



Bulletin

Carnegie Mellon
University,
Pittsburgh,
Pennsylvania

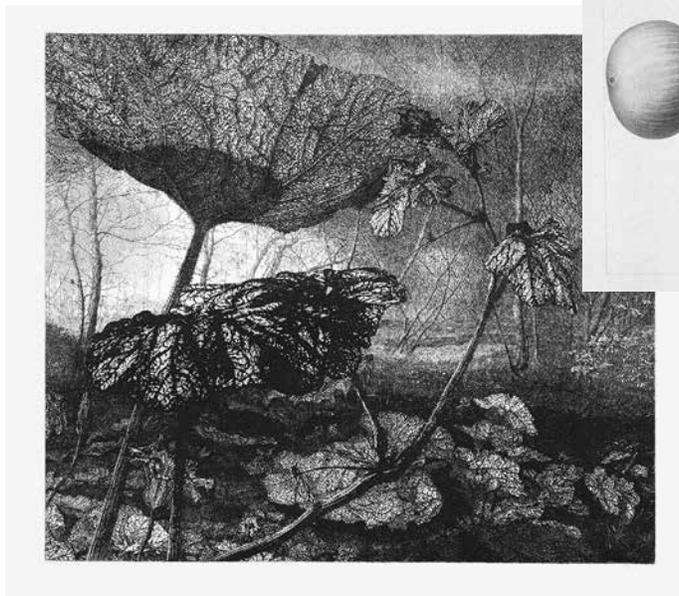
Vol. 28, No. 1
Spring 2016

of the Hunt Institute for Botanical Documentation



Left, Donguri [Acorn; Quercus Linnaeus, Fagaceae], acrylic, gouache and pencil on paper by Kieta Yonezu (1943–), 1982, 30 × 46 cm, for Rureberukan, Donguri (Chiyodaku, Tokyo, Kanda Ogawamachi, 1983), HI Art accession no. 6838.

Right, [Solanum wendlandii Hooker filius, Solanaceae], watercolor on paper likely by Atanasio Echeverría y Godoy (fl.1787–1803), 1787–1803, 25 × 24 cm, Torner Collection of Sessé and Mociño Biological Illustrations, HI Art accession no. 6331.1471.



Left, [Cucurbitaceae], etching on paper by Reinder Homan (1950–), 1983, edition 2/50, 49.5 × 53 cm, HI Art accession no. 6529, reproduced by permission of the artist.

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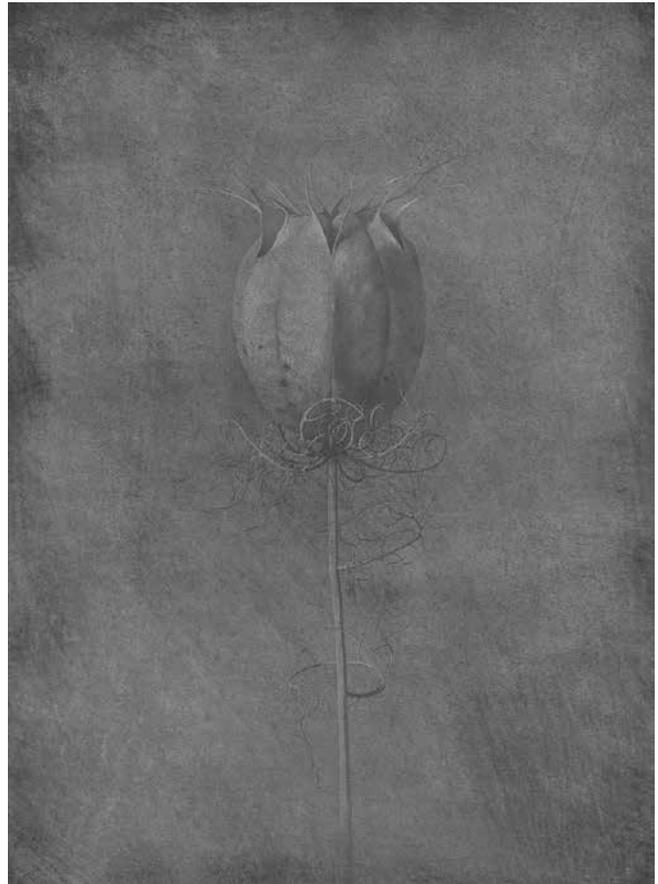
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News from the Art Department

