

THE ARNOLD ARBORETUM OF HARVARD UNIVERSITY

DIRECTOR'S REPORT 1992-1993



Front cover: Looking up through the four stories of the restored atrium in the herbarium wing of the Hunnewell Building. Back cover: The original 1892 doors after restoration. Photos by Warren Patterson Photography © 1993.

THE DIRECTOR'S REPORT
Arnold Arboretum
1992-1993

Robert E. Cook, Director

The Arnold Arboretum of Harvard University
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In 1874, two years after his appointment as the first director of the Arnold Arboretum, Charles Sprague Sargent had a strange idea. It grew out of the great public debate then surrounding the proposed creation of a system of parks for Boston. "In the general agitation into which the popular mind has now fallen in regard to a public Park or Parks," he wrote in a letter to his friend Frederick Law Olmsted in New York, "I think I can see some hope for our Arboretum. It has occurred to me that an arrangement could be made by which the ground (130 acres) could be handed over to the City of Boston on the condition that the City should spend a certain sum of money in laying out the grounds and should agree to leave the planting in my hands in order that the scientific objects of the [Arnold] trust could be carried out."

Initially Olmsted was opposed to the scheme, and he declined Sargent's invitation to create a plan: "Indeed," he wrote back, "a park and an arboretum seem to me to be so far unlike in purpose that I do not feel sure that I could combine them satisfactorily."

Within a few years, however, Sargent prevailed, and Olmsted's 1879 plan for the Arboretum was instrumental in convincing Harvard and the City fathers to sign an historic agreement sharing responsibility for the development and management of the Arboretum. Charles W. Eliot, President of Harvard University, wrote in his annual report to the Corporation:

Under this contract the City acquires gratuitously for the purposes of a public park about one hundred and twenty acres of land, beautifully diversified, and in part handsomely wooded, upon which the University is to maintain a collection of all the trees and plants which will live in the open air at West Roxbury. The University, on the other hand, gains security in the uninterrupted execution of the Bussey and Arnold trusts on the tract taken by the [park] commissioners, permanent exemption from taxation on this tract, the construction by the City of roads enough to give suitable access to the whole Arboretum, the maintenance of a police sufficient to protect the collections and plantations, and security against the laying out of streets and railways through or over any part of the Arboretum without the consent of the President and Fellows. It is believed that this contract will prove very advantageous both to the

City and the University. The management of the Arboretum as a scientific establishment, and as a collection of living trees, shrubs, and herbaceous plants, remains in the hands of the President and Fellows, and the admission of the public at reasonable hours and under proper regulation will only add to its usefulness as a means of instruction.

This unique collaboration between the University and the City has survived largely intact for one hundred and eleven years. So too has the unique design created by Olmsted; it was his first contribution to the new Boston park system that today is called the Emerald Necklace. Both are testaments to the vision, as well as the persuasive powers, of the Arboretum's founder, Charles Sprague Sargent.

In accepting responsibility for the roads, gateways, and security of the Arboretum—all necessary arrangements to control the public's access to the grounds—the City acknowledged the right of the University to the "management of the Arboretum as a scientific establishment" unhindered by the activity of the public. Over the past century, however, as the cityness of Boston has expanded to surround the once rural setting of the Arboretum with a fabric of urban challenges, the growing tension between the scientific responsibilities of the University and the great popularity of the park as a pleasure ground has come to threaten a future collision between competing demands and constituencies. Without some effort to anticipate and prevent such a collision, the heart of Sargent's vision of the Arboretum may one day be undone.

In 1990 I initiated a planning process that would specifically assess this tension and address the boundary between our obligations to support research and our responsibilities to serve the public. With the assistance of Sasaki Associates, a landscape consulting firm in Watertown, Massachusetts, we conducted a series of master plan design studies to be reviewed later in this report. Out of this has come a reaffirmation that, with proper planning and facilities, there need be no conflict between the highest quality of scientific scholarship and the thoughtful instruction of the public at large. In keeping with my practice in previous reports of the director, I shall devote much of my attention to this theme of programs for public service, which fulfill President Eliot's belief that access by the people to the Arboretum "will only add to its usefulness as a means of instruction."

LIVING COLLECTIONS

Ongoing Curation

Visitors to the grounds of the Arboretum are generally unaware of the high traffic in trees that come and go as a result of continuing curatorial review of a scientific collection. Last year saw the addition of 141 accessions (401 trees), of which 37 accessions were taxa new to the collection. The number of plants not meeting our collections standards was much higher. In general, this means plants that are not taxonomically identifiable to species or variety nor grown from seeds or cuttings from plants in the wild. In Jamaica Plain we deaccessioned 527 plants. At the Case Estates a comprehensive review of our records revealed many dead or lost specimens that had not been field-checked for decades. Any material of collections quality remaining at the Estates has been moved to, or propagated for addition to, the grounds in Jamaica Plain. We have subsequently removed all dead, missing, or low quality plants from our records, and the total of such individuals is 1,630. As a result, the permanent collection of the Arnold Arboretum now contains 13,402 plants (or single taxon groups) representing 5,321 taxa.

The Dana Greenhouse added 872 new accessions, two-thirds of which were from foreign countries. We also shipped out 770 items of plant material to research institutions and nurseries. The provision of



The Living Collections Committee: Peter Del Tredici, Tom Ward, Steve Spongberg, and Pat Willoughby.

