ART

From 5 April to 16 July we exhibited "Talking in Flowers: Japanese Botanical Art." The show was assembled mainly from the Institute's own collection, but also included selections borrowed from James B. Austin of Pittsburgh, Yoai Ohra of Tokyo, The Brooklyn Museum, The New York Public Library, The Japan Forest Technical Association, The University of Michigan and the Ronin Gallery of New York. Traditional Japanese flower arrangements were provided during the course of the exhibition by the Pittsburgh Chapter of Ikebana International and by the Ikenobo Society of Pittsburgh. The Pittsburgh Bonsai Society supplied changing examples of that living art form. The soft-bound annotated catalogue of the exhibition is extensively illustrated with color and black-and-white reproductions and features an essay by Mr. Brindle, our Curator of Art, Emeritus. The show's opening day was enhanced by a visit from Mr. Ohra, one of Japan's leading botanical artists, who had just been honored for his outstanding contributions to that field at the Cherry Blossom Festival in Washington, D.C.

During August and September the Institute will be showing "Cloud Flowers: Rhododendrons East and West," an exhibition organized by the Botanical Garden of the University of British Columbia to mark the opening of its new Asian Garden. Now travelling, the exhibition consists of 47 paintings whose subjects are rendered life-size using watercolor or other water-based materials. Both Western and Oriental techniques are represented in these works by ten Canadian artists, which will be on display from 23 August to 24 September.

The National Endowment for the Arts has awarded the Institute a second renewal of its grant for work on the computer-based catalogue of our art collection. The first part of the catalogue, now almost ready for press, will cover artists whose surnames begin with A through D.

We continue to receive numerous inquiries from scientists and scholars throughout the world concerning works in our recently acquired Torner Collection of Sessé and Mociño Biological Illustrations. Drawings from the Collection have been reproduced on the cover of Science News [121(12), 20 March 1982] and in the accompanying feature article, as well as in BioScience [31(7), July/August 1981].

Recent gifts from artists include a watercolor, "Sarracenia," by Wendy Walsh (Ireland); six pen-and-ink drawings by Dorothy V. Leake (Missouri); a watercolor, "Shooting Stars," and a pen-and-ink drawing, "Solomon Seals," by Henrietta Tweedie (Illinois); two watercolors, "Campanula rotundifolia" and "Trillium undulatum," by Martha Prince (New York); seven multi-colored serigraphs by Tjelda Michas (New Jersey); and three color lithographs by Deborah Kogan (Pennsylvania). Bernard Verdcourt of the Royal Botanic Gardens, Kew presented 36 pen-and-ink drawings by himself and Patricia Halliday (also from England) which were illustrations for A Manual of New Guinea Legumes. We were particularly pleased to receive

from Wilfrid Blunt of England our first original watercolors by Franz Andreas Bauer (b. Austria 1758, d. England 1840), titled "Erica pyramidalis" and "Erica hughesi." Many authorities have rated Bauer one of the best of all plant draughtsmen. Through the persuasion and at the expense of Sir Joseph Banks, Bauer settled in 1790 at the Royal Botanic Gardens, Kew to paint and investigate the structure of flowers, a position which he retained until his death 50 years later.

Other new acquisitions include both copper and wood engravings—respectively, "Humeurs Dissonantes" and "Seduction" by Christiane Roy (Quebec), and "Fern" and "Tiger Lily" by Margaret Bruce Wells (England). Also added were "Native Oak," a lithograph by Roger Medearis (California), and "Orchis ustulata," a watercolor by Bo Mossberg (Sweden) published in Mossberg and Nilsson's Nordisk orkideer, 1977. Anne Dowden (New York) has presented on indefinite loan two of her own watercolors and three pencil drawings by her husband, the late Raymond Dowden.

BINDERY

Jean Gunner recently completed a design binding commissioned by the Royal Library at The Hague, Netherlands. Finding a suitable book for the project took considerable time, as it had to meet several requirements. Wanted was a 20th-century publication, botanical in nature, printed on high-quality paper, and most importantly, complementing the Library's collection. Finally, Dr. Jan Storm van Leeuwen, curator of the collection, decided that Wilfrid Blunt's Tulips & tulipomania published by the Basilisk Press in 1977 would be a welcome addition to the Library. The book having been chosen and a copy obtained, Ms. Gunner prepared a cover design that would reflect the contents and accord with Dr. van Leeuwen's tastes. A full-size gouache painting of the design was then sent to the Royal Library for approval.