Current exhibition

Three days before the official beginning of spring, the Institute opened the exhibition *Great Expectations*. Outside the sun was shining, and the budding trees were swaying while inside our guests were enjoying artworks that captured moments of plant development as if frozen in time. The original exhibition concept began with the acquisition of Timothy Angell's gouache and colored pencil on paper of a nigella seed head (see right). The subtle rendering, monolithic presence and appearance of an impending release of seeds from the brittle follicles inspired a consideration of other works in the permanent collection that captured different phases of development. As the project evolved, we wanted to dispel a common notion that the germinating seeds of spring (see cover, acorn) and the desiccating leaves of winter (see cover, Cucurbitaceae) were the beginning and the end of a cycle. We therefore divided the exhibition into sections of artwork that mirrored moments of declining, emerging, transitioning, flowering and fruiting and that featured the continuing cycle. A recent donation to the collection by Jean Emmons of her exquisite Iris bud shows the subtle transition of blackish purple to maroon of the cultivar *Superstition* (see below right). The jewel-like scale of this watercolor on vellum enhances the impact of the emerging bud. Norma Gregory's watercolor and graphite of a chestnut sapling (see center right) depicts the transition that occurs once the seed is no longer the sole source of nutrition fueling growth and the processes of photosynthesis and cellular respiration take over. The artist contrasts the light color of new growth against the mature and darker leaves, anchored by the rich and deep colors of the tangling and expanding root system from which a stately tree may eventually grow to over 24 meters. Janet Wehr's watercolor of wild ginger (see below far right) highlights the often unnoticed, maroon, tri-spike flowers that are nestled underneath the foliage. Small flies emerge from the ground in spring and pollinate the flowers, and ants carry the seeds to their nest and feed the elaiosome contained in the oily coating to their larvae, thus exposing the seed for germination in a new location. This exhibit was an opportunity not only to display artworks that had been exhibited years earlier and place them in a completely new context but also to renew correspondence with artists. We learned from Esmé Hennessey that her watercolor of *Kigelia africana* (Lamarck) Bentham (see above far right) had been painted from a specimen that she had planted while a botany lecturer at what is now the University of KwaZulu-Natal in Durban, South Africa. With the assistance of a botanist, her son located and photographed the tree that is still thriving 40 years later. The horizontal position of the flowers makes them more accessible to bats that pollinate while feeding on nectar, and the fruits, weighing up to 6.8 kilograms, dangle from a long stalk (peduncle). A watercolor attributed to Atanasio Echeverría y Godoy, from the Institute's Torner Collection of Sessé



Nigella [*Nigella damascena* Linnaeus, Ranunculaceae], gouache and colored pencil on paper by Timothy Angell (1961–), 2012, 58 × 42.5 cm, HI Art accession no. 8059, reproduced by permission of the artist.



Iris bud, 'Superstition' [*Iris* Linnaeus 'Superstition,' Iridaceae], watercolor on vellum by Jean Emmons (1953–), 2015, 20.5 × 18 cm, HI Art accession no. 8123, reproduced by permission of the artist.



Above left, *Aesculus hippocastanum*, Chestnut sapling [*Aesculus* Linnaeus, Hippocastanaceae], watercolor and graphite on paper by Norma Gregory (1942–), 2005, 76 × 46.5 cm, HI Art accession no. 7744, reproduced by permission of the artist.

Above right, *Kigelia africana* [*Kigelia africana* (Lamarck) Benth., Bignoniaceae], watercolor on paper by Esmé Frances Franklin Hennessy (1933–), 80 × 58 cm, HI Art accession no. 6100, reproduced by permission of the artist.

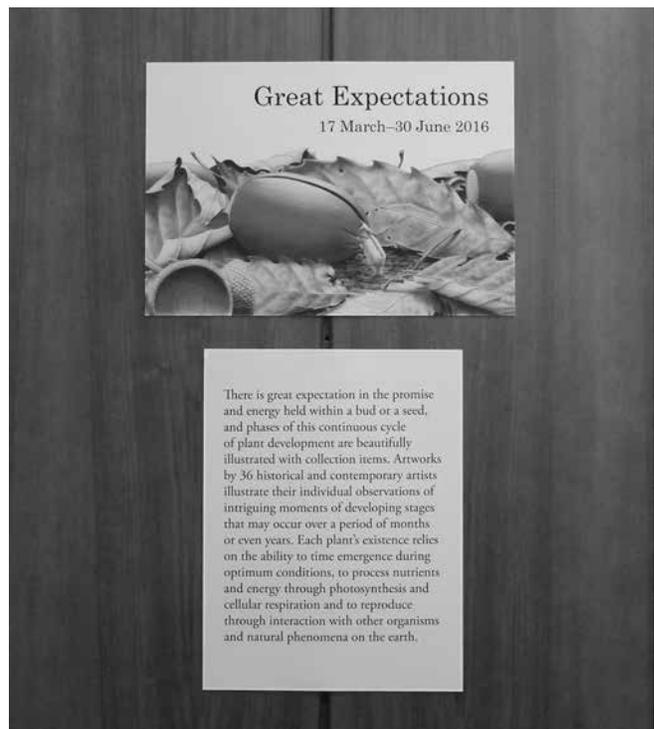
Left, *Asarum canadense* [*Asarum canadense* Linnaeus, Aristolochiaceae], watercolor on paper by Janet Wehr (1927–2015), 1991, 41 × 57 cm, HI Art accession no. 6925, reproduced by permission of the estate of the artist.

