-professional conservation work I performed represents a more complicated compromise. By pursuing a pre-professional conservation, some of the staff of LGBG and I took on the work normally performed by a professional. This included the difficult decisions that have to be made in order to move forward, for example, the irreversible destruction of the cover sheets in order to remove them from the images to which they were adhered. Even though the potential aesthetic value of the prints seemed to clearly exceed any historical value they held in their damaged state, the decision to damage the cover sheets while restoring the prints was carefully considered. Randee Humphrey consulted with Mary Studt and an appraiser, deciding to pursue the treatment only when assured that a trained pre-professional could safely perform it and that the lack of cover sheets would not adversely affect the monetary value of the collection. Dr. Burke also approved of the restoration and is delighted with the outcome of the treatments.

The advisability of a pre-professional performing conservation work ultimately depends on the resources at the disposal of the institution. While it would have been preferable to have each print restored by a professional conservator, this was simply not a financially viable option. In my admittedly biased opinion, in this case the benefit to the collection definitively outweighs the drawbacks. The vast majority of the prints that arrived at LGBG damaged by paper adhesion are now safely restored and suitable for display. Those that I was unable to treat successfully are few in number, far fewer than the number of prints that arrived with worse, albeit a slightly different kind of damage. With circumspection and the guidance and training of a professional, I think that conservation performed by a pre-professional can be a valuable tool for institutions without the budget for large-scale conservation work. It increases the extent to which collections

can be shared through research, digitizing, and exhibition. Moreover, strong collections attract further donations;⁹⁶ the care that LGBG showed to a promised donation has the potential to attract other valuable gifts in the future, further enhancing the art collection. Lastly, the work LGBG allowed me to perform to transform this collection from a damaged treasure to a prized member of the LGBG art collection provided an emerging museum professional with a unique opportunity to gain valuable experience and insight.

I finished the restoration of this collection just as the annual spring orchid exhibit was approaching. It was the first opportunity to display the newly conserved *Reichenbachia*. Chapter three describes the exhibit of the *Reichenbachia* that I curated along with a reimagining of that exhibit based on the lessons it taught me about effectively communicating with an audience.

⁹⁶ Mary E. Petty and Daniel L. Walters. "‘The Milestones of Science’ collection: the Public Library and the conservation of Buffalo's cultural heritage," *Libraries & Culture*, 34 (1999): 262.

Chapter 3: Exhibition

Annually in the late winter to early spring, LGBG presents an exhibit called *Orchids Galore!*, which coordinates multiple orchid-related displays and programs throughout the grounds. Due to the timing and the subject matter, it was the perfect opportunity to share the newly restored *Reichenbachia* prints. This chapter will discuss my curatorial choices along with their unanticipated implications, offering a critical analysis of the exhibit. Finally, taking the lessons provided by the critique into account, I will consider how to curate a more cohesive and enjoyable visitor experience.

Before determining goals for displaying the *Reichenbachia* during *Orchids Galore!*, practical considerations of where and how to mount the exhibit had to be addressed. Two long hallways are used as display space for two-dimensional art exhibits: Ginter Gallery I in the visitors' center displays children's artwork, while Ginter Gallery II in the education building rotates exhibits of botanically themed artwork by contemporary artists and photographers. Ginter Gallery II was scheduled to display orchid photographs during *Orchids Galore!*, so the library was conscripted as an alternative exhibit space in which to display the *Reichenbachia*. The library is centrally located in the Education and Library Center ("ELC"), adjacent to Ginter Gallery II and halfway between the large glass conservatory and the E. Claiborne Robins Visitors Center, which serves as the entrance to the grounds, the café, and the gift shop. In late January a picture rail was installed that would accommodate the copper hanging rods already used in the other LGBG galleries.

Logistical constraints meant that the *Reichenbachia* exhibit could only comprise a fraction of the total collection. Each framed print measures twenty four inches wide by thirty inches tall. With only about thirty feet of width in the new library gallery, even the most crowded Salon-style display could accommodate thirty prints. Out of 192 total prints in the collection, as well the folio covers and text pages, I decided to display about a dozen. In order to choose which prints and text pages to include in the exhibit, I first had to decide on the theme of the exhibit.

Multiple narratives could be supported by an exhibition of the *Reichenbachia* collection, such as the its conservation issues, Sander's life and legacy, printmaking in nineteenth-century society, the development of plant hybridization, or the environmental consequences of orchid hunting. Each of these approaches is an important part of the story of the *Reichenbachia*, and a valuable subject to explore through this collection. My approach was to introduce this collection by incorporating elements from several areas of inquiry. I chose all nine *Reichenbachia* prints that depict orchid species named after Sander [Figures 4-12]. This allowed room for a few more prints, so I included one of the four non-Imperial Edition missing print replacements and a proof from the unfinished third series (see Chapter 1), also on loan from Dr. Burke [Figures 13-14].

So much could be said about this collection, but in order to avoid overwhelming viewers with an abundance of text, I limited the didactic material to an introductory panel label and four smaller individual labels. The rest of the prints were identified in "dog-tag" labels giving only title, medium, artist, lithographer, date, and credit line. The large introductory label discusses Frederick Sander, the Imperial Edition, and chromolithography [Appendix 4A]. Each of the four smaller labels refer to different aspects of the collection in slightly more detail. These addressed the issues of dispersed collections, the chromolithographic process, the paper adhesion damage, and the competitive and imperialist nature of orchid hunting [Appendix 4B].