The materials used for the binding were selected not only for their aesthetic value, but also for their high quality. Along with the structural techniques employed, they must be able to withstand the test of time—environmental changes as well as actual use. The royal-blue Oasis niger goatskin chosen for the covering material made a good background for the tulips, which were to be rendered in shades of red, yellow and white. Red and yellow Ingress paper was selected for the fly leaves, and shades of red and white silk for the endbands. Constructing the binding involved over 100 individual steps, including sewing the signatures, attaching the leather hinges and fly leaves, gilding the top edge, sewing on the silk endbands, preparing and attaching the cover boards and, finally, preparing and pasting on the cover leather. After the binding was allowed to dry for several days, it was ready for execution of the cover design.

Over the past few years, as her reputation for doing design bindings on botanical works has grown, Ms. Gunner has been developing a technique that uses a combination of inlays and onlays. This allows her to shade the flower parts as well as to create the lines which form their shapes. In order to visualize how this is done, imagine a very complicated jigsaw puzzle which, as with this design for Tulips & tulipomania, consists of 310 pieces ranging in size from three inches to one-sixteenth inch, all of which must fit together perfectly.
An exact tracing of the design was transferred onto two-ply board, and each area to be onlaid as a separate piece was assigned a number. Each piece for the first set of onlaid shapes, the stems, was cut out of the board and pasted onto the desired color of thinly pared leather, which was trimmed to fit. Then, using the guide numbers, these shapes were pasted onto the cover of the book, with the attached board upward. After each section was completed, its pieces were pressed into the cover leather using a book press. With moisture and a spatula, the two-ply board was then carefully removed, leaving the onlaid leather in place. For the inlays, which form the basic flower shapes, positive and negative templates were constructed of two-ply board. Each negative template was taped in position on the cover and the corresponding leather, including some of that previously onlaid, was cut on a bevel and removed. The corresponding positive template was taped onto the desired inlay leather, which was then trimmed on a bevel to match that of the cover cut-out. The flower was then pasted and laid into the cover. The other colors of the petals were then onlaid using that technique again.

The final step in executing the design was placing the title on the spine. In the original design Ms. Gunner had rendered the title in gold, and she proceeded to do the same on the book. Afterward, however, the gold title proved incompatible with the rest of the design. She then reworked the spine using some of the inlay and onlay colors from the covers and tooled the title in black. The result, to be seen in the accompanying illustration, was far more pleasing.

Rounding out the project, Ms. Gunner also made a specially designed box to house the book as well as the gouache painting and working tracings. This not only keeps everything together, but protects the book from excessive handling and from dust, dirt and light exposure, which could cause eventual fading.
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Reliable techniques for precisely repeatable renderings of plant illustrations have concerned botanists from the 16th century to the present. Uniform reproduction of illustrations would complement the precise repeatability of printed texts that allowed scholars to discuss works without being diverted by the unwitting variants inescapable in the earlier manuscript tradition. The illustrated book was a doubly powerful aide-mémoire in the accurate chronicling of natural history. Reuse of the same illustrations in several different publications is very evident in the first two centuries of printed botany and is significant in both the development of botany as a science and the history of illustration techniques.

The restrictive belief that the Ancients—the classical Greek and Roman scholars—had possessed all scientific and artistic truths was apparent in the early period of printed natural history, in both the approach to the subject and the nature of illustrations utilized. Much early published plant science took the form of commentaries on classical manuscript sources, usually the texts of the 1st-century Greek herbalist Dioscorides, varied with encyclopedic vernacular accounts of plant lore and medicinal use. There was a strong tendency to copy manuscript illustrations, and, once woodcuts were made for printed works such as the 1485 Mainz Gart der Gesundheit, to reuse or copy those. The early illustrations are woodcuts (excepting some experimental initialis which may have been metal cuts), a relief technique which allowed the cuts to be set with the type and printed at the same time as the text. Most incunabula woodcuts are quarter-page illustrations, with the notable exception of the three-quarter- to full-page illustrations of the 1485 Gart der Gesundheit.

These early printed illustrations are simple black line cuts, rendered with great vigor and little shading, and are visual distillations from the text—often resulting in emblematic tableaux. The mysterious power of the lodestone to attract iron is demonstrated in a lively woodcut showing hapless sailors clinging to the wreckage of their ship—reduced to unnailed planking as it sails by the perilous mountain. These incunabula illustrations are memorable for the directness of their images, especially when novelty surpasses nature.

As the early botanical woodcuts, often based on imperfectly understood manuscript sources or hearsay, were reversed, reduced and redrawn, the images sometimes became incoherent. In the Grete herball (London, 1526), the first illustrated herbal in English, the woodcut used for the cherry appears again for the deadly nightshade! This alarming economy may have been due to a reference in the text that the fruit of the nightshade resembles that of the cherry. That illustration is a crude adaptation of one appearing in the Hortus sanitatis (Mainz, 1491), which in turn was derived from one in the Gart der Gesundheit.