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News from the Art Department

and Mociño Biological Illustrations (see cover), features several stages of a Costa Rican nightshade, including the purple flower that rotates pentagonally and fades in color during the three days of bloom, the inedible fruit that appears in the canopy and is rarely seen, and a section of the vigorous vine that can reach approximately five meters in height. This 18th-century Mexican artist's application of color and sinuous line work rivals the work of treasured botanical artists throughout history. Although this is only a descriptive sampling of the 36 historical and contemporary artworks included in the exhibition, each on viewing illustrates individual observations of intriguing moments of developing stages that may occur over a period of months or even years. They echo the marvelous mechanisms and interactions involved in each plant's continued existence.

In tandem with this exhibition, a tour was given of the Carrie Furnace landscape on Saturday, 21 May. Dr. Anna Johnson, ecological researcher at the University of Pittsburgh, in conjunction with the Rivers of Steel National Heritage Area staff, led a group for "The Iron Garden: History and ecology of the Carrie Furnaces." There was a focus on the Iron Garden plaques, for which the Hunt Institute provided



Title panel and gallery installation for *Great Expectations*, 17 March 2016, photographs by Mike Roy, reproduced by permission of the photographer.

numerous images. These cast iron plaques were placed throughout the site in 2015 as part of a collaboration among artists, Rivers of Steel National Heritage Area and the Penn State Master Gardeners to highlight the diverse plant life that has recolonized after the furnaces closed.

The exhibit is on display through 30 June 2016. We invite you to our Open House on Sunday, 26 June for a talk and tours (see page 11).

Upcoming exhibition

All of the artworks have been selected, and we are now in the midst of preparing the exhibition catalogue for the Institute's 15th International Exhibition of Botanical Art & Illustration. The exhibit will be on display in our gallery 17 September–17 December 2016, and a reception will be held later than usual, on Thursday, 13 October, from 6:00 to 8:00 p.m. This reception date coincides with the American Society of Botanical Artists conference in Pittsburgh (13–15 October), and that evening the Institute will host artists from around the world. We hope that you consider attending this reception so as to meet several fascinating botanical artists and learn more about their current activities.

This exhibition includes 43 artworks by 43 artists who are citizens of 15 countries. The artists include Laurie Andrews (Australia), Helen Burrows (Australia), Insil Choi (South Korea), Brigitte Daniel (England), Jean Dennis (Australia), Érik Desmazières (France), Pauline Dewar (Australia), Dolores Diaz (United States), Carrie Di Costanzo (United States), Kaho Emura (Japan), Maggy Fitzpatrick (England), Anne Hayes (Australia), Denise Heywood (England), Hideo Horikoshi (Japan), Jenny Hyde-Johnson (South Africa), Mariko Ikeda (Japan), Rose Marie James (United States), Keiko Kobayashi (Japan), Siobhan Larkin (Ireland), Stephanie Law (United States), Angela Lober (Australia), Rogério Lupo (Brazil), Suguri Makino (Japan), Robert McNeill (Scotland), David Morrison (United States), Atsuko Nishiyama (Japan), Eunike Nugroho (Indonesia), Maria Luisa Palanca (Spain), Denise Ramsay (New Zealand), Terrie Reddish (New Zealand), Lauren Sahu-Khan (Australia), Sandra Sanger (Australia), Carol Saunders (United States), Constance Scanlon (United States), Hye Woo Shin (South Korea), Laura Silburn (England), Heidi Snyder (United States), Hiromi Torii (Japan), Silvana Volpato (Italy), Nan Wiggins (United States), Zeng Xiaolian (China), Yuko Yano (Japan) and Seung-Hyun Yi (South Korea).

—Lugene B. Bruno, Curator of Art



Yale Cohen looks at an engraving from volume two of *Icones Plantarum Rariorum* (1781–1793) by Nikolaus Joseph Jacquin (1727–1817) while Ruth and Wil Rouleau speak with Librarian Charlotte Tancin, 17 March 2016, photograph by Mike Roy, reproduced by permission of the photographer.

News from the Archives

Constantine J. Alexopoulos slime mold slides

Constantine J. Alexopoulos, an important 20th-century mycologist, was introduced in the 27(2) *Bulletin* by Meredith Blackwell, Boyd Professor of Biological Sciences, Emerita, Louisiana State University. His collection, which Blackwell generously donated to the Hunt Institute Archives, includes his vast personal assemblage of color transparencies and photomicrographs illustrating the world's slime molds. This collection of images was amassed over Alexopoulos' professional career.

Mycologists and botanists use voucher specimens for reference purposes. Alexopoulos used these photographs as his personal surrogate for a physical voucher collection when studying slime molds. Before the Internet these transparencies would have been a manageable way to have hundreds of specimens available for reference and comparison. One may think of it as his "virtual voucher collection."

He also used some of these images in his publications. His *Introductory Mycology* (New York, Wiley, 1952), for instance, included reproductions of a number of these slides. Indeed, the slides Alexopoulos kept allowed him to use the same images as often as needed. He could keep a copy for his own reference while providing the same image for a journal, as he did with "Myxomycetes from Greece" (*Brittonia*, 1959, 11(1): 25–40). Some of the images displayed in that article became part of his description of a new species.

The Hunt Institute has digitized this collection and is in the process of preparing it for online access. There will be over 700 images cataloged and annotated by Alexopoulos. We think that "Dr. Alex" would be pleased to continue to make available his extraordinary collection to scientists and scholars alike.