Karen Madsen

requested plant material, which is an ongoing service we provide, indirectly serves the general public by supporting the research of scientists throughout the world. To illustrate this, let me list the researchers that our shipments supported just last year:

1. Dr. Susan Wiegrefe, University of Minnesota: pollen for breeding studies of maples (*Acer*);
2. Dr. Jun Wen, University of Texas: DNA studies of bladdernut (*Staphylea*) and birch (*Betula*);
3. Dr. Dorothy Steane, Oxford University: molecular systematic study of *Clerodendron*;
4. Dr. Barbara Meurer-Grimes, New York Botanical Garden: pollen for phenolic studies in oaks (*Quercus*);
5. Dr. Christopher Campbell, University of Maine: DNA studies of shadblow (*Amelanchier*);
6. Dr. Denise Costich, Rutgers University: biochemical studies of dioecism in trees;
7. Dr. Barry Tomlinson, Harvard University: developmental biology of conifers;
8. Dr. Thomas Vining, University of Maine: DNA studies of spruces (*Picea*);
9. Dr. Elizabeth Kellogg, Harvard University: molecular evolution of wheat, rye, barley, and their grass relatives;
10. Dr. Craig Hibben, Brooklyn Botanical Garden: diseases of ashes (*Fraxinus*), dogwoods (*Cornus*), and lilacs (*Syringa*);
11. Dr. George Ayers, Michigan State University: breeding studies of lindens (*Tilia*);
12. Dr. David Thurlow, Clark University: DNA and chemical analysis of *Ginkgo*;
13. Dr. E. J. Corey, Harvard University: bark of white fir (*Abies alba*) for analysis of glycinoeclepin, an anti-nematode agent.

Last year a major curatorial project to assess our collections on Peters Hill got underway. The creation of a comprehensive plan for this area was one of the recommendations of the Sasaki report mentioned earlier. To support this work, we have received another conservation grant from the Institute of Museum Services (IMS). This project will



The Hunnewell Building following completion of the renovation and the addition of an elevator tower and wheelchair ramp.

supplement the other curatorial reviews of our conifer and rhododendron holdings that have received grant support from IMS in the past.

A New Entrance Landscape

Much of the attention of the Living Collections department was occupied last year by the renovation of the Hunnewell Building. Late in 1992 the entire herbarium collection in Jamaica Plain, which documents our living collections, was packed for shipping and storage offsite during the renovation. In August most of the collection was returned to the Hunnewell Building and shelved in 122 new steel herbarium cases. Parts of the collection representing material from the Southern Hemisphere (largely tropical) will be integrated into our holdings in Cambridge.

For Living Collections, perhaps the project of the past year most visible to the public involved the development and installation of a planting plan for the new landscape entrance created by the renovation. To meet the requirements of the Americans with Disabilities Act of 1992, an entrance accessible by wheelchair was designed by Carol R. Johnson Associates of Cambridge. The staff of the Living Collections department assembled an array of plant material that would represent the long-standing historical interest of the Arboretum in the flora of Asia and

its close relation to the plants of eastern North America. The resulting landscape, installed by Capizzi Landscaping Inc. early this summer, is a beautiful design that achieves both regulatory and educational goals.

Finally, our intern program, one of our most important “public” educational activities, trained 11 young men and women (out of 97 applicants) in practical horticulture. Approximately ten percent of their time last summer was spent in formal classes, with the remainder devoted to working directly with our staff.

RESEARCH

Southeast Asian Initiatives

Professor Peter Ashton continued his international research through his work with forest economists at the Harvard Institute for International Development and the Center for Tropical Forest Science of the Smithsonian Institution. It is instructive to understand the logic that justifies this multidisciplinary approach. Because tropical deforestation results from an undervaluation of forest resources, owners of tropical

An Irianese tree climber in a light gap in lowland tropical forest, Indonesia.



Andrew MacDonald

forests—usually governments—fail to collect a financial return on the real values of the forest in order to use the collected revenues to fund sustainable management policies. Critically needed is socioeconomic information on the uses and associated values of the forest, and biological information on the capacity of the forest to sustain these values under different management policies.

Through extensive collaborations with government and private organizations, Professor Ashton has established a series of research sites throughout tropical Asia that will generate the kind of fundamental socioeconomic and biological information capable of readily guiding resource conservation. For example, a particular tropical tree species may have great value for timber. To sustain continuous harvesting in the forest, one would like to know how new trees come into the forest, at what rate they reach maturity, how their timber value changes with size, and what other,

non-timber products (fruits, medicines) they might provide. In the past year his travels to support these sites have taken him to Malaysia, Borneo, Singapore, Jakarta, Paris, India, Brunei, Sarawak, and Tokyo.

A second major research project of the Arboretum involves botanical inventory of tropical forests in collaboration with the Government of Indonesia. Supported by grants from the National Science Foundation, the National Cancer Institute, and the United States Agency for International Development, Dr. John Burley is managing an expanding program that last year sent several expeditions to western Borneo and western New Guinea to collect and document the flora.

Related to this, the expertise of the Arboretum is also providing critical advice to government and nonprofit agencies concerning biodiversity conservation. Last summer Dr. Burley prepared a detailed plan for the Global Environment Facility (GEF), which is managed by the World Bank and United Nations Development Program. It prescribes an \$8.5 million project to strengthen institutional resources for systematic research in Indonesia. He also provided technical assistance to integrate this GEF project with a joint U.S.-Japanese initiative proposing \$40 million for support of biological resource management in Indonesian tropical forests.

Harvard University Herbaria

These international research efforts could not be sustained without the support of the library and herbarium collections maintained in the Harvard University Herbaria. During the past year this building underwent major spatial reconfigurations, generated in part by the arrival of three new professors of botany along with their students and postdoctoral collaborators. Combined with the construction of molecular and chemical laboratories for these professors was the installation of a compactor system in the basement to greatly improve the storage efficiency of herbarium specimens, thereby creating additional space in overcrowded cabinets. Coincident with extensive reorganization of the collections into this new compactor system, tropical material was moved in from Jamaica Plain and inserted into the appropriate locations. The large herbarium collections of the New England Botanical Club, previously kept in separate cases, have also been fully integrated into these holdings.

Despite the space efficiencies achieved by compactorization, the limit for storage of collections in the Harvard University Herbaria building is clearly in sight. At current rates of collecting, three to five years of space remain. The executive committee of the Herbaria will be initiating a long-range planning process to define future space options.

