



## Rehabilitation, maintenance and management of arboretums

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**Abstract:** Several historic gardens survived in the Carpathian Basin, a significant portion of which originates from the Hungarian landscape period characterized by an intention to incorporate various rare representatives of woody plants into the garden composition. In the recent past, a number of these gardens received financial support through applications for their revitalization or reconstruction. In most cases, these applications have unfortunately only targeted one part of the garden. Although, historic authenticity appeared as one of the criteria, a long-term mentality has to deal with the entire park and only a holistic approach can result in an efficient rehabilitation and subsequent management.

**Keywords:** dendrological garden, historical garden, landscape revitalization, Hungarian garden art

### 1. Introduction (preliminaries)

There are several extant historic gardens in the Carpathian Basin a considerable portion of which were created in a period of Hungary's landscape gardens when special importance was ascribed to a varying number of diverse rare woody plants in the fabric of the garden. Using Raymund Rapaics's term we collectively designate these garden arboretums or dendrological gardens.

In recent years several of these gardens have won grants in competitions for revitalization and sometimes reconstruction. These competitive grants have, however, contributed to the revival of only a segment of the given gardens in most cases: they supported the solution of certain partial problems e.g. the revitalization of the plant stock or water network, with a view to ecological and natural conservation aspects. Although historical authenticity was also among the criteria of participating in these competitions, the amounts acquired fell short of financing comprehensive long-term planning (covering space layout, road network, built elements, etc.). Each arboretum is a complex system, so effective rehabilitation, maintenance and running can only be achieved on the basis of comprehensive, detailed and thoroughly elaborated plans.

We took part in the renewing work of several arboretums in Hungary and abroad in the past five years financed from EU and government resources: plant rehabilitation of the Kámon Arboretum (HU), rehabilitation of the Zabola Arboretum (Zăbala, RO), the rehabilitation study for the Görgényszentimre Arboretum (Gurghiu, RO), partial rehabilitation of the Buda Arboretum (HU), plant rehabilitation of the Alcsút Arboretum, etc.

It was an important aspect of the planning phase to harmonize the complex approach of the planners with the rigid and often professionally narrow-minded criteria of the callers of the competition.

## **2. Materials and Methods**

Brief description of the case studies

### **2.1. Rehabilitation of the Parade Ground of the Buda Arboretum**

A salient example of the rehabilitation of Hungarian dendrological gardens is the (partial) renewal of the Buda Arboretum. In 2009 the National Development Agency invited tenders for The Preservation and Restoration of Plant Collections and Protected Historic Gardens. Within the project entitled “Development and reconstruction of the special habitats of the Buda Arboretum” the sub-project “Historical reconstruction of the Parade Ground” brought the resuscitation of the garden section within reach. However, it became obvious already during the planning phase prior to the attainment of the garden architectural permits that full garden reconstruction was impossible. The main reason was that the competition specification had ignored the renewal of built elements (except for the rubble and curbs of the paths). The weaknesses of the competition announcement were quickly realized: it was restricted to the rehabilitation of the habitats of botanical and dendrological values. The call overlooked that a rehabilitation or reconstruction required a broader vision and a complex approach, and the reconstruction of vegetation was inseparable from the renewal of the path network, spatial layout and other compositional elements. This particularly applies to historic gardens – and

the Parade Ground has been under protection as a historic site since 2005 – where the overall layout and the design of pathways are organically interrelated with the plant collections, their habitus, and their aesthetic value as solitary plants or clusters. The planners (Budapest Corvinus University, Faculty of Landscape Architecture, Department of Garden and Open Space Design, planners Dr. Péter István Balogh, Luca Csepely-Knorr, Teodóra Szabó, Máté Sárospataki) were expected to design the most complete garden reconstruction possible in view of the circumstances. The permission plans were completed in 2009. It is to reconstruct Rerrich's space design of the Parade Ground in full, based on garden historical researches. (Fig. 1.)

