



Taking a walk through Alnarp's Landscape Laboratory is, for the everyday visitor, a relaxing and welcomed break in a busy day. The first visit is often a walk full of excitement and surprise, and for the campus student often a learning experience. In common for almost all of these visitors is, however, recognition that the lab is something different, extraordinary, and in many ways unique. It gives a rich, diverse and deep experience of woodland, despite its relatively limited size and young age.

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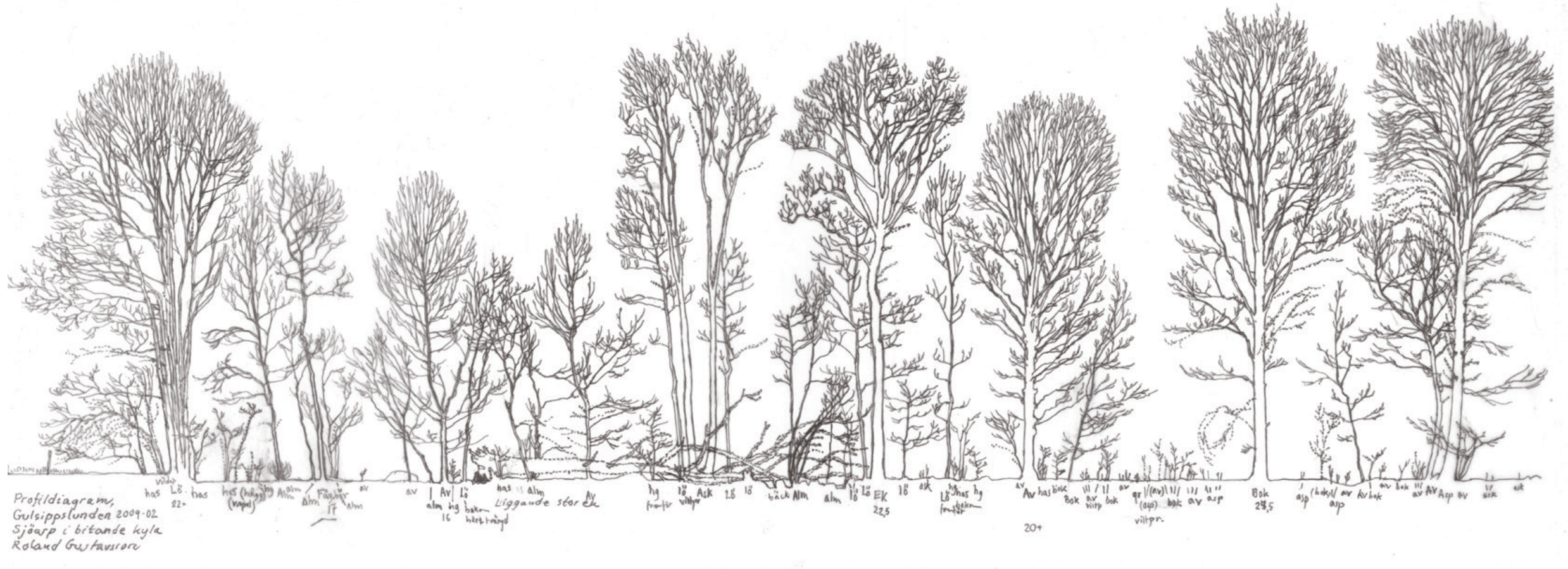
PROFILE DIAGRAM OF GULSIPPSLUNDEN (2009)

The profile diagram of Gulsippslunden from 2009 is an example of the latest generation of profile diagrams. The level of detail has been developed so it captures the vegetation structure while also showing how individuals meet: how close they get, how a next generation is linked in, and how this influences the growth pattern and form of specimens in different social positions.

When Gustavsson made the first profile diagram in 1974, he did not imagine that he would eventually draw a profile where the magnificent *Quercus robur* had died. Yet by the early 1990s it had weakened and a few years later it died. Ten years later, it was on the ground. It tumbled down nicely right along the line of the profile.

Since 1991, there has been no thinning. By 2009, from acting as a 'moderator', the middle layer of *Fagus sylvatica* and *Acer platanoides* has become dominant throughout the area, pushing into the tree layer and reducing the structural and species richness. Having been very distinctive and attractive, Gulsippslunden is starting to become normal; normal with a strengthened touch of wilderness. So, is it too late to re-direct it via management? No, certainly not, as the system has proven to be surprisingly robust. While young woodlands show clear reactions to management operations, here is an example of mature dynamics that management can still make flexible.

Gulsippslunden.
Detailed profile diagram
from 2009 by Roland
Gustavsson.



The spatial definition experienced when enclosed under the canopy of a woodland is totally different from other landscape experiences. One of the central ideas of the landscape laboratories has been to identify, demonstrate, and test a whole set of 'interior rooms' with tree and shrub-rich types of high woodlands, low woodlands, woodland edges, and half-open woodland types. Like foresters, we study woodlands as 'stands', and like ecologists we study them as 'biotopes'. But unlike foresters and ecologists we also explore the spatial, architectural, and experiential dimensions of the vegetation structure.

3. STRUCTURAL APPROACH

UNFOLDING SPATIAL TYPOLOGIES OF WOODS

Roland Gustavsson
Anders Busse Nielsen
Björn Wiström



LOW WOODLAND PROTOTYPES
– HAZEL WITH STANDARDS

Profile diagram of reference landscape in Dörröd in 1994.