The label discussing the rarity of complete collections of *Reichenbachia*, especially Imperial Editions, accompanied one of the four prints that Dr. Burke purchased from separate sources to replace those missing from IER. *Cattleya Dowiana aurea* arrived from the seller in a more extravagant frame than those used in the rest of the exhibit, drawing attention to its difference from them. Dr. Burke wants it to stay in that frame and for people to understand that it had been singled out and removed from its collection as an individual work of art, just as the one missing from IER presumably had been. The label about the process of layering in color lithography accompanied the proof from the unfinished third series of *Reichenbachia*. *Habenaria susannae* and *Habenaria susannae* var. *alba* shows a row of ten color blocks in the lower left corner, which represent each color used in the printing of that image. The label explained the presence of the conspicuous colored squares, clarified the description of the chromolithographic process given in the introductory label, and mentioned the existence of an incomplete third series. The label about the paper adhesion accompanied one of the few prints with severe damage that I was unable to fully restore, *Coelogyne Sanderiae*. I removed the paper that was adhered to the image, but looking closely one can still observe evidence of that damage. Highlighting an example of a less well-preserved print drew attention to the excellent condition of the others. Lastly, the label for *Vanda Sanderiana* included a quote from its text page, giving Sander's vivid description of the flower's discovery and importation. The label gave the reader a sense of the orchid trade from a nineteenth-century perspective.

As Sander sought to do in the *Reichenbachia*, I tried to satisfy a diverse audience composed of casual viewers as well as more informed art or orchid lovers. By including the nine orchid discoveries in the *Reichenbachia* named for Sander, the exhibit provided a straightforward point of access for viewers unfamiliar with the subject matter. The introductory

label explained who Frederick Sander was and gave basic information about the collection. The four object labels suggested that there are many different pieces to the story of the *Reichenbachia*. They discussed the subject matter of the prints as well as the prints as art objects. The following critical analysis will reveal some of the unintended consequences of my choices that weakened the communicative potential of the overall exhibit.

The biggest obstacle to clarity in this exhibit was a failure to coordinate the placement of the didactic material with its content. The layout of the exhibit [Figures 15-16] shows that there were two points of entry, one corresponding to each wall. The smaller wall on the left side contained the large introductory panel, the missing print replacement, and the third series proof. The larger wall on the right side contained the nine prints depicting orchids named after Sander, grouped symmetrically around a picture of him and a label beneath, which in large font read:

Sander's Legacy

Each of these nine orchids was introduced by one of Sander's orchid hunters.
Their species names immortalize his contribution to horticulture.

The label beneath Sander's picture stated that each of the orchids in the prints on the large wall is named for him, but it did not explain who he was; that information was on the introductory panel. The introductory panel on the smaller wall to the left suggested that the proper flow of visitors through the exhibit was from left to right, while visitors moving from right to left would encounter no didactic material to explain the content on display at a basic level until they had nearly reached the end of the exhibit. If they sought clarification from the two smaller labels on the large wall, they would instead read about the paper adhesion and the discovery of the *Vanda Sanderiana*, both of which built upon the more basic knowledge of the introductory panel. Because the four individual object labels discussed four different topics, it was important that

each could communicate its message independently. The different subject matter of each label suggested a *laissez-faire* approach,⁹⁷ in which various didactic material is available for the viewer to read or skip according to preference, but the labels' placement suggested a necessary progression from left to right. This fundamental contradiction resulted in a lack of flow and probably led to some confusion on the part of visitors viewing the exhibit from right to left.

The placement of prints also affected the purely aesthetic component of the exhibit. The visual relationship between the larger wall, with the nine identically framed *Reichenbachia* prints, and the smaller wall, with the missing print replacement and third series proof, was not strong enough to convey that they all belonged to the same collection. Although through this approach I was able to arrange the nine Sander orchids in a lovely tableau that emphasized the variety of the orchids in color, pattern, size, and shape, it also insulated them from the display on the smaller wall. Grouping the prints as described above did not diminish their inherent visual appeal, but it also did not provide any narrative thread. The potential to establish visual relationships between prints by more carefully integrating each wall could have strengthened the intended aesthetic experience.

My decision to introduce the collection by mentioning a variety of subjects related to its context, creation, and personal history was only partially successful. The content and layout of both the prints and the labels prioritized viewers who read the labels, and in the proper left to right order, at the expense of viewers who skipped the labels and looked only at the art or who happened to read them out of order. I designed the didactics to appeal to a broad audience, so that visitors with different interests would be able to find something about the collection that intrigued them. This didactic program trusts in the self-motivation of the viewer to guide his or

⁹⁷ M.A. Lindauer, "From salad bars to vivid stories: four game plans for developing 'educationally successful' exhibitions" *Museum Management and Curatorship* 20:1 (2005), 45.

her own learning without a prescribed curriculum or specific outcome desired.⁹⁸ Although the labels did impart factual information, no interpretation of the artwork was offered and viewers were free to create their own interpretations. While these educational approaches to exhibit planning are valid, it does not preclude the necessity to make the labels self-explanatory, nor to make the exhibit visually coherent for all visitors regardless of the way they may consume the didactics.

