



Annual Report 1884-1885

TO THE PRESIDENT OF THE UNIVERSITY:

SIR,

I have the honor to submit the following report on the condition and progress of the Arnold Arboretum during the year ending August 31, 1885:

The progress made by the City of Boston in the construction of its roadways through the Arboretum had reached at the commencement of the year a point when it was no longer possible to delay the adoption of a definite plan for the permanent arrangement of the collections. The future value of the Arboretum must largely depend upon the manner in which this plan is made; and the development of a scheme of planting scientific in method and practical in scope has long occupied my own attention as well as that of such counsellors as I have been able to call to my assistance. The thanks of the Arboretum are in this connection due in particular to Messrs F.L. and J.C. Olmsted, who have devoted much time to the study and preparation of the plan which has now been determined on. The considerations which have finally led to its selection are briefly these.

An arboretum is a museum devoted to one branch of natural history and intended, by the aid of living specimens primarily, to facilitate the study and increase the knowledge of trees and other plants. It should contain and display therefore as many forms of arborescent life as compatible with the climate of the region in which it is situated, its own extent and, resources. A public arboretum, like any other public museum, must be prepared to instruct the public through the display of representative types selected from its collections and specially arranged for the definite purpose of object teaching ; and it must be prepared to facilitate investigations in the particular department of science it is created to illustrate, by means of working collections, both living and dead. As it is expected to preform two distinct although concurrent duties, the public arboretum should contain two distinct collections.

1. The permanent collection for the display, consisting of a selection of species intended to illustrate as perfectly as circumstance of climate will permit and by fully developed specimens, the most important types of arborescent vegetation.
2. A collection for investigation, which need not necessarily be permanent, and which should be arranged in a manner to permit the admission of new species or new forms and the removal of others which have served their purpose. To this second collection would

naturally be joined all minor collections like that of shrubs and other plants of less enduring character than trees.

The educational value of any great arboretum would, I believe, be increased by such a division of its collections; in the present case it is essential. A complete collection of trees--that is of arborescent species and natural or artificial forms or varieties already known, which could be made to grow in a climate as severe even as that of Eastern Massachusetts, without provision for future additions, which are likely to increase rather than diminish in number as the cultivation of trees becomes more general, but with a proper representation for each species and variety, - would occupy not less than a thousand acres of land and require an annual outlay for maintenance far in excess of any income the Arboretum can possibly hope to enjoy for this purpose. Selection, therefore, is absolutely necessary; and the establishment of two distinct collections has been decided upon, a permanent or exhibition collection, in which certain selected species or forms will be allowed space for full development, and a working or experimental collection, which can be crowded into a comparatively small space, and in which species of doubtful hardiness, transitory forms of horticulture rather than of botanical or economic value, new introductions and other trees, which for one reason or another have been omitted from the permanent collection, will all sooner or later find their places.

The selection and proper grouping of the typical forms, intended to illustrate in the main collection the hardy arborescent vegetation of the earth's surface, is difficult; and this difficulty is immensely increased by the fact that the permanent arrangement of an arboretum is really permanent and cannot, as is the case with collections in other museums, be changed or modified to meet the demands of more advanced knowledge or the requirements of changing fashions. A tentative arrangement is impossible, and the difficulty of selection and especially of grouping is not diminished by the nature of the collection in which each individual will continue to require yearly additional space for a century perhaps. The selection of this type collection has only been reached after the most careful consideration and with many modifications of the plan which at first appeared practicable. It will contain, as now determined upon, represent that by adhering to the plan of only planting in the type collection the number of individuals intended to reach maturity, it will be saved from the fate of all the old public collections of trees in which early over-planting or unsystematic planting has produced either confusion or the entire ruin of all perfection of individual growth. The general type collection will be arranged by genera from *Magnolia* to *Larix* in the sequence of their botanical relationship, such an arrangement probably affording the greatest facility for examination and maintenance. In a few instances, however, genera will be placed out of the natural sequence in order to secure for them favorable conditions of soil and exposure. The species of the different genera will as far as practicable be arranged geographically, first those of North America, then those of Europe, and then those of Asia; the species of each continent in their proper botanical sequence.

The advantages and the disadvantages of this general plan thus briefly described cannot unfortunately be finally judged until long after all those interested in the early development of the Arboretum have passed away. This generation can neither enjoy its mature fruits or feel the full weight of errors in arrangement made now and which time is only too certain to bring to light.

The years which have passed since the conception of the Arboretum have been years of preparation. These are now to be followed by a period of active construction, and for this the Arboretum is fairly well equipped in its own resources and in the interest of its friends and correspondents. The years of construction and early growth will, it is to be hoped, be followed by a long period of real educational importance and value.

PLANTATIONS AND NURSERIES

The provisional or tentative arrangement of the shrub collections referred to in my last report has been completed. These now occupy thirty-seven parallel beds, each ten feet wide and three hundred feet long. This collection now contains about eleven hundred species and varieties arranged in botanical sequence, with provisions for a considerable further increase.

Trees and shrubs to the number of 2574 have been moved from the different nurseries into permanent boundary and other plantations. The plantations and nurseries are all in excellent condition. During the year 444 44/100 squares of peat have been dug and stacked for future use, at a cost of \$1022.10; and 110 $\frac{3}{4}$ cords of wood have been cut, at a cost of \$221.50. The largest part of this wood remained unsold at the end of the year.

The effect of pruning on the old trees forming the permanent natural woods of the Arboretum, described in my last report, has so far been satisfactory, and this work on a larger scale than before has been carried on uninterruptedly during the past summer.

INTERCHANGE OF PLANTS AND SEEDS

The interchange of plants and seeds with other botanical and horticultural establishments has been continued during the year. There have been 4459 plants (including cuttings and grafts) and 39 packets of seeds distributed as follows: To all parts of the United States 4216 plants and 8 packets of seeds; to Great Britain 43 plants and 13 packets of seeds; to the continent of Europe 200 plants and 18 packets of seeds.

There have been received during the year 6783 plants (including cuttings and grafts) and 40 packets of seeds from 21 donors. The most considerable contribution of this sort has been a set of cuttings and grafts from the Kew Arboretum numbering 2200, and representing several hundred species and varieties of rare trees and shrubs.

HERBARIUM AND MUSEUM

There have been added to the Herbarium during the year 1085 sheets of dried plants; and the Museum has received numerous important gifts of woods, cones, and photographs. During the year the following publications prepared in the Herbarium have appeared:

[*A Report upon the Forests of North America*](#). By the Director. Forming Vol. IX. of the Final Reports of the 10th Census of the United States. 612 pages, with 54 forest maps.

[The Woods of the United States](#). By the Director. A Manual intended serve as a Guide to the [Jesup Collection of American Woods](#) in the American Museum of Natural History in New York, which has been opened to the public during the year.

The Report of the Forestry Commission of the State of New York. Illustrated with numerous photographs and a forest map of the Adirondack Plateau, and accompanied by a scheme of legislation for the better management of the forest property of the State. By the Director and his associates of the Commission.

[Mr. Faxon](#) has completed during the year 50 detailed drawings and a large number of unfinished sketches for the new *Sylva* of North America. For the purpose of securing material for this work the Director, accompanied by Mr. Faxon, visited during the early Spring months the islands of St. Kitts, Antigua, Guadaloupe, Barbadoes, and Jamaica in the West Indies, parts of Western Texas, Western Louisiana, and Florida.

C. S. SARGENT, Director.