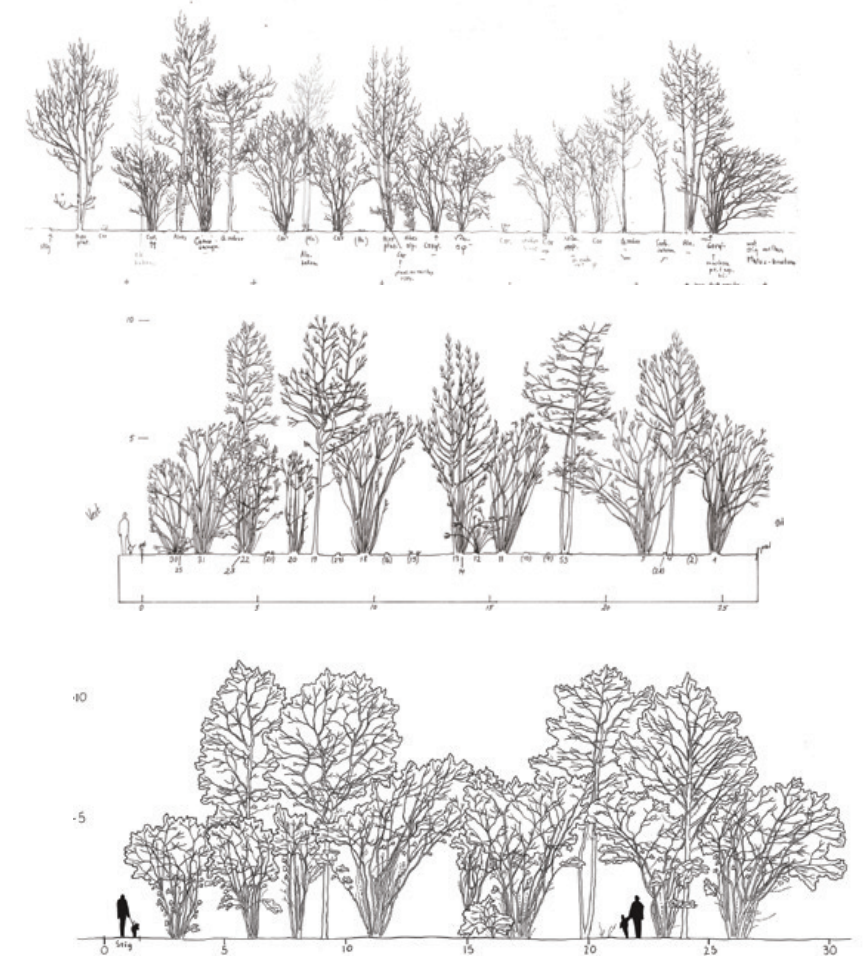


The stand that we call 'The Hazels' (*Hässlet*) in Tor Nitzelius Park (T1) has roots all the way back in the coppices with standards that dominated our woods in medieval times. In delivering a compact, robust forest and lush interior within a short timeframe, it has been outstanding. We were inspired by Dörröd, an ancient coppice forest in Scania that is one of the largest on the Swedish mainland, which became one of our reference landscapes (see profile diagram left and photo right). Our repeated inventories of Dörröd have informed the planting design of the prototype of hazel with standard trees at the Alnarp Landscape Laboratory. The series of profile diagrams (top right) shows the evolution of the hazel stand in Tor Nitzelius Park. In 1996 (top), 12 years after establishment, the two-layered structure with standards above the middle layer is emerging. In 2002 (middle), the stand is reaching a well-defined two-layered structure. By 2009 (bottom), the hazel and fellow middle-layer species has developed the classical umbrella shape. Taken together, the contrast between the multi-stemmed hazel (*Corylus*), the comparatively thick trunks of the standard trees (*Quercus robur* and *Acer platanoides*), and the woodland herbs create a character that comes close to our reference landscape.

Tor Nitzelius Park (T1) in 2012, 28 years after establishment.



Reference landscape in Dörröd in 2016.



Profile diagrams of the hazel stand in Tor Nitzelius Park (T1) in 1996 (top), 2002 (middle), and 2009 (bottom).

Using the term 'landscape' expresses our wish to make room for context and site-specificity within urban forestry. Combining landscape with 'laboratory' conveys our desire to promote innovation in this field, by testing and demonstrating vegetation design and management models. Even though the three landscape laboratories were established in different contexts, they share vegetation design models and the research and demonstration principles that have guided the composition of each. The design principles combine architectural, biological, and technical concerns.

4. DESIGN PRINCIPLES

SETTING THE STAGE FOR EVOLUTIONARY DESIGN

Roland Gustavsson
Anders Busse Nielsen
Björn Wiström
Anders Folkesson

Both as laboratories and as living landscapes, each of the three original landscape laboratories was planned and designed for its specific context. Alnarp is located in an area of intense urbanisation between Malmö and Lund and faces issues relating to wind protection and stormwater management. Sletten is integrated within a suburban district of the same name, while Snogeholm is in a rural area that acts as a regional hub for outdoor recreation. Though each design adheres to its specific context, all the labs share similar research questions as well as the principles that have guided the composition and combination of the many different prototypes of woodland stands, edges, meadows, and wetlands in a readable and pedagogical design. This makes multi-scale research and demonstration possible, while also providing coherent woodland landscapes with variations in shape, size, and rhythm. When we are experimenting with extremes along gradients, with uniformities and contrasts, and with the articulation of basic landscape patterns with focal points and small details, we are always simultaneously exploring both the whole and its parts.

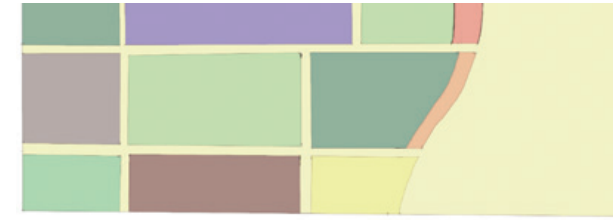
To study the many different components of wooded landscapes, we created different prototypes developed along three different models of planting design: the habitat model*, the seed pool model* and the density gradient model*.¹ The habitat model explores planting design along complexity gradients, the seed pool model adds a temporal dimension, and the density gradient model focuses upon planting distances. In this chapter, it is these three models that we will explore.

Habitat models: woodland ‘interior rooms’

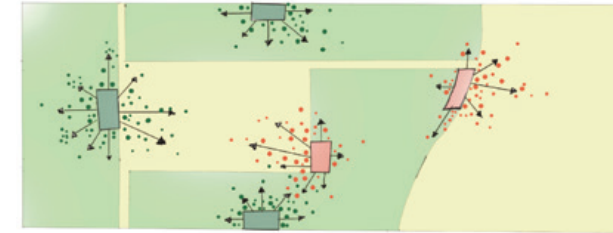
One of our most basic ideas for the landscape laboratories has been to identify and present a whole set of woodland ‘interior rooms’; the habitat model is the main way we have approached this. It takes inspiration from the diversity of woodland types presented in chapter 3 to create planting schemes with the aims of developing more or less complete woodland stand types, forest types, or habitats from the very beginning.²