The biggest lesson this exhibit taught me is that the curator must remove herself from her own thorough understanding of the collection on display and approach it from the perspective of someone to whom it is unfamiliar. Educationally successful exhibits should appeal to audiences with varying levels of familiarity with the subject matter. Though observation of and conversation with visitors indicated that many people enjoyed the exhibit, a critical analysis reveals that opportunities were missed to provide a more educational and visually compelling experience. The remainder of this chapter will discuss a re-envisioning of this exhibit taking this lesson into account.

While it is tempting to imagine how future exhibits with different themes could look and what messages they would deliver, for the purposes of this thesis project I will redesign my exhibit to more successfully satisfy my original goals. To review, I wanted to satisfy viewers with different interests and levels of background knowledge, showcase the prints' aesthetic value, and convey the diversity of subject matter relevant to the collection. My revised strategy would be to simplify the key issues covered in the didactics, make each label self-explanatory, and pay closer attention to the selection and placement of exhibit components.

⁹⁸ Lindauer, "From salad bars to vivid stories," 45-46.

Figures 17-18 show an alternative exhibit design that addresses the problems with placement of both prints and labels, while new labels [Appendix 4C] address the problems with didactic content. By removing the chairs and placing one of the folios on a table between the pillar on the right and the wall, the exhibit area is more clearly delineated and the traffic of visitors channeled in a way more conducive to comprehension. Arranging the exhibit area in a wide ‘U’ shape that visitors enter rather than a path that they walk through suits the non-linear didactic content. A simplified introductory panel [Appendix 4C] would be placed on an easel in an unobtrusive position at the entrance of the exhibit area. Visitors may walk past it, but if they decide they would like to read more they may approach it. Visitor behavior is varied and sometimes unpredictable; the only certainty is that not everyone will read every label.⁹⁹ Knowing this I have striven to redesign the exhibit to satisfy viewers literally and figuratively approaching the exhibit in different ways, so that each label can stand alone without being repetitive. Clarity in my description of the redesigned exhibit dictates that I proceed from left to right, although I would not necessarily recommend that route over another to a visitor.

The small wall to the left would display a folio cover and its four corresponding prints to introduce the *Reichenbachia* as both a collection of prints and a book. Signage would establish that the four prints belong to the folio, one of forty-eight composing the entire publication, allowing label-readers to appreciate the variety and scope of the *Reichenbachia*. The folio on display would be 2-1-1-1 through 2-1-1-4, whose prints provide a visual balance between white orchids with shaded backgrounds and pink orchids without backgrounds. Additionally, Sander included his tribute to Professor Reichenbach at the beginning of this volume; a copy of this would hang to the left of the folio cover. This arrangement would offer a visual and textual

⁹⁹ Lindauer, “From salad bars to vivid stories,” 45.

grounding of the collection's title and the opportunity to appreciate some of its context by reading Sander's words and viewing Reichenbach's portrait on his tribute. This layout would also provide a visual connection between the folio cover and the four orchid prints through the conspicuous species names printed on each.

The large wall of the redesigned exhibit would include a Wardian case filled with living orchids, surrounded by *Reichenbachia* prints of the same or similar species pulled from various folios.¹⁰⁰ As mentioned in chapter 1, Wardian cases made an orchid hobby more affordable by providing a smaller environment in which to grow orchids that was also far less expensive than a greenhouse. Wardian cases were also an essential technology in the transportation of living plants over long distances,¹⁰¹ greatly increasing the quantity and the variety of species available to market in Europe. The enclosed glass cases helped to regulate some of the environmental variables that plants required to survive, such as light, humidity and temperature. During *Orchids Galore!* a reproduction Wardian case stood centrally in the library [Figure 19], where it was the first thing visitors would encounter upon walking through the doors. It was a compelling visual example of an historical invention without which the *Reichenbachia* would probably not exist. Its presence put the prints in an historical context in a more immediate manner than could have been accomplished through text labels alone, but its distance from the rest of the exhibit strained this connection. Moving the Wardian case into the redesigned exhibit and displaying corresponding prints around it would reinforce this relationship. A label would discuss the role Wardian cases played in orchid mania and invite visitors to discover the connections between the

¹⁰⁰ Although the live flowers require different greater moisture levels than the prints it should not be a conservation concern due to the enclosed nature of the Wardian case around the orchids, the frames around the orchid prints, and the relatively short duration of the exhibit.

¹⁰¹ Edward P. Alexander and Mary Alexander, *Museums in motion : an introduction to the history and functions of museums* (New York: Altamira Press, 2008), 142.

flowers in the case and those in the prints. The prints would be hung in alternating vertical and horizontal formats in order to provide a directional flow that would, ideally, prompt the viewer's eye to move from print to print and perceive the distinctive qualities of each orchid portrait.

Moving to the right, an open folio under a vitrine would block visitor movement through that space and help visitors make a visual connection between the prints on display and their context as part of a book publication. Opening the folio to a text page and placing the corresponding print next to it would encourage viewers to note the connection between the two and allow curious visitors to read some of the text. I would select a print I used in my exhibit, the *Vanda Sanderiana*, so that the quotation I used in my label about the sensation caused by its discovery could be seen in greater context and in its original format. This would save room in the object label to note that the *Reichenbachia* is an orchid compendium comprising visual and textual representations of the flowers and to discuss the importation of orchids from abroad in slightly more detail. This element echoes the function of the folio displayed on the small wall to the left, so that any circuit of the exhibit would allow visitors to understand that what they are viewing is part of a larger collection. At the same time, by offering different images and text, the left and right edges of the exhibit avoid redundancy and give the viewer an opportunity to grasp the diversity of the collection.

