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■ Nr 32, 2019



Reconstructing Gardens

Förord/Preface

Årets Bulletin innehåller till att börja med artiklar från och om seminariet *Reconstructing Gardens* som hölls på NMBU i Ås, Norge, 11-12 oktober 2018. Den innehåller även texter som tar upp torkade blombuketter som forskningmaterial, Nikolai Astrups trädgård, ett pionprojekt i Norge, ett försök med historiska odlingssubstrat, ett NTAA-seminarium och ett par bokrapporter inom ämnet trädgårds- och kulturväxthistoria. Du får även ta del av alla de studentuppsatser i ämnet som producerats under året i Alnarp, Ulna och Göteborg.

Ett stort tack för det ekonomiska bidraget vi har fått för seminariet i Norge, och för årets publikation, vill vi rikta till Nordisk kulturfond. Tack också till School of Landscape Architecture på NMBU, Ås, för ert ekonomiska stöd och värdskap vid seminariet. Ett stort tack till Madeleine von Essen och Mette Eggen, som guidade under exkursionen till Spydeberg, till Karsten Jørgensen som guidade i Ekeberg park, samt till Annegreth Dietze och Bjørn Anders Fredriksen som planerade huvuddelarna av det fina seminarieprogrammet.

Slutligen: Tack till alla engagerade författare, motläsare i redaktionsgruppen och till vår layoutare! Utan er skulle det inte bli någon Bulletin.

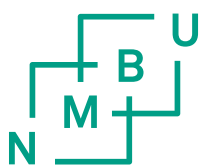
Nu laddar vi också för seminariet i höst, 2020, då Forum firar 25-årsjubileum!

A short translation in English:

To all the devoted authors, the editorial group (see above) and Boel Nordgren (layout): thank you for all your work! This year's Bulletin has contributions from the seminar *Reconstructing Gardens* in Ås, Norway, Oct 11-12, 2018, but also texts on a peony project, trials with historic soil mixtures, a report from a Nordic seminar, info on student theses and book reports.

/Anna Jakobsson

Redaktör för Bulletinen
Editor



Norges miljø- og
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**NORDISK
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Bulletin för trädgårdshistorisk forskning, nr 32, 2019

Bulletinen ges ut av Forum för trädgårdshistorisk forskning (Garden History Forum), som är ett tvärvetenskapligt nätverk bestående av forskare, studenter och yrkesverksamma med intresse för trädgårdshistoria. Föreningen bildades 1995 och ordnar årliga seminarier på olika teman med anknytning till ämnet.

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1. Spydeberg prestegaards have. Etsning av Nicolai Wilse 1779.
2. The 18th Century garden at the vicarage in Spydeberg, Norway. Restored as it was when the priest Jacob N. Wilse lived there (1768-1785). Photo: Bohuslen [CC BY-SA 4.0 (<https://creativecommons.org/licenses/by-sa/4.0/>)] 8 August 2014.

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Reconstructing Gardens

Garden History Forum Seminar 2018

Anna Jakobsson & Annegreth Dietze-Schirdewahn

Reconstructing Gardens was the theme of the Garden History Forum seminar Oct 11 and 12, 2018, with over 40 participants from Denmark, Sweden, Finland and Norway. The seminar took place at the School of Landscape Architecture at the Norwegian University of Life Sciences (NMBU) in Ås, and was combined with a fieldtrip in and around Oslo, to see two reconstructed gardens from different periods.

The Head of the Landscape Department, Tore Edvard Bergaust, and the chair of Garden History Forum, Anna Jakobsson, each held a short introduction to the seminar, followed by a presentation of the newly reconstructed parts of the Ås Campus Park, by Bjørn Anders Fredriksen, Park director at NMBU. The Campus Park is a listed park, which in recent years has undergone major restoration and reconstruction works that is also described further in this issue of the Bulletin. The seminar participants were guided through the newly reconstructed parts of the park as a part of the seminar program.

In the next presentation, Marie-Louise Wanscher from the Agency for Culture and Palaces in Denmark held a presentation called “Amaliehaven in Denmark: restoring a garden that may not grow old”, discussing how to deal with a garden from the 1980s that had grown out of proportion. Her lecture was followed by the first keynote lecture Christine Waage Rasmussen, also from the Agency for Culture and Palaces, with the title “Restoring and reconstructing Fredensborg Castle garden”, including the reconstruction of the lime tree plantings in the main axis.

The second keynote lecturer of the day presented a restoration example from Germany. Hartmut Troll from Baden-Württemberg Stately Homes and Gardens talked about “Layers of knowledge in

monuments: Research and preservation of historic gardens exemplified by the Palace Garden of Schwetzingen”, which concluded that a wide range of research and knowledge is necessary when reconstructing monuments in gardens. Both keynote lectures were also part of the university’s lecture series called “Impulse”, where several students from the School of Landscape Architecture attended. Day 1 finished with a presentation by Annegreth Dietze-Schirdewahn on the subject “Reconstructing gardens: Continuous dialogue between research and practice”.

Day 2 of the seminar, the participants went on a field trip to the newly reconstructed garden of Jacob Nicolai Wilse (1735-1801) at Spydeberg Vicarage, where Mette Eggen and Madeleine von Essen presented the reconstruction project. The field trip continued to Ekeberg Park in Oslo, a public park from the 1890s that later turned into a war cemetery, a restaurant park and a private sculpture park. It was reopened as a public park in 2013 and its restoration was presented to the group by Karsten Jørgensen.

Garden History Forum are very grateful to NMBU, Ås, for hosting this seminar and for the financial contributions to the seminar from Nordisk Kulturfond and from the School of Landscape Architecture, Ås.

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■ The Campus Park, seen from the main building. (upper left)
The Clock Building and the Hirsch stairs seen from the Campus Park (upper right)

Mette Eggen shows the image by Jacob Wilse, which has been a model for the reconstruction of Spydeberg Vicarage garden (middle left)
Reconstructed plantings in the vicarage garden. (middle right)

Seminar participants in Ekeberg park. (left)
The slate stairs and the view over the large field in Ekeberg park. (right)
(Photos: Anna Jakobsson, Oct 11-12, 2018)

Reconstructions in the University Park in Ås

Bjørn Anders Fredriksen

Since 1919, garden architects and landscape architects have been educated in Ås, now the Norwegian University of Life Sciences (Norges miljø- og biovitenskaplige universitet, NMBU). To celebrate the 100 years anniversary, the historic park has undergone a reconstruction process 2014-2019, to bring back some of the lost historic features. This article focuses on two reconstruction projects; The Hirsch stairs (from 1930) and the Niagara (from 1941-45), both drawn by Professor Olav Leif Moen (1887-1951). Moen was the first professor in garden art in Norway, and he led the newly established study program in garden architecture from 1919 until he died in 1951 (Osuldsen, 2019).

Introduction

A higher education in farming, 'den høiere Landbrugsskole', started at Ås, south of Oslo in 1859. Gardener Abel Bergstrøm (1834-1920) was in charge of the first development of the park from 1860 and onwards. A planting of an arboretum in the park began in 1887, in connection to a new education in horticulture run by Bergstrøm. By the year 1900, large-scale building activities took place, which also involved a new design of the park, drawn by the teacher in horticulture Hans Mikal Misvær (1864-1938). When Europe's first education in garden architecture on a university level was founded at Ås in 1919, the need for renewing the park was urgent. The newly appointed Docent Olav L. Moen wanted to create a modern park, and his designs of the Hirsch stairs and the Niagara stream garden, show inspiration from the Arts & Crafts movement at that time. The University Board approved Moens plan in 1924. He led the construction work and plantings for decades, often under challenging economic terms.

After Moens death in 1951, new campus areas were developed. The old park became more and more neglected and simplified over the years. The Hirsch stairs were demolished in the end of the 1960's. In the late 1980s, the historic significance of the park was recognized (Jørgensen 1988 and Blichner 1989) and in the late 90's Park Director Thor Johansen lifted the general maintenance level. He realized small-scale conservation works, such as restoring the Swan Lake Island. At Storeplenen Johansen restored the slate pavings and the Mirror Pond at 'Storeplenen'. In 2012 the University

park was preserved by the Cultural Heritage Act in Norway, as part of 'Landsverneplan for Kunnskapssektoren' (National Protection Plan, Sector of Knowledge). In 2014 a conservation plan was produced by the University's Cultural Heritage Group, represented by Professor Annegreth Dieze - Schirdewahn and myself. Shortly afterwards I got the opportunity to work as University Park Director. One of the objectives of the work in the park since then has been to restore parts of Moen's designs.

The history of Storeplenen and the Hirsch stairs

The central area of the park is 'Storeplenen', an open lawn area in front of the main building called 'Urbygningen' (built in 1900). Moen's design included a sunken lawn area, surrounded by turf slopes and a mirror pond in the central perspective. Paved walks along the sides and stairs were laid out as a contrast to the tree plantings. Moens plan drawing from 1924 was strict and almost baroque in use of geometrical masses of three plantings. Later, more informal plantings became a part of the maturing of the project and is visible at his 1930's revisions. (Archive of Norwegian Landscape Architecture, NMBU).

One of the main features at 'Storeplenen' was the Hirsch stairs from 1930 (Figures 1 and 2). It consisted of eight stairs and a 60 meters long L-shaped concrete wall, functioning as a belvedere walk from the main building along the eastern side of the lawn. The feature had an imprint of wooden planks, the walls painted in a red brick color with a hint of blue and its walls and railings were covered with lush roses. It emphasized the axis between the Tower Building (1924) and the Hirsch monument (1930). After the removing of the stairs in the late 1960's, Moen's overall park design was simplified and the stairs were replaced with a turf slope, which echoed the slope at the northern end of 'Storeplenen', according to a plan drawing by landscape architect Paula Tveite (Archive of Norwegian Landscape Architecture, NMBU).

The reconstruction of the Hirsch stairs

A master thesis from 2013 was the foundation for the reconstruction project on the Hirsch stairs, and it provided reconstruction drawings (Lysgaard, 2013). We then carried out additional archive studies and analysis of historic photos and drawings. An investi-



■ Fig. 1. The Hirsch stairs is a key element in Moens design for the University Park. They were removed in the 1960's and reconstructed 2016-17. (Photo: Bjørn Anders Fredriksen, 2017)



■ Fig. 2. Hirsch stairs are reconstructed with the original color and the walls give, as before, a warm and sheltered space for climbing roses. (Photo: Bjørn Anders Fredriksen, 2018)

gation of the ground revealed the base of the construction, which provided knowledge of the placing and size of the stairs and walls. Pieces of the concrete walls found showed traces of the red original color, possibly a type of concrete based paint. Moens drawings are texted with another product, 'Mineralitt', but this choice was changed in construction, possibly due to economy. Historic photos show that the original paint was a failure and it fell off. In reconstruction, we used the original color and a silicate based paint from the firm Keim. This product was also available in the 1930's.

The investigation of the ground also showed that the original foundation for the stairs and the walls were not matching Moen's own construction drawing. The groundwork was poor, which makes it more understandable that one of the walls collapsed in the late 1950s. The remaining features were demolished a decade later.

In the reconstruction process, the casts for the concrete walls were made of horizontal wooden planks to achieve a finish like the original wall. The wooden railings were made after historic photographs and painted with a lace of linseed oil and color pigments, by Elin Guldåker, Guldåkers snickeri (Sweden).

The support for the climbing roses was made of metal thread formed around a wooden pole ('riveskaft' in Norwegian). When the metal was stretched out, it formed the shape of a spiral. Such threads are visible in old photographs, and has turned out to be a success for the roses. The original planting scheme included a wide range of climbing roses. 'New Dawn' and 'Wilhelm' were reoccurring in the planting beds. Other, delicate, roses and Clematis, were planted inbetween them. The plantings are just partly reconstructed today. We have chosen to use 'New Dawn', 'Wilhelm' and Clematis sp. again and to replace the other roses with more hardy and healthy old and newer roses relevant for today's education programme. An old thuja (*Thuja occidentalis*) hedge from 1930 was replanted from cuttings of the original hedge in the spring 2018. A few of the old hedge plants have been kept in the hedge.

The history and reconstruction of the Niagara

One of Moen's later additions to the park was the more nature-like stream garden, called Niagara – called "the world's smallest waterfall". The quote is said to origin from Oddvin Reisæter, Moen's assistant. The stream was built during the 1940's, a hard work done by hand by the gardeners during wartime (Fig. 4). The stream was connected to the romantic Swan Lake, a large pond with waterlilies and weeping willows. The Swan Lake is an old domestic pond, which Bergstrøm incorporated in the park, possibly in the 1860's.

Moen probably planned Niagara in collaboration with his assistant Oddvin Reisæter. Both drawings attributed to Moen (1941) and Reisæter (1945 and later) is in the collection. (Archive of Norwegian Landscape Architecture, NMBU.) They were probably familiar with Gertrud Jekyll's recommendations on stream gardens in her popular book *Wall and Water Gardens* (1902, and later editions). Moen was also inspired by the more recent stream garden in the Stockholm City Library Park in Stockholm, built in 1928 and designed by architect Gunnar Asplund. A photo and a post card of that stream in Moen's archive at NMBU states this connection (Fig. 3).

In general, streams are difficult to maintain because of erosion. The Niagara has undergone several renovations through the years. As a result, the stream outline had changed when the reconstruction works started. Prior to the project's start in 2015, the upper four ponds had been placed more formally in a line and the ponds and fall stones were not asymmetrically twisted as before. Studies of the original plan drawings and photographs from the



■ Fig. 3. This picture of Stockholm City Library's garden is found in Olav L. Moens collection in NMBU archives. This stream might inspired Moen to make 'Niagara' in Ås. (Archive for Norwegian Landscape Architecture, NMBU).



■ Fig. 4. Niagara Stream garden being dugged out in the 1940's. (Unknown photographer, NMBU Photo Archives, UMB-030784)

1940s have enabled the restoration of the stream with ponds, waterfalls and plantings similar to the former layout. However, the reconstruction of the clay ponds and streams were challenging, as the skills in historic pond making is no longer in a living tradition (Fig. 5 and 6).

Historic literature on pond making, by Rimann (1937), Erstad-Jørgensen (1938) and Hermelin et. al. (1951) were a starting point. The choice of construction method for ponds is depending on the situation at the site and materials available. In short, clay is a traditional material for making ponds. Clay is waterproof in wet condition, but it cracks when drying out and when it is exposed to frost. Hermelin (et. al., 1951, p. 5) suggests a mix of 50% sand and 50% clay to prevent cracking. We used natural sandy or silty clay for this reason. Some of the material we ordered was 'blue clay', a type which is not at all well suited for ponds, as it cracked very fast when drying out. As the literature had warned us about, the ponds leaked the first days, before they stabilized. Filling the pond with water as soon as possible is very important to prevent cracking.

The local hydrological conditions has to be taken into account, both regarding getting ground water into the stream, and prevent it from disappearing in the ground. In the upper pond at the Niagara the ground water was lead into the pond from a part of the grounds which were already containing clay. Therefore, a clay dike was arranged at the lower side only. The other ponds where lined with clay on both bottom and sides.



■ Fig. 5. 'Niagara' prior to restoration works, in spring 2015. (Photo: Bjørn Anders Fredriksen, 2015)



■ Fig. 6. Niagara Stream garden with restored plantings from the 1940's plant design, in 2018. (Photo: Bjørn Anders Fredriksen, 2018)

The ponds in the stream were quite successfully restored, but both first and second winter the frost lifted the stones in the waterfalls between the ponds, and caused serious damage with a lot of erosion under the stones. To prevent this, a hidden PVC membrane was glued to the stones in the waterfall parts and then covered with clay.

The restored plantings contain 44 different species and varieties of perennials with the geniuses *Astilbe* sp., *Hosta* sp., *Iris* sp., *Euphorbia* sp., *Hemerocallis* sp. and *Trollius* sp. as the base plants. Of the original plants, only *Pulmonaria* 'Azurea' and *Aruncus dioicus* had survived on the site. Some Norwegian nurseries luckily still had many of the old varieties, so just a few plants had to be replaced by other varieties than in the original planting scheme. The plantings is vivid in color and it gives an inspiring glimpse into the plant use of the 1940s, with intense color splashes through the season, combined with more neutral colors and greenery.

The field of historic pond making is still in its early stage. Many old techniques might be well worth reinvented in a modern context for both reconstructions and new landscape projects. The reconstructed Niagara Stream garden is perhaps more timely than ever regarding storm water treatment, therefore the stream has been extended further into a new campus area to be part of the overall storm water system at Campus.

Concluding remarks

The Hirsch stairs and The Niagara illustrate very different reconstruction or restoration projects. The Hirsch stairs is perhaps a more classical architectural reconstruction, close to building reconstruction, while Niagara is a more of a landscaping project, struggling with water and nature's rocks and sediments.

Park reconstructions in a university campus' context with a lot of skilled professionals from a range of fields including landscape architecture, horticulture, garden history, and hydrology has given us advantages not often available. Furthermore, the importance of the gardeners' skills and practical involvement, in bringing the plantings back to former glory and trying out methods of pond making, cannot be stressed enough. It adds to the hands-on trend and the reinvention of traditional craftsmanship in recent garden reconstructions.