1 / Anders Folkesson, *Att forma ett rikare landskap. Utformningsprinciper för Alnarps landskapslaboratorium*, Stad & Land 144 (Alnarp: Sveriges lantbruksuniversitet, 1996); Anders Busse Nielsen and Rasmus Bartholdy Jensen, “Some visual aspects of planting design and silvi-culture across contemporary forest management paradigms - perspectives for urban afforestation,” *Urban Forestry & Urban Greening* 6 (2007): 143-158.
 2 / Nielsen and Jensen 2007, see note 2; Roland Gustavsson, *Struktur i lövskogslandskap [Structure in the broadleaved landscape]*, (Alnarp: Sveriges lantbruksuniversitet, 1986); Roland Gustavsson, “Exploring woodland design: designing with complexity and dynamics - woodland types, their dynamic architecture and establishment,” in *The Dynamic Landscape: Design, Ecology and Management of Naturalistic Urban Planting*, ed. Nigel Dunnett and James Hitchmough (Spon Press, London, 2004), 184-215; Roland Gustavsson, “Landscape laboratory as a Scandinavian concept - Concepts and experiences based on twenty-five years of experimental work,” in *Forestry serving urbanised societies in the North Atlantic region, Reykjavik, Iceland, September 16th-20th, 2009*, eds. Cecil C. Konijnendijk and Hrefna Jóhannesdóttir (Copenhagen: Nordic Council of Ministers, 2010), 131-163; Roland Gustavsson and Torleif Ingelög, *Det nya landskapet. Kunskafer och idéer om naturvård, skogsodling och planering i kulturbygd* (The new landscape), (Jönköping: Skogsstyrelsen, 1994).

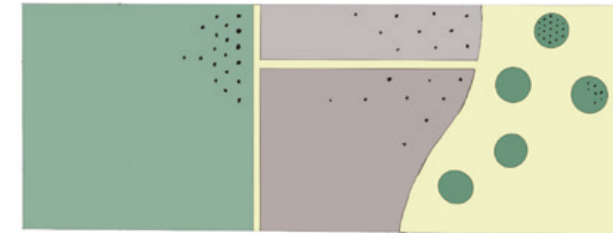
The habitat model aims of developing different types more or less complete woodland stand types, forest types, or habitats from the very beginning.



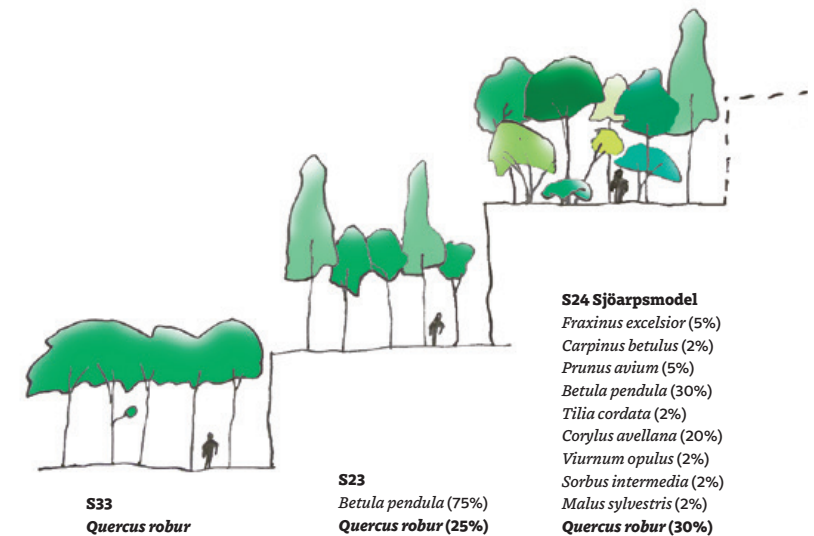
The seed pool model introduces species rich gene pools within a matrix of simple pioneer tree species. Seed dispersal will initiate and accelerates the partly spontaneous succession from pioneer forest to climax forest.



In the density gradient model, areas planted uniformly with normal spacing pass into areas, planted uniformly but with wide spacing, ending up in clumps planted in open grassland. The variation in initial planting spacing will stimulate a gradient from the dense and multilayered woodland through half open woodland to open grasslands with clusters of trees and clumps of shrubs.



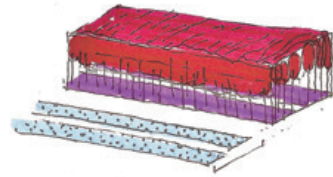
An example of a complexity ladder with oak (*Quercus robur*) as the key species at the Snogeholm Landscape Laboratory. The number of species gradually increase from monoculture (S33), through simple mixtures (S23), to species-rich mixtures (S24).



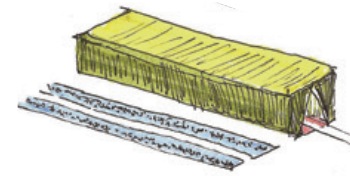
S33
Quercus robur

S23
Betula pendula (75%)
Quercus robur (25%)

S24 Sjöarpmodel
Fraxinus excelsior (5%)
Carpinus betulus (2%)
Prunus avium (5%)
Betula pendula (30%)
Tilia cordata (2%)
Corylus avellana (20%)
Viurnum opulus (2%)
Sorbus intermedia (2%)
Malus sylvestris (2%)
Quercus robur (30%)



The enclosed *Corylus avellana* tunnel
The *Corylus avellana* tunnel in Tor Nitzelius Park (T34) maintains clear spatial definition and a tunnel character in all seasons (photo: winter 2013).



The dark tunnel of *Carpinus betulus* (above)

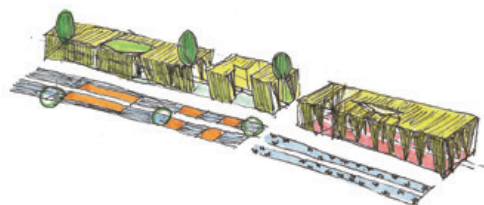
The *Carpinus* tunnel in Tor Nitzelius Park (T26) has been very successful. The European hornbeam (*Carpinus betulus*) is a small tree, very sculptural, and highly tolerant of shadow. The trees along the path had never been thinned since being planted 35 years before this photo was taken in 2012 and there is a strong sense of density in the room.



