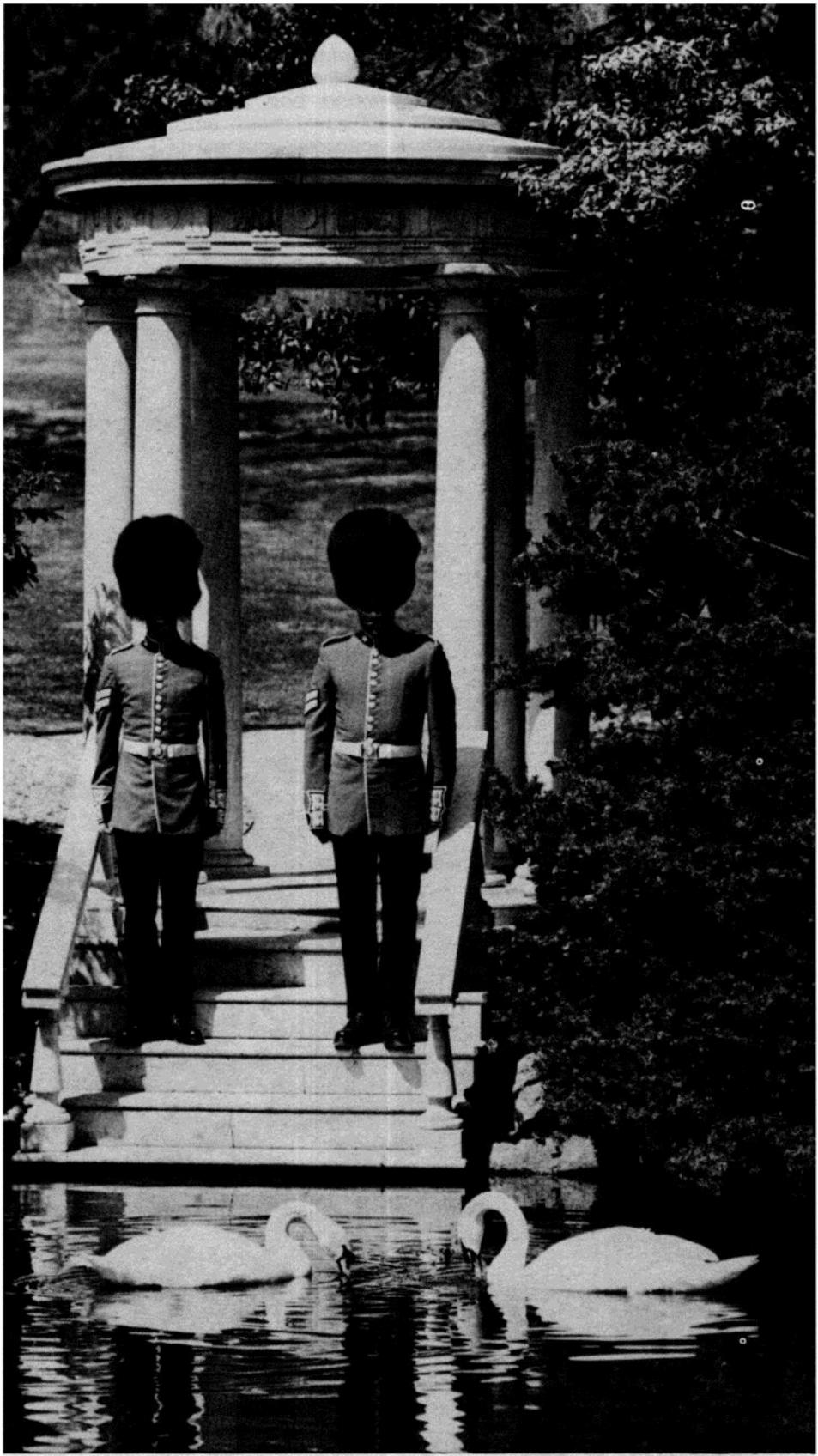




Morris Arboretum
of the University of Pennsylvania

An Idea Whose Time Has Come





Foreward

The 50th Anniversary of the founding of the Morris Arboretum of the University of Pennsylvania and its opening to the public provides an opportunity to explore the continuing relationships between the Arboretum and the University. To that end, a Position Paper was prepared in February of 1982 and presented to the Advisory Board of Managers. Its purpose was to describe the ways in which The Morris Arboretum contributes to University goals. The Advisory Board of Managers at their May meeting endorsed the directions outlined in that paper, and a number of new initiatives have been taken to implement the objectives.