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Amaliehaven

Restoring a Garden that May Not Grow Old

Marie-Louise Wanscher

In the center of Copenhagen, we find the four palaces of Amalienborg. In 1983, the Amalie Garden was laid out between the palaces and the harbor front. Unfortunately, already after 36 years the garden is in the need of a comprehensive restoration of both building structures, technical installations and plantings. To understand the garden, and define the principles for its restoration, it is important to know the history of the area.

History

The first castle on the spot was the Sophie Amalienborg built 1667-1673 outside the city, as a pleasure palace for the queen of Frederik III, as a parallel to the King's Garden at Rosenborg Palace. The queen was widowed the year 1670 and lived in the castle until her own death in 1686. At that time, a small garden laid around the Italian inspired baroque palace. The castle burned down in 1689 only 16 years after, and never got rebuilt.

Christian V (1646-1699) had big plans, wanting the Swedish architect Nikodemus Tessin to build a new royal residence on the ground, but these plans never turned into reality. Later, the king Frederik V (1723-1766) was the planner of a new exclusive district called 'Frederiksstaden' including the garden of the former Sofie

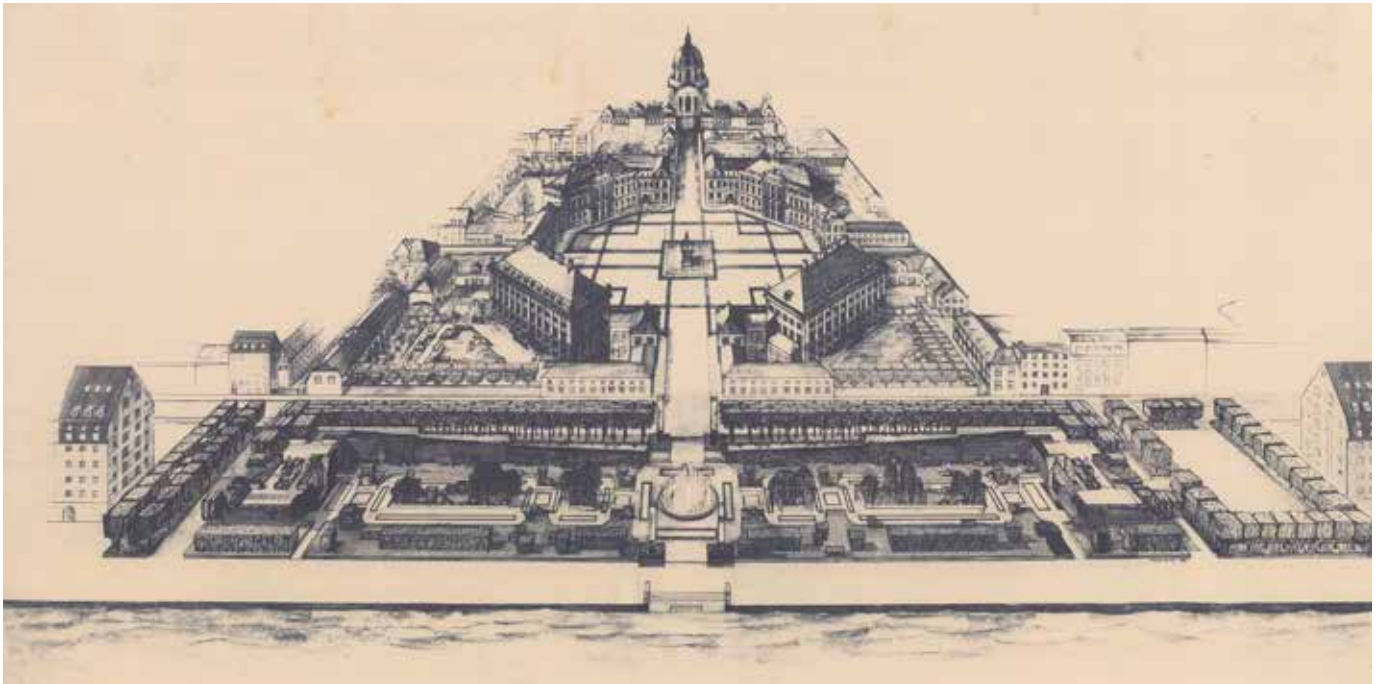
Amalienborg castle. Frederiksstaden was a wholly new suburban area for noble families developed by the King's leading court architect Nicolai Eigtved. The impressive Marble Church (Frederikskirken) became the prestigious landmark and four central palaces was the center point of this fashionable new town quarter. The four palaces in the center was built in the 1750s according to Eigtveds plan by four leading noble families – Moltke, Schack, Brockdorff and Levetzau.

The new district Frederiksstaden was furthermore a prominent monument to commemorate the tercentenary in 1748 of the Oldenburg dynasties ascent to the Danish throne, as well as to celebrate in 1749 the tercentenary of the absolute king. As a contribution to this case, Frederikstaden, Frederikskirken, Frederiksgade were all named after the king Frederik V, and in the center the equestrian statue of Frederik V was placed.

The palace built by Moltke became royal residence a few days after the Christians Castle burned down the night between the 26th and 27th of February 1794. The King Cristian VII (1749-1808) moved in to the palace. The three other palaces were acquired, for other members of the royal family and the complex was renamed Amalienborg.



■ Fig. 1. Sophie Amalienborg, by Johan Jacob Bruun 1740. (Credit: Kongernes Samling, Rosenborg Slot)



■ Fig. 2. Old plan of Amaliehaven, by Jean Delogne in 1980.

In the 1750's the quay in front of the palaces was a busy area with timber and stock buildings. Since 1802 the area was named 'Larsens Plads' after Lars Larsen who had his shipyard there. 1870-1900 the immigration to America took place from Larsens Plads, and about 170.000 Danes sailed via Oslo to their new future in the States. Until 1970 the daily ferry to Oslo departed from Larsens Plads.

In 1980, the AP Møller Foundation bought Larsens Plads with the purpose of constructing a park in front of the Amalienborg Palaces. The AP Møller foundation chose the Belgian architect Jean Delogne to design the project. The project was presented as a gift to the city of Copenhagen, with no masterplan, no architectural competition, no involving of Danish landscape architects or other professionals, which gave it a very tough start.

Reading the reviews and articles from newspapers etc, from that time makes it clear that the Danish professionals felt they had been overruled. This might be one of the reasons, why the garden got such a cold welcome. One of the other reasons for the disliking was the layout of the garden. Shining white limestone walls in a strongly baroque inspired symmetrical plan, combined with a (for that time) rare variety of plants. The style and the form was very far from the Danish landscape architecture at that time, which was dominated by simplistic designs and only few species of plants in every project. The plants were often domestic and used as architectural/static elements. Flowers, exotic plants and lushness was not fashionable in that period. In addition, the huge dominance of the built structures were unusual elements in Danish park design at that time.

In the beginning of the 1980s, the four palaces of Amalienborg were not yet restored. The palaces had a very dark appearance, which made the contrast to the new white garden very provoking in lots of professionals' eyes. In contrast, the citizens of Copenhagen liked the garden from the start. The new garden was a green

spot, a nice shelter from the wind with lovely views of the palaces and the harbor. People liked the impressive, colorful plantings. The tall wall towards Tolbodgade made a welcome barrier for traffic sound and from the bastions nice views towards the harbor. Jean Delogne's own description tells about inspiration from baroque gardens, and his respect of the masterplan of Eigtved from 1749 is clear. Delogne also mentioned the inspiration from the kitchen gardens, which were normally laid out behind the castles. Except for the placement behind the castle, this reference to a kitchen garden is hard to recognize.

At the beginning of the 1990s, when I studied landscape architecture, the Amalie Garden, 'Amaliehaven', had still not been accepted. We were almost taught, "Not to like it". Being the responsible landscape architect for the Amalie Garden today and part of the team to plan the maintenance and development, has been quite a turnover for me.

Condition of the garden today

The Garden is now 36 years old and unfortunately it already needs a serious restoration. The Agency of Culture and Palaces, responsible for most royal palaces in Denmark, did the planning of a restoration in 2018. Due to high costs, the project has not been realised yet.

The main task in the project was to purify all the now very dirty limestone walls and change the joints from a kind of synthetic rubber material into mortar. All technology of the central fountain, the cascades and the lighting are outdated or not functioning, and have to be replaced. The sewer system and other supplies, such as the irrigation system for the plants, have to be renewed.

Under the bastions lie a shop, toilets, rooms for the gardeners and technicians, all the technical installation for the cascades and much more. The ceilings over these rooms are not waterproof anymore. Replacing membranes on these roofs will cause a complete

remaking of the pavements and plantings on the bastions and parts of the long axes with roses and yew hedges.

When doing all these construction works, we will lose many plants. To minimize the loss, we wanted to analyze the state of the plantings, and define which areas could be free from intervention and protected through the constructing period. At the same time, we wanted to use the opportunity to make some serious changes and improvements in the plantings. Many trees, shrubs and yew cubes planted 36 years ago have grown too big, are casting too much shadow, are in bad conditions or even dying.

Restoration principles

The main aim in the restoration of the plantings is to maintain and develop the unique style of baroque inspired elements combined with the varied and colorful plantings. The combination of carefully shaped plants and the lushness of the rest is unique and characteristic for Delogne's design of the Amalie garden.

The take-off for new planting schemes has been the original layout and planting scheme from 1983 as well as the visits and evaluation reports from the studio of Delogne in 1992 and 2000. These intents, together with the experiences from the maintenance of the garden over the past 36 years will guide us in the planning of the restoration as well as the future development and maintenance of the garden.

Jean Delogne described the aims of the planting as a luxuriant explosion of colorful magic and variations of the seasons. He wanted the focus to be on the interaction of the different types of plants. The contrast between pruned and free growing plants, between column and umbrella shaped trees, between spheres and natural developing specimen shrubs, between leaf colors and flowering was part of the design. Delogne also suggested that the planting should respect and be in harmony with the building structures, lights and elements of art. In this context, the most characteristic plants should be seen more as architectural elements, rather than as individuals in a plant collection.

In the project team of the Agency of Culture and Palaces our aims for the restoration is to give an instant and finished look by choosing the right sizes of plants and density of the plantings from the start. The areas are very small and the visitors walk very close by. Therefore there is no room for areas "under construction". The trees have to look like trees from the beginning, raising over the shrubs, and the pruned elements have to be sharp to create the desired contrasts. Furthermore, the ground cover has to be solid constantly to avoid people walking in the beds. This means that the garden has no time to grow and wait. It is of major importance how a new tree looks from the beginning and maybe ten years ahead. It is of minor interest if it will grow too big in 20 years. A tree ought to be replaced if it grows too big, too odd or does not grow as desired. Thinking and planning this way stands in a sharp contrast to how we treat a "normal historic garden" which has a perspective of centuries behind and in front of it.

Through analyzes of well-functioning areas we have set up 10 rules for the future plantings. We wanted to make simple rules for the plantings in order to preserve the original intentions and to be a helpful tool for those who are in charge of the future maintenance. We now look at a planting as a decoration project, where the right scale and a perfect interaction of the plants are of number one importance. The 10 rules are illustrated here in a "first edition" (Fig. 4-5) with a series of icons. We divide the different types of plants into groups and try to illustrate how they must (and may not) interact. As the next step, we would like to make a kind of

"Knitting pattern" to create the plant combination. A template for the frequencies of height, width, texture, form, color, shelter, open/closed etc.

Following the rules and being keen on keeping the right dimensions and compositions in the plantings brings a need of more regular pruning of the specimen shrubs and reduction of the ground cover plants.

It has not yet been decided when the complete restoration of Amaliehaven will be completed. The plan was to do the restoration in 2019-2020 but due to high costs, we did not. In spite of this postponing, we have decided to start working with the plantings according to the restoration principles and rules mentioned above. Our aim is to make all future efforts of planting, pruning and maintenance, to follow the ten rules.



■ Fig. 3. Photo of the plantings. (Photo: Thomas Rahbek, The Agency for Culture and Palaces, July 2017)

Rules for the plantings of Amaliehaven:

Topiaries:

- 1. *Taxus/ Yew is trimmed as cubes or pillars*
- 2. *Buxus /Box is trimmed as spheres*
- 3. *hedge on legs - individuals grow together*

Free formed plants:

- 4. *Trees and specimen shrubs should be given the necessary space to grow and develop naturally*



- 5. *Plantings should be divided into layers, to obtain a visual difference between the groundcover, the specimen shrubs and the trees*



- 6. *No climbers are allowed to grow on walls*
- 7. *Climbers are only allowed to hang down from top of walls*



- 8. *No symmetric or systematic plantings.*

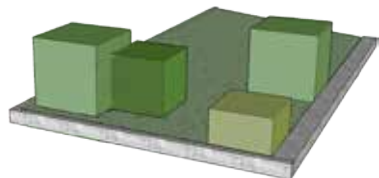


- 9. *Free formed evergreens may not be yew or box*



RULES FOR TRIMMED YEW (TAXUS):

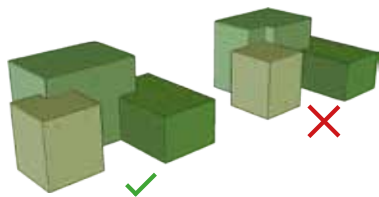
- 10.
 - A) *Cubes has to be parallel to the inner line of the large curb stone or at least 30cm away from it.*
 - B) *Ground cover in front of cubes may not be higher than 20cm*



- C) *Horizontal displacements leads to vertical displacements*
- D) *Change of plant variety leads to both horizontal and vertical displacement*



- E) *Horizontal and vertical displacements should be at least 30cm*
- F) *In combinations, the tallest cube should be intact*



■ Fig. 4-5. The 10 rules of planting restoration in Amaliehaven. (Illustrations: Marie-Louise Wanscher, 2018)

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Layers of Knowledge in Monument Management

The Example of Schwetzingen

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The practice of conservation and restoration requires research. The constant changing of surrounding conditions, like the climate, but especially the changes in the gardens themselves and those of the cultural context require adaptation of knowledge and a scientific approach in general. This article brings up the different layers of knowledge in preservation, with the example of Schwetzingen Palace in Germany.

Introduction

The Italian charter on historic gardens adapted 1981, in response to the Florence charter of the same year, emphasizes the importance of knowledge in one of its four paragraphs, stating that in order to preserve and protect, knowledge is essential (Cazzato, 1989, pp. 106-108). Without continuous research, sustainable conservation work in garden monuments is not possible. This text will focus on the investigations and on the conservation in the landscape part around the Temple of Mercury at Schwetzingen Palace Garden, a creation of Friedrich Ludwig von Sckell, and deal with material and immaterial aspects of a monument, briefly summarizing my contribution to the seminar “Reconstructing Gardens”, October 2018.

Schwetzingen Palace Garden – a brief description

Under Elector Carl Theodor the garden of his summer residence Schwetzingen was enlarged considerably. The design by court gardener Petri in 1753 divided the so called circle-parterre with an axis-cross. Petri was in terms of motifs and spatial conception influenced by Dézallier d’Argenville (Dézailier d’Argenville 1713; Heber, 1986, p. 407). The garden layout was further dynamized and monumentalized by architect Nicolas de Pigage according to design principles of Jacques Francois Blondel (Hansmann, 2013). Pigage and the young Friedrich Ludwig Sckell, today regarded as one of the founders of the so called classical landscape garden in Germany, just returned from a three-year long stay in England and lead the transition of the garden to the so called natural style or English manner. This sequence of apparently different design concepts seems to be connected by a main point in the attitude of these two actors. Both tried to seek more naturalness without giving up the laws of reason and propriety, as Nicolas de Pigage put it, which made these concepts compatible with each other in the perception of time (Troll, 2015 and Troll, 2018). In the end, the garden rightly bears the fame of representing the perfect synthe-



■ Fig. 1. View of “The ruin of the temple of Mercury” by Carl Kuntz from 1795. (From: Generallandesarchiv Karlsruhe, J-B Schwetzingen 12)



■ Fig. 2. Historic garden map (Plan des Churfürstlichen Badischen Hoffgarten zu Schwetzingen), Schneeberger 1806, pen colored, detail. (From: Generallandesarchiv Karlsruhe, G Schwetzingen 27)



■ Fig. 3. Temple of Mercury, postcard, 1922. (From: Schlossbibliothek Schwetzingen)

sis of the two garden styles of the 18th century that we possess in Germany, as Franz Hallbaum remarked in 1928.

Long-term experience in practice of garden preservation

In Schwetzingen, practice of garden conservation has a tradition of more than 200 years, starting 1795 with the so called “protocollum commissionale”, maybe the first management plan for a garden in Europe. These instructions for the preservation of the garden were written facing the threat by French troops during the Revolutionary Wars. It is said there, that it means a great effort to maintain the pleasure garden in its wide scope as a monument of palatine. This is as far as we know the first time in garden history that a garden was called a monument and that preserving it became the main issue. In today’s vocabulary of monument preservation we would say the measures taken were aimed at maintaining the main structure of the pleasure garden.

This attitude remained the baseline of the gardener’s work. In the 19th century, court gardener Wagner pointed out that the task of the gardener is to conserve the existing, and that was executed, as far as possible.