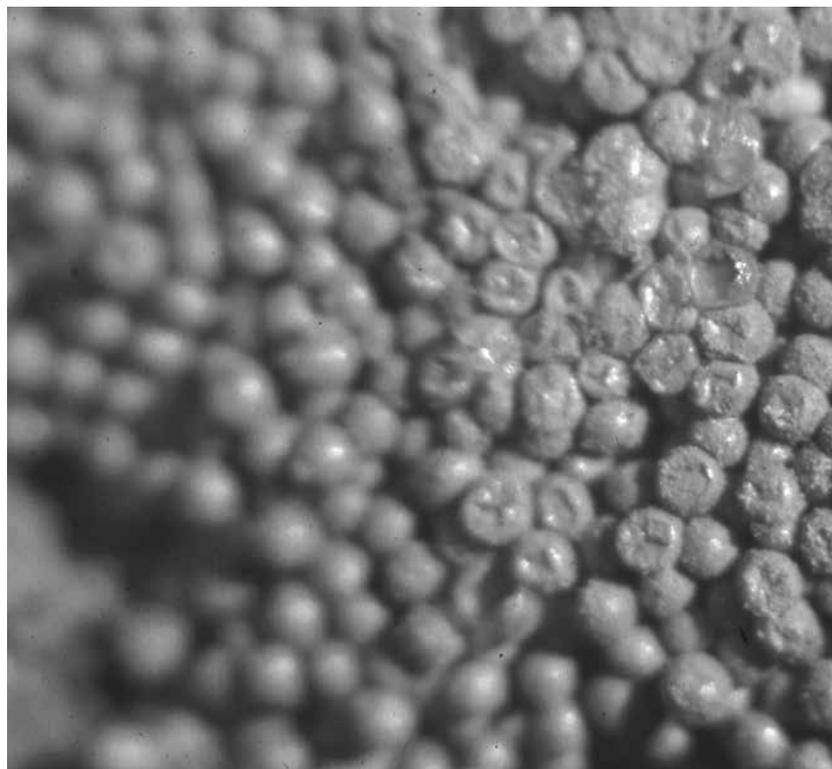
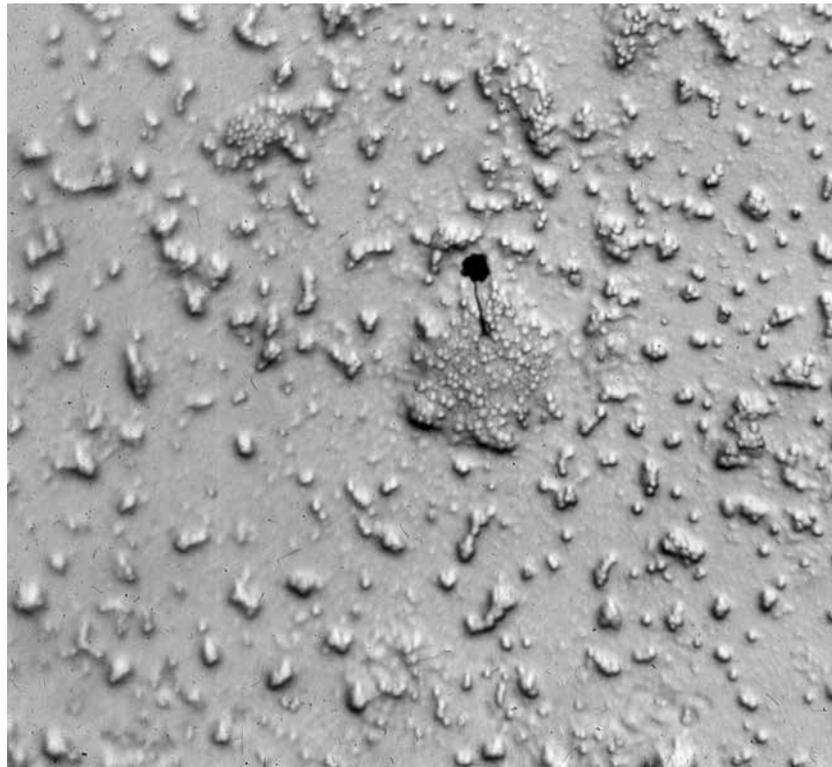
—J. Dustin Williams, Archivist