Most activity in the botany libraries has involved similar efforts to achieve organizational efficiency among the many separate collections it manages. Here, however, one finds a more identifiably "public" face in the services provided to researchers and students from Harvard and the larger community of scholars. Last year, for instance, the library responded to over 4500 reference and directional requests from members of this public and executed more than 140 archival transactions. Such quiet, but constant, activity is the lifeblood of the modern research library.

PUBLIC PROGRAMS

Adult Education

The renovation of the Hunnewell Building had an inevitable impact on our programs serving the public. Because a major part of our classroom space was unavailable, enrollment in our Adult Education classes declined significantly and fewer classes were offered than in past years. Nonetheless, the program served 2100 course registrants with 130 course titles and approximately 400 class meetings during the year.

Under the leadership of Marcia Mitchell, the program has been raising the quality of its offerings, focusing on botany, garden history and design, practical horticulture, and plant materials. To replace the certificate program, which was cancelled last year, we have initiated the awarding of Letters of Participation, thus avoiding any confusion between our informal program and other formal certificate programs at Harvard University. Our first Letters will be awarded for course enrollments in propagation.

The Children's Program

We continued to increase the quality of our summer training workshops for Boston area teachers this past year. Under the leadership of Diane Syverson, we expanded the workshop from one week to two, and we



added a second, similar workshop with federal funding from the Dwight D. Eisenhower Mathematics and Science Education Program, which is administered by the Commonwealth of Massachusetts. This latter training session focused exclusively on Boston schoolteachers. We were assisted by two new collaborators, Dr. Robert Traver of Harvard's Graduate School of Education, and Dr. Candace Julyan, a consultant from TERC, a Cambridge-based educational services company.

A plant identification class on Arboretum grounds.

The workshops are designed to achieve three goals: (1) to introduce teachers to a hands-on curriculum called LEAP, which uses plants as a friendly medium for teaching basic science concepts; (2) to provide enhanced knowledge about plant sciences in general and about specific botanical resources at the Arboretum; (3) to introduce a philosophy of teaching, called constructivism, which recognizes the importance of giving children the intellectual tools they need to shape and direct their own learning. Teachers receive a \$500 stipend for attending, and they can request additional assistance during the school year. A formal

evaluation of the workshop is provided by Dr. George Hein, director of the Program Evaluation and Research Group at Lesley College.

Despite serious constraints on space due to the renovation, the Arboretum continued the Field Studies Experiences program, which served 1,991 schoolchildren who were accompanied on visits to the Arboretum by 104 teachers and 202 parents or aides. The program takes children on science excursions into the landscape and was conducted from a large tent set up near the Dana Greenhouse as a base of operations to replace the space no longer available in the Hunnewell Building.

The past year also saw the development of preliminary plans to further enhance the quality of our teacher training efforts through the use of computer technology. If we are able to obtain federal grant support during the coming year, we hope to link local schools to the Arboretum through the creation of a telecommunications and computer network that will allow teachers and students to carry on shared discussions about science and their observations at the Arboretum.

Modelled after a successful national program called Kids Network, we will develop experimental modules that take classrooms on

Diane Syverson
(standing at center)
conducting a training
workshop for Boston-
area schoolteachers.



Amy L. C. Wilson

field expeditions to gather data through formal, hands-on exercises. Under the guidance of Arboretum scientists, students from different, linked schools will share observations and data through the network. We hope to disseminate this model to other museums and science centers who wish to support science education in their neighborhood schools.

As with many aspects of the Arboretum, our Children's Program would be prohibitively expensive without the generous contribution of many volunteers who are trained as natural history guides. Last year 26 volunteers worked with our Field Studies Experiences to provide individual attention to the many questions raised by children. One second grade teacher noted, "The guides were wonderful—patient, thorough, honest. They seemed to enjoy their work and were very knowledgeable. They made the field experience interesting, informative, and pleasant."

We deeply appreciate these efforts, and those of all our volunteers at the Arboretum.

Friends of the Arnold Arboretum

Over the past several years, we have not conducted membership campaigns pending the appointment of an assistant director for development. As a consequence, the number of paying members has declined below 3,000 because some individuals have failed to renew their membership and enrollment of new members has not kept pace. With the appointment of our Chief Development Officer in the fall of 1993, we are launching a formal membership drive. We anticipate an increase in membership over the next several years with hopes of reaching a goal of 5,000 supporters. We are currently developing a new membership brochure and will be energetically soliciting renewals from our existing members.

Despite the decline in paid memberships, annual philanthropic giving has remained relatively constant over the past three years. We have raised approximately \$130,000 to \$150,000 from individuals each year. More encouraging last year was the response to the 1992 Fall Appeal, my mischievous missive sent under the name of Professor Sargent. It yielded 247 donations for a total of \$48,524, a 35% increase over the previous year.

An important benefit of membership for many of our friends is the annual plant dividend sent through the mail each spring. Last year we shipped 2,500 bare-root cuttings of *Magnolia x loebneri* 'Leonard Messel', a European hybrid between *M. kobus* and *M. stellata* 'Rosea', which bears fuschia-purple buds that open to pale lilac-pink flowers in mid-to-late April here in Boston. This benefit cost us approximately \$8,200. It is made possible only through the critical assistance of numerous volunteers who pack and address the cuttings.

National Park Service Collaboration

Our two-year-old collaboration with the National Park Service, especially the Frederick Law Olmsted National Historic Site in Brookline, Massachusetts, continues to prove fruitful for the Arboretum. This relationship grew out of our mutual realization that each organization possesses complimentary expertise beneficial to the other. Arboretum staff are very knowledgeable about a range of horticultural and botanical issues critical to the management of historic landscapes. Likewise, the Park Service has had extensive experience with programs related to public interpretation and education.