There are some expert investigations about Schwetzingen Palace Garden in the early 20th century, the most important are written by Hallbaum (1928) and Heike (1937). In Germany, the early 20th century was the time when discussions about this type of monument and the specific conditions of garden conservation started in general (Koch, 1914). In 1970, the first so called ‘Parkpflegewerk’ in Schwetzingen was executed and in 2005, the first update of such a management plan in Germany was realized (Schmitt and Wertz, 2005). Gardens like Schwetzingen are interesting examples of these kind of investigations because of the different layers of conservation history.

Sckells scientific views on conservation and the restoration of his design intentions

The masterpiece of Sckell in Schwetzingen, the layout of the landscape garden surrounding the mosque lake, is in the words of his prosecutor Johann Michael Zeyher the loveliest landscape painting one can imagine (Zeyher 1809, p. 58). But in professional concerns, which go beyond landscape painting, it is more than that. Sckell himself emphasized in his literary legacy, that the beauty of a natural garden depends as much on the execution of the design as on the invention itself, and both presuppose the same skills and sciences (Sckell 1825, p. 47). And he also went further in his theoretical reflections. Sckell wrote in several letters that the same artistic and scientific requirements must be applied to garden conservation (Sckell 1804). Sckell’s insights are all the more relevant today, as historic gardens are often multi layered, complex and on partly ageing grounds (Troll and von Werder 2019). These thoughts are also especially worth considering with regard to the garden we are talking about here.

Following these ideas, Jörg Gamer asked for a scientific analysis of the design principles in this area in 1979. Due to the uncontrolled growth of the vegetation, the appearance hardly matched Sckells intentions (Gamer, 1979, p. 22). In particular, an enormous simplification of the sequence of visual relations had occurred after a period of two generations between 1920 and 1970, when the forest management was responsible for the garden. The management plan (1970) noted however, that after reconstruction of the main viewing axes, the appearance would correspond to the image intended by the garden artists and therefore has a monumental value. The vegetation at the Temple of Mercury was removed and replaced by plantings with Italian poplar (*Populus nigra* ‘Italica’)

like it is shown in the painting of “The ruin of the temple of Mercury” by Carl Kuntz from 1795. The update of the management plan (2004) demanded the replanting of the Italian poplars to regain the proportion related to the design of the fabric; this should be executed between 2006 and 2014.

Site-genetic survey of the vegetation

In planning the implementation of this project, we soon had doubts. In 2014 Laurence Daguin, a scholar of Ecole nationale supérieure d'architecture de Versailles, and myself conducted a first site-genetic survey especially concerning the development of vegetation around the mosque lake and in particular in the area of the temple of Mercury during the last 200 years. Historic garden maps show especially the poplars lower placements in the ground, other views including early photographs show conifers in the surrounding of the temple. A systematic comparison of all types of sources (including archival notes and descriptions) supported this assumption, which would furthermore relativize the problem of the poplars' height in relation to the temple. It also fits to Sckell's theory, using poplars to design situations of transition with the means of contrast. “This peculiarity is provided excellently by the Italian poplar tree, which is pyramid-shaped and slender in the air.” (Sckell, 1825, p. 110)

We also found written evidence for the existence of larch, spruce and especially Weymouth pine, the only conifers Sckell appreciated in terms of aesthetic values, in this area. Today we know that the German word for spruce was at that time used in a different way. The species which was assumedly meant is *Picea mariana* (black spruce), rather than *Picea abies* (ordinary spruce). The reason for the diverse setting of trees in several historic paintings of the Temple of Mercury which confused the investigations for a long time is presumably related to different motifs which are united in this one building: On the one hand arcadia, symbolized by the roman ruin and Italian poplars (Brandt, 2006, p. 24), and on the other hand a ruin as such, symbolized by conifers that are related to a more sublime, dark and lonely feature (Sckell, 1825, p. 39).

The result of our survey was a set of different levels of evidence for single tree species, in the inventory and in written sources – which proved two overlying and contrasting motifs. We recognize that the simplified way of using only one single source of analysis of this scene for the replanting would lead to a reduction of qualities and to a loss of values in a broader sense. Why was the different setting of this area, as shown in the maps, ignored earlier? On the one hand Kuntz's pictures are considered as a reliable source, and on the other hand images were strongly emphasized as the main heritage values of a monument at that time.

Immaterial heritage values

The investigations furthermore showed results in the issue on how to regain and maintain surrounding plant settings, like shrubs. In comparison to one of the few illustrations in Sckell's *Remarks on Landscape Gardening* one can see how ideally the composition of the planting on both sides of the lake was intended and how little of its value is left today. To learn the proper gardening skills to make the shrubbery transparent and light again is one of the aims of a project that we conduct in cooperation with the University of Kassel.

Another project we started after having problems with the plantings of oaks, situated in the more sandy area of the garden close to the Temple of Mercury, deals with natural rejuvenation of plants that have been collected on the site and cultivated in a small nursery in the garden. This practice can be linked to an old

gardener's tradition at Schwetzingen Palace garden. Both projects match immaterial aspects of a monument, in particular the last two of only five criteria of the immaterial heritage declared by UNESCO in 2003, namely knowledge about appropriation of nature and traditional crafts techniques. Both are in our understanding important (immaterial) values of a garden monument. We support the process of regaining local gardener's traditions at this site and gardener's skills of maintaining such sophisticated vegetation structures. Talking about maintenance of a garden means talking about the people who do this work and their skills. This is one of the reasons why the working group in German State Castles and Gardens published a position paper on the personnel requirements for historic gardens in 2014 (*Personalbedarf für historische Gärten*, 2014).

Layers of restoration

When it came to the landscape around the Temple of Mercury at Schwetzingen Palace Garden, a scientific board met for two days, judged the results of the research described above, confirmed them and raised new questions. The meadow immediately around the Temple of Mercury was, during the course of its restoration, transformed into a little square apparently in order to present the building like on a tray. But this new setting contradicted to the historic idea, not only of a ruin in a garden but also of the arcadian motif. The design seemed to be a result of a more technical approach, maybe also a kind of anticipation of a suspected expectation from the visitors.

At this point, we intended to take this change, caused by the last restoration, back in order to recover lost values. The question of how to deal with this previous restoration (as a layer of the monument) was a very fundamental consideration for us and all parties involved.

As a preparation, we made an inventory of the loose stones surrounding the ruin, in order to distinguish the stones which had been moved in course of the last restoration. An archaeological investigation also confirmed the mistakes in the interpretation of the sources in the previous restoration. It became clear that the layout of paths was changed, the original layout had been crucial for the piecewise discovering of the hidden ruins. Today we - meaning those involved in heritage tasks in professional terms - do not accept such errors or unintended falsifications as a relevant material layer of the monument, but of course as an immaterial one, which has to be documented.



■ Fig. 4. Archaeological evaluation of the old path structure in the area of the temple of Mercury, by Achim Wendt and Claudia Binder, 2016. (From: RNZ-Archiv, Photographer: Norbert Lenhardt, 2016)

Different types of monuments

The excavation secured a path from the 18th century, today the only one of this technical construction in Schwetzingen Palace Garden and far beyond, a technical heritage as well as an archaeological one. For the assessment of the finding, the distinction between the architectural and the archaeological layer was a challenge and, the interpretation of the monument as one or the other, had far reaching consequences for the conservation and restoration process. An interpretation as a purely archaeological monument would have demanded a secure cover, levelling the topographical fine structure (placement of stones, modelling of the valley, etc) which was important in the original design of the Temple of Mercury. In the end, we decided that the surface of the excavated old path belonged to the living setting of the garden monument and the construction below ground belonged to the archaeological site.

Conclusions

The previous management plans from 1970 and 2004 are without any doubt of high quality. What we criticize today is in some parts a lack of knowledge in details, a lack of evidence in the surveys conducted and an immanent desire to change. The initial question of our survey seemed to be very simple – to replace a few poplars, but resolved in a sequence of analysis and touched key fields of garden conservation and their interaction.

- methodological and theoretical aspects of preservation issues (dividing archaeological heritage),
- site-genetic issues including a focus on written reception as an evaluation tool, which at least assess the values of the monument and helps to relativize stereotypes (of images),
- historic use of plant species and plant cultivation skills, including maintaining historic plant compositions,
- historic constructions techniques.

The interaction of these aspects as well as the prospects and limits of interpretation could be exemplified by this case study, which involves gardens, buildings and archaeological heritage issues. The example illustrates the problem of unidimensional use of sources. The ambiguity of every garden monument necessarily requires an indicative approach and the application of interdisciplinary knowledge.

Research establishes evidence of meaning and values, and this touch upon the concept of authenticity of a monument. Reception as an evaluation tool connects research issues with levels of meaning of a monument, which in the end constitute its cultural significance. Management of maintenance and preservation of objects that are full of change (i.e. being composed by plants) requires scientific investigations and creates a setting of evidence that defines the frame within which we act. Conservation investigations have to elaborate the fundamental facts and provide offers for interpretation / meaning values. Vice versa: the contemporary approach of value-based conservation means a huge challenge for scientific and methodological issues. In effect knowledge is a (immaterial) key layer of monument values which is why the working group German State Castles and Gardens, additionally to their successful position paper on personnel requirements for historic gardens, published a paper on scientific tasks and research requirements in 2019.

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Reconstructing Historical Gardens and Parks

A Continuous Dialogue Between Research and Practice

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This article deals with how the combination of different disciplines and new technology could be beneficial for the research as well as for the reconstruction practice. It also deals with how knowledge generated from research could be a key to good practices.

Researching historical gardens and parks

Reconstructing historical gardens and parks involve different disciplines and research methods. To get the first insight into the past from a garden site or remains of a historical landscape requires a survey and examination in the field (ICOMOS, 1982; Ministry of Climate and Environment, 1978). In addition, archival documents and historical maps provide fundamental materials for understanding the historical context. Garden archaeological methods (such as Georadar and excavation) further open up the possibility of interpretation by tracing physical remains under the ground.

Expert disciplines such as botany, garden history (including specialised history studies such as historical gardening techniques) and garden archaeology are crucial for the research of historic gardens and parks. However, we would like to highlight that the key is not on individual disciplines, but on the dialogue and collaboration of different disciplines. To successfully interpret an historical garden or park, a mediator could be useful to summarise and integrate the knowledge from different disciplines. Such a mediator could be a person who is able to communicate with all relevant disciplines and is willing to connect different perspectives, for example a landscape architect.

During the past decades, there has been an increased use of digital tools in interpreting and researching historical sites. For example, the method of combining historical maps with aerial photographs, GPS-embedded Georadar data or Lidar (also called 3D laser scanning) opens up new ways of interpretation. The improvement of Georadar technology leads to more refined and detailed images, which combining with digitalised archival materials have further enriched the contents and enhanced the accuracy of such interpretations. For example, in the research of Austrått landscapes in Ørland (see Fig. 1), the combined use of above methods has led to a new interpretation of the historical landscape (Dietze-Schirdewahn, 2017).

There are some risks to be aware of when it comes to the interpretation of data. For example, although new technology brings fresh data for researching a historical site, it may also create a risk of overloaded details. It has been increasingly difficult for an untrained observer to identify which details are more important and how to interpret them. Besides, we should be aware through which lens we interpret a historical site. For example, in the archaeological excavation in Stend garden near Bergen (see Fig. 2), the archaeologist was more interested in the earlier layer indicating a Viking ship burial than the later layers of garden remains (Dietze-Schirdewahn, Fredriksen and Irgens, 2017). This is a reason why there is a need for trained researchers with a wide experience in investigating/researching historic parks and gardens.

Transferring knowledge into practice

Research offers a foundation for a knowledge-based reconstruction and management of historical gardens and parks. In those cases where there are only fragmented data and archival materials available, an interpretation with a wide research approach can contribute to the discussion on what the site looked like in earlier times, and how it has developed over time. In such projects, data



■ Fig. 1. Austrått landscapes in Ørland. Various digital methods were used to study the historical landscape. (Photo: Ørland Cultural Centre, 2011)



■ Fig. 2. The Reconstructed garden of Stend near Bergen. The project is based on research carried out by The School of Landscape Architecture at NMBU, Ås (Photo: Jens Christian Lindheim Skulstad, 2016)

collection is merely a start, while the main task is the analysis and interpretation of the data.

There is a need of transferring knowledge acquired by research into practice. Research on gardens in general is not only useful for scientific dissemination such as academic publications and conference presentations, but also, and firstly, useful for practitioners (for example, planners, managers and gardeners) of historical gardens and parks. Therefore, one of our main tasks as researchers is to make our research understandable for non-academics or people outside this discipline. Such communication can be successfully carried out by using suitable methods and technologies. For example, using layers of illustrations, animations and VR to visualize historical development of the garden or park have proved to be effective ways of communicating history.

Management and conservation of historical gardens and parks demand a high level of creativity. One can hardly transfer an historical practice of garden construction or maintenance directly into today's use without any adaptation, since gardening tools and techniques have evolved over time, available plant species may have changed, labour resources have become more costly and so on. However, through research, we can find ways to interpret historical methods and make them fit within today's garden context, as we have experienced in various projects such as the reconstruction of the Hirsch stairs in the historical park at NMBU campus, Ås (Fredriksen in this issue).

A big challenge today is that many gardens and parks with historical values are not protected by law. This leaves them vulnerable in an era of urban densification and urban renewal. Municipalities and counties (*fylke*) are the main bodies of decision makers for approving applications for building and planning projects. From our observations, adequate knowledge about historical landscapes is generally lacking there. They often focus on archaeological, architectural, biological and natural values, while they overlook the more integrated/comprehensive/multi-dimensional values of gardens, parks and landscapes.

Creating new jobs is one of the driving forces in current landscape management and development. When thinking in the short-term and focusing mainly on economic values, it seems the historical values of a landscape are rarely seen as assets. Research could challenge this attitude and be used to argue for a better understanding of the importance of historical landscapes. For example, historical gardens and parks involve people in a distinct way. They provide space for activities such as strolling, socializing and gardening, which are connected to physical health and mental well-being. They are places where people experience a continuing and dynamic site as part of their living environment and daily life, and therefore contributing to identity building. They may also create awareness of time, space and the circle of life. These social values are added to the ecological and economical values of the land and should be recognized as important assets.

Three suggestions for the future of historical gardens and parks

The world is under rapid change and we stand in front of global challenges such as famine and climate change. How can reconstructing historic gardens, parks and landscapes respond to global challenges? In other words, how can this contribute to a sustainable future? Gardens, parks and landscapes have been contributing to environmental and social sustainability for centuries, by being places for food production, CO₂ absorption, education, contemplation, recreation and so on. In the future, these values may hopefully be increasingly recognized and treasured. For example, less flight travels for holidays means more time at local and regional si-

tes for leisure activities. A demand for local food may lead farmers to re-discover historical fruits and vegetables and reintroduce them in cultivation. Based on our experience, regional and local identity, which may be more deficient in an era of globalization, can be anchored in cultural heritage. Rare historical plants may also find their refuge in historic gardens, parks and landscapes. Therefore, it is important to widen our perspectives of the values of reconstructing historic gardens and parks.

First, the act of reconstruction has to be seen as a gradual and long-term process instead of a radical short-term change. Transforming a landscape little by little and re-using materials as much as we can help avoid irreversible mistakes, and therefore save natural and economic resources. A sustainable approach means reconstruction being carried out in a way that future generations can still experience the main values and assets of that landscape; it also means having a good maintenance plan, including a budget for human resources, before the reconstruction starts. These all require a long-term process to allow practice grounded in extensive and profound knowledge, accessed via research. Besides, vegetation is one of the main elements in landscape. A long-term approach would be necessary to allow gardens, parks and landscapes to develop over time and through seasons.

Second, planners and decision-makers need to care for more than what is within the boundaries of a protected landscape, meaning that they need to increase their knowledge on the values of landscape in general. In order to reach this, educators and researchers play a significant role by providing knowledge and tools, as well as raising an awareness of the values of historic gardens, parks and landscapes.

Last but not least, the connection between historical landscapes and people needs to be strengthened, which can be realised through expanding the focus from single gardens to larger landscapes. This would create new values for a wider use, and increase people's sense of belonging to these landscapes (Gao and Dietze-Schirdewahn, 2018), which would not only contribute to our sustainable future, but also to the sustainability of the historic gardens, parks and landscapes themselves.

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The History of the Ekeberg Park in Oslo

Karsten Jørgensen

The Ekeberg Park in Oslo tells a story of the creation, decline and recreation of a classical public park, established in the spirit of the 19th century 'Park Movement' in cities, as described by Linda B. Parshall (2001). In the 20th century, the park lost value due to neglect, and during World War II, it was used for military purposes by the occupying forces. During the last decade it has been renovated and substantially upgraded with private funding and it is today a major public attraction in Oslo.

