



## Annual Report 1877-1878

To the President of the University:

Sir,

I have the honor to submit the following Report upon the condition and progress of the Botanic Garden and Arnold Arboretum during the year ending August 31, 1878.

### ARBORETUM

The difficulties of making a proper plan for laying out the Arboretum have always appeared very great to me. The site, while offering exceptional beauties, perhaps, for a public park, offers exceptional topographical difficulties for the object to which it is to be devoted; namely, a museum, in which as many living specimens as possible are to find their appropriate positions. In such a museum, everything should be subservient to the collections, and the ease with which these can be reached and studied; and none of those considerations of mere landscape effect, which properly govern the laying out of ordinary public parks, should be allowed to interfere with these essential requirements of a scientific garden, however desirable such effects undoubtedly are.

The possibility of making a plan which should place every plant in the best position attainable for it, preserving at the same time for the whole collection, as nearly as practicable, the fixed sequence of arrangement, which alone makes large collections valuable for comparative study and possible to manage, was, then, the first thing to be considered. In connection with this, but subservient to it, it was necessary to devise a system of roads and walks which should make easily accessible to a large number of visitors every plant in the collection, and which, without interfering with the scientific necessities of arrangement, should open up and develop, as far as possible, the remarkable natural beauties of the ground.

In discussing these questions with [Mr. Olmsted](#), during a visit which he paid to the Arboretum, he volunteered to make a plan embracing his ideas of the best method of attaining these ends, which he agreed were essential. The benefit to the Arboretum of Mr. Olmsted's generous offer can hardly be overestimated. The foremost of landscape architects, he brings to this undertaking the largest experience and the wisest judgment; and I shall be satisfied that the plan he finally offers will be the very best attainable under the circumstances.

That this offer might be accepted, the sum of two thousand dollars was necessary, with which to pay for a survey and topographical map of the ground, and for office and other incidental expenses. It was at once subscribed by the following gentlemen:

Ignatius Sargent	300.00	T. Jefferson Coolidge	100.00
H.H. Hunnewell	300.00	George B. Emerson	100.00
John L. Gardner	200.00	W.R. Robeson	100.00
John C. Phillips	200.00	Amos A. Lawrence	100.00
Kidder, Peabody, & Co.	200.00	H.W. Sargent	100.00
William Amory	100.00	The Director	200.00

The survey and an accurate topographical map of the Arboretum have been made by Messrs. Radford & Vaux, of New York, under the direction of Mr. Olmsted; but the plan, to which, however, a great deal of preliminary study has been given, cannot be definitely determined until certain general questions relating to the future of the Arboretum are decided by the President and Fellows; and the planting, which I had expected to see commenced during the coming year, must now be put off for at least a year longer.

The benefits which follow the rigid exclusion of all browsing animals from woodlands are now apparent in the Arboretum, over large tracts of which numbers of young forest trees have sprung up spontaneously during the last few years. These have been carefully thinned during the year, the most valuable only being preserved. The older trees have also been thinned again, wherever their vigor of growth, resulting from earlier thinnings, has rendered it necessary; and the woodlands are now in as satisfactory condition as could be hoped for.

Letters are constantly addressed to me, asking for information on various subjects connected with forestry. These questions very generally point to the importance of solving these two problems: 1. How shall the worn-out and exposed lands of the Atlantic seaboard be covered with trees again in the cheapest and quickest manner; 2. (and this is a far more important and difficult question to settle). How shall the treeless Western States, which are watered by the Missouri and its tributaries, be best rendered more habitable and productive, through covering portions of them with forest growth, and especially what trees shall be selected for this purpose.

A solution of the first of these problems can well be reached by individual experiment and effort. The second will only be satisfactorily solved, under existing circumstances, by the railroad corporations, who alone of Western land-owners are in a position to make experiments extensive enough to be conclusive, and who, as the largest owners of the soil, should be the most interested in demonstrating the capabilities of their lands to produce valuable forest products, of which they themselves must always be the largest consumers. To solve as far as possible these two problems, experiments have been undertaken during the past year, in accordance with suggestions I have offered, in the East, by individual land-owners interested in the subject, principally in Rhode Island; in the West, and on a large scale, by one of the railroad corporations of Kansas. It is proposed to publish the results of all such experiments as soon as they have extended over a sufficient period of time to be in any way conclusive or instructive.

I have been able to secure, during the year, legislation in Massachusetts and Rhode Island, which, by exempting from taxation certain lands planted with forest trees, will, it is hoped, materially increase the numbers annually planted in these States.