In addition to interpretive tours on our grounds, we jointly sponsored a lecture series, "Reconstructing Nature: Frontier Perceptions," at Harvard's Graduate School of Design. Arboretum staff have also worked closely with the staff of "Fairsted," as Olmsted called his home and office, to complete a cultural landscape assessment of this property. This evaluation reviews the history of landscape design at Fairsted and the use of plant materials by the Olmsted family between 1883, when the property was purchased, to 1980, when the Olmsted firm donated the house and its landscape archives to the National Park Service. The assessment will greatly assist the Service in restoring the landscape to its design at the time of the firm's most productive years, around 1920–1930.

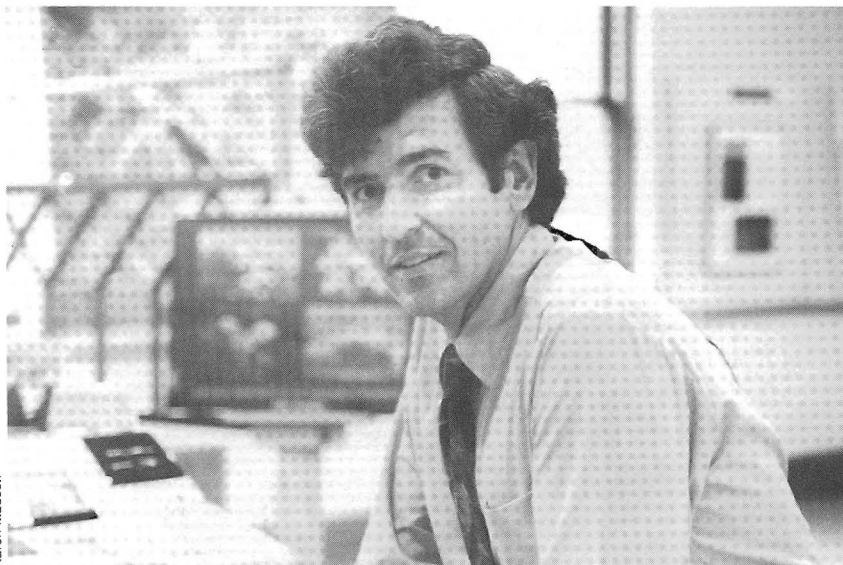
Through the newly created Olmsted Center for Landscape Preservation, in which the Arnold Arboretum joins the Park Service as a partner, we are providing other historic sites (Adams, Longfellow, St. Gaudens, Vanderbilt, Roosevelt) with technical horticultural assistance that will help them restore and preserve their landscapes.

Visitor Services

For a number of years we have recognized the need to provide visitors with a greater understanding of the cultural and scientific significance of the Arboretum. In 1991 we received a planning grant from the National Endowment for the Humanities to develop such an interpretive program. During the past two years we have created a comprehensive plan that not only explores the scientific mission of the Arboretum but integrates this with the unique history of our role in the development of Boston's cultural institutions during the last century. The plan includes an introduction to the Arboretum through video film and brochures; exhibits that highlight scientific and humanities themes in our history; a scale model of the Arboretum; a menu of excursions into the landscape; and an orientation system for wayfinding among the collections. Late in 1993, this plan exhibited sufficient quality to merit the awarding of another \$200,000 implementation grant from the National Endowment for the Humanities.

Long-Range Planning for Public Education

The most significant accomplishment for the future of our programs for the public was the substantial completion of a series of design studies by Sasaki Associates, Inc. Their charge was to develop plans for critical



Jim Gorman at the front desk in the renovated Hunnewell Building.

Karen Madsen

aspects of our interaction with the public. This included improvements to the appearance of our edges and entrances (walls, fences, gates) and the future uses of peripheral Arboretum land not within the historic boundaries of the property designed by Frederick Law Olmsted. Most critical, however, was the analysis of our parking and facility space devoted to public programs and the potential value of a new facility to serve these purposes.

To set these planning recommendations in context, I want to return to the history of our public involvement identified in the introduction. As noted earlier, the unique collaboration between the City of Boston and Harvard University to develop the Arnold Arboretum involved an agreement that created separate responsibilities for the two collaborators. The University would open its research collections to benefit the education and enjoyment of the general public if the City, in turn, assumed full responsibility for management of this public access and

Boston schoolchildren at
the Arnold Arboretum.