The construction plans of the Parade Ground were completed in late 2010. They covered the reconstruction of a delimited area which allows for the continuation of rehabilitation – with future grants to be acquired – with as little damage caused to the completed garden section as possible. (Fig. 2.) To have an easily workable compact planning surface with solid boundaries (e.g. pavement curb), we took the inner border of the concrete passageway bounding the Parade Ground on the northwest and west sides. Inside the planning area all paths have rubble paving, as verified by historical researches. Further difficulty was caused by compliance with the material allocations and budgetary items specified by the competition call, and by the cumbersome process of negotiations about the removal of old evergreen taxa in poor condition.

Work on the Parade Ground began in summer 2011. We hope that the renewed kernel of our university garden will be a worthy highlight of our institution when it is ready and decades later as well, with a competent maintenance and management policy.

## 2.2. Plant rehabilitation of the Alcsút Arboretum

The Alcsút Arboretum (cad. no. 078) on the outskirts of Alcsútdoboz in Fejér county – the park of a country house – is owned by the Hungarian state. The proprietary rights are vested with the board of the Duna-Ipoly National Park (hereafter DINPI). The reconstruction of the park badly in need of renewal has been urged by the Office for the Conservation of Cultural Legacy with licenses of monument protection. The maintenance and rehabilitation of the historic garden is the interest of the public.

For the reconstruction of the plant collection and the revitalization of the ornamental pond of the Arboretum, DINPI submitted a project with the title “Reconstruction of the aquatic and non-aquatic habitats in the Alcsút Arboretum (country house park) in response to the announcement of a competition (code no. KEOP – 7.3.1.3. “The Preservation and Reconstruction of Plant Collections and

Protected Historic Gardens”). The two-part project won support from the caller in the preparatory phase of the two-round competition.

