



### Annual Report 1957-1958

TO THE PROVOST OF THE UNIVERSITY:

SIR,

It is with pleasure that I report another year of excellent progress in the care and use of the living collections, the improvement of the herbarium and library and the contributions of the various staff members.

A dry summer, followed by a wet winter marked the climatic year; nevertheless, the fine display of flowering shrubs, trees and vines seen in the Arboretum during the spring gave evidence to the care they had received throughout the months of difficult weather. An increasing number of visitors has been recorded and of these, the registration book in the Administration Building indicates visitors from thirty-eight states and seventeen foreign countries.

Among the highlights of the year were the visits of distinguished colleagues from this hemisphere and abroad. In all, directors or representatives of twenty-three botanic gardens and arboreta visited the Arnold Arboretum during the year. The visit of Dr. George Taylor, director of the Royal Botanic Gardens at Kew, was of special interest, since he is a newly-elected member of the Board of Overseers Committee to Visit the Arnold Arboretum.

#### THE STAFF

I am pleased to report that the Trustees of the University have approved the promotion and appointment without limit of time of Dr. Carroll E. Wood, Jr., as associate curator of the Arnold Arboretum. Mr. Roger Coggeshall, who has been chief propagator at the Arboretum since 1954, resigned to accept a position with a private nursery in Massachusetts and has been succeeded by [Mr. Alfred Fordham](#) as chief propagator. Mr. Fordham began his work in plant propagation at the Arnold Arboretum as assistant to [Mr. William Judd](#). He received further training in this field as an exchange student from the Arboretum to the Royal Botanic Gardens at Kew, England, before the beginning of World War II. Upon his return to the Arboretum following a leave of absence for war service, he was appointed assistant superintendent of buildings and grounds.

During the year Dr. Frans Verdoorn, holder of an honorary appointment as research associate at the Arnold Arboretum since 1942, accepted a new position as director of the Biohistorical Institute at the University of Utrecht, Holland.

#### HORTICULTURE

During the summer of 1957 the Arboretum experienced the worst drought on record. All but one of the ponds on the grounds dried up completely and the remaining one retained but a few inches of water. As the drought lengthened and the available water in the soil was exhausted, wilting became evident in the tree and shrub collections. Emergency steps were taken to water all recently-planted trees and shrubs and those others growing in especially dry areas. A pressure-driven deep-watering system was employed to supply water directly at the roots of some of the larger trees, especially those in the conifer collection. Nevertheless, injury resulted to many of the plants, though it now appears that only a few were killed completely. In the late fall and winter the situation was reversed, with rains so unusually heavy that the ponds overflowed and flooded the meadow road for a period of several days.

With the assistance of maps from the [City of Boston Parks Department](#), some long unused drainage channels were relocated and opened to lower the water level. It would seem that this excessive rainfall during a period of mild temperatures partly offset the dry summer season. Flowering was affected in many plants, particularly the azaleas, and much branch damage was noted, which required heavy pruning during the spring.

A number of improvements have been made on the grounds during the year. In the lilac collection many older varieties between the path and the road were removed to locations farther up the bank, allowing newer varieties to be placed in the more conspicuous locations. It is our aim to bring together in a central location the Lilac Committee's "One Hundred Best Lilacs." A major adjustment was attempted in the Cary collection where a very few species and varieties dominated the area. This was cleaned to allow access to the newly-opened woodland along Centre Street, which is the location proposed for an expanded planting of *Ilex pedunculosa*, its relatives and other rarer species. The Boston Parks Department continued cleaning the cobblestone gutters. The main portion of the Arboretum between the Arborway and Walter Street has been completed and work has now begun on the Peters Hill tracts. This work, neglected for many years, makes a striking difference in the appearance of the grounds. Unfortunately, it also calls attention to the poor condition of the roads, a condition which we hope can be handled by spot repairs immediately and eventually by resurfacing throughout. Increased police protection was also granted by the Police Department, which assigned two mounted patrolmen to the Arboretum grounds during the spring season. Men on horseback are better able to patrol the remote areas of the Arboretum and can reach locations not accessible by patrol cars.

In continuation of the plant distribution program established at the Arnold Arboretum seventeen years ago, fourteen new species and varieties were made available to cooperating

nurserymen for propagation. In all, 650 plants were distributed to thirty-four domestic nurseries, four foreign nurseries and ten arboreta and botanic gardens. The number of new plantings on the grounds during the year was slightly less than average. Individual plants added to the collection totaled 463, representing 221 species and varieties. Forty-one are new to our collections and eight are probably new to the United States.

Experimental work in the field of plant propagation, involving 646 species and varieties continued in the greenhouses. During the year 136 shipments, totaling 1,137 species and varieties of seeds, living specimens and propagating material, were received from institutions in the United States and ten other countries. We sent 26 shipments of seeds of 141 species and varieties and 320 shipments of propagating material or plants comprising 1,328 taxa to sixteen countries besides the United States.