By the first half of the 16th century, naturalistic woodcuts based on direct observation of nature had begun to appear more frequently in the herbals, especially in the German editions. The celebrated woodcuts designed by Hans Weiditz for Otto Brunfels' Herbarum vivae icones (Strasbourg, 1530-1532) are specific plant portraits—warts and all. Some of these detailed representations were cited by the 18th-century Swedish taxonomist Carl Linnaeus in cases where he based his species descriptions on published illustrations rather than on actual specimens. The broadly idealized woodcuts of Leonhard Fuchs' De historia stirpium (Basel, 1542) are more dependent upon careful hand-coloring for full recognition of their beauty, as the shading in them is minimal. Also of interest in the Fuchs herbal are portraits of his three artists at work, Albrecht Meyer, Heinrich Fullmayer and Veit Rudolph Speckle, who respectively made the drawings, transferred the illustrations onto the blocks and cut the blocks. Illustrations based on the Fuchs woodcuts reappeared well into the 17th century. Reuse of the same blocks to illustrate a number of different works was promoted by several European publishers, notably Christopher Plantin and his successors in Antwerp, who commissioned and maintained great collections of woodcuts for use in their own publications and made them available to other publishers. The illustrations used in Thomas John-
son's edition of John Gerard's *The herball* (London, 1633) were borrowed from the Plantin stock. The blocks used in *Tabermonstanae Icones plantarum* (Frankfurt, 1590) had been rented by the publisher John Norton to illustrate the first edition of Gerard's herbal, in 1597.

Another set of much-used woodcuts was made around 1561 for use by the Venetian publisher Valgrisi in the works of the Italian physician Pier Andrea Mattioli. Produced by Giorgio Liberaire of Undine and Wolfgang Meyerpeck, the woodcuts are distinguished by their fine lines and delicate shading as well as their size. These three-quarter-page woodcuts first appeared in Mattioli's *New Kreuterbuch* (Prague and Venice, 1563), an extensive commentary on the works of Dioscorides. The illustration shown here is from Mattioli's *Commentarii in VI libros Dioscoridis De medica materia* (Venice, 1583), the eighth Latin edition of this popular work and the fourth edition to use the large woodcuts.

These handsome blocks are immediately recognizable for their density of design and indeed were so appealing that they—as well as reversed and reduced copies of them—appeared in editions of Mattioli and other continental herbals with remarkable frequency for the next 200 years. The last direct use of the large blocks was in the first edition of Henri Louis Duhamel du Monceau's *Traité des arbres et arbustes qui se cultivent en France* (Paris, 1755), where they appear in combination with small copper engravings of details and dissections. The temptation to curve the general line of the plant so that the image fits neatly into the rectangular block has sometimes resulted in purely decorative involutions, a fault redeemed in many of the Mattioli illustrations only by the woodcutter's extraordinary skill. The accompanying illustration of the heliotrope is a fine example of the woodcutter's talents. While the image does occupy the whole block, it is somewhat freer from the confining rectangle than is the square-crowned sedum, also from Mattioli's work.

The Institute is most fortunate in possessing five of the large 16th-century woodblocks used to illustrate the Mattioli herbals. They are probably of pear wood, with the relief design cut into the flat of the wood, unlike wood engravings, in which the design is cut into the end grain. The blocks are approximately type-high (23-25 mm thick) and show signs of having been raised with slugs so that they could be inked and printed at the same time as the type. This contrasts with intaglio processes, in which plates with the designs engraved in recess are printed separately from the text, as they require greater pressure to pick up the ink from the recessed lines. The reverse sides of the Mattioli blocks still retain fragments of labels written by Duhamel du Monceau, probably noting his nomenclature, and several are further identified by carved names.

Archival strikes from these durable 16th-century blocks were recently made for us by Clifford Harvey at the Permu-
Robert Tatnall: Biographical remarks on some contributors to the flora of Delaware and the Eastern Shore with a selected bibliography. "Agnes Chase—pacifist and suffragist" was Dr. Stieber’s subject in a presentation at the annual meeting of the Botanical Society of America at Pennsylvania State University in August. This paper drew on his extensive research for a full-length biography of Agnes Chase. The forthcoming issue of Huntia will be devoted to a Register of plant collectors’ field notes held in North American institutions” compiled by Dr. Stieber.