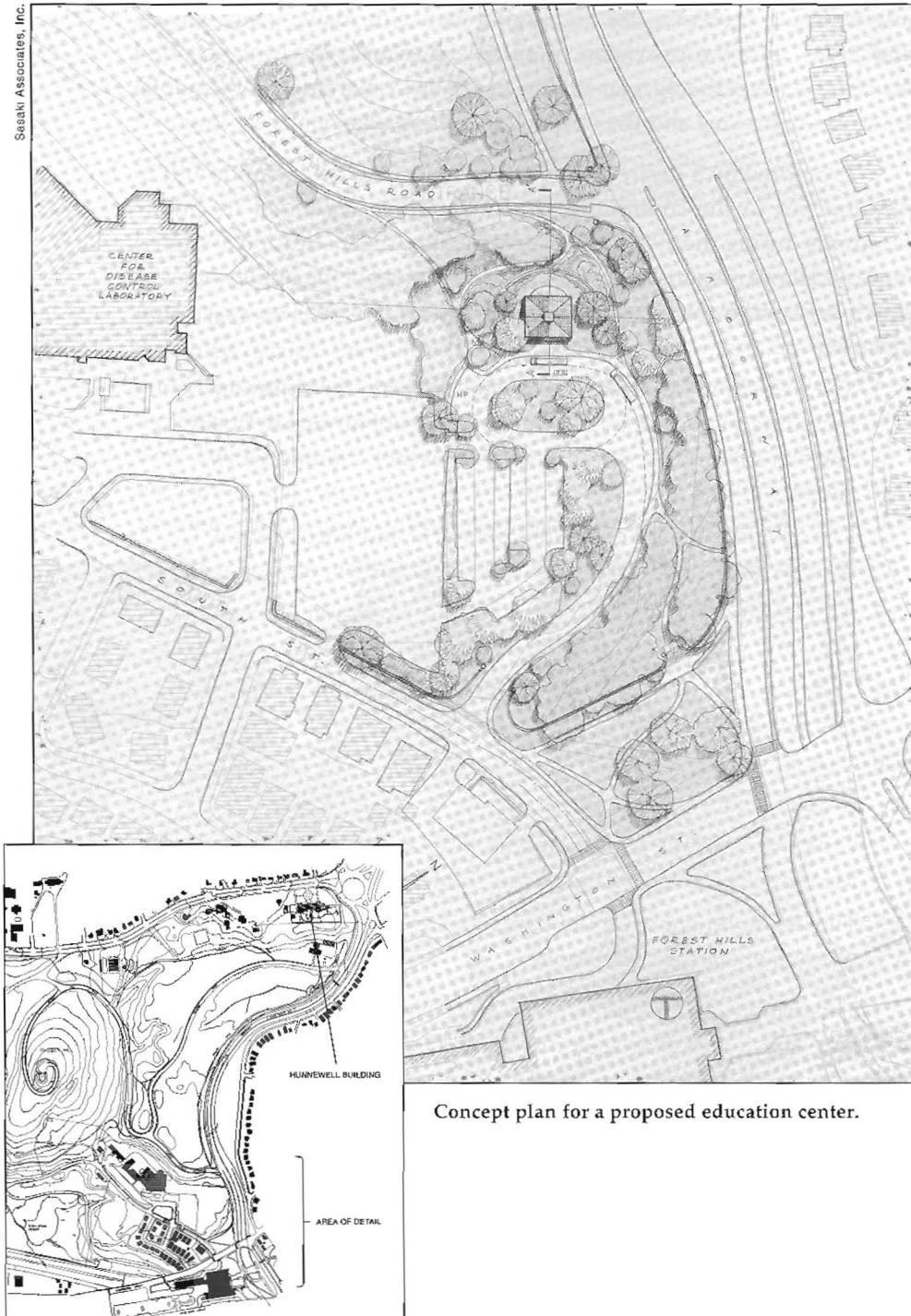
Rácz & Debrecczy

any resulting problems, through maintenance of roads, walls, fences, and gates, and the provision of sufficient security. During the first hundred years of this agreement, the use of the Arboretum by the public was largely passive and the number of visitors was relatively low.

Prompted by a desire to increase visitation to the grounds and to develop ties to the community, the Arboretum expanded its public programs during the 1980s. As a consequence, the institution assumed more and more responsibility for the management of the public that was previously under the jurisdiction of the City of Boston. This expansion included:

1. The development of an educational program for children, including visits to the Arboretum by school groups in buses, and the subsequent development of teacher training workshops;
2. The development of expanded botanical and horticultural course offerings for adults on weekends and evenings;
3. A program of educational exhibits, and operation of a bookstore and gift shop within the Hunnewell Building;
4. The provision of bathroom facilities for the public within the Hunnewell Building;
5. The expansion of a corps of volunteers to assist in the operations of public programs;
6. Creation of public parking within the Arboretum along Meadow Road at the front of the Hunnewell Building;
7. The development of a public relations and marketing program to encourage visitation.

This expansion of public programs, with its associated staffing increases and space needs, occurred without any reduction in the obligations of the Arboretum's traditional mission (research, curation of the collections, publications, grounds maintenance, general administration). With limited resources and space facilities, there inevitably followed growing conflict between the needs of public programs and these traditional obligations. Space for the public was carved out of space formerly serving library and administrative functions, and this space was asked to serve multiple and competing purposes (public reception, information distribution, public restrooms, sales, exhibits, scheduled



lectures, school group reception, group meetings, staff meetings, business guest reception, package and mail delivery). It did not serve all these ends well nor without conflict.

Likewise the fifteen-foot-wide roadway and parking area at the front of the building could now simultaneously experience the arrival and departure of up to fifty cars, the discharge of passengers and pets, the arrival or departure of school classes in buses, tour groups in large buses, parcel delivery, pedestrian traffic, bicyclists, rollerskaters, and the continuing movement of Arboretum service vehicles (trucks, mowers, tractors) between the service garage and the grounds. Congestion, and risks of accidents, compounded.

With the initiation of the Sasaki study in 1992, it was appropriate to ask whether a different configuration of facilities and parking could potentially resolve some of this conflict. Thus one might figuratively return to the early 1980s, prior to the expansion of public programs, and ask what existing or new facilities would be required to accommodate the proposed expansion without leading to future conflict with the traditional mission goals of the Arboretum.

Early in the design analysis by Sasaki, it became clear that a physical separation of facilities serving public programs from the remaining operations of the Arboretum would relieve many of the conflicts, especially the congestion experienced at the front of the building due to vehicles, pedestrians, and parking. Once this conclusion was reached, the study turned to an analysis of potential sites around the Arboretum where a new facility, devoted to public education, could achieve the necessary separation.

From the perspective of construction feasibility, circulation, and functional services, Sasaki concluded that the site displaying the most advantages is a parcel of land located beside the southeasternmost corner of the Arboretum, above the Forest Hills Gate and overlooking the Eleanor Cabot Bradley Garden of Rosaceous Plants. Approximately five acres of land, which was once part of the Bussey Institute and is now property of the Commonwealth of Massachusetts, lies at the top of an overgrown, wooded ridge.

A special advantage of this site is its position between the Arboretum and the Forest Hills Subway Station across Washington Street. This

location would offer a direct connection with public transportation. We are actively exploring the options for acquiring title to this property. Because any land acquisition will require some elaboration of architectural and circulation plans for a future education center, we will develop these preliminary plans during the coming year. We will also conduct a detailed traffic and parking analysis of the site to determine and mitigate any impact the public might have on the neighborhood.

