

The Genesis of the Arboretum's Restoration and Verification Projects

Peter S. Ashton

The curatorial review of the Arboretum's living collections, although thoroughly modern in scope and method, is rooted in the original design by Sargent and Olmsted

Some years ago, encouraged by the rediscovery of the original Olmsted plans, I wrote an essay (see *Arnoldia*, Volume 39, Number 5, pages 330–343, 1979) endeavoring to show that what Sargent and Olmsted had in mind when they created the Arnold Arboretum in the nineteenth century is consistent with its modern functions as a university educational and research collection and a public amenity. My interest was to define a curatorial policy, particularly an accession and deaccession policy, that would once again reconcile these potentially conflicting purposes and at the same time honor the historical landscape design. The uniqueness of the original concept of Arnold's Arboretum is now recognized by its status as a National Historic Landmark, and we should do well to respect that.

Our inspection in the late 1970's of the maps of current holdings confirmed that major plantings from the days of Sargent and Olmsted still provided the backbone of the living collections. Their family groupings, arranged along the principal drive according to Bentham and Hooker's botanical classification, still not only suit the needs of botanical classes and researchers who require rapid access but also—and this is often not appreciated—are basic to Olmsted's way of using trees in the landscape. Olmsted, following eighteenth- rather than nineteenth-

century English tradition, used copses and hangers of trees of similar form, rather than individuals, to set off the natural folds of the land as viewed from his majestic road system. Thus the Arboretum, though serving primarily an academic rather than a recreational function, was nonetheless part of an aesthetic unity with its stately neighbor, Franklin Park.

Unfortunately, though our propagation and location records were still superbly maintained, the confirmation of the identity of each accession had become less consistent and rigorous after the retirement in the 1940's of Sargent's celebrated collections taxonomist, Alfred Rehder. This was potentially serious, because without accurate identification of the plants the collections lose much of their academic utility. Errors in identification can arise by several means. Woody plants in cultivation can differ vastly in phenotype from their sibling plants in nature, leading to subsequent questions of identity. Earlier in this century cultivated material was obtained from other gardens and nurseries, and all too often it consisted of garden hybrids, backcrosses, and sports not found or persisting in nature. In addition, mix-ups can arise in the nursery if labels or locations are inadvertently switched and the error is not caught before the stock is planted in the permanent collections. Finally, confusion and redundancy can result



Mature trees of Cedrus libani in their native habitat near 1500 meters above sea level in the Taurus Mountains of Turkey. Photograph courtesy of Rácz and Debreczy.

if the scientific nomenclature is not kept current or if inadequate attention is paid to reconciling botanical and horticultural names, which sometimes differ since they are covered by separate international codes of nomenclature.

In 1979 our preliminary surveys had already allowed us not only to confirm the contemporary validity of Olmsted and Sargent's scheme, but also to seek the assistance of the National Science Foundation in restoring the living collections to their former status as one of the world's best-curated living collections

of woody plants. We can now say that this goal has largely been achieved. Indeed, thanks to computer technology, our living collections are better curated than they have ever been before, setting a standard that is once again being followed by botanical gardens throughout the world.

What has contributed to the success of this multifaceted review is not only the inspired and dedicated staff, but—far less obvious yet equally important—their effective coordination and interaction in identifying and accomplishing complex tasks. These interactions,



Cedrus libani growing in the Arnold Arboretum. The cultivated material is about the same age as the wild trees in the previous photo, yet is taller and has a more open crown and darker green needles. Photograph courtesy of Rácz and Debreczy.

though not always without some (ultimately resolvable) controversy, have truly been the key to the project's success. Information about our plant accessions must be entered and updated, and it must flow seamlessly among

the plant-propagation unit, the plant records office, the herbarium, and scattered members of the curatorial and maintenance staff. In a real sense, the computerization of the records was only an electronic modernization of exist-

ing channels of information flow, rather than the imposition of an experimental administrative structure.

The restoration of the living collections at the Arnold Arboretum and the reevaluation of curatorial procedures have come at the right time. The increasingly pressing need for gardens to play their part in saving species from extinction can only be achieved if the gardens maintain precise and comprehensive records. It is therefore no accident that the National Center for Plant Conservation, Inc., decided to establish its national headquarters at our Hunnewell Building. Furthermore, the imminent revival of tropical botanical gardens as tools for the introduction of new plants for contemporary development needs will cer-

tainly call on the experience now gained by our and other Temperate Zone botanical-garden staff, in propagation as well as in curation.

Living collections, even of long-lived plants, constantly change. Now, though, thanks to this dedicated team there is a defined policy—a curatorial template—against which future policy modifications must be consciously considered and measured.

Peter S. Ashton is a member of the Harvard University faculty and is a past director of the Arnold Arboretum. He is currently president of the International Association of Botanic Gardens.