Each component of the redesigned exhibit contributes to the goals of inspiring aesthetic appreciation and conveying the diversity of the collection to audiences of different backgrounds. Subjects not essential to relating the nature and basic context of the *Reichenbachia*, such as collection disbursement and the conservation process, were trimmed. Subject matter that was kept was made more visually available and more explicit in the didactics. The folio display on the small wall to the left and the table to the right visually present the *Reichenbachia* as both art

and text while hinting at the variety of the orchids featured in the collection, and therefore the variety of the orchid family. The Wardian case comparison on the large wall offers an engaging visual experience that also introduces the relevance of an historical technology to the objects on display. The importation of orchids from abroad previously only briefly mentioned in the *Vanda Sanderiana* label is discussed both in the folio display on the right and with the Wardian case display at the center. Chromolithography is an essential topic to introducing the collection because it explains the process by which it was made as well as important historical context, but there was not space to include it in the redesign. However, instead of dropping it from the didactics, I would opt to write a small illustrated brochure explaining the process and leave copies next to the introductory panel.

Redesigning this exhibit was a useful exercise in examining how curatorial choices ultimately serve or misrepresent the collection. Strategies of selection and placement of prints and didactic elements must converge in an exhibit that offers visitors the opportunity to understand what they are viewing and why it is important. These reflections may contribute to future exhibitions of the IER.

Conclusion

Lewis Ginter Botanical Garden is the repository of a rich botanical collection, with a mission emphasizing education, outreach, and sustainability. The value of integrating an art collection into the exhibitions program to supplement the mission was demonstrated with the use of the *Reichenbachia* collection in *Orchids Galore!*, which ran from February 14 through March 31, 2013. Although Ginter Gallery II was used before 2013 to display botanical art that was thematically coordinated with major exhibits, the installation of new exhibit space in the library signaled a growing commitment to utilizing its art collection.

Most of the acreage at LGBG is rightfully devoted to the living collection on the grounds, with little indoor space for exhibition of the art collection. The art collection at LGBG has always been valued and well-cared-for, but limitations in gallery space and staffing have restricted its potential for interpretation. Botanical illustrations and paintings in the LGBG art collection are continuously displayed throughout the buildings without any didactic element. Several dozen illustrations by Alexandre Descubes¹⁰² have been hanging in the café dining area since it opened in 1999. Fortunately, the room has a stable environment and gets little to no direct sunlight; none of the prints I examined appear to have suffered any damage. Nevertheless it is a dangerous precedent to allow paper works with fugitive media like pencil and watercolor

¹⁰² The Descubes collection consists of around 2,500 late-nineteenth- and early-twentieth-century botanical watercolor paintings with detailed pencil annotations by British amateur artist and botanist Alexandre Descubes.

to remain on display so long past the recommended display period of a few months.¹⁰³ While it may be advisable to replace the Descubes in the dining area with copies or some other decorating scheme, visitors at least have a chance to see them there. Until more gallery space is allocated or a staffing position dedicated to curating it on a rotating schedule is created, limited exhibit space hinders LGBG's ability to take full advantage of its excellent art collection.

Conversely, the exhibit of the *Reichenbachia* during *Orchids Galore!* represents the advantage of having an art collection in a botanical garden. The *Reichenbachia* did not merely supplement an existing annual exhibit of live plants; its inclusion in *Orchids Galore!* exemplified the reciprocal benefit of thoughtfully intermingling botanic art with living botanics. The interaction of the art collection with the living collection offered a sense of continuity between the past and the present that either alone could not easily achieve. Without the prints, the history represented by the live orchids' could be missed by a viewer focused on the beauty or strangeness of the plants. Although imperfectly realized in my exhibit, I found the combined display of the living orchids in the Wardian case and the orchid art of the *Reichenbachia* to be intellectually and visually stimulating. The *Reichenbachia* collection visually complemented the live orchids while also carrying important historical connections that enhanced the living botanical exhibits. Further collaboration between the art department and the horticultural department will continue to enhance future exhibits.

¹⁰³ The nature of light damage makes it difficult to give a definitive recommendation, since it depends on site-specific factors such as light intensity, energy distribution of the light, surrounding temperature and humidity, the nature of the material, and the nature of the medium on the material. Tim Padfield, "The Deterioration of Cellulose, A literature review: The effects of exposure to light, ultra-violet and high energy radiation," in *Problems of Conservation in Museums: A Selection of papers presented to the joint meetings of the ICOM committee for museum laboratories and the ICOM committee for the care of paintings, held in Washington and New York, from September 17 to 25, 1965* (London: George Allen & Unwin, Ltd, 1969), 122.

LGBG's dedication to its art collection and utilization of art in the exhibition program is admirable. The potential of the art collection to contribute to the mission outweighs the difficulties it presents in light of limited gallery space and staffing. The next step is to institute a collections policy in order to serve both LGBG as an institution and the artwork in its collection. It is likely that other generous friends of LGBG will decide, like Dr. Burke did, to loan, donate, give or bequeath their valuable botanical artwork to a safe home for the education and enjoyment of the public. As LGBG's art collection grows, opportunities for interpretation will multiply as exhibits and programs can take advantage of interactions between the living collection and the art.