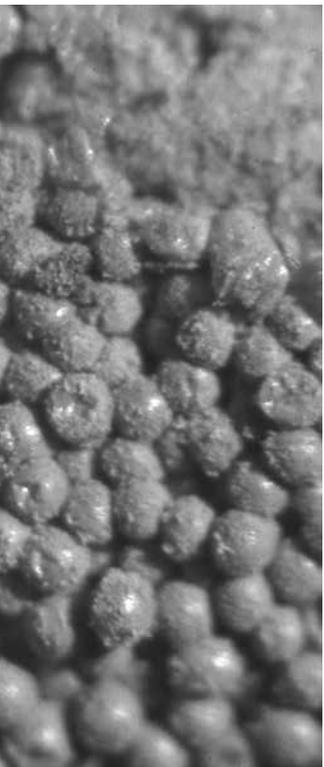
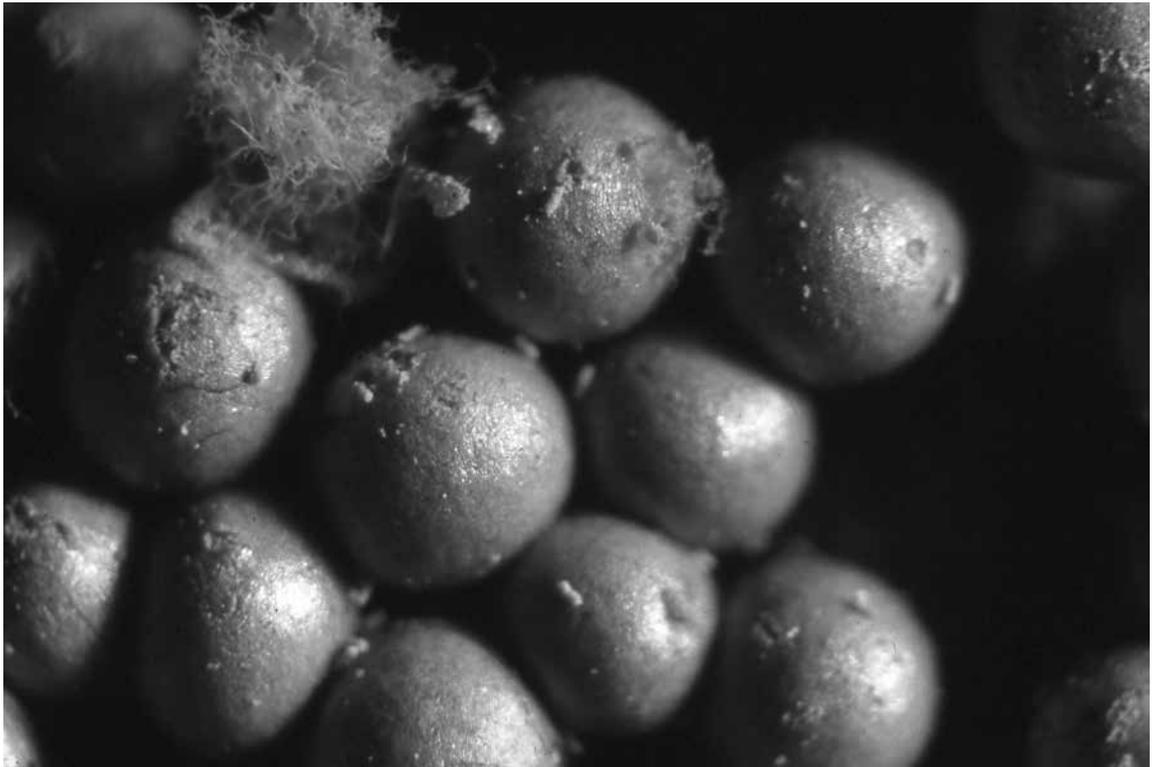
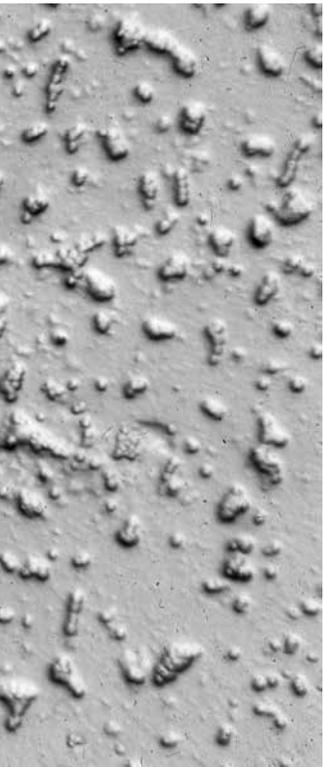
Above right, Echinostelium minutum de Bary, Echinosteliaceae, photograph by Constantine J. Alexopoulos, HI Archives Constantine J. Alexopoulos collection no. 366.

Above far right, Trichia varia Persoon, Trichiaceae, photograph by Constantine J. Alexopoulos, HI Archives Constantine J. Alexopoulos collection no. 366.

Below right, Oligonema flavidum Peck, Trichiaceae, photograph by Constantine J. Alexopoulos, HI Archives Constantine J. Alexopoulos collection no. 366.

Below far right, Echinostelium elachiston Alexopoulos, Echinosteliaceae, photograph by Constantine J. Alexopoulos, HI Archives Constantine J. Alexopoulos collection no. 366.