The shift from garden art to landscape architecture took place in the enlightenment spirit of the 18th century. The first scholarly mention of the design of landscape for public benefit is found in *Theorie der Gartenkunst* by Christian Cay Lorenz Hirschfeld 1779–85, fifty years before the term landscape architecture was invented. Christian Cay Lorenz Hirschfeld (1742–1792) was a professor of philosophy and art at the University of Kiel, when he published *Theorie der Gartenkunst* in five volumes. In a chapter of the fifth volume, he described what he named the 'Volkesgärten' or public parks. According to Hirschfeld, this type of garden or park is found in some of the major cities of Europe, and is often called public promenade. He mentioned Paris, Frankfurt and London as examples. According to Hirschfeld, such public gardens are of great significance for civic life, and should be regarded as a necessity for all cities. During the next few decades, a 'Park Movement' emerged, and 'Volkesgärten' appeared in almost every major city in Europe. In Oslo king Karl XIV Johan (1763–1844) bought the estate at Bellevue, where the palace and park are situated today, and at Bygdøy where a public promenade was opened in 1837 (Fredriksen and Jørgensen, 2008, p. 44).

The 19th century was a period of expansion for the city of Oslo. Between 1850 and 1900, the number of inhabitants increased from 30 000 to 220 000. There was a huge private building industry, and hardly any public green areas were established. However, in 1889, the municipality of Oslo (then 'Kristiania') made its first major purchase of land to establish a public park at Ekeberg. It was situated in the east end of the city, close to where most workers lived – "to promote public health and formation" (Geelmuyden, 2013, p. 211). The municipality started to build a 'Volksgarten' in the Hirschfeldian ideology and style at Ekeberg, with winding paths, a restaurant, and viewing platforms overlooking the Oslo fjord. In 1916, the first City Gardener, Marius Røhne (1883–1966) was appointed. He developed the Ekeberg Park further, and established a number of new park areas in Oslo. In 1929, a new and larger restaurant was built according to functionalist ideals. It became a very popular place for dancing and eating (Bruun, 1999, p.191).

During World War II, parts of the area was mined and inaccessible. After the war the area was never reclaimed as public. Nature took over and parts of the park became a forest. Another part of the park was utilised as an honorary war cemetery for fallen German soldiers and officers during the war. In 1953, the graves were moved to Alfaset in another part of Oslo, and this part of the Ekeberg park was restored (Oslo Byleksikon, 2019).

During the 1990s, the restaurant fell into disrepair. In 2003–05, the abandoned restaurant was restored and reopened by the real estate investor Christian Ringnes (b. 1954). He also proposed to establish and finance the establishment of a sculpture park in Ekeberg



■ Fig. 1. View from the public park at Ekeberg ca 1915. (Image from the collections of Oslo Museum archives).



■ Fig. 2. The honorary cemetery at Ekeberg during World War II. (Image from Lindheim 2017, unknown archive/photographer).

park. The park opened on 26 September 2013 after a long period of organized resistance to the realization of the plans. The critique was partly that the park would destroy the natural forest. Most people were ignorant of the existence of the previously public park. Another focus of the criticism was that a private investor gained such a strong influence over a public nature area. Some of the critics formed their own organization: "People's Action for Conservation of the Ekeberg Forest", and they staged demonstrations both at Ekeberg and at Oslo City Hall. A signature campaign against the park collected several thousand signatures (Jørgensen, 2015, pp. 132–133).

However, the municipality allowed the construction process to continue, despite this and other protest actions, and the sculpture park was opened in 2013 as mentioned above. It was actually a re-opening; the new park is again in the old Hirschfeldian public park spirit: In *Theorie der Gartenkunst*, he claimed it a duty of wealthy "princes" to establish public parks in the natural style for the benefit of ordinary people (Hirschfeld, 2001, p. 27). Since the opening, protests have ceased, and the park is gaining in popularity and reputation year after year (Holm, 2014, pp. 70–77).



■ Fig. 3. The old water reservoir in the Ekeberg Park just after the opening in 2013. Inside the old water tanks beneath the pool, the visitor of the park can find James Turrell's (b. 1943) works "Ganzfeld" and "Skyspace" (both 2013), where the artist makes use of colours to transform our perceptions. (Photo: Ivar Kvaal)



■ Fig. 4. On one of the paths in the Ekeberg Park, one meets "Walking Woman" (2010), by Sean Henry (b. 1965). (Photo: Ivar Kvaal)

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Figure 3 and 4 are from the press folder at www.ekebergparken.com, 2018, used here with permission from Head of Communication, Annika Hagstrøm, Ekebergparken.

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Investigating Peonies

European Peonies in Norwegian Clone Archives

Mari Marstein

In 2018, LUKE – the Finnish natural resources institute, initiated an investigation of old garden peonies in the Nordic countries, called “Dear old peonies – garden treasures for the gene bank and to the market” (LUKE, 2018, online). The goal is collecting, studying and comparing old regional peony clones from Finland, Sweden and Norway as well as selecting the best specimens for the commercial market. My part in the project is a morphological study of relevant peonies in Norwegian clone archives. This article aims to describe my methodological approach.

Norway and Sweden established a clone archive for peonies more than ten years ago. In 2018, Finland started their investigations and collections. LUKE collects peonies with more than 50 years of local history, and after trials, the best genotypes will be propagated for sale. Included in the LUKE project are *Paeonia anomala*, *Paeonia x hybrida*, *Paeonia* ‘Nordic Paradox’, *Paeonia tenuifolia* and *Paeonia x festiva*; plants that are represented in Norwegian clone archives and which have a long history of cultivation in the Nordic countries, and they have also proved winter hardy in this climate.

In 2018, I received economic support from The Norwegian Agriculture Agency to study peonies in the Norwegian clone archives of peonies in Kristiansand, Trondheim, Tromsø and at Gamle Hvam. The aim was to identify them and give them their correct botanical name. I documented the peonies’ morphology and phenology, to clarify how they responded to the local climate and growing conditions in different parts of Norway. Kristiansand is situated in the mild climate on the south coast, while Gamle Hvam has an inland climate with cold winters and warm summers. Trondheim has a sheltered coastal climate, with mild summers and moderate winter snowfall and Tromsø has a subarctic climate, with relatively mild winters and short summers with midnight sun from May 21 to July 21.

This article will focus on the examining methods. In the restoration process of gardens, it is important to distinguish the older cultivars from the modern ones, to achieve credibility and a correct visual impression.

Methods of examination

The examination of the peonies included the following steps:

1. Documentation of the plants’ morphology
2. Photographing the plants from different angles
3. Pressing plants and mounting them on herbarium sheets
4. Compilation of the morphological characters in charts

Before visiting the clone archives, I compiled a list of morphological characters relevant to the species. I also planned which plant parts to photograph, and which parts to collect for herbarium sheets.

The list of morphological characters was based on a publication by De-Yuan Hong (2010), which is the latest and most comprehensive work on species of peonies. Hong describes species growing in the wild, but in the project I studied garden cultivars. The wild species never have double flowers, therefore I added boxes for flower form, number of petals and the petals’ form to Hong’s original list.



■ Fig 1. European peonies growing in the clone archive at Gamle Hvam museum, Akershus County, Norway. From top left, in flower: *Paeonia anomala*, *Paeonia x festiva* ‘Rubra Plena’, *Paeonia* ‘Nordic Paradox’ and *Paeonia x festiva* ‘Rosea Plena’. (Photo: Mari Marstein, 2018, MIA).



■ Fig. 2. Marking stems with masking tape. (Photo: Mari Marstein, 2018, MIA).

Documentation of morphology and taking photographs

For the documentation in the field I brought a kit of a folding ruler, a secateurs, a water resistant pen, masking tape and a camera, besides pre-printed lists of characters. Masking tape was used for marking the stems collected for the herbarium. Using pen and paper is more flexible than a computer for outdoor work.

Each plant was photographed according to a specified list of different characters. It was important to follow the list carefully. Based on experience, these characters were chosen to give a comprehensive representation of the plant:

1. Whole plant viewed from side
2. Whole plant viewed from top
3. Sheaths at stem base
4. Leaf edge, shape and colour
5. Indumentum on leaves, upper and lower side

6. Indumentum on stems, upper and lower parts and petiole
7. Bud shape and indumentum on sepals
8. Flower viewed from side, top and at an angle
9. Carpels shape and indumentum
10. Flower centre with carpels, stamens and disk
11. Stem with leaves and flower, in a vase or lying on the ground

To get a good image of the flower centre with carpels, stamens and disk, pull off petals until these details are visible. The photo of one stem in a vase or lying on the ground will show if the stem is straight or bent, and at which angle the stem holds the leaves.

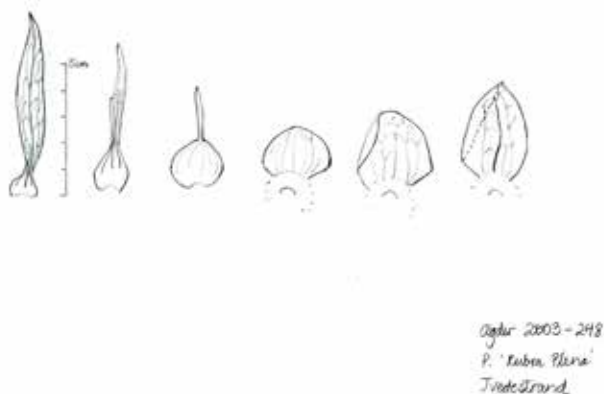
Describing each plant is time-consuming, so six plants a day is maximum. It is efficient and time saving to do the documentation and the photographing simultaneously, as you are already focused on important details. If possible, return the next day. Questions may come up after work, and you will need to check details. Interviewing responsible staff members such as gardeners and botanists will provide you with information about things you cannot observe at flowering time.

Making a herbarium

The last task during fieldwork is to select plant parts for pressing. I picked the tallest stems, as they usually show all the important details. Two to four stems are sufficient. Glass bottles filled with water kept them fresh until pressing. A beer case or a large bag with straight sides and hard bottom kept the bottles safe during transportation. If the plant was in bud at fieldwork time, it would flower after a few days in a bottle, and further investigations could be carried out.

Pressing whole stems with flower and leaves makes no sense for peonies. The result will not give any useful information. I cut the plant into different parts before pressing. I made sure to press the lowermost leaf, because in peonies, the shape and number of segments of lower leaves are important characters. For more information, the middle and top leaves were pressed as well. One of them was turned with the backside up, to show indumentum on both leaf sides. The leaves should be spread as much as possible. This will make it easier to count leaf segments later.

Sepals and involucre bracts series are most useful. If freehand drawing is difficult, cut off the segments with a sharp knife, place them on paper, and draw the outline. The best time to do this is after a few days in the herbarium press, when the parts are flattened, but still not



■ Fig. 3. Bracts-sepals series of *Paeonia mollis*. Tromsøpion. (Mari Marstein, drawing, 2018, MIA).

dry. Shape and scale will both be correct, and no particular drawing skills are necessary.

There is a gradual transition between bracts and sepals. Hong defines involucre bracts as structures where the upper part is wider than the lower part and sepals as structures where the lower part is widest (Hong, 2010, p. 39). Involucre bracts can be difficult to separate from leaves, but if they grow less than 3 mm from the sepals, I define them as bracts, not leaves.

I normally press whole flowers, but double flowering plants give more information if petals, carpels and stamens are pressed separately. Envelope the plant parts in a folded sheet of tissue paper before pressing. Write clone archive name, registration number and to which stem the parts belong. If several stems are collected from one plant, I refer to them as stem 1, stem 2, and so on. Further information might be the species if you know it, collecting date, and garden of origin. This sheet will follow the plant through the whole pressing process, until mounting.

I usually press the plants in between newspapers. It is easy to come by. During the first few days, you must change papers at least three times a day to prevent moulding and discolouring. For mounting, you might need several herbarium sheets per specimen. Arrange petals in rows, from the inner ones to the outer ones. Do not use too many strips, because you might need to dismount some parts to look at the back. Every leaf must be marked with its position on the stem (e.g. lower leaf, middle leaf, top leaf).

Store all sheets belonging to one plant in one shared enveloping paper, carrying the same information as each separate sheet.

Compiling the morphological characters in charts

A table of the different characters will facilitate comparing the specimens to standard descriptions. I started out by filling in similar flowers into one common chart; one for the *officinalis* complex, one for the *anomala*-, *tenuifolia*- and *x hybrida*-complex, and one for the *x festiva*-group. I added a column for the closest true species for comparing. With all the information in charts, it is easier to compare and separate the different complexes.

There were some problems concerning the *tenuifolia*-complex. Further discussions with the project group will clarify how to treat the collected plants; as species or as hybrids of garden origin. *Paeonia mollis*, in Swedish "luddpion" and in Norwegian "Tromsø-pion", is difficult. It fits well into the *officinalis*-table, but it is probably of garden origin. The original description, published by Anderson (1818), differs in some respects from the plants we observe today. I am looking forward to discussing this plant with the project group.



■ Fig. 4. Herbarium sheet of *Paeonia* 'Nordic Paradox'. Pressing the petals of double flowers separately gives much more information than pressing the whole flower. (Photo: Mari Marstein, 2019, MIA).



■ Fig. 5. *Paeonia mollis*, Tromsøpion, growing in the Tromsø arctic-alpine botanical garden. (Photo: Mari Marstein, 2018, MiA).

Analysis and conclusions

What is a cultivar, a hybrid or a true species? This question turned out to be more difficult than expected. For peony species there is a wide range of natural diversity. Height, colouring, number of leaf segments, indumentum and many other characters may vary even within the same population, as Hong (2010) documents. However, regarding the plants in Norwegian clone archives, with a long history in cultivation, the question of what is a cultivar and what is a species is very hard to answer.

Is *Paeonia mollis* a species or a cultivar? What kind of name is correct, a botanical name or a cultivar name? Is the Nordic *Paeonia x hybrida* really a hybrid? Is it a clone of one of the wild forms? These, and similar questions will be discussed in the group. The Finnish project, due to finish in December 2021, will perform DNA-analyses that will hopefully clarify some of our questions.

Regarding the old cultivars ‘Rubra Plena’, ‘Rosea Plena’ and ‘Nordic Paradox’, there is no ambiguity. So far, there is no reason to believe there are morphological differences between specimens in the different Nordic regions.

Studies like this are necessary and important, because we learn to know the old species and cultivars better and distinguish old from new. Planting modern cultivars in period gardens is like putting modern windows into a restored building. In restoring gardens, we should be just as strict as the conservators are concerning old buildings: Period plants in period gardens.

Knowing the plants’ history gives us the opportunity to experience the time depth and distance they have travelled. However, to experience them in real life, we must grow them and propagate them. Old cultivars must grow in soil, on root, in a garden or in a clone archive where both the plants and their history are kept for the future.

The motto for the Norwegian work on genetic resources is a rewriting of Ibsen’s Brand: “Evig eies kun det delte” – eternally owned only the shared. Sharing is protecting, and in this way, by preserving them in clone archives, old peonies will be available for every reconstructed historic garden in the future.

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A Norwegian Painter and His Garden

Nikolai Astrup's Garden Astruptunet at Sandalstrand

Ingeborg S. Mellgren Mathiesen

Nikolai Astrup (1880 –1928) is one of Norway's most beloved artists, well known for his colourful paintings and woodcuts from Sandalstrand and the wild Jølstra landscape. At Lake Jølstra (Jølstravatnet) we find the artist's home Sandalstrand, better known as Astruptunet, where he and his wife Engel created a farm garden, which became the major motif in his art during the final phase of his life. The garden is now under evaluation and reconstruction.

Nikolai Astrup and the Jølster landscape

It is hard to find a more dramatic scenery than the one in Jølster, in Sogn and Fjordane on the western coast of Norway, with cultural landscape surrounded by mountains and glaciers. Therefore, it is easy to understand why Nikolai Astrup and his wife Engel acquired Sandalstrand in 1912 to use as a family home (Purchase contract 1912.09.19, City Archives, Bergen).

Nikolai Astrup was born in 1880 in Bremanger, but in 1882 the family moved to Ålhus in Jølster when his father was appointed as pastor. Astrup grew up in the old parsonage at Ålhus, situated on the northern side of Lake Jølstra. His childhood and youth at the parsonage, surrounded by the small parsonage garden, the local farmers and the traditional tales and myths, deeply influenced him as a person and an artist (Haugsbø, 2015). His childhood asthma was worsened by the damp climate in Jølster. This led to lifelong health problems and his premature death (Loge, 1986).

Being the oldest son, Nikolai Astrup was expected to follow in his father's footsteps, but instead he decided to become an artist (Loge, 1985). His professional training took place in Kristiania (Oslo), and also briefly in Germany and Paris, before he returned to Jølster in 1902 after a moment of revelation (Haugsbø, 2015) to the landscape and motives he loved and was familiar with. Nikolai Astrup became one of the leading exponents of Nordic Modernism (Stevens, 2017, pp. 187-193). Through the exhibition "Painting Norway" in London, Emden and Oslo (2016), he was reintroduced to an international public (Carey et.al. 2016).

The garden interpretation project

Jølster municipality acquired Sandalstrand in 1965, from Astrup's widow Engel, and it was opened as a museum in 1986. During the 30 years to follow, most of the plantings done by Nikolai Astrup disappeared, due to degradation of the structures and lack of maintenance. In 2015, the Sparebankstiftelsen DNB commissioned a garden interpretation project from my firm, Arkadia Landskap. The principal aim of the project was to provide a comprehensive account of the history, evolution, and current condition of Nikolai Astrup's farm garden at Sandalstrand, which he created between 1912 and 1928. The interpretation project also included the period following the death of Astrup in 1928, when the property was under the stewardship of Engel Astrup, his wife and partner in the project, who continued living there until she died in 1966.