Since these discussions have been of consuming interest to the Advisory Board and staff for the past six months, I thought it was time that we drew from this Position Paper to highlight some of the implications of our existence as a University institution. For the University, the Morris Arboretum offers important resources for teaching and research and significant educational and cultural links with the city and the region. For the Arboretum, the association with the University enriches, gives depth, and endows the institution with great promise for the future.

(Cover)

Japanese Maple dating to the time of the Morrises, one of many fine specimens at the Arboretum, provides invaluable information on the adaptability of exotic plants to the Delaware Valley.

(Left)

A brace of Royal Swans on review at the Arboretum's Swan Pond; a gift from Ottawa, first capital of Canada, to Philadelphia on the 300th Anniversary of the founding of the city.

(Right)

A winter wonderland, "The native woodlands along the Wissahickon Creek are a living link with our natural landscape."



The Morris Arboretum: An Idea Whose Time Has Come

*...the custodianship of a great university give promise that Philadelphia is to have an arboretum comparable to the celebrated Arnold Arboretum, in Boston; the Royal Botanic Garden at Kew, England; and the other notable arboreta and botanic gardens throughout the world...*¹

The Morris Arboretum celebrates its 50th Anniversary with a great sense of optimism.

After its early years as a research facility for University botanists, it has now developed ties with many University departments and serves as an educational resource for both graduate and undergraduate students in a number of University programs. At the same time, it has become a partner in exciting new developments to strengthen the plant-sciences in the Biology Department.

After five decades, the Arboretum is also beginning to realize some of its potential as a *public* arboretum. Its many new programs for the University and the Philadelphia community carry out the original intent of its founders, John and Lydia Morris, and make significant contributions to the University's stated goals of increasing educational outreach programs and strengthening ties to the city and the region.

This development has taken place as part of the Arboretum's long-range plans, first adopted by the Advisory Board of Managers in February of 1978. This three-phase program includes the following:

- I. Restoration and Renewal — 1978-1983;
- II. Expansion of Research Facilities — 1984-1986;
- III. Expansion of Public Facilities — 1987-1990.

The first phase is now well launched and we can report substantial progress in restoring the magnificent lands to their former grace and beauty. The Arboretum's 175 acres include natural woodland, meadow, and landscaped gardens with dramatic views, a mature collection of trees, and a wonderful array of natural and constructed water features. The Morris Arboretum represents an irreplaceable asset for the University and the community where the story of 300 years of the evolution of landscape in Pennsylvania can be presented to the public.

The native woodlands along the Wissahickon Creek are a living link with our natural landscape. These rapidly disappearing habitats should be preserved for study and for future generations to enjoy. But as a University arboretum we must go beyond stewardship of our open spaces. We must search for better methods of mending and renewing the fabric of the landscape in which we live. We must offer our insights to each new generation of students and to the public if we are to preserve this legacy for future generations.

The former pastures of the estate, from which the Arboretum was created, form the working landscape. They will

provide the biologists and horticulturists with the ideal spaces to study plants under controlled conditions. It is in this area that the new greenhouses, head-houses and research laboratories will be constructed in phase II of the long-range plans.

The historic gardens are now being restored to reveal the Victorian world view and explore its impact on the landscape of today. Already gardens are being reshaped, and five of the classical architectural features have been renovated. As a cultural institution, the Arboretum is an outstanding example of the eclectic style of Victorian gardens, designed to delight as well as educate the visitor.

The Arboretum has also developed new facilities to support its programs. The former Morris Mansion Carriage House has been renovated as the new George D. Widener Education Center and construction has begun on a new Grounds and Nursery Center, which will provide the necessary training facilities for the horticulture department. The next phase of development will concentrate on expanding research facilities to complement the initiatives in the plant sciences being undertaken in the Biology Department.



1. From the 39 page illustrated booklet published by the University of Pennsylvania in 1933 announcing the opening of the Morris Arboretum to the public.



The Research Mission

"The Arboretum, however, cannot be of the maximum service to humanity by being a showplace alone or a place for the dissemination of information to the general public, worthy as these purposes are. Its public services are founded upon a substantial program of scientific research."²

A research program is central to the existence of a University arboretum. When the University took on the administration of the Arboretum 50 years ago, one of its first acts was to establish a laboratory in the Morris Mansion. Botanical research at the Arboretum has since continued and contributed significantly to the University's tradition in botany, which dates to 1768 when Pennsylvania was the first University in America to appoint a professor of natural history.