By the direct inspiration of the Arboretum, nearly four hundred thousand (\$393,245) trees have been planted during the year in various parts of the country; and, through its correspondents in the Rocky Mountains, it has at last been possible to procure for cultivators in this country and Europe larger quantities of the seeds of some of the peculiar trees of that region, which, although known to be extremely well suited to the climate of New England and the northern portions of Europe, have heretofore been practically unattainable by American or European planters.

If the Arboretum is already beginning to assume some public importance and to exert a certain influence, it is owing, in a large measure, to the cordial assistance I have always received at the hands of the Trustees of the Massachusetts Society for Promoting Agriculture. Not only have these gentlemen granted me, year after year, large appropriations in money for the use of the Botanic Garden and Arboretum--appropriations which have alone made possible the current operations of those establishments--but they have forwarded also, with their influence and by generous appropriations, any plans which have promised to aid or supplement the work of the Arboretum.

#### INTERCHANGE OF PLANTS AND SEEDS

The interchange of plants and seeds with other botanical and horticultural establishments has been continued. There have been 18,919 plants and 1,267 packets of seeds distributed during the year, as follows, as against 32,203 plants and 1,125 packets of seeds distributed during the previous year: To all parts of the United States, 15,663 plants and 337 packets of seeds; to Great Britain, 2,226 plants and 471 packets of seeds; to the Continent of Europe, 730 plants and 455 packets of seeds; to Australia, 4 packets of seeds; and to the Sandwich Islands, 100 plants. Of the above, 5,233 seedling trees and shrubs have been distributed from the Arboretum to different portions of the United States, 1,530 to Great Britain, and 532 to the Continent of Europe. There have been 7,758 plants raised in the propagating houses of the Arboretum for the Botanic Garden, besides a very large number supplied to the horticultural department of the [Bussey Institution](#).

There have been contributed to the Garden and Arboretum, during the year, 5,446 plants and 1,786 packets of seeds from 108 donors, as against 6,849 plants and 2,988 packets of seeds received during the previous year from 95 donors. Of these, 4,109 plants and 440 packets of seeds have been received from the United States; 380 plants and 373 packets of seeds from Great Britain; 710 plants and 919 packets of seeds from the Continent of Europe; 8 plants and 28 packets of seeds from Australia; 15 packets of seeds from New Zealand; 6 packets of seeds from China; 160 plants from the Sandwich Islands; and 79 plants and 5 packets of seeds from Mexico.

Among American contributions, the most important have been large and excellent collection of seeds of Rocky Mountain plants from Mr. T. S. Brandigee; a collection of seeds of Colorado and California plants, made by [Prof. Asa Gray](#) and Sir J. D. Hooker, during their Western journey; plants and seeds of Northern Mexico, from Dr. C. C. Parry; plants and seeds of

Missouri, from Dr. George Englemann, of St. Louis; several collections of plants and seeds, from Prof. Beal, of the Michigan Agricultural College; rare Northern plants, from Mr. C. G. Pringle, of Charlotte, Vt.; seeds of *Cercidophyllum*, *Sciadopitys*, and of other plants of Japan, from President Clark, of the Massachusetts Agricultural College; Florida plants, from Mrs. Mary Treat, Dr. A. P. Garber, and Mr. A. H. Curtiss. Contributions have been received from the following American nurserymen: Woolson & Co., Passaic, N.J.; Ellwanger & Barry, Rochester, N.Y.; P. J. Berckmanns, Augusta, Ga.; George Such, South Amboy, N. J.; L. Menand, Albany, N. Y.; Thomas Meehan, Philadelphia; Miller & Seaver, San Francisco; and James H. Bowditch, Pomfret, Conn.

Valuable foreign contributions have been received from the Royal Botanic Gardens, Kew; from the Museum d'Histoire Naturelle, Paris, a collection of trees and many seeds; from the Imperial Botanic Garden, St. Petersburg, many new plants and seeds; from the Royal Botanic Gardens of Palermo and Edinburgh, seeds; from the Rev. H. Ewbank, England, herbaceous plants; from Mr. H. J. Elwes, England, bulbs and seeds; and from the Acclimatization Society of Queensland, valuable palm and other seeds. The Garden has been especially enriched by frequent and valuable gifts of new plants and seeds from Max Leichtlin, of Baden-Baden; and by a collection of rare ligneous plants from the Arboretum Segrezianum, sent by its proprietor, M. Alphonse Lavallee, of Paris. Contributions have also been received from the following European nurserymen: William Thompson, Ipswich; Veitch & Son, London; Huber & Co. Hyères; and Haage & Schmidt, Erfurt.

C. S. SARGENT, Director.