ADMINISTRATION

The Renovation

The past year has been dominated by the unpredictability and the excitement that accompanied the complete renovation of our primary facility, the Hunnewell Building. It was a large and complex project; and Sheila Connor, who serves as both our research archivist and facilities manager, shepherded the renovation to completion with exceptional skill. Of necessity, our entire library and herbarium collections in Jamaica Plain were placed in storage for a year. The staff of Living Collections and Public Programs were temporarily relocated to new administrative quarters, along with the necessary telephone and computer network systems. Upon completion, everyone was resettled in the building. Administrative staff, including the Director, remained in the building through demolition and preliminary construction. Only during the last two months of the twelve-month project were we relocated to construction trailers sitting on the west lawn. The renovation, and the beauty of the restored building, have come to symbolize many of the dramatic changes experienced by the Arboretum over the past several years.

In a financial and pragmatic sense, the \$3.5 million renovation was largely focused on infrastructural issues related to code requirements and regulations. The asbestos and horsehair plaster ceilings in the attic were completely removed under stringent environmental control. The floors of the herbarium wing of the building were reinforced, thereby correcting fundamental structural weaknesses that threatened our collections. Entirely new heating, plumbing, electrical, lighting, and sprinkler systems were installed to modern code specifications. A climate control system has halted the deterioration of valuable library holdings. All aspects of the building now comply with the 1992 Americans with

Disabilities Act, including the addition of an elevator tower to the west facade and a new landscape entrance at the front of the building.

The public's perception of the renovation will be limited to the front interior where most visitors congregate. New bathrooms with increased capacity, an enlarged lecture hall, and a newly renovated exhibit area all enhance the experience of the public. Visitors will also be able to enjoy outdoor seating at the entrance plaza where they will be surrounded by new specimen plants of special importance in the botanical history of the Arboretum.

The more inspirational spaces created by the renovation are located in parts of the building closed to the general public. The library reading room, for instance, has retained much of the nineteenth-century character that would have been home to Charles Sargent. Yet new lighting, installation of thermally efficient windows, a discreet climate control system, and refinished wood surfaces and tables have eliminated a century of dust to leave a magnificent space for scholarship. Likewise the fourth-floor attic, which had been filled with a half-century of accumulated junk, has been cleaned out, opened up, and transformed by skylights into a beautiful working space for Living Collections, one that still exhibits the timber post-and-beam construction characteristic of a century-old building.



Sheila Connor in her role as building renovation manager.

Perhaps the most inspiring space is the restored atrium in the herbarium. This four-story wing was added to the original 1892 Hunnewell Building in 1908. It was built in the style of European herbaria with a central atrium that penetrated the upper three floors in order to permit the steel herbarium cases to be hoisted by rope and pulley to the upper stories. Over the last half century, the demand for additional space had led to the planking over of this atrium at each level until its existence was only a trace revealed by a change in floor material from cement slab to wood. With the demolition of the interior infrastructure at the start of the renovation, the atrium was once again revealed. We then decided to restore this atrium and to illuminate it by installing a large skylight in the roof. The result has been a dramatic expansion of interior space flooded with sunlight from above.

The renovation of the Hunnewell Building has been financed by debt. When we began planning for it in 1991, the Arboretum estimated that approximately \$500,000 was on hand to contribute to the \$3.5 million cost. Because the construction climate in Boston was so favorable and substantial savings could be achieved by moving forward, we made the decision to borrow the remaining funds through Harvard University. Our twenty-year mortgage is at a fixed rate of 8 ¹/₂ percent and this adds approximately \$300,000 in expenses to our annual operating budget. There is, however, no penalty for early payment, and we hope to retire this debt through participation in the University Campaign.

Finances

Despite the uncertainties created by the renovation, the Arboretum remains in fundamentally sound financial condition. We ended the 1992–1993 fiscal year with a surplus operating balance of approximately \$55,000. Although we expended substantial funds from our Building Reserve for expenses related to the renovation, our overall fund balance dropped only slightly to total \$1,650,630 at the end of the year. A final sign of health, not revealed by the numbers in the Summary of Operations, is the addition to our endowment, which last year totaled \$1,162,791.

Closer examination of the numbers reveals the significant impact of the renovation on all levels of activity; it also raises issues for the future. All categories of income, except grants and endowment, were

significantly lower in 1993 compared with the previous year. Expenses for salaries, supplies, and equipment were also down as our staff decreased by six persons during the renovation. The 1993 number for facilities and operations (\$516,796) contains an additional expense item of \$200,000 paid against our renovation debt. Thus actual operating expenses were only slightly higher than the previous year. Services and travel expenses increased due to grant-supported international research. Overall expenses were confined to a 3.5% increase over FY92.

The drop in income from membership and gifts reflects two factors. First, we received several project-related gifts from foundations in 1992 that were not repeated in 1993. In addition, as noted earlier in this report, there has been a real (approximately 14%) drop in membership support over the past year. We are taking active steps to address this during the coming year.

The picture of Arboretum finances communicated by these numbers will not look the same over the next several years. Two sources of

<i>Summary of Operations</i>			
	FY 1991	FY 1992	FY 1993
INCOME			
Endowments	2,550,576	2,718,957	3,039,819
Membership/Gifts	496,731	431,312	240,611
Enterprise	312,827	318,483	178,155
Grants	404,229	535,230	540,760
Education/Publications	287,290	249,553	103,784
TOTAL INCOME	4,051,653	4,253,535	4,103,129
EXPENSES			
Salaries	2,110,151	2,255,426	2,240,783
Supplies/Equipment	724,071	665,530	442,558
Facilities/Operations	351,491	287,734	516,796
Services	620,723	627,539	689,467
Travel	71,122	73,581	158,837
TOTAL EXPENSES	3,877,558	3,909,810	4,048,441
EXCESSES			
Unrestricted Excess	36,482	81,719	82,762
Restricted Excess	137,612	262,004	(28,074)
TOTAL EXCESS	174,094	343,723	54,688
TOTAL FUND BALANCES	1,575,154	1,656,221	1,650,630



Margot Balboni

Rosa spinosissima
in the Eleanor Cabot
Bradley Garden of
Rosaceous Plants.

deficit will intrude upon our positive operating balances. First, our newly acquired obligation to service our mortgage will emerge as a \$300,000 expense item under Facilities/Operations. This will contribute to a growing deficit until we are able to retire the debt through fundraising.