Over the past few years, we have been expanding research activities in

several areas. Our current projects include a \$95,000 contract with the Department of Environmental Resources to revive studies of the Flora of Pennsylvania. A computer accessed retrieval system for Edgar Wherry's plant collection index, which includes over 8,000 entries, was developed. And last Spring we launched field studies on the rare and endangered species of the eastern half of the state. Our Curator returned last October from a collecting trip in Sichuan, China and Korea with over 400 collections of seed. In cooperation with several sister institutions, we are propagating plants from these collections to expand our stocks of trees and shrubs for urban parks and gardens. Our Plant Pathologist has also been involved in studies to better understand why some plants thrive in cities while others decline.

In addition to these botanical investigations, our scientific staff, working with the Superintendent of Grounds, are experimenting with new management schemes and maintenance programs for urban parks and gardens. This applied research has been done under contract from private interest groups, corporations, schools (including the University of Pennsylvania), local

government agencies, and the National Park Service. Contracts and grants, incidentally, have grown from 11 percent to about 27 percent of the operating budget over the past five years.

Exciting research possibilities are also awaiting The Morris Arboretum as we combine resources with the University Biology Department in the development of the Plant Science Institute. The Institute will bring together scientists from several departments of the University and the Arboretum to explore the basic problems of plant science using modern technologies. As part of these plans, the Biology Department has appointed two new faculty members, who will be establishing research projects on the Arboretum grounds. With the promise of such new techniques as genetic engineering and the growth of plant cells in tissue culture, public and private funding sources are finally willing to reverse a trend away from the support of plant science. Thus plant scientists at the University and the Arboretum will have new resources to pursue their research.

As part of the Institute, Arboretum scientists will contribute to a balanced program with research on naturally occurring patterns of genetic variation,



(Top)

The Arboretum's collection is a celebration of the diversity of the world of plants and includes such elegant specimens as *Enkianthus serrulatus* which the Arboretum promotes for wider use in the area.

(Right)

The publication of the *Atlas of the Flora of Pennsylvania* by the Arboretum in 1979 culminated more than 35 years of research; Dr. William Klein, Director, presented copies to the late authors, Dr. Edgar Wherry (left) and Dr. John M. Fogg.



(Top)

Dr. Ann F. Rhoads, Plant Pathologist and fieldbotanist, heads the state's survey of rare and endangered plants for eastern Pennsylvania in addition to her many other responsibilities as teacher, researcher, consultant, and editor of the bi-monthly newsletter.





an important point of reference for studies of variations created in the laboratory. The Arboretum's current study of rare and endangered species and its work in producing the *Atlas of Flora of Pennsylvania* will form a basis for new studies of variation in natural systems. This could become an increasingly important source of genetic information for plant improvement and development of organisms better able to resist environmental stress. The Arboretum will also offer the Institute faculty and students field laboratories in which to carry on their research.

The Arboretum's next step, the second phase of its long-range plan, is to renovate an existing building as a research laboratory and add greenhouses and other facilities to accommodate the new demands that will be created by the Plant Science Institute and the increased research activity at the Arboretum.

2. From the 39 page booklet produced in 1933 on the occasion of the opening of the Morris Arboretum to the public.



(Right)
Collecting seed from a Larch in Korea,
the Arboretum's Curator, Paul W. Meyer,
has travelled widely since 1979 in Korea,
Taiwan, and China in search of trees and
shrubs adapted to the conditions of
this area.





Contributions to Undergraduate and Graduate Education

"The Morris Arboretum at its very birth was a full-fledged botanic garden. The University of Pennsylvania, which was, it is said, the first university in this country to have a department of botany, has, as it builds upon this new foundation, potentialities in this field such as few educational institutions have ever been given at a single time."³

The University of Pennsylvania, has a responsibility to educate citizens with an awareness of science and the environment so that they can address the many perplexing questions that technology will raise in the coming decades. In this regard, the Arboretum has much to contribute.

As a site for field trips and seminars, the Arboretum is serving a number of undergraduate programs. Students taking geology, soils, aquatic biology, and systematics, walk the grounds, wade the streams, and take something of this magnificent landscape with them. It should be noted that the use of the Arboretum's grounds has not been restricted to the sciences. The Wharton School's LEAD Program, for example, has held their wrap-up session on the grounds of the Arboretum for the past two years. A pre-freshman orientation session for 150 students was also held at the Arboretum this past September.