Two pieces of property owned by the Arboretum were recommended to the trustees for sale and both were sold during the fiscal year. The tract of land at 310 South Street, consisting of a house and barn with two acres of land, was the gift of Mrs. Andrew J. Peters in 1953. After expending a considerable sum to fence the property and tear down a rambling frame addition to the basic brick house, it was discovered that the house was not structurally sound and could not be used as a staff residence. The property was on the Boston tax rolls at an inflated valuation, the taxes exceeding \$1,500 a year. Protecting the property from vandalism proved difficult and its sale was recommended. The receipts from the sale of this property will be added to the Arboretum endowment.

The second property sold was the Butler property on Centre Street, acquired as a residence for [Dr. Merrill](#) while he was director of the Arboretum and occupied by him until his death in 1956. Since the cost of repairing this house was prohibitive, it was sold and the proceeds of this sale will be added to the endowment, as well. By the disposition of these two pieces of property, a costly maintenance item has been removed from the Arboretum records.

#### CASE ESTATES

The plantings at the Case Estates include demonstration plots, nursery stock and plantings for hardiness testing. This area attracts an increasing number of visitors each year. Particularly noticeable is the increase of requests from garden clubs and other horticultural organizations for guided tours through the area. During the year portions of the land were made available to staff members and graduate students of the Cabot Foundation, the Bussey Institution and the Biology Department for their individual projects, in addition to the land used for Arboretum purposes. The aim of the Town of Weston to acquire portions of the Case Estates for schools was mentioned in the report for 1956-57. At that time in a special town meeting it was voted to take approximately seventy of the 145 acres then in the property. However, further recommendations by the School Site Committee resulted in a reappraisal of the town's schools needs.

After much discussion by the committees, officials and residents, the town finally accepted a proposal to take a smaller tract of land, which proved to contain thirty-two and one-half acres, but at the end of the fiscal year, the court action required to take this land by eminent domain had not started. The director of the Arboretum and the trustees have made it clear that the land will not be sold and that the town must take this tract under eminent domain procedure. Much of the area under consideration is either forested or marshy. The loss of this area will reduce our opportunity for expanding the work carried on at Weston and will also curtail the usefulness of the Case Estates to Harvard students, the Arboretum adult education classes and groups from the Weston schools.

#### EDUCATION PROGRAM

Two series of classes consisting of lectures, field trips and demonstrations, were presented in the regular fall and spring adult education programs this year. For nearly two months (from the latter part of April until the middle of June), numerous groups visited the Arboretum for guided tours through the collections. These tours are scheduled in advance and a maximum of six tours in one day has been accommodated.

#### EXHIBITS AND DISPLAYS

The Arboretum exhibit at the Spring Flower Show of the Massachusetts Horticultural Society again won a gold medal as well as two special awards. One of the latter, from the Massachusetts State Department of Agriculture, was a new award at the show this year. The Beatrix [Farrand] and Silver Bowl for the best display of rhododendrons was also won by this exhibit. In carrying out its theme, "A Hobbyist's Rhododendron Garden," the exhibit attempted to show the full program of care and selection necessary in producing fine rhododendrons.

#### LIBRARY

The year 1957-58 brought to a completion the first stage in the integration of the non-horticultural collections of the Arboretum with those of the Gray Herbarium and several other selected collections. Mrs. Schwarten and her staff have successfully united, recatalogued and reconditioned these books in the Harvard University Herbarium Building. This [action](#) was voted by the Trustees of the University on January 19, 1953, and progress toward this end has been indicated in previous annual reports. The new arrangement has already demonstrated that increased efficiency is possible in the use, as well as in the care of these volumes. Only the pamphlet collection remains in need of reorganization. In the course of this project, a relatively small number of duplicate books were found and these were set apart.

Duplicates of monographic treatises and special family studies have been placed on special shelves in the herbarium adjacent to the herbarium specimens of the families concerned. The integration also allows greater office use or long-term use of these duplicate volumes by staff members. A certain number of duplicates have been set aside as reserves and

are shelved in a separate section of the library. These include volumes which are not presently needed, as well as those held as replacements for volumes which receive much use.

During the course of the unification work in the library, the director and the librarian of the Museum of Comparative Zoology made available for our use a large room for work and storage. We are particularly indebted to them for this kindness. The bound volumes added to the library during the year numbered 465. These included 212 volumes transferred to our library from the libraries at Widener, the Biological Laboratories and the special paleobotanical library. Also included are 145 volumes dealing with horticulture which were added to the library in Jamaica Plain. The total number of bound volumes accessioned now is 50,204. Pamphlets totaling 305 were added to the collection, which numbers 16,573.

The horticultural library in the Administration Building in Jamaica Plain was also reclassified and shifted for more convenient use by the staff. Additional library shelving was erected on the second floor to house special collections. As previously indicated, 145 bound volumes were added to this collection. Their numbering of all volumes in the horticultural library has been initiated. I wish to express my appreciation to Mrs. Schwarten and her staff for the concentrated effort they have made and the results they have obtained in bringing the library to its present excellent condition.