The International Association of Wood Anatomists has selected the Institute as the repository for its archival materials. The first shipment of records, papers and photographs, covering the period 1930-1957, was recently received from Dr. William L. Stern, University of Florida. Leland Jacob Gier has generously donated an archivally unique 1909 copy of The genera of Fungi by Frederic Edward Clements (1874-1945). It is inscribed by Clements to Cornelius Lott Shear (1865-1956) and heavily annotated by Shear, who co-authored the 1931 edition. Dr. Norman Norton, Chairman of the Archives Committee of the American Association of Stratigraphic Palynologists, visited the Institute in April and delivered three boxes of correspondence, records and portraits to be added to the AASP material already on deposit here. Twenty-five reels of microfilm covering the papers of George Vasey (1822-1893) have been received from the Smithsonian Institution Archives.

Our collection of Paul Hamilton Allen papers has been greatly enlarged by a gift from Dr. Walter H. Hodge. It comprises miscellaneous correspondence relating to Allen’s botanical work, as well as his manuscripts pending publication at the time of his death. Dr. Hodge also donated some of Dr. Allen’s photographs, along with a miscellany of his own material.

LAURENCE MEMORIAL AWARD
The Award Committee of the Lawrence Memorial Fund has selected Ms. Janet R. Sullivan of the University of Oklahoma as recipient of the 1982 Lawrence Memorial Award. A student of Dr. James R. Estes, Ms. Sullivan is investigating the taxonomy, evolution and ecology of the genus Physalis (Solanaeae). She will be using the proceeds of the Award for travel to the southeastern United States and the Gulf Coast for field studies and to various institutions for herbarium research.

The Lawrence Memorial Fund commemorates the life and achievements of Dr. George H. M. Lawrence, our founding Director. Proceeds from the Fund are used to make annual awards of $1,000 to outstanding doctoral candidates for travel in support of dissertation research in systematic botany or horticulture, or the history of the plant sciences. Nominations are now invited for the 1983 Award. Major professors are urged to submit letters of nomination for outstanding doctoral students who have achieved official candidacy for their degrees and are conducting relevant dissertation research which would benefit significantly from travel enabled by the Award. The Committee will consider nominations only—no direct applications will be entertained. Letters of nomination and supporting materials should reach Dr. Kiger at the Institute by 1 May.

NEW PUBLICATION
Catalogue of an exhibition of mainly 19th- and 20th-century Japanese botanical art, with an introduction by J. V. Brindle. Drawn primarily from the Institute’s collection, the works include books, handscrolls, sketch-book albums, woodblock prints and paintings.

Soft cover $12.00

RECENT PUBLICATIONS
Published for ICSEB by the Institute. Includes the 37 invited papers presented in the 12 congress symposia, covering a broad spectrum of systematic and evolutionary biology.

Soft cover $18.00

Simple repair and preservation techniques for collection curators, librarians and archivists. J. Gunner. 1981. ed 2. 18 pp., illus.
Practical basic techniques for repairing, sewing and general maintenance of books, manuscripts and art on paper. This expanded second edition includes instructions for making a book cradle and a list of selected supplies of bookbinding/conservation materials.

Soft cover $3.00
Computer-generated worldwide register of plant systematists, their specialties and current projects. Includes taxonomic, geographic, geologic and methodological/general subject indices. Soft cover $10.00

Annotated catalogue of selected artworks, books, manuscripts and miscellany from the Frances Hooper Collection now at the Institute, with introductory essays by Miss Hooper, Rodney Engen and John Brindle, and a summary register of the entire collection. Gold-stamped cloth binding with inset color illustration. Text set in Bookman prototype and printed on Hunt-watermarked Carris No. 2 rag paper. Hard cover $22.00

SPECIAL OFFER
Until 30 June 1983, the following selected Institute titles are available at substantially reduced prices:

  - Regular price $4.00
  - Special price $3.00

- Catalogue of an exhibition of works by 39 artists from the past 200 years, including portraits, biographies and reproductions.
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- Catalogue of an exhibition illustrating the use of plant forms in photographic art.
  - Regular price $6.00
  - Special price $5.00

All Institute publications are available in the United States and Canada directly from the Institute. Overseas orders for the Institute’s non-botanical titles should also be directed to the Institute. Orders from individuals must be prepaid; dealers and institutions invoiced on request. Prices include shipping and handling on prepaid retail orders. Standing orders accepted. Hunt Institute Associates receive a 20% discount. Resale discount quotations on request. Pennsylvania residents add 6% sales tax. Orders from outside the United States and Canada for the Institute’s botanical publications should be sent to our overseas distributor: Wheldon & Wesley, Ltd., Lytton Lodge, Codicote, Hitchin, Herts. SG4 8TE, England.

Purchases from the Institute may be charged to your American Express account. To do so, please sign your order and include all the information embossed on your American Express card. Do not send the card itself.

A DETAILED DESCRIPTIVE LIST OF INSTITUTE PUBLICATIONS IS AVAILABLE UPON REQUEST.
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