Maintaining Penn as a "university of choice" will require strong and well-balanced undergraduate programs in the biological sciences. While molecular biology will remain the focus for years to come, attention must also be directed to building strong courses in organismal and population biology. Plant science will become increasingly important to the University's students since it is where industry's demand for trained scientists exceeds the current supply.

As a member of the Biology Department, the Director teaches a course in Plant Systematics and advises students who have an interest in the plant sciences. Other members of the Arboretum staff are also regular contributors with lectures and tours of the ground

for majors in the Design of the Environment, Environmental Studies, Natural Sciences and Urban Studies.

Graduate students also draw on the Arboretum's resources. The Arboretum's Curator has worked with a doctoral candidate in Oriental Studies on Chinese *materia medica*. A plant list of medicinal herbs is being developed that will eventually serve as the basis for a major exhibit at the Arboretum. A master's student in the School of Architecture developed her thesis topic around the Center for Urban Forestry and the adaptive reuse of the barn at Bloomfield. And the Curator and Plant Pathologist have served as guest lecturers in a variety of graduate courses and seminars. While the grounds of the Arboretum are used regularly to teach plant materials to landscape architects. Senior studio courses in Architecture have designed home demonstration gardens planned for 1985. These studio courses utilize the Arboretum because of the extensive documentation that exists through the development of long range plans. Arboretum staff participate on the critiquing panels. In addition, the staff have served on graduate and visiting committees in neighboring institutions of Rutgers, Swarthmore, Temple University, and the University of Delaware.

The Arboretum's major contributions in the future will remain in the field of biology and the application of biological information to land-use planning. But it reaches out far beyond the biological sciences into all areas of the curriculum. In many ways, we believe the potential in undergraduate and graduate education is only beginning to be realized.

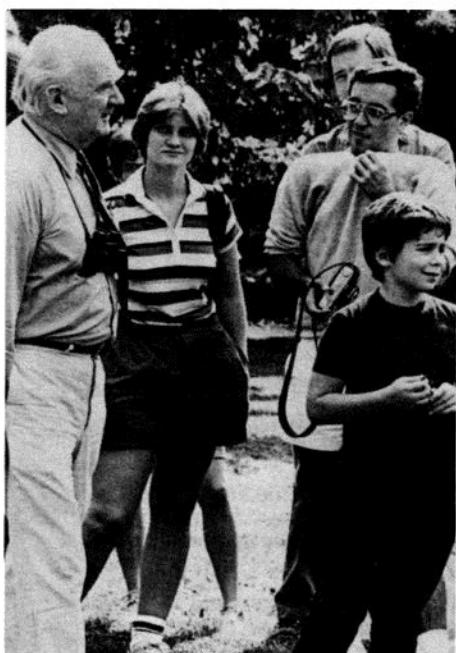
A better understanding of our vegetational resources is intimately related to the quality of life and will have as great an impact on a physician, a lawyer, or a business person as it does on the biologist. We need to mobilize the information contained in collections at The Morris Arboretum and other natural history collections with the application of modern technology. We also need to develop data bases which will expand our knowledge of these natural systems. The development of our natural resources can not proceed safely without a greater understanding of the environmental costs. We need better handles on environmental trade-offs and the options we may be removing for future generations.

These decisions will require knowledgeable citizens. They will also require high quality students who can advance our understanding of biological systems and help apply that knowledge to the planning and development of our resources. The Morris Arboretum will be a helpful ally in the resurgence of plant science and at the same time stands ready to be tapped for significant contributions to Pennsylvania's other undergraduate and graduate programs in areas ranging from regional planning to law and medicine.

3. From the 39 page booklet produced in 1933 on the occasion of the opening of the Morris Arboretum to the public.

(Right)
Sir Peter Shepheard (left), Professor of Architecture and Environmental Design, and a member of the Arboretum's Design Review Committee, leads a group of students from the School of Fine Arts and their families on a tour of the grounds.

(Far Right)
Students in Dr. Klein's Plant Systematics course explored Pennsylvania's native flora this fall with laboratory assistant Ann Newbold.