Sweden's enlightened naturalist

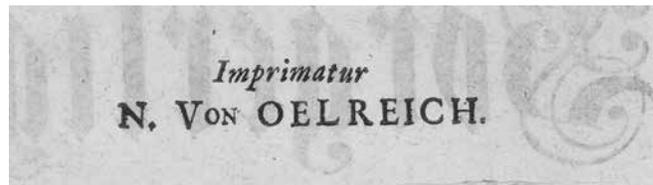
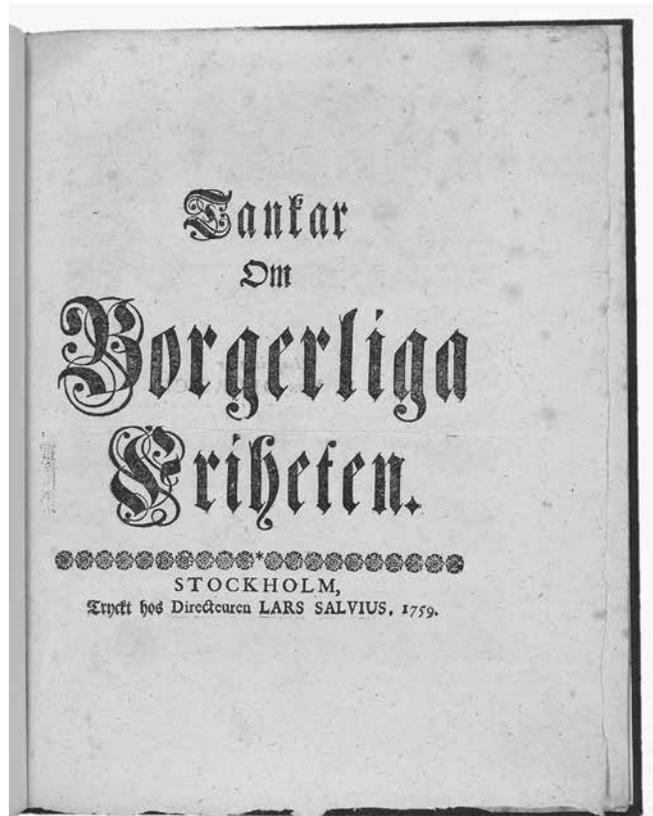
The Strandell Collection of Linnaeana at Hunt Institute contains a treasure of works relating to Carolus Linnaeus (1707–1778) and his students. While most of the items in the collection keep to the topics of Linnaeus, his students and their involvement in natural history, some works also reflect their work outside of the sciences. Peter (Pehr) Forsskål (1732–1763) was Linnaeus' student and later one of his "apostles." His contributions to the study of Egyptian and Arabic flora and fauna often overshadow his life as a political activist. The Strandell Collection contains his now-rare pamphlet, *Tänkar om Borgerliga Friheten* (Thoughts on civil liberty; Stockholm, 1759), a small (20 paragraphs on 8 pages) but mighty work calling for, among other things, freedom of the press in Sweden.

Forsskål was born in Helsinki, Finland, at the time a part of the Swedish monarchy. His father, Johan, was a clergyman. Johan was assigned to parishes in Finland, Uppsala and Stockholm while Peter was young. When Peter was about eight, Johan was assigned to a parish in Uppsala. Young Forsskål entered the university there for a short time at age ten but left probably because his father was assigned to a new parish.

Forsskål returned to the university in Uppsala in 1751 on a scholarship and began courses to be a clergyman, which included Latin, Greek and Hebrew as well as theology and philosophy. His good performance earned him the attention and guardianship of Carl Aurivillius (1717–1786), a professor of Greek and oriental languages who encouraged Forsskål also to study Arabic. Like many students Forsskål could not resist the charismatic Linnaeus' botanical lectures and field trips. Forsskål was an excellent student in this wide range of subjects.

Aurivillius arranged with his friend Johann David Michaelis (1717–1791), a Near East languages and biblical scholar, for Forsskål to study abroad in Göttingen, Germany, from 1753 to 1756. Forsskål's time in Göttingen, where the academic environment was less rigid and religious doctrine was not enforced on the faculty, exposed him to the ideas of the Enlightenment. He spent more time studying philosophy and wrote and defended the thesis "Dubia de Principiis Philosophiae Recentioris" (Doubts concerning the principles of recent philosophy) for a doctorate in philosophy. His liberal ideas were well received in Göttingen but criticized by the more conservative Swedes at home who read the thesis (Baack 2013).

Forsskål did not neglect botany while in Göttingen. He studied with the director of the botanical garden and sent Linnaeus seeds he had requested. Linnaeus was always sure to use his contacts abroad to acquire new specimens.



Once back in Sweden Forsskål tried to get a lectureship in economics, but the economics faculty doubted his qualifications and interest in the subject and rejected him (Baack 2013, Vegesack 2009). He moved on to the philosophy department and asked for permission to defend a thesis, "De Libertate Civili." The ideas he presented were too liberal for the Swedish academics, and this thesis was rejected, too, which meant it would not go to print.

In "De Libertate Civili" Forsskål advocated for free public education, government positions based on merit instead of nobility, fair taxation, free religious expression, limited government and, especially, unlimited freedom of the press (Forsskål 2009). He argued that, in order to be truly free, people needed to be able to make their own decisions without fear of the government or those with more power (Forsskål 2009, paragraph 1). This included expressing thoughts about the government and religion through the printed word. Forsskål believed that, with freedom of the press, the truth would come out and heresies and misconceptions would dissipate (Forsskål 2009, paragraph 8). The power of officials would be restrained when injustice was brought to light.