The owner of the property, Jølster municipality, and its joint operator as a museum of the life and art of Nikolai Astrup, the Sogn og Fjordane Kunstmuseum, part of the Sogn og Fjordane Museum



■ Fig. 1. Astrup's landscape beneath snow-covered mountains. The picture is taken from the Jølster municipality property on the south east. From left: the new gallery, which was built in the 1980s, Kjøkkenstova, which was erected by Astrup (1913-1914), Gamlestova, which stood at Sandalstrand when the family bought the property in 1912, and Borgen, work on which commenced in 1918. In the foreground: the slope down to Astrup's fruit and berry terraces. (Photo: Arkadia Landskap, 2016)



■ Fig. 2. Map of Jølstravatnet and the Astrup property. Astrup's childhood home at Ålhus parsonage is situated at the northern side of the lake. (Illustration: Arkadia Landskap, 2016)

Foundation, have given their full support to the project. Together with the Sparebankstiftelsen DNB, Jølster municipality and the Sogn og Fjordane Museum Foundation wish to see Astruptunet appropriately restored and cared for in ways which will enable Astrup's achievement in his remarkable farm garden to be fully appreciated, understood, and enjoyed. The report has been used, among other things, for informing the development of the conservation proposals and restoration of Astruptunet.

The involvement of Arkadia Landskap

The garden interpretation project was commissioned by Arkadia Landskap, and during the following three years, a 240-page report was written (Mathiesen, 2016 and 2017). I was responsible for preparing the history of the farm garden (Mathiesen, 2016) for communication with the many key informants who supplied recollections of the property, and for briefing and managing the project team, who

made major inputs to the study. The team comprised botanist, arborists, paleo-botanists, map designers, surveyors, heritage architects and agrarian historians (Pötsch, Salvesen & Skoglund, 2016; AB Trepleie 2016; Halvorsen, Helvik & Overland, 2016; Jonsson, 2017; Leden et al 2016; Timberlid, 2016).

Arkadia Landskap surveyed the vegetation at Astruptunet, the Ålhus parsonage, and Jølster gardens of historical interest, carried out the search for traces of garden archaeology on the site and created a comprehensive photographic record of the current situation at Astruptunet during five site visits between spring 2015 and summer 2016. Guidelines for the care and management of Astruptunet were written in order to create the best conditions for the plant varieties now present in the farm garden. Consideration was also given to the importance of the properties adjoining Sandalstrand and the wider setting of Jølster's cultural landscape for the evolution and impact on Astrup's farm garden. Arkadia Landskap also created historical maps to reconstruct the situation from 1912 to present time.

A Liaison Group was formed to bring together the Jølster municipality, Sogn og Fjordane Museum Foundation, and Sparebankstiftelsen DNB in order to provide strategic progress of the Astruptunet project. A Scientific Group followed the scientific work and made comments to the findings and the report.

The creation of Astruptunet at Sandalstrand

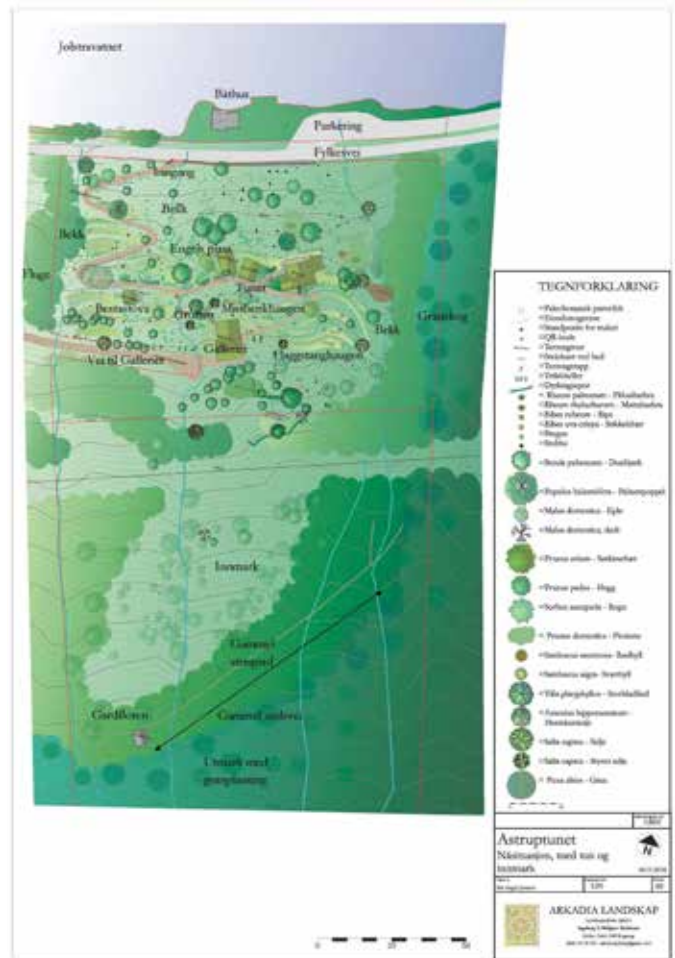
The old buildings at the former cottaer's farm at Sandalstrand were in bad shape when the Astrup family moved to the place in 1912. Nikolai Astrup immediately started to improve the housing conditions and the entrance pathway to the farmyard.

During the following years Astrup designed the farm garden as part of his work towards creating a self-sufficient farm at Sandalstrand. He was working hard to improve the farming conditions on the steep slopes, especially with distinctive growing terraces and green turf walls. Whereas stonewalls were the traditional way of supporting growing terraces in Western Norway, Nikolai Astrup chose to manage the terrain in a different, but more dynamic and organic way, using turf walls and terraces. On the terraces he planted rhubarb, berries and fruit trees. The less steep growing terraces were used as vegetable and potato plots. In the farmyard he and Engel Astrup created flower borders where poisonous plants were standing next to perennials and flowering shrubs.

Astrup established a farm garden with a high ornamental value, in which the plants were mostly of the edible kind. In Astrup's letters to Isabella Høst, Astrup's devotee and unofficial dealer, he described Sandalstrand as "the blessed farm" (Astrup, February 1913) and called himself a "farmer" (Astrup, Martz 1913) and "land worker" (Astrup, September-October 1914). The quotations in his letters and his description of the harsh life (Astrup, July 1917 and April 1919) indicates that he had a more practical than romantic attitude to life at Sandalstrand, as well as to the landscape design and horticultural practice. He was fighting a constant battle against landslide and erosion and his kale and vegetables were being eaten by his neighbour's sheep (Astrup, July 1917). More than once Astrup expressed in letters a wish to give up his farming and move (Astrup, July 1917).

Nevertheless, there can be little doubt that his artistic mind and skills were combined with horticultural traditions from Jølster and inspiration from his journeys when he created the farm garden, even if this was not expressed in his letters. Astrup's project at Sandalstrand is striking for its ambition and for the complexity of its constituent elements. He was a man of poor means, but he spent most of his income on his farm garden and building projects. The modelling of the steep slopes and the large variety of species in the farm garden, makes it a rare bird in Norwegian garden architecture. It was

ASTRUPTUNET 1. MAIN FEATURES OF ASTRUPTUNET TODAY



Arkadia

■ Fig. 3. Astruptunet, general situation 2016. (Illustration: Arkadia Landskap)



■ Fig. 4. In early spring, it is evident how Astrup transformed the landscape into growing terraces with green, vertical turf walls alongside the entrance pathway. The red barn and yellow house are situated on the adjoining property. (Photo: Arkadia Landskap, 2015)

little romance in his descriptions of making the garden, but in 1923, after a journey to Northern Africa, he compares his garden at Sandalstrand with the terraced gardens of Algeria (Astrup, July 1917).

Sandalstrand was a combination of a subsistence farm, from which Astrup fed his family using traditional methods of animal husbandry and cultivation, and a garden in which wild vegetation, fruit trees and vegetables played an ornamental role. In Nikolai Astrup's farm garden it involved a manic, experimental and eclectic approach to plant-collecting and hybridization, and a distinctive

emphasis on the display of individual plant specimens in creative combinations. This was quite unusual in this part of Norway and in Jølster, but more common in the eastern part of Norway and Sweden (Skille, 2003; Bladh et al. 2017; Don et al. 2015; Eliasson, 2016; Fell, 1991; Gunarsson, 2017; Holmes, 2002). The farm garden was also imbued with deeper layers of associational and ecological meanings, incorporating a vision of Jølster (Mathiesen, 2017, p. 107). a role as a safe haven for locally endangered plants, and reflecting the scenes of his childhood (Mathiesen, 2017). The farm garden was completed around 1925, when the principal features had been established. That was also when the painting studio was added to his newly constructed home, Borgen (Mathiesen, 2017).

The plant use and Astrup's plant list

Astrup's plant combinations, whereby ornamental, productive, medicine plants and wild plants were all of seemingly equal value, his link between farming practice and gardening, and the respect for tradition and engagement with horticultural experiments, were his contributions to the art of gardening. Borders filled with large leaved herbaceous plants such as rhubarb (*Rheum rhabarbarum*), Chinese rhubarb (*Rheum palmatum*), giant butterbur (*Petasites japonicum*) and giant hogweed (*Heracleum mantegazzianum*) in combination with the bird cherries (*Prunus padus*) and the fragile fruit trees in bloom, became his personal touch to the farm garden as well as

his art. Astrup experimented with all kind of plants, and in 1918 he had 10 varieties of rhubarb in the garden. He planted more than 71 varieties of fruit trees and more than 48 different varieties of berries (Mathiesen, 2017).

Interest in Astrup's unconventional farm gardening and his mounting recognition as an artist led to a constant stream of visitors who wanted to experience the place. His friend Kinck, author, and the painter Ravensburg, expressed their enthusiasm after a visit in 1922. "Astrup, this strange man has animated the entire place, built the houses, pollinated and crossed the plants, built up the turf mounds, battled the fierce forces of nature, built stone grottos and terraces. He alternates here as a carpenter, farmer and nature-loving and cultural person. Kinck and I are perpetually bewildered. Just think that something so original and oddly individual can be found in our collective and standardized day and age. How remarkable that this place is located just a short journey away from Balestrand, that German toadstool [...]" (Gløersen, 1958, 84–86).

The discovery of Astrup's plant list (Astrup, 1911–1913) was of major significance for the garden interpretation project. It provided a deeper insight into Astrup's planning of the farm garden and his interest in plant varieties. Astrup's notebook entry contains a large number of varieties of different plants, predominantly varieties of fruit trees, berries and vegetables, but also perennials, shrubs and trees. These are the plants most often seen in Astrup's art

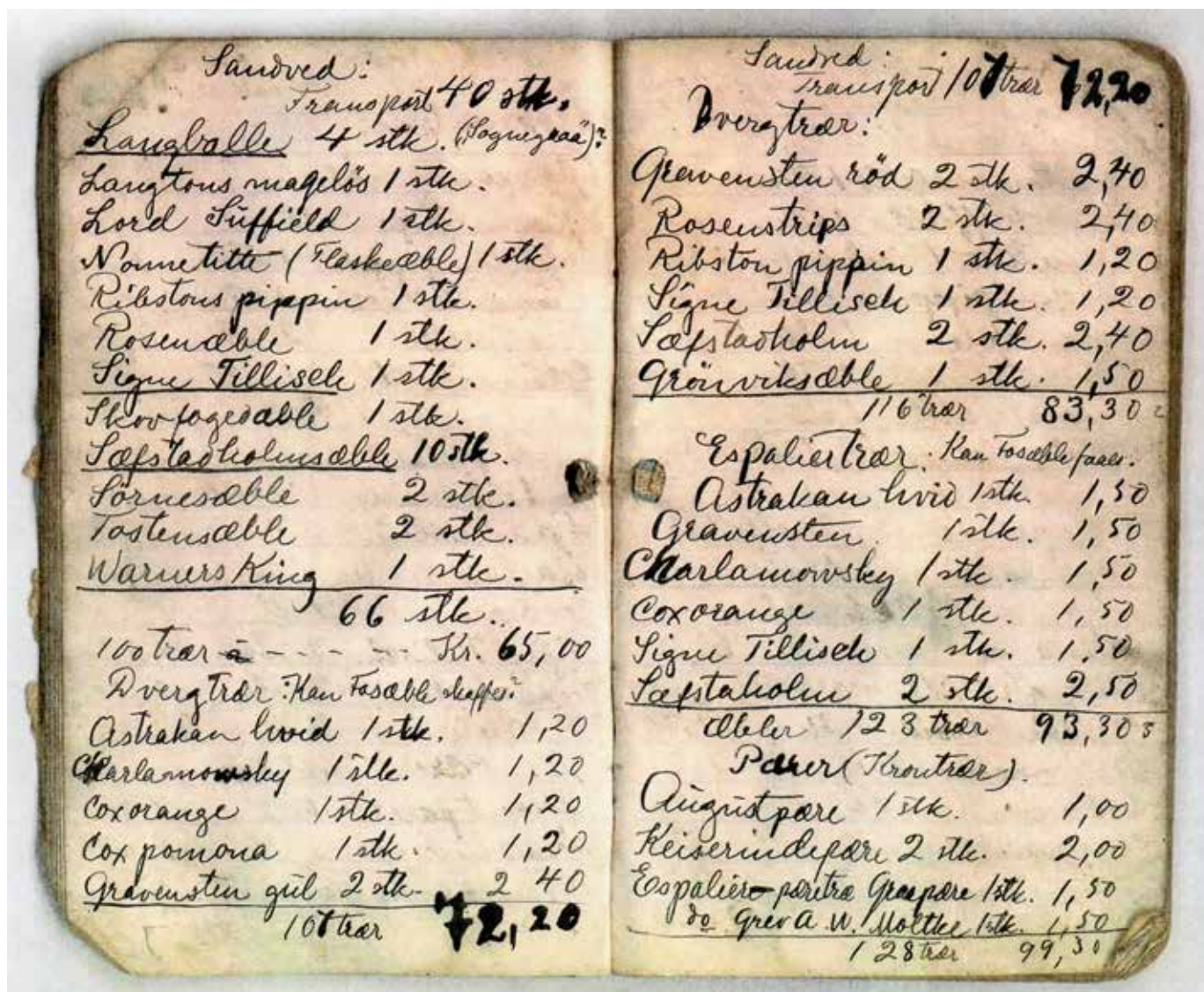


Fig. 5. Nikolai Astrup's notebook with plantlist, ca 1911–1913. (Private collection)

Astruptunet today and its significance

The importance of Astrup's garden is both a matter of a contribution to Norwegian garden history and to the international context of gardens made by artists, for example those by Monet and Liebermann. Whereas those mainly were gardens with a large variety of ornamental plants, designed sceneries and garden schemes, Astrup's project at Sandalstrand was a non-formal farm garden where the terrain was transformed to give suitable growing areas for a large variety of edible plants and vegetables, a source for the family's subsistence farming. Another Nordic example of this is Carl Larsson's Lilla Hyttnäs/Sundborn in Sweden.

The other distinguishing feature is that Sandalstrand became the major motif in Astrup's art. The property thereby gains increased significance with the understanding of his artistic practice. From this perspective, Astruptunet can be compared with the gardens of Larsson, Liebermann, Nolde, Caillebotte and Monet, who also constructed gardens to be the source of motifs and ideas in their art. (Stevens, 2017, 187-193). But, despite the range of influences available, from Jølster gardens, from his childhood at the parsonage and from his travelling's in Europe and Northern Africa, Astrup put his personal taste and personality into the farm garden at Sandalstrand and made it very much his own (Mathiesen, 2017).

The framework of the farm garden as created by Astrup can still be observed today. The result of the vast labour which shaped the steep terrain still remains in place, despite the degradation of some of the structures. However, it is notable that the farm garden lacks entirely what people think of as Astrup plants, not the least the different rhubarbs and the extensive displays of fruit trees and berries, which can be seen in his Sandalstrand paintings.

The view from Astruptunet towards the Jølster landscape with the lake, the mountains and the Ålhus parsonage, which was important for Astrup, is not visible today. However, with a continuous work on the reconstruction of the garden and traditional maintenance of the surrounding cultural landscape, Astruptunet could be experienced with some of the greatness that once was.

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Historiska substrat för plantuppdragning

Ett jämförande odlingsförsök med recept från 1912

Catarina Sjöberg

Artiklar

Inom det hantverksinriktade utbildningsprogrammet Trädgårdens och landskapsvårdens hantverk vid Institutionen för kulturvård, Göteborgs universitet, arbetar studenterna med att undersöka traditionella hantverksmetoder inom trädgårdens och landskapsvårdens fält. Dessa metoder kan ha betydelse för bevarandet av det gröna kulturarvet och för ett framtida hållbart brukande av naturresurser. Ett exempel på en sådan undersökning, ett jämförande odlingsförsök med plantuppdragning i egentillverkade substratblandningar, presenteras här.