The half-open *Corylus avellana* tunnel

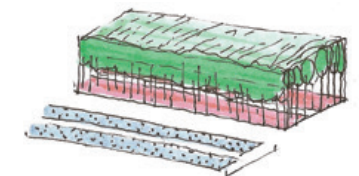
The 50 metre long hazel tunnel at the entrance to Alnarp Västerskog (V36) was planted in 1994 with a 3 metre spacing between the plants and 3 metres between the planting rows. This was done to create open walls and opportunities for herbaceous flora found in wooded

meadows to take root. The entrance is closed by the vegetation on the sides. Towards the middle, it becomes a half-open tunnel with well-defined light beams (photo: 2012). The design has its roots in the traditions of wooded meadows with a mosaic of shaded and open parts.



The light woodland belt of *Betula pendula*

In Tor Nitzelius Park, a 10-metre-wide woodland belt of *Betula pendula* (T29) intersects the *Carpinus* tunnel (p. 162). It was thinned three times over the first 35 years, and the airy atmosphere contrasts with the shade and density in the *Carpinus* tunnel. Grasses have established spontaneously and add to the atmosphere. To maintain the airy character woody seedlings are trimmed or cleared every year (photo: 2008).





The seed pool model, Sletten, April 2006. The pioneer wood of *Betula pendula* (H40) is emerging.



The seed pool model, Sletten, August 2010. Lush field layer of grass and herbs beneath the light canopy of *Betula pendula* in H40.



The seed pool model, Sletten, August 2010. Lush field layer of grass and 'escaping' garden perennials under the light canopy of *Betula pendula* in H40.

The seed pool model, Sletten, September 2022. Seeds dispersal has now grown a diverse and lush understory beneath the light canopy of the pioneer trees, initially planted 20 years ago. Here the pioneer is *Betula pendula* (H40).





/ ALNARP VÄSTERSKOG

ALNARP VÄSTERSKOG

Anders Busse Nielsen
Roland Gustavsson
Björn Wiström



Alnarp Västerskog ('western wood' in Swedish) began with an emerging political focus on multiple-use afforestation in the urban fringe context (see also chapter 1). Its aim is to open discussion on the spatial combination of timber production, biodiversity, and experiential and recreational qualities. Established in two steps, in 1994 and 1998, the Västerskog expanded the landscape laboratory into the agricultural fields on the western side of the railway. It covers an area with a width of up to 140 metres and a length of more than 1 kilometre, and is organised into 34 stands along a central stream. It explores the potentials of woodland landscapes not only by testing structural stand types, but also demonstrating the interaction between woodland stands, half-open mosaics, ecocline or abrupt edges, open meadows, and water elements.

The creation of an open stream with ponds became the backbone for the design of Alnarp Västerskog. The stream now purifies and partially infiltrates drainage water from the adjacent fields and stormwater from the university campus before it reaches the Öresund strait. The stream runs north to south down the centre of Alnarp Västerskog, around which the woodland and the meadows are anchored in the landscape. Its design follows a complexity ladder from simple, engineered geometries upstream to more organic and nuanced forms downstream, ending in a 'natural design' based on succession processes. The wooded landscape frames the stream in a rhythm that intertwines with the water to form a gradient from a simple to complex integration of woodland stands, open meadows, and water elements.

Upstream, the stream takes the form of a linear ditch with steep slopes entering a formal circular pond with uniform slopes. The framing woodland also exhibits formal geometric shapes and runs parallel to the ditch. After the circular pond, the watercourse flows into a much more organically shaped pond with varying slope inclination. This pond marks a shift in the design. From here, the stream



The Hazel walk (V36) marks the entrance to the southern part of the Västerskog when entering from Sundsvägen. Initially the entrance was a path cut in the meadow, bringing the visitors in direct contact with the experiential qualities associated with the intense flowering. Hay from Kungsmarken, a nearby ancient pasture landscape with outstanding rich flora was distributed in late august 1997. This assisted dispersal introduced the seed bank to the Västerskog, and especially the carpet of flowering *Primula veris* soon became a seasonal favorite among visitors. When the *Corylus* started to create an inte-



rior corridor, the meadow path was supplemented with the interior path. Today only the hazel walk is left, giving a defined experience of sunshade, enclosure – exposure, here – there.



Alnarp Västerskog

First plantations **1994**
Area **13 ha**
Plant material **Native**
with a few exceptions

Alnarp Västerskog is the largest, and most recent, segment of the Alnarp Landscape Laboratory. It contains woodlands, meadows, waterbodies, paths, and thirty-four stands containing different mixtures of Swedish broadleaf trees and shrubs.



winds through stands that alternate between hugging and retreating from the watercourse, forming small open rooms and passages with organic forms. Further downstream, the stream expands and forms a shallow pond with tiny islands, called Heron's Pond. This design was inspired by flooded forests such as natural alder swamps. From here, the stream leaves the woodland and runs along the western edge on its way to a sunken valley, where it meanders and floods the valley during wet seasons.

It is well documented that water contribute to the attractiveness of a place as well as to multiple eco-system services, often making the difference between a 'nowhere' place and a place of 'dignity'. Visitors to the landscape laboratory regularly reaffirm this observation.

The 34 stand prototypes making up Alnarp Västerskog were grouped into 'key species areas' with *Fagus* in the southern part, *Fraxinus* and minority species like *Acer*, *Tilia*, and *Sorbus* in the middle and *Quercus* in the northern part. Within these species areas, the prototypes are composed along a complexity ladder extending from east to west in such a way that visitors move from monoculture stands through stands of two to three species, to species-rich stands or vice versa, creating successive transitions from simple to rich species mixtures and vegetation structures. The aim of this planting scheme was to balance variation and coherence. In the long-term perspective, the grouping makes it possible to merge the prototypes into larger areas with a coherent character, e.g., one hectare of beech pillar hall in the southernmost part. To ensure a coherent silhouette of the forest when seen from the surrounding landscape, stands in which the future canopy trees are large-crowned species such as oak, ash, and beech were located towards the agricultural fields, and small-crowned tree species, such as rowan (*Sorbus aucuparia*) and Swedish whitebeam (*Sorbus intermedia*), were located towards the railway.

As an important addition, we located the edge plantings so that they differ in complexity from the stand inside, e.g., a species-rich, three-staged edge with a graded profile as the southern border of the mixed European ash (*Fraxinus excelsior*) and larch hybrid (*Larix x eurolepis*) stand (stand V16 see map in chapter 3) and no edge planting along the border of the species-rich oak mixture, where a layered vegetation structure has developed within the Trolleholm prototype (V14). Half open stand types with mosaics of trees and shrubs mark the transition from one key species area to the other. At the same time, the half open mosaics create wide transition zones from closed to open around the three ponds. Small plantings of, for example, pear (*Pyrus*), bird cherry (*Prunus padus*), or hazel (*Corylus*) add another type of mosaic to the overall composition of wooded volumes and open passages.