#### HERBARIUM

It is now possible to report significant progress in the unification of the non-horticultural herbarium of the Arboretum with that of the Gray Herbarium. This work should be completed within the ensuing year. The additional funds made available for this task by the Harvard Corporation have enabled us to employ additional botanists who, with the Arboretum staff, have made excellent progress. The details of this work have been discussed in previous reports. During 1955-56, the first year of this work, 103 families were integrated. In 1956-57, an additional 66 families were completed. During the last fiscal year 94 families were organized, leaving only 43 from a total of 306 families represented in our herbarium to be integrated. However, these 43 families include such large woody groups as the Rosaceae and the Leguminosae, as well as primarily herbaceous families such as the Gramineae, Cyperaceae, Compositae, Liliaceae and Ranunculaceae. The progress that has been made is satisfactory and the results encourage a continued effort. The ease in using the reorganized and combined collections has demonstrated that the integration is well worth the time and effort expended. The procedure has also revealed a large number of herbarium sheets in need of repairs. During the course of the year our moulder repaired 2,302 sheets, in addition to mounting for insertion 5,535 sheets. The total number of specimens in the Arboretum herbarium as of July 1, 1958, is 699,452.

During the year 11,516 specimens were received by the herbarium. We received by exchange 6,970, by subsidy 2,708, by gift 1,055, by special exchange 682 and for identification 101 specimens.

In total, we received 993 specimens from the Western Hemisphere and 10,523 from institutions in or working on the floras of the Old World. These figures reflect the Arboretum's historical interest in the flora of Asia. During the past year the staff sent from the combined herbaria 95 loans averaging 141 sheets and totaling 13,411 sheets. Sixty of these loans went to institutions within the United States and 36 to institutions outside of the country.

During the same period our thirteen staff members and students made 71 requests for loans from 44 American and 27 foreign herbaria, for a total of 8,614 specimens borrowed. Routine work continues on the herbarium of cultivated plants in Jamaica Plain. A start has been made on the project of locating the type specimens of horticultural taxa described by [Professors Alfred Rehder](#) and [Charles Sargent](#). The staff members continued to spend a small part of their time on individual research projects. Unfortunately, this time has been limited in the past three years and will continue to be for the ensuing year or until the herbarium integration is complete.

#### TRAVEL AND EXPLORATION

Travel by staff members during the past year was divided between attendance at professional meetings, the presentation of invitational lectures and specialized field work connected with research programs. The 1957 annual meeting of the American Institute of Biological Sciences was held on the campus of Stanford University at Palo Alto, California. Drs. Howard, Kobuski and Sax were in attendance. Dr. Howard represented the Arnold Arboretum at the Fifteenth International Horticultural Congress held in Nice, France, on April 11 to 18, 1958. He presented one paper and read another for Dr. Kobuski.

#### GIFTS AND GRANTS

The response of the Friends of the Arnold Arboretum to the annual appeal made during the spring was most generous. Nearly all gifts received were unrestricted and were assigned to the "gifts for cultural purposes" fund which is used to employ additional summer labor on the grounds where needed. This fund also supports a research assistant for Dr. Sax and an assistant in the greenhouses to help on plant propagation.

Dr. Howard received a three-year grant from the National Science Foundation to continue work leading to a flora of the Lesser Antilles. Mr. George Proctor of the Institute of Jamaica, Kingston, Jamaica, is co-worker on this project and will do the field work. During the year Professor I. W. Bailey received a grant from the American Philosophical Society in support of his research. His interest in the use of pollen in morphological studies centers now on the variations between fresh and processed pollen grains from herbarium material or fossil deposits.

#### PUBLICATIONS

It is with considerable pleasure that I note the presentation to [Mrs. Susan D. McKelvey](#) of the Sara Gildersleeve Fife Memorial Award, which was given in recognition of Mrs. McKelvey's

contributions to botanical and horticultural literature. Mrs. McKelvey's works include "The Lilacs," "Yuccas of the Southwestern United States" and the recently published "Botanical Exploration of the Trans-Mississippi West 1790-1850." A full citation of the award was given in the Garden Journal of the New York Botanical Garden. Dr. Wyman edited the twelve numbers of *Arnoldia*, a bulletin of popular information, which appeared during the year and Dr. Kobuski edited the *Journal of the Arnold Arboretum*, the quarterly issues of which serve the staff as an organ for the publication of scientific articles. For the last nine years the editor of this publication has been Dr. C.E. Kobuski, who has been on the editorial board associated with the *Journal* since his appointment to the Arboretum staff in 1927. Dr. Kobuski has now asked to be relieved of his editorial duties in order to devote more time to his curatorial responsibilities in the herbarium and to his own research. Thus with the current volume the *Journal* becomes the editorial responsibility of Dr. C. E. Wood, Jr. Special acknowledgement to Dr. Kobuski was made in the January number of Volume 39-.

One special publication was issued during the year. This was a photo-reprint of "[The Genus Pinus](#)" by George Russell Shaw, issued previously as "*Publication of the Arnold Arboretum, No.5*," in 1914. This publication has been out of print for many years but sufficient back orders had accumulated to merit a reprinting. In all, the staff of the Arnold Arboretum published thirty-seven papers during the year.

RICHARD A. HOWARD, Director