At LGBG, the research, conservation, registration, and exhibition of *Reichenbachia* Imperial Edition has provided a useful example of both the advantages of a botanical garden having an art collection and the responsibilities that it entails. This thesis project has spotlighted a significant relic from a remarkable chapter of Victorian history as well as documented an ambitious project supported by an excellent institution. I hope it may be a useful case study of the benefits and drawbacks of pre-professional conservation as well as the challenging but worthwhile effort in using art to supplement the educational and restorative value of a botanical garden.

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APPENDIX 1

Condition Form

Accession Number:			
Print Title:			
Overall Condition Estimate: Excellent / Good / Fair / Poor			
<u>Problem:</u>	<u>Severity (% loss, size of tear, location, etc.):</u>	<u>Location:</u>	<u>Treatment:</u>
Brittleness			
Tearing			
Losses			
Paper Adhesion			
Moisture Staining			
Planar Deformation			
Surface Soiling			
Mold			
Bubbling			
Other			

APPENDIX 2

First Blog Post

Reichenbachia: Conserving the Imperial Edition

Jun 8th, 2012 by Erica Borey

Text & Photos by Erica Borey, VCU Museum Studies Intern, Lewis Ginter Botanical Garden

Lewis Ginter Botanical Garden has been very fortunate in the intended donation of a rare and *almost* complete collection of 19th century orchid prints — the *Reichenbachia*. As you may have read about on our last orchid-related blog post, Frederick Sander, “The Orchid King”, spared no expense in depicting these beautiful specimens in all their glory. Sander commissioned his future son-in-law, Henry George Moon, to paint 192 of his finest orchids in great detail.* These paintings were copied by equally talented lithographers and printed in up to 20 colors – a highly sophisticated process to do correctly. For the accompanying texts Sander consulted with renowned botanist and orchidologist H. G. Reichenbach, after whom the collection is named. The collection is divided into four parts, each of which is named for one of the queens of Europe. The Imperial Edition (the one that the Garden is working to restore) is distinguished by its oversized backing boards — only 100 copies of these were ever printed! Please enjoy a slideshow of selections from the *Reichenbachia* Imperial Edition number 86.

Unfortunately, not all of the prints in this collection are in as good condition as the ones above. Many have suffered damage as a result of years of poor storage conditions. LGBG reached out to VCU for help with this collection, and as a student of museum practices, I am grateful to have become involved in such an interesting project. As part of my internship over this past spring I was able to move the entire collection into stable, acid-free housing to prevent any further

damage. Pressure and moisture have affected dozens of prints in the collection, fusing their protective cover sheets with some of the inks, resulting in this:



Fortunately, much of this damage is reversible. Dr. Arthur Burke, the collection's owner, has extended his already remarkable generosity to allow for their conservation. Over the summer I will be working to restore those prints in a similar condition to *Oncidium Superbiens*, left, to full visibility. Watch for an update in late summer detailing this process and revealing their 'before and afters'!

**H.G. Moon was the original artist for the vast majority of the Reichenbachia, but not all of them. Twelve were painted by five other artists: Walter Hood Fitch, John Livingstone MacFarlane, Alice Helen Loch, George Hansen, Charles Storer and John Walton.*

For Further Reading, visit [Lewis Ginter Botanical Garden's Lora Robins Library](#)

Alrich, Peggy A. and Wesley E. Higgins. "Reichenbachia: The Story of a Masterpiece and the People" in *Orchids: The Bulletin of the American Orchid Society* 79 (July 2010) 392-401.

APPENDIX 3

Second Blog Post

Extreme Makeover: *Reichenbachia*, Imperial Edition

Sep 18th, 2012 by Erica Borey

Text & Photos by Erica Borey, VCU Museum Studies Intern, Lewis Ginter Botanical Garden



Cymbidium winnianum before treatment, paper is adhered to a large portion of the image surface.