In Västerskog, the dynamic approach to designing the path system, introduced in the southern part of Tor Nitzelius Park, was taken a step further. The initial path system was simply a network cut into the meadows and along the stream and ponds, bringing the visitors into direct contact with the intense meadow flowering and the water – qualities that were there from year one. In the early 2000s, the stands had grown above eye level as dense green masses, lending volume to the overall composition of wooded and open areas offering the possibility to experience the contrasts of sun-shade, enclosed-exposed, here-there. Now it was time to open up the woodland landscape with the demonstration path systems, articulating the evolving woodland interiors and woodland openings. The demonstration path and main walks that now run through the interior of the woods were created in parallel with the first thinning of nurse trees. When 'carving out' the paths with chainsaw and pruners, we intertwined the path design with the other complexity ladders. In stands that were to develop into pillar halls with extended visibility, we designed straight paths often parallel to the planting line (which made them perfectly

5. CREATIVE MANAGEMENT

HANDS-ON CARE FOR CONTINUOUS CHANGE

Landscapes are dynamic, ever changing, never finished. They challenge the conventional separation between design, often understood as the act of devising a spatial composition for a place, and management, the activity that aims to keep that composition in its original shape. The landscape laboratories propose the merger of design and management into one continuous creative process of shaping while managing, with a focus on experiential qualities here and now, while simultaneously respecting the long-term development.

Björn Wiström
Roland Gustavsson
Anders Busse Nielsen
Dana Hladíková
Jan Šesták

‘Planted forest parks and urban woodlands all over Europe have teenager problems... Many of them have teenager problems due to inadequate creative management. To withdraw interest during the teenager phase might seem logical; the establishment phase is over and everyone can see everything grow, and everyone can relax. But this is not logical: a fast-growing vegetation can “go almost everywhere”. This makes the absence of active, creative management particularly sad in this phase. The general lack of creative management too often leads to an overly standardised, simplified landscape. Difficult patterns and vegetation types are either eliminated or controlled. They are transformed into something too uninteresting and domestic, just as the case may be with a promising teenager in family life. What could have become something special, articulated, rich in biodiversity and cultural identity, and developed into a most wonderful landscape when grown up, is too often destroyed in the teenager phase.’

Roland Gustavsson¹

1 / Roland Gustavsson, “Afforestation in and near Urban Areas,” In *Urban forest and trees*. Proceedings no. 1, COST Action E12, eds. Thomas B. Randrup, Cecil C. Konijnendijk, Tim Christophersen and Kjell Nilsson (Luxembourg: Office of Official Publications of the European Communities, 2002), 289-290.

2 / Roland Gustavsson, Martin Hermy, Cecil Konijnendijk, Anne Steidle-Schwahn, “Management of Urban Woodlands and Parks - Searching for Creative and Sustainable Concepts,” in *Urban Forests and Trees*, eds. Cecil C. Konijnendijk, Kjell Nilsson, Thomas B. Randrup and Jasper Schipperijn (Berlin: Springer, 2005), 369-397.

3 / V. G. Kirby, “Management objectives and constraints,” in *Ecology and Design in Landscape*, eds. Anthony D. Bradshaw, David A. Goode and E. H. P. Thorp (Oxford: Blackwell, 1986), 165-174; Gustavsson et al 2005, see note 2.

4 / Gustavsson et al 2005, see note 2.

5 / Robert Tregay, “Design and Ecology in the Management of Nature-Like Plantations,” in *Ecology and Design in Landscape*, eds. Anthony D. Bradshaw, David A. Goode and E. H. P. Thorp (Oxford: Blackwell, 1986), 275-284.

Roland Gustavsson, “Exploring woodland design: designing with complexity and dynamics - woodland types, their dynamic architecture and establishment,” in *The dynamic landscape*, eds. Nigel Dunnett and James Hitchmough (London: Spon Press, 2004), 184-214.

6 / Roland Gustavsson and Anna Peterson, “Authenticity in conservation and management - the importance of the local context,” in *Landscape Interfaces. Cultural Heritage in Changing Landscapes*, eds. Hannes Palang and Gary Fry (Dordrecht: Kluwer Publishers, 2003), 319-357.

7 / Gustavsson et al 2005, see note 2.

Roland Gustavsson, Allan Gunnarsson and Björn Wiström, “Time out! - Thirty years of experiences from outdoor landscape teaching,” in *The Routledge Handbook of Teaching Landscape*, eds. Elke Mertens, Nigül Karadeniz, Karsten Jørgensen and Richard Stiles (London: Routledge, 2019), 135-147.

At the turn of the century, the Alnarp Landscape Laboratory was well established but could easily have turned into yet another lean and anonymous teenaged ‘wood’ searching for identity. Not having reached maturity, it was, however, also highly flexible and responsive to interventions, leaving a ‘creative window’ open. Rather than taking a hands-off approach, we turned to saws and trimmers in ongoing design effort. We call this design via management activities ‘creative management’. One of the most problematic aspects of the contemporary practice of landscape design and management is the articulating of features through development over time. Too often, management is reduced to maintenance. Maintenance as a concept and word is associated with preserving something as is, or even freezing it in time. Management is much more dynamic and creative.² With the term ‘creative management’ we wanted to demonstrate the value of field-based and hands-on design practices in which the dynamics of the plants themselves become the medium for interventions that unite design and management.

Aesthetics trigger engagement

Every form of integrated landscape management – whether for food or wood production, or management for species-richness – requires objectives, site-specificity, and aspects of creativity.³ In the urban and urban fringe context, however, management requires a creativity that takes multiple interests into account, including users’ perceptions.⁴ Aesthetics must play a strong role here, with a focus on attractiveness, harmony, vitality, rhythm, focus points, and seasonal highlights.⁵ Many other aspects are also involved, such as readability and identity.⁶ Creative management that emphasises aesthetics includes potentials for personal integration, involvement, and engagement, as well as symbolism and history, cultural roots, nostalgia, and feelings of welcome, trust, and security.⁷



Spring 2012.



Svensson building the catwalk and platform with a mobile sawmill.



The finished catwalk, separating and reuniting, spring 2012.