A second potential source of deficit might be called investment in the future. With a newly renovated facility, it is an appropriate time for the Arboretum to spend some funds on projects that will enhance the future prospects of the institution. One area meriting modest investment is research

using our collections, especially our living collections. A second area is public education and our services for visitors. Finally, it makes very good sense to invest in our development program as we prepare for participation in the Harvard Campaign.

Over the next several years, I believe that we could profitably spend up to \$500,000 from fund balances in these areas. This investment will appear in our operating statement as expenses without offsetting income, thus creating the appearance of an operational deficit. To more appropriately reflect the real situation, I will be creating a new source of income called "Transfer from Fund Balances" that will mark our decisions to invest savings while avoiding the false appearance of an operational deficit.

A Program for Development

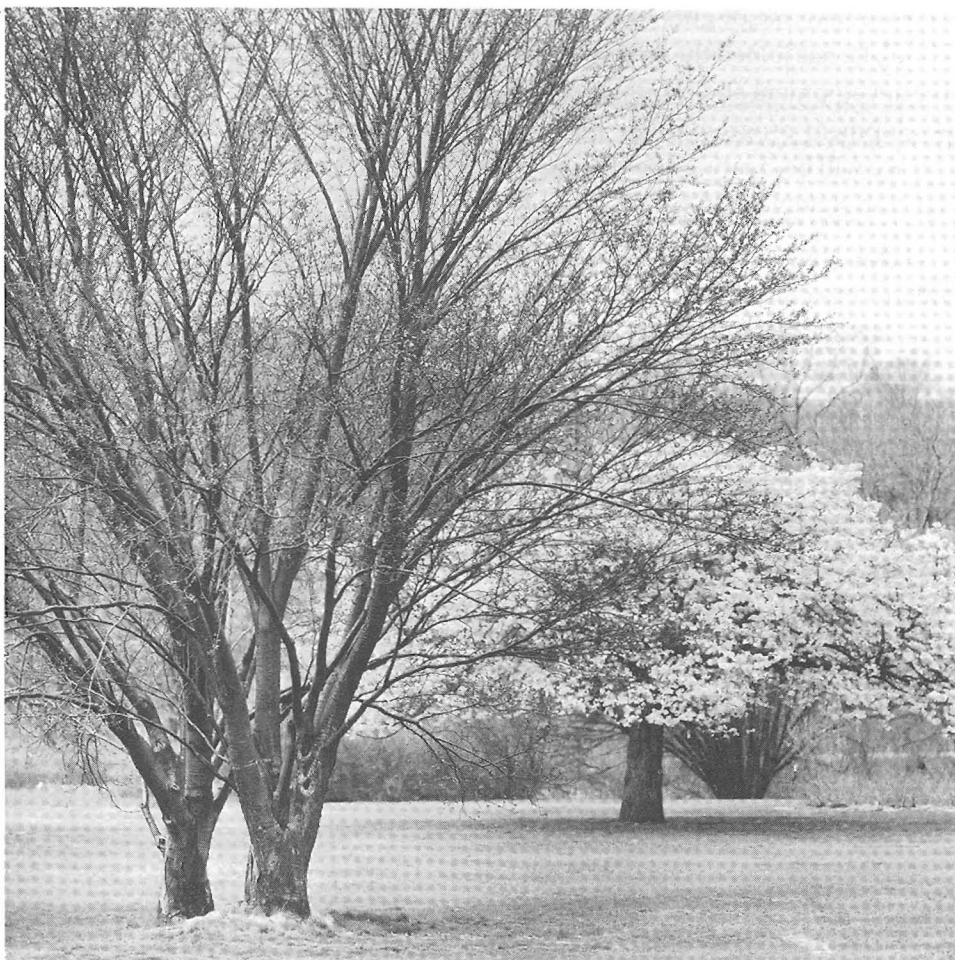
Last year I reported the decision of the President and Provost to include the Arnold Arboretum in the forthcoming university-wide capital campaign. Since that time we have been working with the academic planning process on campus to establish our goal and we have settled on a figure of \$8,000,000 for endowment. Once these decisions were made, I set about the process of searching for a chief development officer for the Arboretum who could provide leadership during the campaign.

At the end of 1993, after a year of searching, we hired an individual who brings exceptional credentials and experience to the position. Steve Nelson majored in chemistry and molecular biology as an undergraduate at Northwestern University. He subsequently received an MBA from the Harvard Business School where he continued after graduation to work with their development office in the cultivation and solicitation of major gifts from alumni. After five years at the Business School, he has joined the Arboretum staff to help us build a comprehensive development and communications program. This is the first formal development program in the history of the Arboretum. Over the next year we will be creating a campaign strategy and formulating a compelling case statement on behalf of the future needs of the institution.

Our true goal in the Campaign will transcend the acquisition of dollars. Obviously we hope that our existing friends will be very generous in helping us achieve our financial goal. Equally important for the future, however, is our desire to identify from among the general public a whole new generation of friends who share the values represented by the programs of the Arboretum. We are convinced that they will come to support the Arboretum long after this Campaign is over. And we are convinced that now is the time when investment in our public programs will help us identify this new constituency, thus reaffirming our long-standing commitment to serve the educational needs of the public. This commitment was very much a part of Charles Sprague Sargent's vision for the institution as embodied in the unique collaboration he engineered with the City of Boston. Consistent with this vision, then, our investment now will yield a loyal new generation of friends who, for another half century, can sustain the traditional, yet critical, mission of the Arboretum.

A handwritten signature in dark ink, reading "Bob Cook". The signature is fluid and cursive, with the first letters of "Bob" and "Cook" being capitalized and prominent.