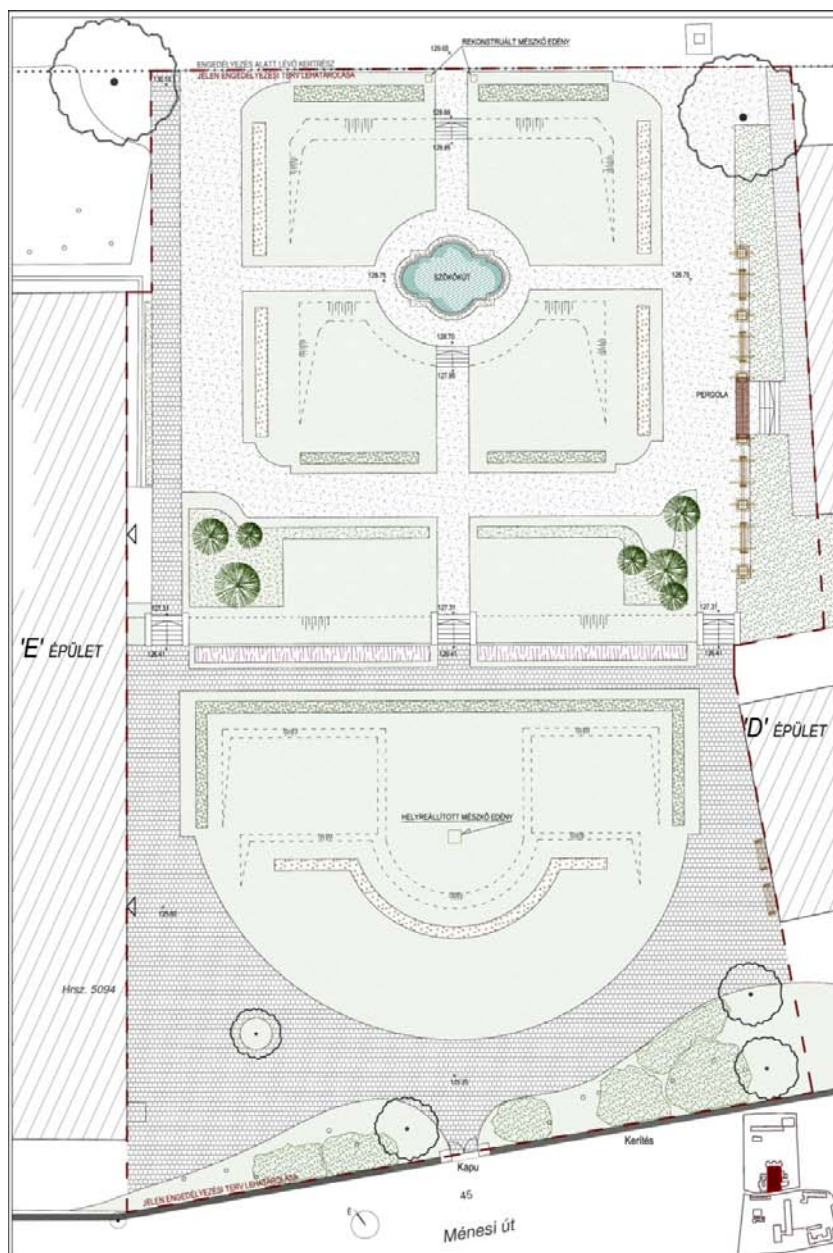


Figure 1: Permission Plan of the Parade Ground

Item 1 of the project is aimed at the reconstruction of the lake and the retaining wall, in order to prevent further siltation and to improve the quality of the water. The protected embankment is to be renewed and the pond basin dredged. Item 2 of the project is targeted at the protection of the aged original vegetation, the replacement of proliferating but undesirable species so as to bring the fabric closer to the original landscape garden design, and the elimination of invasive species without using chemicals. It is imperative to carry out some reconstruction by felling trees and introducing new specimens. DINPI has no surveys or plans concerning these two phases of reconstruction. It commissioned the Lépték Terv Landscape Architectural Company (head designers: Albert Fekete and Károly Őrsi) to carry out surveying and planning for the acquisition of permits in the preparatory phase.

During planning care had to be taken to coordinate the biological and aesthetic viewpoints. The Alcsút landscape garden is the cradle of Hungarian ornamental gardening where several exotic species had been introduced first to be propagated for further use in the Hungarian garden culture. The improvement of the vegetation of the park is also expected to boost its touristic appeal. It is important to make investment that ensures the survival of the historically peculiar plant stock. During planning based on the available historical sources and researches, the stock was surveyed and assessed, and the findings used mainly for tree protection: the trees to be felled for the protection of the valuable specimens were selected.

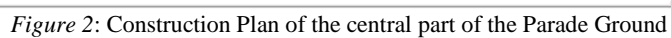
The plan of reconstruction as part of the plant stock rehabilitation was completed in 2010. The work is underway at present.

### 2.3. Rehabilitation of the Görgényszentimre Arboretum

The landscape garden at the foot of Várhegy (Castle Hill) behind the country house of Görgényszentimre is one of the best preserved manorial parks and arboretums in Transylvania thanks to the forestry school that was run there after 1893. The landscape garden arranged along the curving promenades goes back earliest to the flower, fruit and vegetable gardens also mentioned in late 17<sup>th</sup> century inventories, which were created in the Rákóczi and Apafi periods behind the 17<sup>th</sup> century country house featuring in written and pictorial sources.

The former arrangement of the arboretum containing several tree and shrub species is known from local pastor Ferenc Székely's monograph of the locality written in 1871. He claims that the heyday of the landscape garden of Baron Leopold with statues of mythological figures was in the 1840s, but from the second half of the 19<sup>th</sup> century the arboretum character came gradually to predominate.





The Görgényszentimre Arboretum is the property of the Maros County Museum. The institution commissioned specialists to make the rehabilitation plan (Fig. 3.) of the park (the project was jointly elaborated with Arhing SRL of Marosvásárhely in 2010/2011, leading designers: Iolanda Szekeres, architecture, Albert Fekete, landscape architecture. It is of signal importance that proposals for complex rehabilitation are expected instead of partial plans for the renewal of the plant stock or other components.

### 3. Results and discussions

#### Ideology of the rehabilitation of arboretums, general viewpoints

There are several possible interpretations and assessments of an arboretum. In view of the character of an arboretum, a main criterion is the biological value and diversity. Also an important criterion is the historical value of the park (on a par with its ornamental or stylistic value). Another aspect to be considered is the social and recreational-touristic demand increasing amidst the urbanized conditions of living all over the country, since arboretums also function as public gardens.