Educational Outreach

*... the preservation, upkeep and maintenance as a public park or arboritum (sic), of my country place known as 'Compton' in Philadelphia, and my country place known as 'Bloomfield' in Montgomery County...*⁴

The educational outreach activities are a major source of strength to the Arboretum today, as was envisioned when the Arboretum was founded. These activities will expand as a larger segment of the population wants to advance and redirect careers and continue educational pursuits.

The Morris Arboretum is involved in a wide range of outreach programs. Last year, 2700 people in 119 groups were guided around the grounds through our tour program managed by the Coordinator of Visitor Services. In addition, 52 courses were offered through our Education Department with an enrollment of 631 people. These courses are advertised primarily through our Membership Program which has grown to over 2,000. The Arboretum staff are also on call to give lectures, conduct workshops, and participate in symposia throughout the region.

A significant part of the Arboretum's

Outreach Program is its exhibits. Each year we have a major exhibit in the Philadelphia Flower Show, which is visited by more than 200,000 people. This year, we coordinated the Show's feature exhibit, "Changing Images of the Garden: 300 Years of Horticulture in the Delaware Valley," through a collaborative program directed by The Morris Arboretum and involving 31 participating institutions. A full color, 80-page guide, entitled "Gardens and Arboreta of Philadelphia and the Delaware Valley," was published through this collaborative. And in May of this year, this collaborative installed the first major American exhibit in the Chelsea Flower Show in London, which was attended by 250,000 people. This exhibit has travelled to Harlow Carr Gardens at Harrogate and the Royal Botanic Gardens at Edinburgh and Kew.

Teacher training is another important part of our outreach program. We are making the Arboretum more widely available to teachers and encouraging them to use our resources for a wide range of courses. For the past two years, a grant from the Philadelphia Foundation has supported efforts of our Education Department to carry programs into three neighborhood public schools.

Several years ago, we launched a program with Fairmount Park to train their CETA workers. We had made a commitment to do what we could to address the problems of chronic unemployment in Philadelphia and were

successful in placing practically all of the people trained in the unsubsidized job market. Two of our CETA employees have returned to school and are preparing to become professional horticulturists.

Three years ago, we initiated an Internship Program under a three-year grant from the William Penn Foundation. This program has thus far provided an opportunity for 27 young people (primarily for students with bachelor's and some with master's degrees) to enter the professions of horticulture, urban forestry, pathology, and education. They work directly with Arboretum staff, take classroom instruction, go on field trips, and are involved in other experiences, through which they gain insights into the profession. They have then gone on to a variety of jobs or entered graduate programs.

The Arboretum's living collection, gardens, and landscape also offer many opportunities for educational outreach into the profession. We have developed seminars, consultation programs, and field days for area horticulturists, arborists, and nurserymen. We see these as a major part of our education activities to help raise the standard of gardener training and the design of open spaces. Funding for these outreach programs has come from a variety of sources: federal and local government, foundations, businesses, and individuals.

As a university Arboretum, we should be exploring ways of using informal education as conduit into degree and certification programs. Thus, we are now beginning to develop stronger links with the College of General Studies and the Graduate School of Education. Such an approach will move our programs closer to the mainstream of University education.

The Morris Arboretum, like other University cultural institutions, has the potential to develop educational materials for mass marketing. This is a possibility that we are eager to study. Living in a high technology society, we cannot afford a public that does not understand the contributions that science makes to our lives and the burgeoning costs of scientific research. Positive attitudes toward science can be encouraged in the informal modes of communication such as those available at The Morris Arboretum.



4. From the Will of Lydia Thompson Morris, admitted to probate on January 30, 1932.



Toward the Next 50

The quality of life in Philadelphia is greatly influenced by the magnificent gardens, open spaces, and parks. Many of these come down to us as legacies of the 19th Century. Victorians such as John and Lydia Morris embraced the humanizing values of parks and gardens and had an unshakable belief in scientific pursuits as a means of improving the lot of humankind. During the 300th Anniversary of the founding of this great city and the 50th Anniversary of The Morris Arboretum as a University institution, it is not enough that we merely take a glance back at a great tradition. We must ask ourselves what we are doing to preserve that legacy for future generations.

Philadelphia deserves a world class Arboretum. The Morris Arboretum of the University of Pennsylvania was established to be just such an institution. It is a place where the arts and sciences come together to contribute to the academic life of a great University and enrich public understanding of the plant world. It is a preserve, a quiet retreat, and a scientific laboratory where we struggle to define our relationship with our environment. The Morris Arboretum of the University of Pennsylvania is **an idea whose time has come**.