Inledande ord

Under våren 2018 genomförde undertecknad ett jämförande odlingsförsök med plantuppdragning i egentillverkade substratblandningar vid Institutionen för kulturvård, Göteborgs universitet. Odlingsförsöket syftade till att provodla och utvärdera två substratblandningar för plantuppdragning inspirerade av recept nedtecknade av trädgårdsmästare Nils Welanders (1887-1980), yrkesverksam i Stockholmstrakten under första halvan av 1900-talet. Dessa substratblandningar jämfördes med inköpt planteringsjord, bland annat med avseende på substratens hanterbarhet och funktion, plantornas utveckling, ogräsförekomst och växtnäringssinnehåll. Målsättningen med försöket var att bygga upp en infrastruktur för egen substrattillverkning i institutionens trädgårdsmästeri samt att utveckla en matris för sammanställning av egenskaper hos egentillverkade substrat. Med hjälp av dessa försök öppnas även möjligheten till fortsatta substratförsök inom ramen för utbildningsprogrammet. Projektet finansierades delvis av Hantverkslaboratoriet.

Kunskapen om odlingssubstrat

Trädgårdsmästarens yrkesroll och arbetsförutsättningar har genomgått en del genomgripande förändringar under det senaste seklet. Detta gäller i hög grad även de material trädgårdsmästaren arbetar med, till exempel odlingssubstrat. Långt in på 1900-talet blandade trädgårdsmästare sina egna substrat. Ändrade förutsättningar för tillverkning och distribution har gjort att både ingredienslistan och hantverkskunskapen om substratblandning hos den enskilda trädgårdsmästaren ser annorlunda ut idag jämfört med fram till 1900-talets mitt. (Olausson, 2014, ss. 175, 181). Idag har odlare tillgång till färdiga substratblandningar på påse som tillverkats av specialiserade företag. Från att ha varit en självklar del av trädgårdsmästarens kunskapsfält, så är tillverkning av odlingssubstrat idag en hantverkskunskap som få ägnar sig åt (Löfkvist, 2019, s. 11).

Nils Welanders Kulturbeskrivningar

Substratblandningarna som gjordes i odlingsförsöket utgick ifrån trädgårdsmästare Nils Welanders recept som finns bevarade i en anteckningsbok med titeln Kulturbeskrivningar, daterad 1912. Det är genom Inger Olausson, vars avhandling *En blomstrandande marknad: handelsträdgårdar i Sverige 1900-1950 med fyra fallstudier i Stockholms län* (2014) bland annat tar upp den handelsträdgård som Nils Welanders med familj drev, som jag har fått tillgång till denna anteckningsbok i original. När Welanders gjorde sina anteckningar hade han anställning vid Stockholms stads planteringar, och innan dess hade han praktiserat i olika slotts- och herrgårdsträdgårdar i Sverige, samt några år i Tyskland (Olausson, 2014, s. 127). I anteckningsboken nedtecknades olika substratblandningar avsedda för sådd och omskolning av förkultiverade växter, det vill säga växter som såddes tidigt inomhus i olika kärl, för senare utplantering. De växter som beskrevs var framförallt prydnadsväxter, till exempel lövkoja, två olika primulor, pelargon, luktvärt och krysantemum men även nyttoväxter som kronärtskocka, jordgubbar, kål och vin. De 30 kulturerna i anteckningsboken såddes och skolades om i individuella substratblandningar vilket sammantaget gav ca 70 unika blandningar, baserade på 10 basingredienser.

De vanligaste basingredienserna i Welanders substrat för sådd och sticklingar var i fallande ordning (enligt hans egna benämningar): lövjord, sand, markjord, landjord, bänkjord och torvmull. En typisk blandning till sådd och sticklingar bestod av sand, lövjord och markjord eller bänkjord i varierande proportioner. Viktiga basingredienser i blandningarna för omskolningar i kruka eller lådor, vilket man idag skulle beteckna plantjord, var i fallande ordning; kompost, markjord, lövjord, bänkjord, landjord, sand, torv och kogödsel. Plantjorden tillsattes växtnäring i form av någon av ett tiotal olika handelsprodukter, eller benmjöl, hornmjöl, latrin eller hönsgödsel.

Substratblandningarna i Welanders kulturbeskrivningar var mycket varierande. Ingen egentlig basblandning framträder, men vissa ingredienser var typiska för så- respektive planteringsjord. Det går att utläsa en generell tendens i Welanders blandningar som är begriplig utifrån dagens förståelse, där substrat avsedda för sådd och sticklingsförökning var näringsfattiga medan de som användes

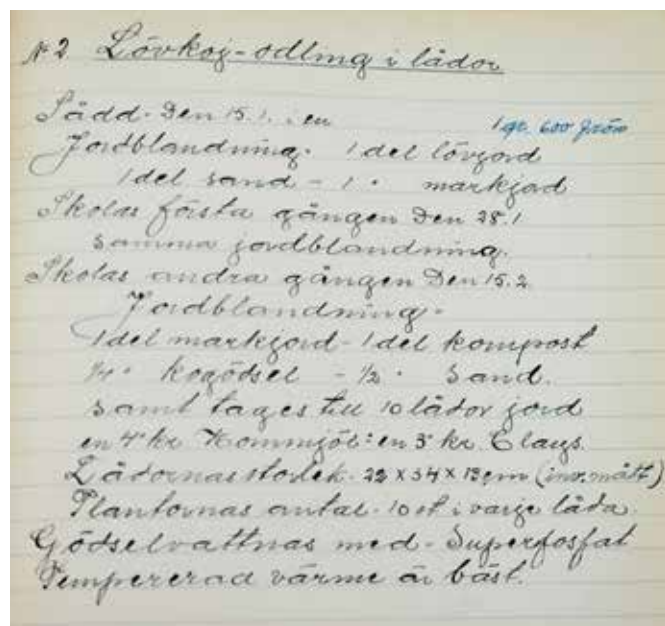


Fig. 1: Lövkojodling i lådor, en av kulturbeskrivningarna i Nils Welanders handskrivna anteckningsbok, 1912. (Foto: Inger Olausson, 2011)

till första och andra omskolningen innehöll mer näringsrika ingredienser. Detta motsvarar hur odlingssubstrat är uppbyggda för sådder och sticklingar respektive omskolning idag.

Metodbeskrivning av odlingsförsöken

Odlingsförsöken genomfördes under våren 2018, med början i mitten av april och avslut med utplantering i mitten av juni. Två olika substratblandningar tillverkades (här kallade substrat 1 och substrat 2) med Welanders anteckningar som utgångspunkt. Innehållet i blandning 1 (se Fig. 2) utgick ifrån Welanders recept för andra skolningen (omplanteringen) av sticklingsförökad "Calceolaria rugosa" i kruka. Det var en enkel blandning med lika delar av tre ingredienser som hörde till de mest använda i Welanders Kulturbeskrivningar. Eftersom de gödselmedel Welanders använde inte finns i handeln idag ersattes dessa med brunnen kogödsel. För blandning 2 var utgångspunkten att pröva en helt organiskt blandning av egna material och lokala restprodukter. Ett tredje substrat i form av inköpt plantjord fanns också med i försöket, som jämförelse.

Substrat 1

- 1 del markjord
- 1 del trädgårdskompost
- 1 del lövmull
- 1/2 del kogödsel

Substrat 2

- 1 del lövmull
- 1 del barkmull
- 1 del kogödsel

Substrat 3

Inköpt torvbaserad plantjord (Hasselfors E-jord)

I dessa tre substrat skolades 35 plantor vardera av sallat respektive vitkål, som breadsatts i sålådor 15 dagar tidigare (se Fig. 3). Odlingskärnen var 7x7x6 cm fyrkantiga plastkrukor som används mycket i trädgårdsutbildningens plantuppdragning. Ingen ytterligare växtnäring tillfördes under förkultiveringstiden. Substraten jämfördes med avseende på hanterbarhet och funktion vid skolning, vikt, ogräsförekomst efter 20 dagar, plantornas utveckling under plantuppdragningen (25 dagar), rotsystemens utveckling samt hanterbarhet vid utplantering. Jordprover togs av samtliga substrat vid skolningstillfället och skickades på analys till Eurofins laboratorier i Kristianstad.

Resultat och analys

Substrat 3, den inköpta, torvbaserade plantjorden hade goda egenskaper vid skolning och skötsel. Egenskaper som var kännetecknande för denna skulle kunna benämnas elasticitet, formbarhet och mjukhet. Den vägde minst av de tre och var i princip helt fri från ogräs. Jordanalysen visade på väl balanserade proportioner mellan kväve, fosfor och kalium och vid tidpunkten för utplantering var plantorna välvuxna och friskt gröna.

Substrat 1 fungerade väl vid skolning och hade, tack vare innehållet av ler från markjorden, en viss klitrade förmåga som gjorde det hanterbart att arbeta med vid skolning och utplantering. På grund av innehållet av kompost och markjord innehöll substratet en betydande mängd ogräsfrö, men ogräsen kvävdes vid plantering och hann inte bli ett problem under den korta kulturtiden i kruka. Ett potentiellt större problem var att 35 krukor (ett brätte) med detta substrat vägde hela 2 kg mer än motsvarande antal med inköpt substrat. Plantorna var vid utplanteringen något mindre fro-

diga än kontrollplantorna, men fortfarande i tillräckligt gott skick för att utvecklas väl efter utplantering.

Substrat 2 fungerade som odlingssubstrat, men hade några nackdelar. Bland annat var blandningen smulig och saknade elasticitet vilket gjorde den svårare att arbeta med vid skolningen. Detta gjorde också att jordklumpen höll ihop sämre vid utplantering. Enstaka ogräs förekom men blev inte ett problem. Även detta substrat vägde mer än det inköpta substratet, men inte lika mycket som substrat 1. Plantorna var vid tidpunkten för utplantering klenare än i de båda andra blandningarna och visade tydliga tecken på näringsbrist med bleknande äldre blad, men var i tillräckligt gott skick för att planteras ut och utvecklas väl på friland.

Slutsatser och diskussion

De ur odlingssynpunkt viktigaste skillnaderna mellan substratblandningarna var strukturen vilken påverkade substratets egenskaper vid skolning, utplantering och skötsel. Substrat 1 och 2 krävde en annan teknik vid skolning och utplantering än det mer elastiska substrat 3. De visade sig också svåra att läsa av med avse-



■ Fig. 2: Ingredienser i substratblandning 1, baserad på Nils Welanders huvudingredienser. (Foto: Catarina Sjöberg, maj 2018)



■ Fig. 3: Dags för omskolning av småplantor i de tre substratblandningarna. (Foto: Catarina Sjöberg, maj 2018)



■ Fig. 4: 25 dagar efter skolning, den 14/6 2018. Substratblandningarna i nummerordning från vänster. (Foto: Catarina Sjöberg, 2018)

ende på bevattning vilket delvis kan bero på att andelen luftporer inte var lika hög som i substrat 3. Detta kan ha lett till viss syrebrist i krukorna. Växtnäringsinnehållet i substrat 1 och 2 var enligt jordanalysen ytterst obalanserat med mycket högt innehåll av exempelvis kalium och fosfor, medan nitratkvävenivån var mindre än hälften i jämförelse med den inköpta jorden (substrat 3). De snabba kulturer som odlades i försöken utvecklades trots näringsobalansen till plantor av godtagbar kvalitet för utplantering. Näringsstillförsel under plantupptragningen i form av flytande växtnäring hade möjligtvis påverkat plantornas utveckling i positiv riktning för substrat 1 och 2, eftersom kvävehalten i substraten var låga.

Skillnader i odlingsystemet mellan tidigt 1900-tal och idag ställer olika krav på odlingssubstratets egenskaper. Material och storlek på odlingskärl är ett exempel. Welander odlade sina plantor i trälådor och lerkrukor av olika storlekar. Även Sonesson beskriver i sin Handbok för trädgårdsodlare från 1930, odling i lerkrukor, men även förkultiveringsmetoder som bredsådd i varm- och kallbänk samt sådder i fat. Idag används plastkrukor eller helgjutna pluggbrätten av plast, ett ogenomsläppligt material som kan ha fungerat sämre med substratblandningarna i försöket.

En av svårigheterna när det gäller att tolka dessa hundra år gamla substratrecept är att veta hur ingredienserna Welander använde hade framställts, vad de bestod av och vilken kvalitet de hade. Welanders anteckningsbok avslöjar exempelvis inte vilka löv som ingick i lövjorden, om den hade tillförts något, skötts på något speciellt vis eller i vilket stadium av nedbrytning den användes. Skillnaden mellan begreppen markjord och landjord, som används i anteckningsboken, beskrivs inte heller. Jordarten på platsen påverkade givetvis substratblandningarnas egenskaper.

Avslutande ord

Detta försök kan betraktas som en förstudie och för att kunna dra några mer generella slutsatser behöver det upprepas. Det antyder

dock att vissa förkultiverade växter har en förmåga att utvecklas väl även i mycket obalanserade växtnäringsförhållanden.

Substrat och ingredienser kommer att utvecklas vidare, odlas och utvärderas med studenter i kommande kurser inom utbildningsprogrammet. En intressant utveckling av ämnet vore att också fånga upp och dokumentera de praktiska erfarenheterna av och kunskapen om substrattillverkning som fortfarande finns kvar hos dagens trädgårdsmästare. I en historisk trädgårdsanläggning där man vill lyfta det gröna kulturarvet som helhet, är det viktigt att visa på betydelsen av hantverket bakom det historiska växtmaterialet och trädgårdarna. Att tillverka eget odlingssubstrat är ett sätt att föra vidare en äldre kunskap och därmed vara en del av det levande kulturarv som trädgårdsmästaryrket utgör.

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Ett oväntat trädgårdshistoriskt källmaterial

Torkade blombuketter

Maria Flinck

I arkivet på Ökna herrgård, Floda socken i Södermanland, hittades två paket med torra växter och senare ytterligare en kartong. Innehållet antogs vara frön från trädgården, men visade sig vara torkade blombuketter. Det blev en omskakande upplevelse när vi sedan insåg att innehållet var minnen, sparade av en kvinna som förlorade alla sina tre barn i slutet av 1800-talet. Öknas arkiv är omfattande och i samband med generationsväxlingen i år skänktes hela arkivet till Sörmlands länsmuseum, som redan tidigare övertagit föremål och foton.

Familjen på Ökna

Ingeborg Bonde (1853–1927) gifte sig med Carl Gustaf Åkerhielm (1853–1903) som ägde Ökna herrgård. De fick tre barn, Knut (f. 1884) som dog tre år gammal, Jan-Carl (1882–1911) som dog av diabetes vid tjugonio års ålder och Helena (1886–1908), gift med Axel Cronhielm 1905. Helena dog efter att, förmodligen av misstag, ha tagit en överdos av sömnmedel. Hon efterlämnade dottern Maud (1906–1987) som mormodern uppfostrat på Ökna ända sedan hon var baby. Efter Jan-Carls död fick Maud ärva allt, men egendomen förvaltades av hennes mormor Ingeborg tills hon blev myndig 1927 (Bjelfvenstam, 2015).

Öppnandet av växtpaketet

Familjemedlemmen Per Fröberg, kulturväxtnforskare Matti Leino (Stockholms universitet) och jag öppnade de första två paketen. Det tredje fyndet, den stora kartongen, öppnades av Per Fröberg, hans dotter Christina Fröberg och mig. Christina är trädgårdsmästare på Bergianska trädgården. Frösamlingar med namn på sort och datum är intressanta för forskning och DNA-analys. (Nygårds & Leino, 2013). När det gällde växterna från Ökna ställde vi oss frågan om paketens innehåll och påskriften kunde komplettera andra källor och ge ytterligare upplysningar om vad som odlades där i slutet av 1800-talet och början av 1900-talet.

De första två paketen var insvepta i näsdukar med broderade monogram: bokstäverna I respektive JCA (Ingeborg respektive Jan-Carl Åkerhielm). Inuti dem låg tätt packade kuvert och ihopvikta pappersomslag med torra blommor inuti. Växterna var platta men hade inte pressats. Den stora kartongen innehöll mindre askar och påsar, vilka i sin tur var fulla av hopvikta papper och kuvert med växter.

Vi öppnade inte de kuvert som var igenklistrade eller de ihopvikta omslag som var för sköra för att öppnas eller där växterna hade klistrat ihop sig. Vi kunde inte heller ta ut alla blommor eftersom de var så ömtåliga och låg ihoprasslade. Matti, Christina och jag lyckades ändå beskriva 98 olika växter och av dem identifiera drygt 80 arter, men en del hade bara stjälkarna kvar. Många omslag var daterade, en del med både årtal, dag, månad eller årstid angiven, samt namn på dem som givit blommorna till Ingeborg. Tidsspannet var 1885–1925. På några angavs att innehållet var från stan (Stockholm), eller var skickat från andra orter, men de flesta blommor verkar vara plockade på Ökna.

I paketen låg även annat som Ingeborg hade sparat: julklappsrim, teckningar, näsdukar, brev och anteckningar av Jan-Carl,



■ Fig. 1. Två näsdukar virade om en mängd små paket med torkade blommor (Foto: Matti Leino, 2019).

näsdukar, glasögon och handarbeten av Helena, hårlockar och ett brev från Maud samt en sticka Maud hade fått i huvudet, som doktorn tillkallades för att ta ut. Vi försökte lägga tillbaka allt i sina omslag men en del smulades sönder. För framtida forskare finns de öppnade kuverten kvar, samt de buketter vi tittade på utan att röra blommorna. Paketen lämnades vidare till Sörmlands museum för att ingå i arkivsamlingen från Ökna.