The attitude to rehabilitation must integrate all the principles that take into account the aspects of nature conservation and monument protection, as well as the requirements of the users. This attitude is not new: let it suffice to cite the Arnold Arboretum in Boston, whose designers – Charles Sprague Sargent and Frederick Law Olmsted – followed two basic principles in creating the garden in the late 1870s: to disseminate scientific knowledge and to create aesthetic quality [1], besides integrating the arboretum into the network of green surfaces of the settlement, with direct connection to the adjacent green units, thus satisfying the requirements of recreation by creating a “green corridor” as it were.

The garden historical value is of course an important factor of landscape architecture. The specialists of historic gardens have the task to explore, assess and classify the historical values, but it is mistaken to claim that the assessment of the garden historical value is all landscape architecture is supposed to do in an arboretum. We cannot preserve most of our historic and natural treasures in the Europe of the 21<sup>st</sup> century, unless an adequate strategy is worked out for rehabilitation, maintenance and development.





In the light of the above-said, the two basic theses that rehabilitation of arboretums must start with in general are:

- 1) Assessment of the individual features and values of the site: an arboretum as a collection abounding in trees has particular significance. Added to that is historicity [2] that enhances its value. These basic features must not be impaired during rehabilitation.
- 2) Weighing the necessary and feasible developments: importance must be ascribed to the aspects of renewal that can promote the future modes of garden use, thus determining the conditions of the garden's survival.

In this way, the development strategy has to be based on the following considerations:

- complete preservation and development of the dendrological values as well as of the stylistic elements of the arboretum or historic garden,
- promotion of environmental education and frames of knowledge dissemination,
- reinforcement of the public garden or park character, development of recreational-touristic functions,
- satisfying the operator's special requirements, preservation of collections of valuable species.

#### Summary of the principles of treatment

- Historical survey and analysis are the essential precursors to all forms of treatment of historic parks and gardens.
- A management policy is desirable at every site.
- Presentation should be regarded as an aspect of care.
- The historical priorities for historic landscapes are (in order):
  - protection of original fabric,
  - recording original fabric,
  - repairs to conserve the design.
- An emphasis on retaining original fabric usually implies a policy of maintenance, while returning a site to the original design intentions often implies restoration.
- The original fabric of a garden should be protected for as long as feasible.
- Surviving original fabric should be recorded sufficiently fully so that a future restoration can be accurate.
- Because the fabric of gardens is generally more ephemeral than buildings, the "conserve as found" philosophy is limited to those gardens which are intended to be preserved as historical documents.

- Maintenance is essential to avoid rapid deteriorating of the garden's feature.
- Maintenance plans are desirable.
- Repairs are acceptable provided that they are an accurate copy of the original.
- A record should be undertaken before and after any repair.
- The desirability of retaining the original design intentions eventually can imply reconstruction which can conflict with the aim of retaining the original fabric.
- A plan of cyclical replacement is desirable if the design intentions are to be reflected indefinitely.
- The reasons for, and process of, any reconstruction should be fully recorded.

#### 4. Conclusion

It is impossible to act upon rigid rules and criteria when historic gardens have to be "re-designed". The special characteristic of historicity and the individual values must be harmonized with current uses and potential functions. The interdependence and mutual reinforcement of these factors must provide the basis for the long-term conception that ought not to stop with the execution of the rehabilitation plan but ought to contain the terms of continuous conservation and maintenance. This requires an attitude on the side of the planners and primarily of the clients that ascribes first priority to a clear and well-organized environment.

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#### References

- [1] *"a visitor driving through the Arboretum will be able to obtain a general idea of the arborescent vegetation of the north temperate zone ... it is hoped that such an arrangement, while avoiding the stiff and formal lines of the conventional botanic garden, will facilitate the comprehensive study of the collections, both in their scientific and picturesque aspect."* In: Zaitzevsky, C. (1992), Frederick Law Olmsted and the Boston Park System. Cambridge, Massachusetts and London, p. 62.
- [2] The Florence Charter, article 1, of ICOMOS-IFLA International Committee for Historic Gardens says: *"A historic garden is an architectural and horticultural composition of interest to the public from the historical or artistic point of view"*. As such, it is to be considered as a monument.