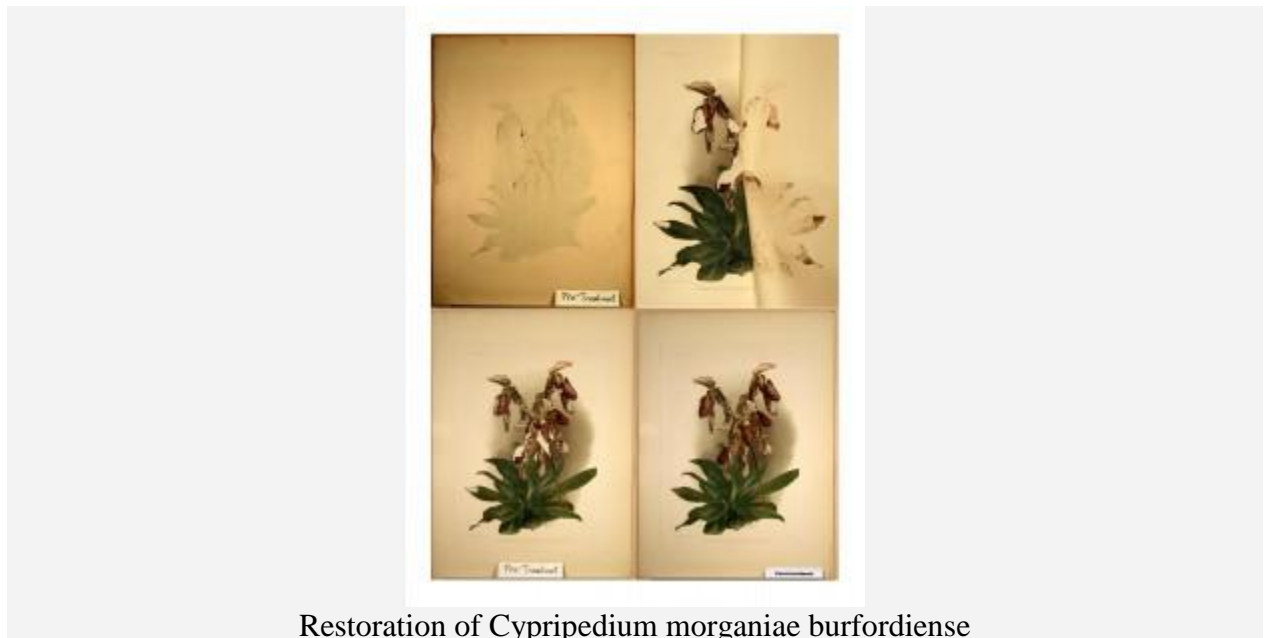
As you may have read in our [early summer blog post on *Reichenbachia*](#), Lewis Ginter Botanical Garden holds one of the only known copies of the Imperial Edition of *Reichenbachia*, a collection of late-19th-century chromolithographs depicting various orchid specimens.

Unfortunately, due to years of poor storage conditions many of these prints were either partially or completely hidden beneath a layer of paper. Pressure and moisture over the years caused many of the prints' cover sheets to stick to certain inks in the images, resulting in images like *Cymbidium winnianum*, right:

After transferring each print to a more stable housing environment designed to prevent further degradation, I was trained by a local paper conservator on how to lift the adhered paper with minimal disturbance to the ink beneath, thus revealing their original gorgeous faces. One by one, I carefully and slowly uncovered each of the compromised images. In some cases, the paper

adhesion was minor and the treatment was fast. Others, as in the photo above, required a time commitment of several hours — sometimes days! However long it took, each newly uncovered orchid reinforced my desire to restore the visibility of this collection in its entirety. Over the summer I completed this process of restoration on 89 of the 192 prints in the collection! Please enjoy a selection of prints before and after their conservation in the following slideshow!

Special thanks are due to the collection's donor, Dr. Arthur Burke, who exceeded the generosity of his original donation by also providing the means for me to conserve them. Now that the most obvious damage to this collection has been addressed, I turn to another common problem: many are also torn. Aged paper can be very delicate, and the majority of this collection has sustained some degree of tearing. I've already undergone conservator training to mend and stabilize tears, which will increase each print's durability, especially useful if and when they are put on display. Thanks to a graduate assistantship, I am able to carry on my work with this collection for the 2012-2013 school year. I look forward to improving the condition of this rare and outstanding example of botanical artwork so that it may someday be displayed for an art and orchid-loving public. After all, what is the use of conserving a historically and aesthetically unique print collection if no one gets to see it? If you'd like to come see a few selections, you can contact the [Lora Robins Library](#).



For further reading:

Alrich, Peggy A. and Wesley E. Higgins. “*Reichenbachia*: The Story of a Masterpiece and the People” in *Orchids: The Bulletin of the American Orchid Society* 79 (July 2010) 392-401.

APPENDIX 4A

Introductory Exhibit Label

REICHENBACHIA, *Orchids Illustrated and Described*

Frederick Sander

Amid the “orchid mania” that pervaded late-nineteenth-century England, Henry Frederick Conrad Sander (1847-1920) was one of the most successful collectors. Sander spent all of his savings to immigrate to London from Germany as a young man. He quickly established himself as a merchant of various plants before dedicating his apparently inexhaustible energy toward orchids exclusively. Despite a reputedly impulsive approach toward embarking on large, financially taxing projects and an aversion to certain technological advances, Sander grew his business into an empire. At one time, his domain comprised of over sixty greenhouses in London, Belgium, and New Jersey and employed a small army of travelling orchid hunters. These travelers supplied Sander with huge amounts of orchids from all over the world. Several species are named after Sander, nine of which are featured in his exceptional publication, *Reichenbachia*.

Imperial Edition *Reichenbachia*

One of Sander’s greatest ventures was the publication between 1888 and 1894 of *Reichenbachia, Orchids Illustrated and Described*. The title of the volume honors H. G. Reichenbach, the most esteemed orchidologist of the time. *Reichenbachia* is a series of 192 color lithographs copied from watercolor paintings, accompanied by information relating to the orchids depicted. For this project Sander sought the contributions of scientists, collectors, artists, and chromolithographers in order to provide the most authoritative and the most aesthetic possible volume on the subject of orchids.



This extravagant publication was also produced in a limited Imperial Edition, of which Sander made only 100. The Imperial Edition is larger than the market version but otherwise identical. Complete copies of the standard *Reichenbachia* are uncommon, but copies of Imperial Edition are extremely rare. Selections from *Reichenbachia Imperial Edition #86* are here on display.

Chromolithography

Lithography is a printing process by which images were drawn onto a flat stone in wax crayon, which was then coated in ink and pressed onto paper. The ink would only adhere to the wax, so that wherever the wax was applied to the stone, the ink would appear on the paper.