Torkade växter som minnen

De sparade växterna var kopplade till händelser och personer och kom från buketter och bordsdekorationer vid födelsedagar eller andra högtider. Många buketter hade Maud plockat som barn. Andra var gjorda av trädgårdsmästaren på Ökna och dessa innehöll blommor från både växthus och friland. Ett fåtal bundna buketter var köpta. Ett av de äldsta omslagen hade påskriften ”Grönt hvarmed Knuts sista bädd här hemma varit klädd.” Knut var den treåriga sonen som dog 1888. Det gröna bestod av lövkoja (*Matthiola incana*), myrten (*Myrtus communis*) och kvistar av tuja (*Thuja occidentalis*). Vid denna tid låg de döda kvar i hemmet till begravningen och bädden pryddes med städsegröna välluktande växter (Hagberg, 1937).

Den senast daterade blomman var ”Sommarens sista ros” som Ingeborg fick av Maud i oktober 1925. Det var en liten halvdubbel, troligen röd ros. Vid den tiden fanns ’Rödhätte’, den första floribundarosen, i Öknas trädgård (*Rosa Floribunda*-gruppen). Den torkade rosen kan ha varit ett exemplar av den.

Familjen hade traditionen att klä ett bord med blommor vid namnsdagar, födelsedagar och till andra högtider. Mauds dotter Birgitta Fröberg har berättat att när hon var barn brukade de plocka och lägga blommor på bordet runt festföremålets tallrik

eller kaffekopp vid födelsedagar (muntl. Birgitta Fröberg, 2019-08-10). Ingeborg hade både födelsedag och namnsdag i slutet av maj och ett år pryddes hennes bord med rosa tulpaner (*Tulipa gesneriana*), narcisser (*Narcissus* sp.), med dubbla blommor respektive med liten krona, samt förgätmigej (*Myosotis* sp.). Vid Mauds födelsedag 11 mars 1912 pryddes bordet av buxbom (*Buxus sempervirens*) och tulpaner, men 1915 var det påskliljor (*Narcissus pseudonarcissus*). Ett år dekorerade Maud Jan-Carls säng med rosor (*Rosa* sp.) på hans födelsedag 27 juni.

Mauds buketter

Maud gav många små buketter till sin mormor Ingeborg åren 1909–1915 då hon var mellan tre och nio år gammal. De bodde på Ökna och Maud undervisades av en guvernant, men ibland besökte de Stockholm och andra platser, även utomlands (Bjelfvenstam 2015, s. 190–232). De första buketterna är daterade våren 1909 och plockade i Stockholm: en bukettt av vårlök (*Gagea lutea*) och en blåsippa (*Hepatica nobilis*), en annan av vitsippa (*Anemone nemorosa*), blåsippa och hästhov (*Tussilago farfara*). Dessa blommor kan hon ha plockat vid en promenad i en park. Året efter plockade Maud små penséer (*Viola x wittrockiana*) på hösten. Därefter ökar antalet buketter och blommorna i dem fram till 1915, sedan blir de mer sällsynta. Några av de sista ligger i ett kuvert med påskriften ”En ’kattfots’ bukettt, som jag fått av Maudie. 1923” (*Antennaria dioica*). Ibland innehöll omslagen bara en syrenblomma (*Syringa vulgaris*), några gräsax eller höstfärgade vildvinsblad (*Parthenocissus quinquefolia*). Annars verkar Ingeborg ha samlat ihop blommor från olika buketter hon fått under sommaren och packat in tillsammans.

Många av blommorna Maud plockade består av en blandning av vilda ängsblommor, åkerogräs och trädgårdsblommor. Men ibland verkar de komma ifrån trädgårdsmästarens odlingar t.ex. adiantum (*Adiantum capillus-veneris*), azalea (*Rhododendron* sp.), lejongap, luktärt (*Lathyrus odoratus*), lövkoja, nejlikor av olika slag, penséer (*Viola x wittrockiana*), luktreseda (*Reseda odorata*), samt narcisser och tulpaner av olika slag. Trädgårdsmästare under perioden 1903–1941 var Axel Jansson, som var skicklig i blomsterarrangemang (Bjelfvenstam, 2015, s. 211–214; Olausson, 2016). I en 90 cm lång ask låg minst 23 sommarastrar (*Callistephus chinensis*), både dubbla och enkla, tillsammans med violer (*Viola* sp.), kattfot, lejongap (*Antirrhinum majus*) och nejlikor (*Dianthus* sp.). Påskriften var ”Blommor jag fått af lilla Maud 1911–1912”. Blommorna var så tätt packade att vi inte vågade ta ut dem.

På Ökna odlades rosor, krysantemum och orkidéer (*Paphiopedilum* sp., venussko) i växthus för försäljning till blomsteraffärer. På friland odlades liljekonvaljer att säljas som groddar till drivning (*Svenska trädgårdar*, 1939 s. 461f). Inga av dessa blommor fanns i paketet.

I trädgårdens östra del, bakom en häck, odlades snittblommor, lökväxter, kryddväxter och grönsaker år 1941. Det var en del av trädgården där även ett litet barn skulle kunna komma åt att plocka blommor. Antagligen fanns planteringarna där redan när Maud var liten eftersom hon som vuxen inte ändrade något i den trädgård hon vuxit upp i, enligt dottern Birgitta.

Köpta buketter

Ett par små buketter med luktvioler (*Viola odorata*) omknutna med bast eller tråd kan vara köpta. Det var även vanligt att syrener drevs för att säljas i kruka eller som snittblommor under vintern vid denna tid. Ingeborg antecknade att de hade syrener i salen i januari, vilket innebär att de antingen var uppdrivna på Ökna eller köpta.



■ Fig. 2. ”Grönt hvarmed Knuts sista bädd här hemma varit klädd.” 1888 (Foto: Per Fröberg, 2019).



■ Fig. 3. ”Af Lillan på mina namnsdagsbord d. 26e & 28e Maj 1912” (Foto: Matti Leino, 2019).



■ Fig. 4. Elegant tvålask tätt fylld med blommor, överst: aster, eternell och påsklilja. (Foto: Per Fröberg, 2019)

En köpt bukett invirad i grönt silkespapper med lack av silver hade en lapp med texten: ”Några blommor jag fick av Elof d 10.1.1925”. Mauds fästman hette Elof Grill. Buketten bestod av fyra rosa nejlikor och stjälken av en växt som förmodligen är fjädersparris (*Asparagus plumosus*). En löst bunden bukett av storblommiga, långstjälkade nejlikor med lite grönt (fjädersparris eller *adiantum*) var nytt och modernt på 1920-talet (Ekman, 1934, s. 35–37).

Övriga växter i samlingen

Bland alla blommor finns också kvistar av hägg, lager och en vårblommare *Prunus*. I en strut fanns torkade smultron, i en annan låg en klase svarta bär, kanske vildvin. Jan-Carl skickade en mandarin från Monte Carlo i april 1912 och Ingeborg sparade Ingeborg skalen i ett ljusblått kuvert.

I den stora kartongen låg en tjockt bunden myrtenkrona och en tunt bunden myrtenkrans tillsammans med en brudslöja av styv, vit tyll, men utan uppgifter om vilka som har använt dem. Myrtenkronor och brudbuketter torkades ofta för att bevaras under 1800-talet och det tidiga 1900-talet (Ekman 1934, s. 30). I botten av kartongen låg fyra påsar av grovt brunt papper daterade 1885. Två innehöll torkade lindblommor, en torkade kamomillblommor och den sista ”Tvättad Islands moss” (islandslav). Torkade växtdelar som dessa köptes ända fram till 2:a världskrigets slut av apoteken, att användas till mediciner (Bergmark, 1981, s. 20–23). Varför dessa paket blev liggande i arkivet finns inga uppgifter om.

Tre historiska växtlistor för Ökna

Det finns två äldre växtlistor från Ökna. Den första är de växter jag har identifierat på Carl Gustaf Åkerhielms foton från 1880–1903 samt på foton från Mauds första tid som ägare från 1928 och några år framåt. Förmodligen togs de av hennes man Elof Grill som var intresserad av fotografi. Listan innehåller även av tolkningar av några växter på foton från Sörmlands museums respektive Nordiska museets samlingar. Den andra växtlistan utgörs av de växter Carl G. Dahl identifierade i samband med Arkitekturminnesförningens trädgårdsinventering 1927 (Dahl, 1929, s. 146–147).

Den nya listan, innehåller beskrivningar av 98 olika växter vi har identifierat från perioden 1885–1925, varav 80 av dem är artbestämda. Listan sorterades först med krukväxter för sig och därefter resten av växterna efter blomningstid. De flesta blommade på våren (37) och sommaren (46). Sedan jämfördes de tre växtlistorna. Av det fåtal som blommade på hösten, eller var städsegröna eller krukväxter, så fanns fler än hälften även på foton och i Dahls lista. Av de sommarblommare fanns knappt hälften även på de andra växtlistorna, medan bara fem vårblommor nämns i andra källor. Fotograferna var mest aktiva under högsommaren, med undantag för några bilder av trädgården i snö. Att döma av urvalet i Dahls lista var han där i juli-augusti. Bara få vårblommor finns i de andra källorna. Den stora vinsten i undersökningen av paketen med torkade växter ligger i den rikare bild som fås av vårblommningen på Ökna.

I paketen fanns både vilda och odlade vårblommor. De vilda kan ha vuxit i parken eller utanför tomten i vägrenar, beteshagar och skogar. De var blåsippa, vitsippa, vårlök, hästhov, gullviva (*Primula veris*), liljekonvalj (*Convallaria majalis*), hundkäx (*Anthriscus sylvestris*), smörblomma (*Ranunculus acris*) och styvmorsviol (*Viola tricolor*). De odlade växterna har förmodligen stått i trädgårdens rabatter men kan även ha odlats i bäddar, i växthus till snitt eller som krukväxter. Dessa var snödroppe (*Galanthus nivalis*), krokus (*Crocus* sp.), hyacint (*Hyacinthus orientalis*), luktviol, rysk blåstjärna (*Scilla siberica*), narcisser av olika slag (enkla, dubbla, små- och storkroniga), tulpaner i olika färger men ganska

små och spåda, syren och en primula med mörka blommor. Tusensköna (*Bellis perennis*), förgätmigej och maskros (*Taraxacum* sp.) har förmodligen funnits i trädgården.

De växter på listorna som fortfarande finns kvar i Öknas trädgård (juni 2018) är syren, pimpinellrosor vit respektive rosa (*Rosa Spinossissima*-gruppen), lind (*Tilia* sp.) och gran (*Picea abies*), samt gullviva, akleja (*Aquilegia vulgaris*), vildvin, prästkrage (*Leucanthemum vulgare*), smultron (*Fragaria* sp), hundkäx, förgätmigej, röllika (*Achillea millefolium*), smörblomma och maskros. Vid Sörmlands museums inventering 1994 växte där även tuja och borstnejlika (*Dianthus barbatus*).

Avslutande ord

Ingeborg Åkerhielms växtsamling från Ökna är omfattande och varierad. Den kompletteras av annat arkivmaterial, vilket gör att den har stor betydelse för förståelsen av innehåll och användning av trädgården på Ökna, kanske också för herrgårdsträdgårdar i Mellansverige generellt under samma tidsperiod.

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Fotosamlingen: Ökna, Floda socken, glasplåtar foto Carl Gustaf Åkerhielm; mjuka negativ uu trol 1920–30-tal.

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Gardens and Textile History

Horticulture and Textile Production from a Nordic Perspective

Git Skoglund & Anna Andréasson Sjögren

August 28–30, 2019 about 60 participants gathered for a three-day seminar at the Pufendorf Institute and the Botanical Garden in Lund, Sweden, to explore the relationships between historic horticulture and textile production. The seminar was arranged by the research network 'Nordiskt nätverk för Trädgårdens Arkeologi och Arkeobotanik' (NTAA, The Nordic Network for the Archaeology and Archaeobotany of Gardening) in collaboration with 'Svenska vävskademin' (The Swedish Weaving Academy) and financially supported by 'Nämnden för Hemslöjdsfrågor' (The National Swedish Handicraft Council).

The focus of the seminar was to present and discuss new research that, in recent years, has begun to change previous views on prehistoric and medieval textile production. For example, plants like hemp (*Cannabis sativa*), nettle (*Urtica dioica*) and hops (*Humulus lupulus*) seem to have been more important as raw materials for textile production than previously thought, and the cultivation of these plants within households often seems to have been more in the form of small-scale horticulture than large scale farming, or agriculture.

The purpose and objective of the seminar was to open an interdisciplinary dialogue at the intersection of garden history and textile manufacturing. Invited speakers were researchers working with plant remains and plant textiles, mainly in a Nordic setting, but at the same time representing a wide variety of disciplines and viewpoints.

The seminar started in the afternoon of the first day, with a tour of the garden environments of the open-air museum Kulturen, guided by historical archaeologist Aja Guldåker (Kulturen). The second day we gathered at the Pufendorf Institute for a day of talks and discussions. The first speaker Git Skoglund (Textile historian, University of Gothenburg, Sweden) held an introduction focusing on the common grounds between textile and garden history, and the many ways in which collaboration may benefit research in both fields. Among other things the many differences in production and craft processes between commercial and household cultivation were highlighted.

The next speaker Amica Sundström (Textile archaeologist, The Swedish History Museum, Stockholm) gave an historical overview of prehistoric textile finds and preserved remains of plant fibers in Northern Europe. After that, Git Skoglund returned, to talk about the difficulties of distinguishing between the fibers of flax (*Linum usitatissimum*), hemp and hops when working with fine textiles, and possible ways to distinguish between the different raw materials that have been used when examining fabrics. She explained the importance of female and male plants, cultivation methods, and harvest times in determining the varying textile qualities that can be produced from hemp. Git also emphasized how, in some parts of the world, knowledge about traditional production can still be documented, which may be of great benefit to the textile manufacturing industry of today and can broaden the possible uses of hemp and other plant fibers.

The next speaker Jens Heimdahl (Archaeobotanist and Quaternary geologist, The Swedish History Museum, Stockholm), traced the cultivation and use of hemp in Swedish towns from 1000 to 1850 CE with an overview and interpretation of urban cultivation. Sabine Karg (Archaeobotanist, Freie Universität, Berlin) talked about plant fibers as raw materials for fabrics in the past, from a northern European perspective, including finds of flax seeds in prehistoric contexts. Per Arvid Åsen (Researcher, Natural History Museum and Botanical Garden at the University of Agder, Norway) presented an overview of finds of hemp, flax and nettle in Norway. He also gave an overview of the contexts where seeds, pollen and textile fragments have been discovered, ranging from archaeological excavations to fabrics found in medieval churches. After that, Jenni Suomala (Craft researcher, University of Helsinki, Finland) talked about nettle as a textile plant in Finland from the Neolithic until modern times, focusing on the sparse source material available, how that material can be analysed and what might be possible to do in the future, with continued research.

Krista Vajanto (Textile archaeologist and Laboratory coordinator at Nanomicroscopy Center, Aalto University, Finland) gave a talk about traditional plants which were used for dyeing textiles in Finland during the 18th century, both wild and semi-cultivated, and an overview from a Nordic perspective of the uses and loss of cultivation of dye plants. At the end of the day Marie Ekstedt-Bjersing (Textile historian and Teacher at the Institute of Handicrafts Sätergläntan, Sweden) talked about the development and importance of textile implements and looms for the production of plant fiber textiles, from the middle ages until modern times, and demonstrated how different fiber, yarn and textile qualities are produced by different methods, based on her own extensive research. The final talk was given by Tytti Juhola (PhD student, University of Helsinki) who presented new research results from a project focused on phytoliths, parasites, fibers and feathers found in dental calculus, recovered from the Iron Age Luistari cemetery in Finland.

The third day was enjoyed at the Botanical Garden in Lund, viewing the textile exhibition "Textile hemp and horticulture – a universal transformation" presented by Git Skoglund and Robert C. Clarke (ethnobotanist, USA). We were also guided amongst the textile plants grown in the garden, presented by Garden Director Bente Eriksen (Botanical Garden, Lund University, Lund).