William M. Klein
Director

Visitor Information:

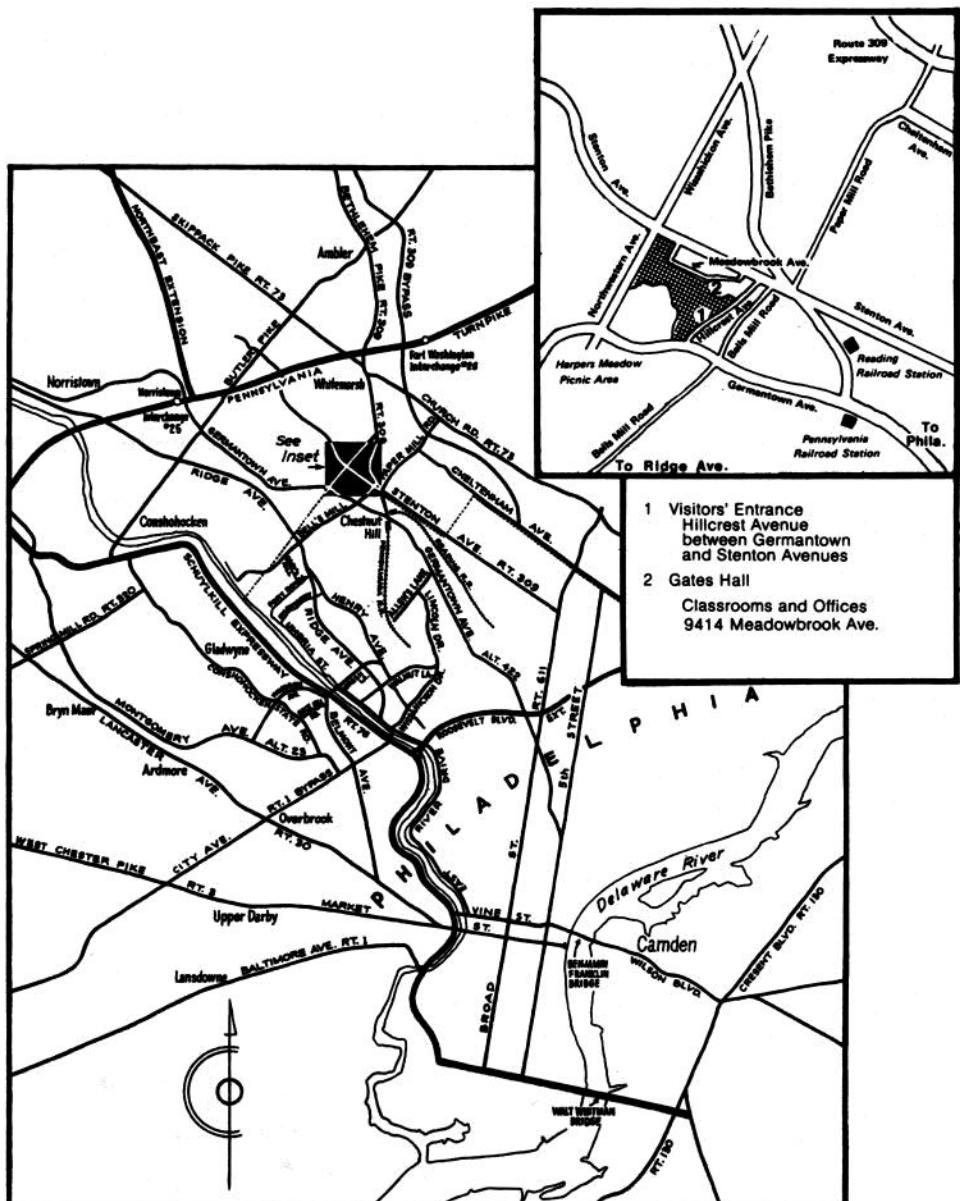
Gardens: Open seven days a week, winter hours 10:00 a.m. to 4:00 p.m., public entrance off Hillcrest Avenue between Germantown and Stenton Avenues.

Admission: \$1.00 for adults and 50¢ for children.

Guided Tours: For groups by prior arrangement through Visitor Services.

Membership Information: Available through the Membership Secretary.

For additional information call during working hours 247-5777. On weekends call 242-3399.



Map Showing Access to the Morris Arboretum.



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