Peter Forsskål (1732–1763), 12.5 × 10 cm, copy of original engraving at Bergius Botanic Garden, Stockholm, Sweden, HI Archives portrait no. 1.

Above left, Title page and, left, censor's imprimatur for Peter Forsskål, *Tankar om Borgerliga Friheten* (Stockholm, tryckt hos directeuren Lars Salvius, 1759), Strandell Collection of Linnaeana no. 2113, HI Library.

This would benefit not only ordinary citizens but also the government. He believed this process could replace solving conflicts with war (Forsskål 2009, paragraph 9).

Forsskål did not let the rejection at the university stop him and was determined to get his ideas into print. The details of the sequence of events after the university rejection and the motivations of all the players are somewhat murky without doing more in-depth research.

The Swedish press was censored at this time, as it was most everywhere. The duty of censorship was shared between a censor and the Kanslikollegiat (the King's Chancellery). In theory the censor, who edited submitted works for questionable content, needed approval from the Kanslikollegiat before something went to print. Most accounts of Forsskål's story say that the censor, Niklas von Oelreich (1699–1770), edited and approved *Tankar om Borgerliga Friheten* (its new title) for printing. Only after it went to print did the Kanslikollegiat have its say, and that was to ban the work and confiscate and burn as many copies as possible.

According to Thomas von Vegesack, Forsskål first approached the Kanslikollegiet, but his request was denied there. Only after this did he go to Oelreich (Vegesack 2009). This seems to have been a move of provocation on the part of Oelreich, who did not like answering to the Kanslikollegiet.

Either way, Oelreich edited the text and approved it for printing. He removed statements regarding freedom of religion, and in many cases he removed or added words that diminished Forsskål's definitive statements (Vegesack 2009). One edit to note regarded Forsskål's statement that civil liberty depended on "unlimited freedom of the written word" (Forsskål 2009, paragraph 7). Forsskål clarified that any writing that was blasphemous, indecent, instilled vice or insulted an individual should be punishable (Forsskål 2009, paragraph 7). Oelreich changed it to say that these kinds of writings should be "prevented" (i.e., censored), including works that offended the government (Peter Forsskål Project 2016). Even with the edits, the ideas contained in it were provocative, and surely some individuals were clever enough to know that a censor had altered Forsskål's words.

Forsskål took the approved manuscript to Lars Salvius (1706–1773), an innovative Stockholm printer, publisher and bookseller, with many enlightened ideas of his own. Salvius advocated for less regulated trade, including of books, fought guild restrictions and had a free lending library in his bookshop. While he printed works on many subjects, science was a favorite. He was a member of the Swedish Academy of Sciences, and printed many of its publications. He was the first to fairly pay authors whose works he printed, and for this reason he was able to secure the work of some great writers, like Linnaeus (Christensson 2005). Salvius printed 500 copies of *Tankar*, all of which Forsskål picked up himself and distributed 49 to individuals and 53 to a bookseller in Uppsala. The rest may have been mailed. Forsskål probably knew that eventually the Kanslikollegiat would recall his publication, and so he moved quickly to distribute (Vegesack 2009).

He was right. The same day he was handing out the pamphlet, the Kanslikollegiet called a meeting and questioned him, Salvius and Oelreich. Oelreich, who claimed he didn't know that Forsskål had submitted the same work that the Uppsala faculty had rejected, was apparently dismissed from his position but attempted to resume it later that year (that's another story; Vegesack 2009). Salvius was questioned but not punished because he had the censor's permission to print, and Forsskål was given only a warning. The Kanslikollegiet banned the work. Carolus Linnaeus, as rector of the University of Uppsala and Forsskål's mentor, was charged with re-collecting all copies. He was able to find only 79.

(continued on page 10)

Sweden's enlightened naturalist

Von Vegesack reasoned that Forsskål was not punished because he had recently signed on to be the naturalist on a Royal Danish expedition to Yemen (2009). The position had been arranged for him by his mentor in Göttingen, Michaelis. The expedition's original purpose was to study how Arabic and natural history affected the creation of the Bible. Forsskål would be the naturalist on board. He studied diligently under Linnaeus for two years to prepare for the expedition, learning Linnaeus' classification system and his instructions for scientific travelers, *Instructio Peregrinatoris* (1759). He also studied zoology under Christian Gottlieb Kratzenstein (1723–1795) in Copenhagen (Baack 2013).

Forsskål and six others departed from Denmark in 1761. Forsskål collected thousands of plant and animal specimens from Egypt, Arabia and the Red Sea. His excellent descriptions included locality, local use and distribution details as well as local names and terms. His notes are important not only botanically and zoologically but also for the record of 18th-century Arabic dialects and cultures. Many of the species he collected were new to Europe, and many of his names (he often used the Arabic names) are still valid today thanks to the fact that he was using Linnaeus' naming system, which was to become the international standard (Baack 2013).