ERIK'S CATWALK

In the species-rich *Fagus* stand (V30), the main path changes from woodchips to a wooded footbridge of two parallel planks, raised just above the ground. In this particular area of Alnarp Västerskog, the path was muddy for much of the year. Many visitors asked us to take care of the problem of dirty shoes. Inspired by the simple footbridges across mires and streams found along hiking trails in northern Sweden, Erik Svensson created the footbridge in winter 2011/2012. This timing was not coincidental; he had just been thinning the nurse trees in the adjacent stand. A mobile sawmill allowed the trunks to be processed and used for the footbridge without ever leaving the site. Today, the footbridge draws a curvy and eye-catching line through the stand. By prolonging it more than was needed for functional reasons, it has become a landmark. Along the way it splits in two and unites again, creating a 'nature island'. The starting point by Linn's Place is articulated by a small platform with a corner bench. Children always start running on the footbridge, while others slow down and look around before taking a photo and moving on.

Precisely box-cut *Fagus sylvatica* mark the southern entrance to Alnarp Västerskog (V33). The edge vegetation and one row of trees are cut away on either side, creating an open entrance and room around this 'floating hedge'. It continues 40 metres into the woods and then merges with the surrounding stand of *Fagus*. The path flanks the eastern side of the box-cut *Fagus* and continues under the woodland canopy. After 25 metres, the path enters the south-western corner of Dana's Square. We call it the 'Renaissance Walk'.

It began, however, quite differently. In 2003, Dana Hladíková and Jan Šesták articulated the straight line of the main path by trimming and pruning the trees on either side. Knowing that *Fagus sylvatica* respond to

trimming with robust regrowth, they transformed the informal path into a combined corridor and tunnel in just two years.

The intention was to remove the hedges when the vitality of the trees had declined due to the canopy of the adjacent trees closing above. When the time came in 2012, the decision was, however, flipped. What is now the floating hedge adjacent to the path used to be the hedges that flanked each side of the path.

Today this formal, well-kept 'pocket park' contrasts with the informal woodland character. Some – among students and visitors but also within our group – find it to be out of tune with the setting. This is intentional. As part of the laboratory, it stimulates discussions of how

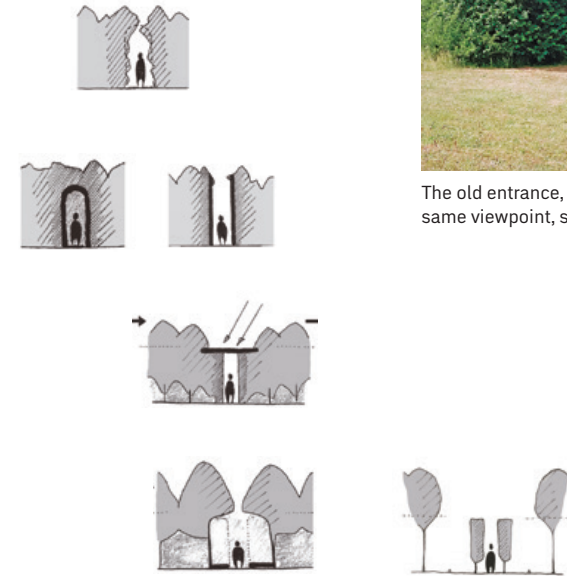
cultural and natural characters might connect. The renaissance walk is an ultimate expression of how formable and even transformable young woodland stands are – especially *Fagus sylvatica* and other species that have robust regrowth after trimming and pruning.

The series of interventions exemplify how creative management is creativity with continuity. It is about making choices about maintaining, letting go, or as in this case, reconfiguring. The intention today is to sustain the box-cut hedges as long as possible and to continue to discuss alternatives. Maybe it will become a sculpture under the canopy of a mature pillar hall. Maybe, following the ideas of a group of visiting children, it will take the form of a dragon with a mouth to enter through.

THE RENAISSANCE WALK



Approaching the Renaissance Walk to enter the *Fagus* stand (V33), autumn 2015, with the new configuration.



Sections showing the process of how ongoing management decisions lead to new management questions. (top three drawings) The cross-section illustrates the idea of choosing between making an enclosed tunnel (left) or open corridor (right). (next two down): The decision to create an

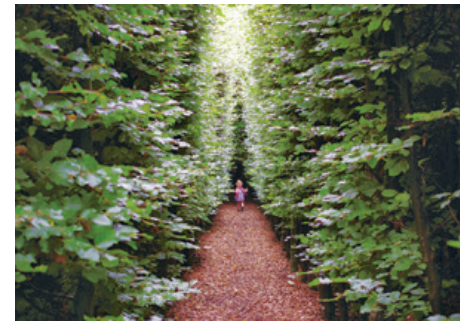
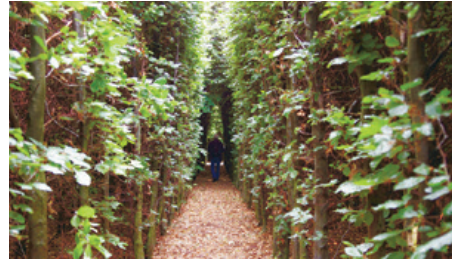
open corridor raised new questions about development possibilities of preserving it in time or allowing for the real possibilities of growth. (next): After the canopy closed over the corridor, a decision was made to create a floating hedge (2012) and to make it inaccessible (2015).



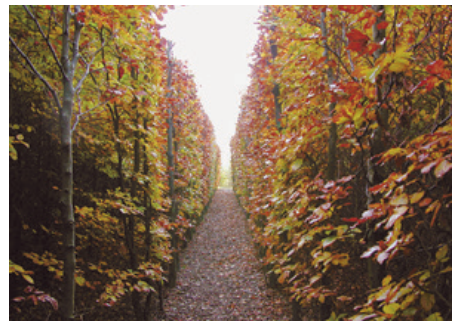
The old entrance, spring 2011 (top). Below the same viewpoint, summer 2018.



Looking in, summer 2005.



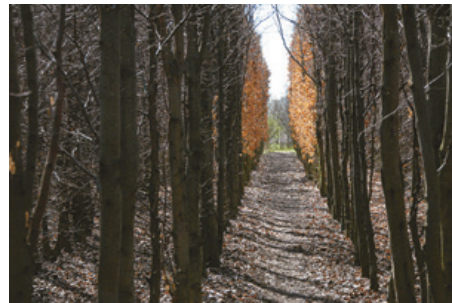
Looking in, summer 2009.