For more info, see the website of NTAA: <http://archaeogarden.se/NTAA>

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■ Fig. 1. Traditional jacket from Japan, manually produced of hemp fibers. The picture represents the exhibition "Textile hemp and horticulture – a universal transformation" in the Botanical Garden, Lund, August 2019. (Photo: Murat Sene)



■ Fig. 2. Guiding by Robert C. Clarke in the Textile exhibition in the Botanical Garden, Lund. (Photo: Git Skoglund, August 2019)



■ Fig. 3. Guiding by Garden Director Bente Eriksen amongst the textile plants grown in the Botanical Garden in Lund. (Photo: Anna Andréasson Sjögren, August 2019)

Studentuppsatser med anknytning till park-, trädgårds-, landskaps- och odlingshistoria

2019

Länsträdgårdsmästarnas verksamhet: med en fallstudie i Södermanlands län för perioden 1880-1910

Lisa Bergfeld

Kandidatexamensarbete (15 hp)

Institutionen för kulturvård, Göteborgs universitet 2019

Tillgänglig via <https://gupea.ub.gu.se/handle/2077/60181>

Länsträdgårdsmästarnas inflytande på fruktodlingen i Södermanlands län 1891-1931

Kandida-Lisa Jonsson

Kandidatexamensarbete (15 hp)

Institutionen för kulturvård, Göteborgs universitet 2019

Tillgänglig via <https://gupea.ub.gu.se/handle/2077/60183>

Petissans gård på Skansen: En fallstudie av en historisk trädgård som flyttats till ett friluftsmuseum

Erika Petersson

Kandidatexamensarbete (15 hp)

Institutionen för kulturvård, Göteborgs universitet 2019

Tillgänglig via <https://gupea.ub.gu.se/handle/2077/60182>

Uppsatser

Sommarblommornas intåg: En studie av gravplanteringar inom Svenska kyrkan 1940-2019

Cornelia Bäck-Silfors

Kandidatexamensarbete (15 hp)

Institutionen för kulturvård, Göteborgs universitet 2019

Tillgänglig via <https://gupea.ub.gu.se/handle/2077/60180>

Beskärning och värdering av gamla äppelträd

Jon Loo

Kandidatexamensarbete (15 hp)

Institutionen för kulturvård, Göteborgs universitet 2019

Tillgänglig via <https://gupea.ub.gu.se/handle/2077/60185>

De bortglömda trädgårdarna: Järnvägsplanteringar längs Karlsborgsbanan under 100 år

Fiona Trainor

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Institutionen för kulturvård, Göteborgs universitet 2019

Tillgänglig via <https://gupea.ub.gu.se/handle/2077/60005>

Från mästare till konsulent: Länsträdgårdsmästarnas 40-åriga historia i Skaraborgs län

Linnea Elvira Eriksson

Kandidatexamensarbete (15 hp)

Institutionen för kulturvård, Göteborgs universitet 2019

Tillgänglig via <https://gupea.ub.gu.se/handle/2077/60186>

Trädgårdesgårdar i Skaraborg: Den levande trädgårdesgården sedd genom historiska fotografier

Elin Nordlinder

Kandidatexamensarbete (15 hp)

Institutionen för kulturvård, Göteborgs universitet 2019

Tillgänglig via <https://gupea.ub.gu.se/handle/2077/59866>

2018

Arts- and Craftsörrelsens gröna rum: trädgårdar i England vid sekelskiftet 1900

Ulrika Jonsson

Kandidatexamensarbete (15hp)

Institutionen för landskapsarkitektur, planering och förvaltning, SLU Alnarp 2018

Tillgänglig via: <https://stud.epsilon.slu.se/13873/>

Perennen med den långa blomstrings-tiden: En arkivundersökning om hur utbudet på flox såg ut på tre plantskolor åren 1930-1970

Hanna Grönqvist

Kandidatexamensarbete (15 hp)

Institutionen för kulturvård, Göteborgs universitet 2019

Ej tillgänglig online

Flykten från samtiden: Föreställningar kring ordning och oordning i bevarandet av Göteborgs koloniträdgårdar

Roger Norén

Masterexamensarbete (30 hp)

Institutionen för kulturvård, Göteborgs universitet 2019

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Kunskapsförändringar i svenska trädgårdshandböcker, 1840-1950

Andreas Sahlqvist

Kandidatexamensarbete (15 hp)

Institutionen för landskapsarkitektur, planering och förvaltning, SLU Alnarp 2018

Tillgänglig via: <https://stud.epsilon.slu.se/13339/>

Det var en gång - en trädgårdsgång: En litteraturstudie av markmaterial i svenska villaträdgårdar 1850-1950

Christina Haglind

Kandidatexamensarbete (15hp)

Institutionen för landskapsarkitektur, planering och förvaltning, SLU Alnarp 2019

Tillgänglig via: <https://stud.epsilon.slu.se/14604/>

Trädgårdsparken: Kristinehovsparken. Förslag till parkupprustning av en kulturhistorisk miljö i Stockholms innerstad

Fredrika Orefelt

Masterexamensarbete (30 hp)

Institutionen för stad och land, SLU Ultuna 2019

Tillgänglig via: <https://stud.epsilon.slu.se/15123/>

Bland rönnar, vingnötter & magnolior: Hur Tor G. Nitzelius ville skapa ett arboretum på Norrvikens trädgårdar

Malin Hjorth

Kandidatexamensarbete (15 hp)

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Tillgänglig via: <https://stud.epsilon.slu.se/14855/>

Lukt pioner som såldes i Dalarna: En sortimentsanalys av luktpioner i Vassbo trädskola 1895-1972

My Ottosson

Kandidatexamensarbete (15 hp)

Institutionen för kulturvård, Göteborgs universitet 2019

Tillgänglig via <https://gupea.ub.gu.se/handle/2077/60004>

Eva Wrede

Alnarp

Den gröna ön

Eva Wrede Förlag, 2019

191 sidor, illustrerad i färg, inbunden

ISBN 9789163939136

”Som en grön ö i ett hav av åkrar ligger Alnarp med sin märkvärdiga park och unga skog. Detta är guiden dit, för tidsresenärer och andra flanörer”. Så beskrivs boken *Alnarp: Den gröna ön* på dess baksida. I fem rikt illustrerade kapitel ger journalisten och redaktören Eva Wrede läsaren möjlighet att lära känna den skånska universitetsorten Alnarp från flera perspektiv.

Alnarp: Den gröna ön, publicerades i samband med en Alnarpshistorisk dag, anordnad den 19 maj 2019 av bland andra Sällskapet Alnarpsparkens Vänner (SAV). SAV har också bidragit ekonomiskt till bokens tillkomst. Den är inte renodlat historisk, utan kombinerar en poetisk beskrivning av dagens park med en historieskrivning som bygger på nygjorda intervjuer och arkivstudier samt genomgång av det som sedan tidigare finns skrivet om Alnarp. Boken innehåller en källförteckning över flera av de publikationer som finns om Alnarp, men den redogör för få källor inne i texten.

I första kapitlet, *Ett slott till skola*, målas en kortfattad och översiktlig historik av Alnarps roll som lärosäte – från det lantbruksinstitut som invigdes år 1862, fram till Alnarp som en del av Sveriges lantbruksuniversitet (SLU). Efter en uppmålning av de stora penseldragen och utbildningarnas utveckling vänder författaren blicken och låter läsaren möta Alnarp från dess invånares synvinkel. I andra kapitlet, *En oas till ort*, ges glimtar av hur det kunde vara att leva, arbeta och studera i Alnarp fram till 1960-talet.

Här beskrivs platsen inte bara som ”en oas” och fin parkmiljö, utan också som ett ”klassamhälle i miniatyr” där livsvillkoren varierade mycket beroende på om du var barn till en statare eller till en högt uppsatt tjänsteman vid institutet. Bokens första två kapitel är rikt illustrerade med äldre fotografier och kartmaterial.

Det tredje kapitlet, *En pärla till park*, innehåller en poetisk beskrivning i ord och bild av hur Alnarpsparken förändras under ett år i avsnittet ”Ett år bland träd och stigar”. Därefter tas läsaren med på ytterligare en vandring genom parken, fast nu upplagd som en mer traditionell guidad rundtur. Avsnittet ”En promenad i parken” utgår från en illustrationsplan av Lisa Johansson (finns även som utvikbar karta i slutet av boken). Genom nedslag vid några enskilda växter och platser ges inblickar i Alnarps historia.

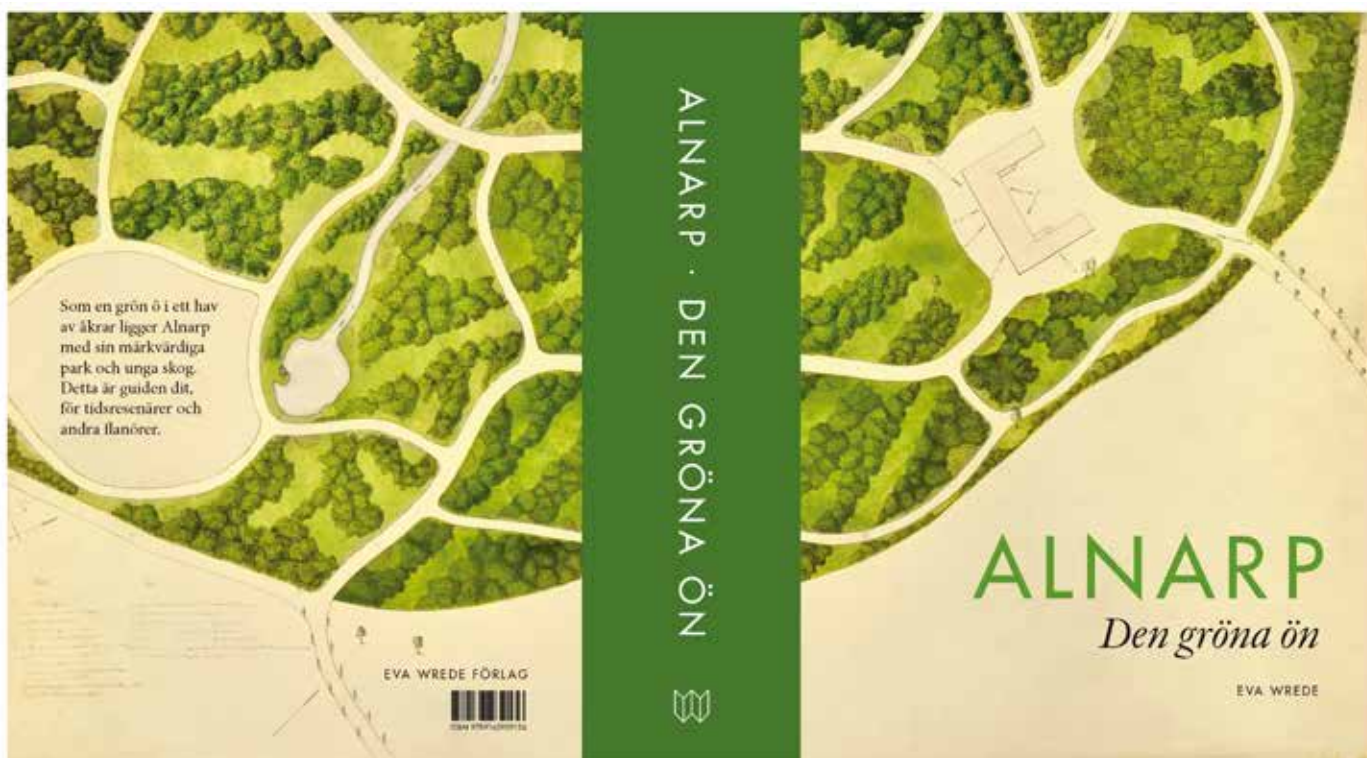
Kapitel fyra, *En skog till labb*, handlar om några av de planteringar som har anlagts väster och öster om Alnarpsparken från 1980-talet och framåt. Huvuddelen av kapitlet beskriver det så kallade landskapslaboratoriet, vilket ligger som ett vindskydd väster om parken. Även Magnoliaskogen i öster omnämns. Både tredje och fjärde kapitlet ackompanjeras av en mängd nytagna fotografier av Emma Larsson och Eva Wrede.

I sista kapitlet, *Sidospår*, finns sex korta, tematiska, berättelser som enligt författaren ska utgöra komplement till bokens övriga kapitel. De behandlar bland annat tiden före institutet, makarna Dahl och deras insatser under 1900-talet samt fågellivet i Alnarp.

Ett av bokens avsnitt, nämligen ”En promenad i parken” skulle med fördel kunna tas med ut i parken och användas vid en faktisk promenad. I övrigt lämpar sig boken för den som vill uppleva denna gröna ö hemifrån kammaren. Perspektiven är många och skilda, och läsaren ges både smakprov på parkens skönhet och på Alnarps mångfacetterade historia.

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Bokomläggning



■ Bokens omslag visar delar av ett förslag för Alnarpsparken, framtaget av trädgårdsmästare Carl Ludvig Siemers år 1860. (Omslag och grafisk form: Johan Laserna)

Per Arvid Åsen

Hagebruk og hagevekster på 101 norske fyr

Cappelen Damm, 2019

312 sidor, illustrerad i färg och svart/vitt

ISBN 978-82-02-61022-7

I sin nya bok presenterar botanikern och trädgårdshistorikern Per Arvid Åsen en ingående undersökning av trädgårdsodlings-spår och kvarstående trädgårdsväxter på 101 fyrplatser, av 208 möjliga, längs hela den norska kusten. Såväl studien som boken är de första i sitt slag i Norden, antagligen även i världen.

Uppgifter om trädgårdsodling och djurhållning hör oftast inte till det bevarade arkivmaterial som rör arbetet på fyrplatserna i Norge. Rapporterna och dokument handlar snarare om sådant som arbetstider och arbetsförhållanden. För att samla kunskap om trädgårdarnas historia måste fyrplatserna besökas och lämningarna dokumenteras på plats, och detta är just vad Per Arvid Åsen gjort tillsammans med Elisabeth Goksøy Åsen. Det så kallade Fyrprojektet påbörjades 2002 av Dagfinn Moe och Per Harald Salvesen vid Universitetet i Bergen. Efter några års uppehåll återupptogs det av Åsen och Åsen 2016, och fullföljdes 2018.

Boken inleds med ett sammanfattande kapitel om vad som kan ha odlats vid fyrarna i form av köksväxter, frukt och bär, samt av prydnadsväxter som träd, buskar, rosor och perenner, liksom vilka typer av dokumenterbara spår dessa odlingar kan ha lämnat. Mycket speciella villkor rådde för arbetet vid en fyr, konstaterar Per Arvid Åsen. Ofta var hela familjen engagerad i skötseln av själva fyren, på större fyrplatser kunde det handla om flera familjer. Vad man gjorde vid sidan av fyrarytet varierade mycket, inte minst beroende på naturförutsättningarna, men där så var möjligt kunde det handla om en kombination av småbruk, jakt och fiske.

Var och en av de 101 fyrplatserna ägnas ett eget kapitel i boken. Undersökningen börjar med de som ligger längs Oslofjorden och slutar på Varangerhalvön längst upp i norr. Varje artikel inleds med en bild på den aktuella fyrplatsen som ger läsaren en inledande uppfattning om förutsättningarna i det enskilda fallet. Därefter följer en sammanfattning av fyrplatsens historia, en mer ingående redovisning av platsens odlingshistoria, eventuella bevarade spår samt kvarstående trädgårdsväxter. Man skulle kunna tro att det blir enahanda läsning, med 101 artiklar upplagda på ungefär samma sätt, men så är det inte. Eftersom Åsen och Åsen har besökt alla platser och känner till var och en ingående, så varierar beskrivningarna mycket beroende på lokala omständigheter, personer som mötts och intervjuats, fyrplatsens belägenhet och historia, möjligheter till odling och, någon gång, även hur lätt eller svårt det var att ta sig till fyren i fråga. Texten är personligt utformad och utgör en läsoplevelse som snarare inbjuder till sträckläsning. Det är en annorlunda värld, som här görs levande och tillgänglig för läsaren, en värld vi tidigare hört mycket lite om.

I artikeln om Færder fyrstasjon, längst ut i Oslofjorden, får vi t ex höra något om de utmaningar odlarna mötte. Här var det: ”vanskelig å få det til å gro noe særlig. Fikk man litt sving på det en stund, kom gjerne en kuling så sjørøkket stod over hagen, og da ble bladene svartbrente av saltet og meget møysommelig strev lagt øde”. På Færder sopade man ihop odlingsjorden på hösten, öste ner den i säckar och placerade den i källaren, så att den inte skulle blåsa bort i vinterstormarna (a.a., sid. 36). Ett annat ex-



empel är Holmengrå fyr, vid inloppet till Fensfjorden strax norr om Bergen, där vädret var så hårt och jordlagret så tunt att det är svårt att förstå hur något kunde odlas alls. Ändå finns fortfarande spår av odlade växter i sprickor och fördjupningar (a. a., sid. 154).

Av redogörelserna framgår att odling av egna köksväxter utgjorde ett viktigt tillskott till den många gånger enahanda mat-hållningen för familjerna på ensligt belägna fyrplatser. Men resultatet av Åsen och Åsens studie visar tydligt att man också odlade prydnadsväxter, buskar och vackra träd för nöjes skull, allt efter vad naturförhållandena tillät.

Per Arvid Åsen är förstekonservator på Naturmuseum och botanisk hage vid Universitetet i Agder. Han har tidigare publicerat boken *Norska klosterplanter* (anmäld i *Bulletin för trädgårdshistorisk forskning* nr 29, 2016, sid 38–39). Fyrprojektet presenterades av författaren själv i *Bulletin för trädgårdshistorisk forskning* nr 31, 2018 i artikeln *Hagebruk og hagevekster på norske fyr* (sid. 23–24). *Hagebruk og Hagevekster på 101 norske fyr* finns nu i handeln.

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