Importantly, the stone retained the wax image, so that multiple copies could be printed. Color lithography, also called chromolithography, was a controversial but highly popular method of reproducing original works of art. In chromolithography, professionals called *chromistes* would determine each color involved in the oil or watercolor painting being copied. Each individual color would be applied onto a separate stone and then printed onto a single piece of paper, reassembling the original picture.

The *Reichenbachia* prints are chromolithographs copied from watercolor paintings. With few exceptions Sander contracted the original paintings to his future son-in-law, landscape and botanical artist H.G. Moon. Most of the highly complex task of transferring these paintings into color lithographs was split between Joseph Mansell in London and Gustav Leutzsch in Gerra, Germany.

Chromolithographs were criticized by some as technically proficient, but artistically void, because they were copies and could never capture the aura of the original. Nevertheless, they had a revolutionary impact on society. After the stones were prepared, any number of copies could be made, making lithographs cheap enough to be affordable to those who could otherwise not own art. Color lithography brought art within the grasp of the public for the first time. Eventually, the word *chromo* came to mean something ugly and the technology became obsolete by the invention of offset printing in the 1930s.

For more information or to see the rest of the prints in the collection, please visit www.lewisginter.org

APPENDIX 4B

Other Exhibit Labels

Cattleya Dowiana aurea

Chromolithograph

Artist: J. L. McFarlane

Lithographer: J. L. McFarlane

1888

This *Reichenbachia* print does not belong to an Imperial Edition. *Cattleya Dowiana aurea* is one of four prints that were missing from the *Reichenbachia* Imperial IER upon its acquisition by Dr. Arthur Burke. While the image is the same, it comes from a different source. Like all *Reichenbachia* prints, its excellence suggests it as a captivating work of art on its own, apart from its original context. As a result of this temptation to separate individual selections, which may then be sold, given away, or lost, there remain very few complete collections of *Imperial Edition Reichenbachia*.

Loaned from the collection of Dr. Arthur Burke

Vanda Sanderiana

Chromolithograph

Artist: H.G. Moon

Lithographer: Joseph Mansell

1890

Importers constantly searched for newer, more exotic, and more beautiful species to market. Regions unexplored by Europeans were rapidly diminishing as competition drove orchid hunters into ever more remote areas. The following passage from the text page accompanying this print illustrates this aspect of orchid-mad Victorian society:

“The principal event in the horticultural world during the year 1883 was the first flowering of Vanda Sanderiana, which we had the good fortune to introduce into Europe. As soon as steam communication was established between Manila and Mindanao, one of the largest of the Philippines, we despatched [sic] a collector to explore this latter island, and he sent us the first dried flowers of this wonderful Vanda. They created a great sensation in our establishment, for, although we expected some remarkable discoveries, we were not prepared for such a startling surprise.”

The discovery of this species was a major windfall for Sander, cementing his growing reputation as “The Orchid King”.

Loaned from the collection of Dr. Arthur Burke

Coelogyne Sanderae

Chromolithograph

Artist: H.G. Moon

Lithographer: Gustav Leutzsch

1894

Chromolithographers sometimes used varnish to imitate the textures of the original painting from which the image was copied. While this technique may have elevated the quality of the print when it was made in 1894, it became a detriment over time. Like nearly half of the prints in this collection, moisture and pressure caused the protective cover sheet to stick to the varnished surface of the image. Although this condition was corrected, these prints sometimes still bear the scars from that damage and will require further conservation to address it. Here, faint horizontal lines in the dark green portions disrupt an otherwise harmonious illustration of the only orchid named in honor of Mrs. Sander.

Loaned from the collection of Dr. Arthur Burke

Habenaria susannae and Habenaria susannae var. alba

Chromolithograph

Artist: Attributed to H.G. Moon

Lithographer: Probably Joseph Mansell

c. 1900

Producing original, high-quality chromolithographs such as these was a difficult, time-consuming, and therefore expensive process. Each color had to be applied separately and with great skill, so that they all overlapped perfectly to create a cohesive picture. This print is part of the unfinished third series of *Reichenbachia*. The vertical line of colored squares in the lower left indicates that it has been through ten different color pressings. Some of the *Reichenbachia* prints consist of as many as twenty colors!

Loaned from the collection of Dr. Arthur Burke

Appendix 4C

Re-designed Exhibit Labels

Introductory Panel:

Reichenbachia

Published by Frederick Sander between 1886 and 1894, *Reichenbachia, Orchids Illustrated and Described* is a spectacular historical relic of the Victorian period of “orchid mania.” *Reichenbachia* is a series of 192 color prints of orchids copied from watercolor paintings and accompanied by information about each orchid depicted.

Frederick Sander (1847-1920) was one of the most successful orchid importers during “orchid mania,” a time of public interest in orchids characterized by a growing number of hobbyists in Europe and America driving the discovery and importation of new species from habitats around the globe. At one time, Sander had over sixty greenhouses in England, Belgium, and the United States, and employed over a dozen traveling orchid hunters. Sander spent much of his wealth from selling orchids to create this magnificent volume.

The title “*Reichenbachia*” honors H. G. Reichenbach (1824-1889), the most esteemed botanist of the time. His portrait can be seen to the right, as featured in Series II, Volume I of the *Reichenbachia*.