Looking out, autumn 2005.



Looking in, summer 2015.



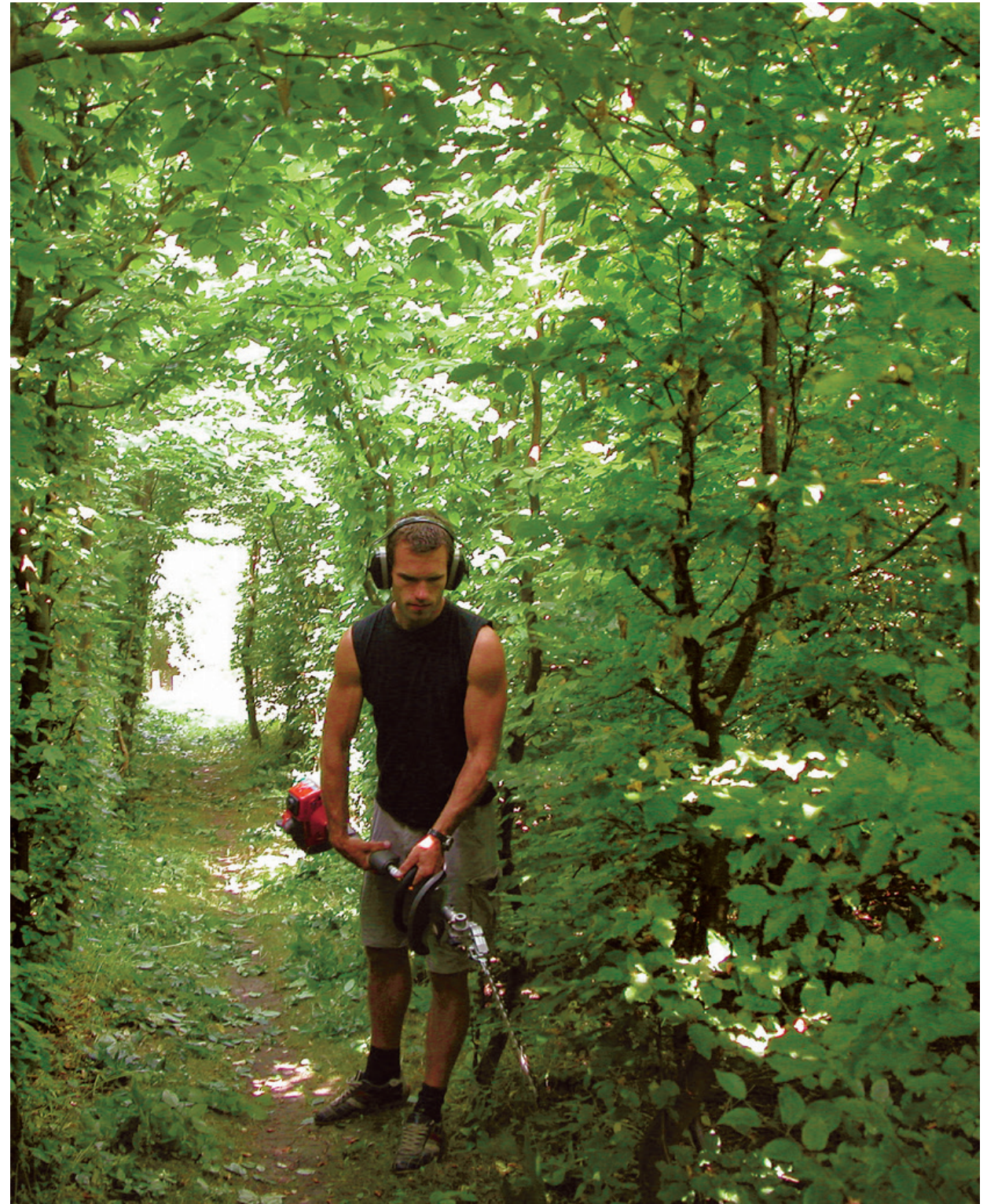
Looking out, spring 2007.



Looking in, summer 2018.



Looking out, summer 2018.



Summer 2004 – Jan Šesták carves out the tunnel.

Landscape laboratories rely on deep knowledge of plants. On-site experimentation and monitoring make it possible to explore how the merging of woodland structures and species typically found only in gardens and parks creates new ecological and experiential values throughout all stages of development. Well-researched exotic species from the northern hemisphere complement native species with the aim of merging woodland and park into a 'new' urban spatial category.

6. HORTICULTURAL FOCUS

PLANT KNOWLEDGE BASED ON EXPERIMENTATION

Henrik Sjöman
Allan Gunnarsson
Björn Wiström
Roland Gustavsson



Circles of compost in the western part of the North American stand (T28), in 2003.