Robert E. Cook, Director



PUBLISHED WRITINGS OF THE ARNOLD ARBORETUM STAFF

J. H. ALEXANDER

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P. ANDERSEN

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P. S. ASHTON

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J. H. BEACH

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D. E. BOUFFORD

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S. CONNOR

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R. E. COOK

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P. DEL TREDICI

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C. V. S. AND I. A. U. N. GUNATILLEKE

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R. A. HOWARD

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G. L. KOLLER

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J. E. LAFERRIÈRE

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J. V. LAFRANKIE

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K. H. MADSEN

1992. Review of *Denatured Visions: Landscape and Culture in the Twentieth Century*, ed. Stuart Wrede and William Howard Adams. *Journal of the New England Garden History Society* 2: 68–69

A. J. MACDONALD

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S. A. SPONGBERG

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J. WEN

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STAFF OF THE ARNOLD ARBORETUM*

ADMINISTRATION

Rose Balan, *Receptionist*
Donna Barrett, *Accounting Assistant*
(as of 6/29/92)
Vibeke Burley, *Secretary* (left 12/11/92)
Robert E. Cook, *Director, Arnold Professor*
Frances Maguire, *Assistant Director for*
Administration
Patricia Marinick, *Receptionist*
Yu-Ling Wang, *Accounting Assistant*
(left 5/29/92)

HERBARIUM

David Boufford, *Assistant Director for*
Collections, HUH
Susan Hardy Brown, *Herbarium Assistant*
Linda Fahey, *Curatorial Assistant*
(hired 3/1/93)
Ida Hay, *Curatorial Associate* (left 4/2/93)
Carolyn Hesterberg, *Secretary*
Pamela White, *Curatorial Assistant*
(hired 3/29/93)
Emily Wood, *Manager of Systematic*
Collections

LIBRARY

Sheila Connor, *Horticultural Research*
Archivist
Kimberly Crandall, *Library Assistant*
Elzbieta Ekiert, *Library Assistant*
Karen Kane, *Library Assistant*
Judith Warnement, *Librarian*

LIVING COLLECTIONS

John Alexander, *Chief Plant Propagator*
Phyllis Andersen, *Landscape Historian*
(appointed 10/5/92)
Hollis Bedell, *Curatorial Associate*
(left 8/31/92)
Kenneth Clarke, *Custodian*
Luis Colon, *Grounds Staff*
Julie Coop, *Assistant Superintendent of*
Grounds
Peter Del Tredici, *Assistant Director for*
Living Collections

Julane Fagnant, *Staff Assistant, Plant*
Records (left 8/15/92)
Robert Famiglietti, *Grounds Staff*
Donald Garrick, *Grounds Staff*
Michael Gormley, *Grounds Staff*
Dennis Harris, *Grounds Staff*
Karlton Holmes, *Grounds Staff*
Susan Kelley, *Curatorial Associate*
(appointed 1/25/93)
Gary Koller, *Senior Horticulturist*
David Moran, *Arborist*
Bruce Munch, *Grounds Staff*
James Nickerson, *Grounds Staff*
John Olmsted, *Head Arborist*
James Papargiris, *Grounds Staff*
Jennifer Quigley, *Curatorial Associate*
Maurice Sheehan, *Grounds Staff, Working*
Foreman
Stephen Spongberg, *Horticultural*
Taxonomist
Mark Walkama, *Grounds Staff*
Thomas Ward, *Greenhouse Manager and*
Propagator
Patrick Willoughby, *Superintendent of*
Grounds

PUBLIC PROGRAMS

Diana Boehm, *Assistant Shop Manager*
(left 9/15/92)
Amy Wolff Cay, *Shop and Visitor Services*
Manager (left 9/15/92)
Julane Fagnant, *Staff Assistant, Education*
(left 12/4/92)
James Gorman, *Staff Assistant, Visitor*
Services
Annette Huddle, *Children's Program*
Assistant (appointed 9/1/92)
Karen Madsen, *Editor of Arnoldia*
(appointed 10/1/92)
Marcia Mitchell, *Adult Education Manager*
Richard Schulhof, *Assistant Director for*
Education and Public Affairs
David Sieks, *Staff Assistant, Membership*
Diane Syverson, *Children's Program*
Coordinator

* 1 July 1992 through 30 June 1993

Pamela Thompson, *Staff Assistant, Education*

RESEARCH

Peter Ashton, *Charles Bullard Professor of Forestry*

James Beach, *Manager of Biological Database Systems*

John Burley, *Research Director*

Alison Church, *Curatorial Assistant*

Noel Cross, *Microcomputer Systems Specialist*
(appointed 9/13/92)

Bryan Dutton, *Research Editor* (left 9/10/92)

James Jarvie, *Research Associate*

Joseph Laferrière, *Research Associate*
(appointed 12/16/92)

James LaFrankie, *Research Coordinator*

J. Andrew MacDonald, *Research Associate*

Cheryl Murphy, *Administrative Assistant*

Margaret Stern, *Research Associate*
(appointed 3/16/93)

Peter Stevens, *Professor of Biology*

RESEARCH AFFILIATES

Neela de Zoysa (appointed 4/1/93)

Michael O. Dillon (left 9/30/92)

C. V. Savitri Gunatilleke (appointed 9/1/92)

I. A. U. Nimal Gunatilleke (appointed 9/1/92)

Richard A. Howard, *emeritus*

Shiu-Ying Hu Hsu, *emerita*

Elizabeth A. Kellogg, *Arnold Arboretum Associate* (to 6/30/93)

Bernice G. Schubert, *emerita*

Jun Wen (appointed 10/1/92)

Wolfgang Werner (2/1/93 to 6/30/93)

Carroll E. Wood, Jr., *emeritus*

VISITING COMMITTEE

Christopher T. Bayley, *Chairman*

Robert A. Bartlett, Jr.

William B. Coughlin

Caroline G. Donnelly

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Donna Van Dyke Ford Hartman

Francis Oakes Hunnewell

Janine Evnin Luke

Robert Ornduff

Elizabeth C. Sluder



Rätz & Debrezy