The collection displayed here is one of a rare limited edition of the *Reichenbachia*, called the Imperial Edition. Sander printed 100 copies of the larger Imperial Edition as gifts for his most important clients. Please enjoy these selections from the *Reichenbachia Imperial Edition, no.86 of 100*.

To view the rest of the prints in the collection, please visit www.lewisginter.org or make an appointment with the librarian.

Label for small wall on left wall of exhibit:

(clockwise from top left)

Cypripedium Morganiae Burfordiense

Cattleya Bowringiana

Phaius tuberculosis

Dendrobium formosum

Chromolithographs

Artist: H.G. Moon

Lithographer: Gustav Leutzsch

1892

The prints displayed at right comprise one of forty-eight folios of the *Reichenbachia: Orchids Illustrated and Described*. This folio introduces the first volume of the second series. *Reichenbachia*'s namesake, German botanist Professor H.G. Reichenbach, died shortly before the publication of this volume and is remembered in the nearby text for his contributions to horticulture. While the prints are the most eye-catching aspect of the *Reichenbachia* collection, the scientific authority in the text Reichenbach provided for each orchid was an important resource to the original audience. After Reichenbach's death, botanist R.A. Rolfe from the Royal Herbarium at Kew supplied the scientific texts for the remaining two *Reichenbachia* volumes.

Label for large wall:

A continuous supply of exotic species of orchids imported from abroad fueled the "orchid mania" affecting many plant-lovers of late-nineteenth-century Great Britain. Wardian Cases, such as the reproduction displayed here, facilitated the transport of live plants over long distances and provided an inexpensive alternative to a greenhouse for growers with small orchid collections. Invented in 1834 by Nathaniel Ward, the enclosed glass structure regulates the temperature and humidity required by delicate plants while also keeping out pests. Each of the orchids depicted in the *Reichenbachia* were collected from various habitats and shipped, sometimes in Wardian Cases, to the nurseries of German-British orchid magnate Frederick Sander.

The orchids growing inside this case belong to the same species as those collected and depicted over a century ago in the prints displayed on this wall. Can you match the living orchids to their historic portraits?

Label for folio display on right side of exhibit:

Vanda Sanderiana
Chromolithograph
1888

Each illustrated orchid featured in the *Reichenbachia* complemented a scientific description and narrative account of its discovery and cultivation. The account of *Vanda Sanderiana*'s eventful importation to Europe can be read in the text adjacent to the print below.

Before the mastery of plant hybridization, hunters gathered new species of orchids from their native habitats and shipped them to Western nurseries. Competition between orchid importers supplying the high demand for orchids in the last few decades of the nineteenth century led to environmentally destructive practices. It was estimated that for every three orchids growing in Western nurseries, a tree in the species' native habitat was felled.

Orchid collecting was a feature of Victorian imperialist expansion and exploration. Unprecedented access to regions with unfamiliar species of plants and animals fueled an appetite for knowledge in the natural sciences. The *Reichenbachia* chronicles this historical attitude of curiosity and dominion over the natural world.

Appendix 4D

Redesigned Exhibit, Chromolithography Leaflet

Chromolithography

Color lithography, or chromolithography, was invented in 1837. For decades it was a controversial but highly popular method of reproducing original works of art. Some critics decried chromolithographic reproductions as technically proficient, but artistically void, because they could never capture the aura of the original. Nevertheless, they had a powerful impact on society by helping to bring art in color within the financial grasp of the general public for the first time.

Lithography was a printing process by which images were drawn onto a flat stone in wax crayon, which was then coated in ink and pressed onto paper. The ink adhered to the wax, so that wherever the wax had been applied to the stone, the ink would appear on the paper. In chromolithography, professionals called *chromistes* would visually determine each color used in the painting being reproduced. They would then apply each individual color onto a separate stone and print each stone onto a single piece of paper. Each color ink would blend to form a copy of the original picture. After the chromolithographic stones were prepared, any number of color copies could be made, making prints affordable to those who otherwise could not afford to own art in color. Near the end of the nineteenth century, chromolithography became obsolete by the development of new printing technologies.



***Reichenbachia* Chromolithographs**

The *Reichenbachia* prints are chromolithographs copied from watercolor paintings. Landscape and botanical artist H.G. Moon did most of the original paintings, while Joseph Mansell in London, England and Gustav Leutzsch in Gera, Germany did the printing.

The image at right is a proof from the unfinished third series of *Reichenbachia*, showing a vertical line of ten colored squares in the lower left corner. These squares represent each color used in the printing of that image. Some of the finished *Reichenbachia* prints consist of as many as twenty colors! The complexity of creating chromolithographs with so many colors increased their quality, especially given how seamlessly they blend together into such sophisticated images.



Vita

Erica Borey was born in Lansing, Michigan, on August 8, 1982, and moved to Virginia at a young age. She obtained a Bachelor of Arts degree from The College of William and Mary in 2004, double-majoring in Art History and Psychology. She began working in museums in 2007 as a volunteer at Wilton House Museum. In 2011 she began her pursuit of a graduate degree in Art History with a Concentration in Museum Studies at Virginia Commonwealth University. She continued to work as Collections Manager at Wilton House Museum during her studies. She began working at Lewis Ginter Botanical Garden in May, 2012 and at the Virginia Museum of Fine Arts in January, 2013. She received a Master of Arts in Art History from Virginia Commonwealth University in 2013 and she is expecting her first child in February, 2014.