Unfortunately, the expedition crew contracted malaria while in Yemen. Carsten Niebuhr (1733–1815), the expedition's cartographer and astronomer, was the only one to survive. He handled the details of Forsskål's burial. According to David Goldberg (2012), arrangements for the first site where Niebuhr attempted to have Forsskål buried fell through. It was by a river that was used for watering crops, and the owner of the land did not want to be blamed for any misfortunes that might happen due to burying a Christian by the water. Forsskål's burial at the second site took place at night to escape notice. His shallow grave was robbed the next night, and his naked body was left out in the open. A Jewish man was hired to rebury the body, and for payment he could keep the coffin. Forsskål's father, who had hesitated to consent to his son's going on the expedition for fear of something like this happening, had passed away while Peter was in Cairo, thus sparing Johan the details of his son's death.

Niebuhr completed the expedition by himself and returned to Denmark. In honor of his friend he collected Forsskål's notes and published his zoological accounts in *Descriptiones Animalium, Avium, Amphibiorum, Piscium, Insectorum, Vermium, quae in Itinere Orientali Observavit* (Copenhagen, 1775) and his botanical accounts in *Flora Aegyptiaco-Arabica sive Descriptiones Plantarum quas per Aegyptum Inferiorem et Arabiam Felicem* (Copenhagen, 1775). Niebuhr also had the drawings that the expedition's artist made for Forsskål of some of his Red Sea collections published in *Icones Rerum Naturalium* (Copenhagen, 1776).

The Peter Forsskål Project Web site lists the known extant copies of the two editions of *Tankar om Borgerliga Friheten*. The Strandell Collection holds the only known copy of the first edition in the United States. There are nineteen others known in Europe. A second edition of *Tankar* was printed posthumously in 1792 by Johan A. Carlbohm in Stockholm with a few additions to reflect the relevance of the ideas to the revolution in France. Even fewer of the second edition are accounted for, one being in the Strandell Collection. The collection also contains first editions of Forsskål's *Flora Aegyptiaco-Arabica*, *Descriptiones Animalium* and *Icones Rerum Naturalium* and a copy of the 1760 edition of his thesis "Dubia Principiis Philosophiae Recentioris" (Copenhagen, 1760), which he released with additional commentary.

Forsskål did not live to see the granting of freedom of the press in Sweden in 1766. The debate to end censorship had been brewing during the Swedish Age of Liberty (1718–1772), and it finally had enough support in the Riksdag to be written into law. While religious and academic texts continued to be censored, the law is notable because it was the first to support the freedom of the press (whereas in England, the censorship law simply failed to be renewed in 1695) and the first to grant open access to public records for all citizens. Forsskål is still seen as one of the influential voices in the movement. The number of political texts printed in Sweden exploded in the following years, but this freedom ended in 1772 when King Gustav III seized power from the Riksdag in a coup. The press would not see the same freedoms until 1810.

—Jeannette McDevitt, Assistant Librarian

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Open House 2016

In conjunction with *Great Expectations*, the Hunt Institute will hold its annual Open House on Sunday, 26 June. We will offer a talk, a gallery tour and opportunities to meet one-on-one with our staff to ask questions and see items in

the collections. We encourage everyone to consider visiting us during this Open House. It will be a good time to see the exhibition before it closes and to have an inside look at our collections and our work.

Schedule of events

Sunday (26 June)

- 1:00 Registration (continues all afternoon)
- 1:15–1:30 Welcome and introduction in reading room by Publication and Marketing Manager Scarlett Townsend
- 1:30–2:30 “Forward into the past: The past, present and future of Carrie Furnaces” by Ronald A. Baraff, director of Historic Resources and Facilities, Rivers of Steel National Heritage Area, Homestead, Pennsylvania
- Baraff will discuss how the arts, nature, preservation and aesthetics interplay with the historic at the Carrie Furnaces in Rankin, Pennsylvania. He is a Pittsburgh native who has been in his current position since 1998. He supervises the Rivers of Steel National Heritage Area Archives and Museums, Interpretive, Historic Preservation, Tourism Programs and Historic Sites.
- 2:30–3:15 Exhibition tour of *Great Expectations* by Assistant Curator of Art Carrie Roy
- 3:15–4:00 Historical introduction and walking tour of reading room furniture by Publication and Marketing Manager Scarlett Townsend
- 4:00–4:30 Enjoy exhibition and displays; talk with curators and staff



Last year's annual Open House (28 June 2015) included the talk “Nest structures of North American birds and the materials used in their creation” by Patrick McShea, program officer and educator, Carnegie Museum of Natural History. McShea showed an example of a downy woodpecker nest in cross-section that had been created inside a dead tree. This program was offered as part of the exhibition *Elements* (19 March–30 June 2015). For those who missed the exhibition, an expanded color checklist, containing most of the artworks that were on display, is available on our Web site in the Exhibitions section.



Left, nest cross-section and, *above*, Patrick McShea, Hunt Institute reading room, 28 June 2015, photographs by Lugene B. Bruno, reproduced by permission of the photographer.

Bulletin

of the Hunt Institute for Botanical Documentation

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