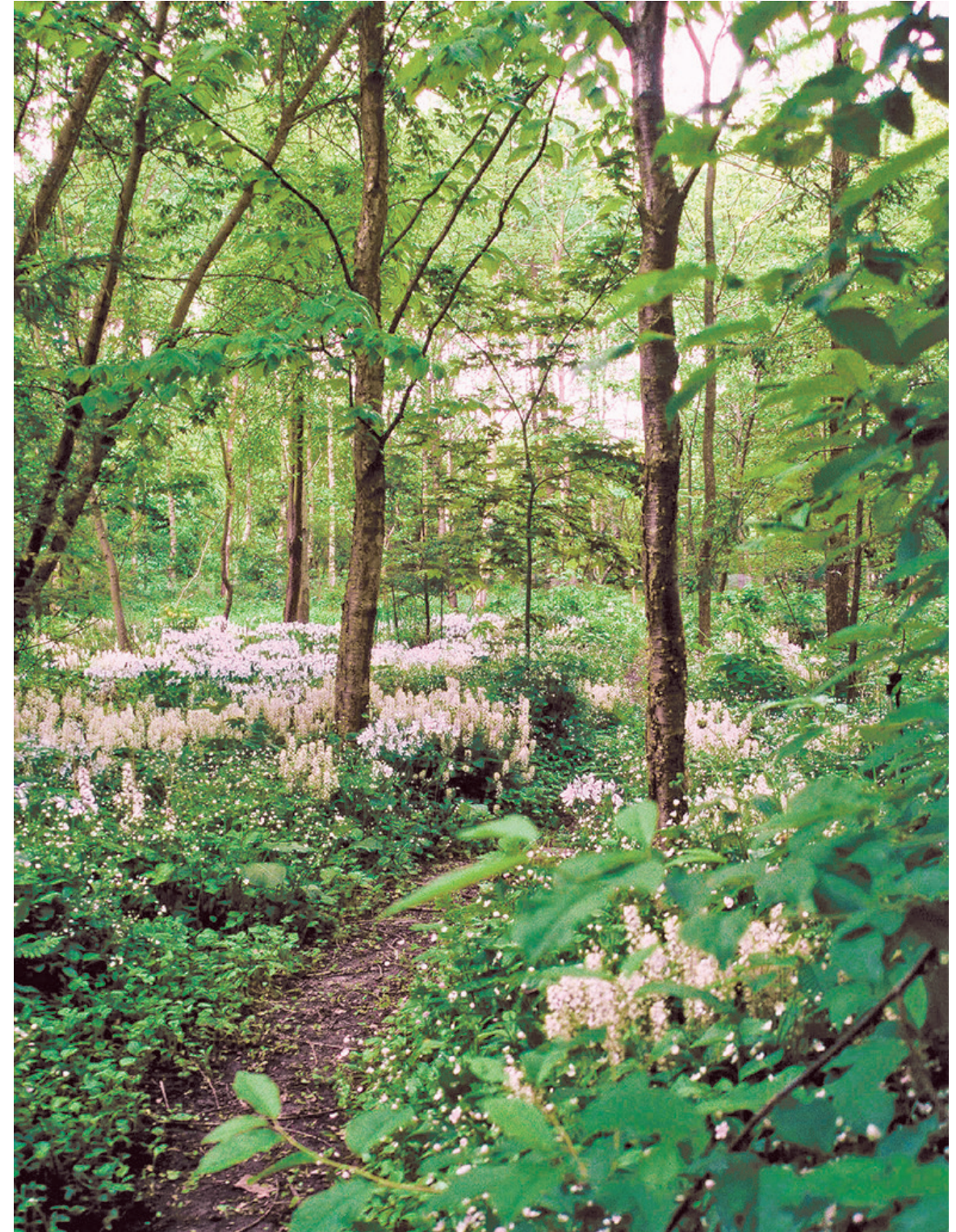
NORTH AMERICAN STAND

In the North American stand, inspiration for the field layer was taken from the beautiful, species-rich forests in the eastern United States, where many of the primarily spring and early summer flowering herbaceous plants often used in perennial borders originate, with the central design focus being on the floral display. Some shrubs and small trees were also planted to strengthen the understory.

One year after planting the circles of compost.



On the right one year after planting the eastern part of the North American stand, where larger parts of the ground were covered with compost.



7. OUTDOOR CLASSROOMS

LEARNING BY DOING,
PLAYING, ACTING

Beyond attracting researchers, the landscape laboratories invite students and their teachers to immerse themselves in their objects of enquiry and study them in situ. The Alnarp Campus, a former horticultural college with a model farm and extended agricultural fields, continues to profile itself as a 'Landscape Laboratory Campus' with outdoor classrooms. Over time, universities worldwide have begun to follow this example, as learning proves to be highly successful when students are offered real-world experiences by actively contributing to the creative management and monitoring of the landscape laboratories.

Allan Gunnarsson
Björn Wiström
Stefan Darlan Boris
Roland Gustavsson
Petra Thorpert
Anders Busse Nielsen

For the last thirty years, a group of three of us¹¹ have led landscape lab based three-day workshops on the islands of Tjärö and Karön on the Blekinge archipelago in the southern Baltic Sea¹² (see page 388). The two islands, with their small-scale landscapes, provide opportunities to explore a range of Scandinavian landscapes that are lacking in the region around Alnarp. During the three-day workshop, students had to engage with the landscape, develop and implement ideas, document the results, and present their concepts. The fresh ideas, naivety, engagement, and enthusiasm among the students have made a big difference in the identification of possible concepts and actions. They started by opening spaces, sightlines, and corridors in the dense vegetation. They created alternative paths and elaborated spaces in which visitors could have unexpected experiences as well as for rest and contemplation. At times, they focussed more on accentuating areas with a vague identity via pruning and minor cuttings.

The bachelor courses have most often featured clear plans presented by the instructors, with the aim having been to give the students an experience of practical landscape management work, as much as it has been to let the students' design ideas blossom. In the master courses, the student groups have had rather more freedom and encouragement to be creative. Here, the design process is reversed, starting outside with discussions and practical actions, and later conceptualising the process and the result in graphics and text communicated by the students in a field-based seminar.

These courses provide the students both an enriched and broadened image of what design can mean and pride in having contributed to the development of the Lab. They will have turned spaces, hopefully, into a valuable place, in the sense given to the word by landscape scholars Yi-Fu Tuan¹³ and Edward S. Casey.¹⁴ For most students, this represents the first time they could experience their ideas being realised physically. Aching backs and arms and blistery hands are proof that they have tried the pre-1800 design method, which has been described as 'the dirty hand design

11 / Roland Gustavsson, Allan Gunnarsson and Björn Wiström.

12 / Roland Gustavsson, Allan Gunnarsson and Björn Wiström, "Time out! - Thirty years of experiences from outdoor landscape teaching," in *The Routledge Handbook of Teaching Landscape*, eds. Elke Mertens, Nigül Karadeniz, Karsten Jørgensen and Richard Stiles (Routledge: London, 2019), 135-147.

13 / Yi-Fu Tuan, "Space and Place. Humanistic Perspective," *Progress in Geography* 6 (1974): 211-252;

Yi-Fu Tuan, "Language and the Making of Place. A Narrative-Descriptive Approach," *Annals of the Association of American Geographers* 81:4 (1991): 648-696.

14 / Edward S. Casey, "How to get from space to place in a fairly short stretch of time," *Senses of Place*, eds. Steven Feld and Keith H. Basso (Santa Fe: School of American Research Press, 1996), 13-52.

2012 a group of students from the Dynamic Vegetation Design course had the opportunity to develop a dense part of the hybrid aspen stand at Alnarp Västerskog (V20) that had not been thinned before. They decided to keep mainly the children in mind and designed a playful landscape for them. A narrow winding path leads into the dense vegetation, hiding places for both adventure and rest. The students showed great sensitivity to the vertical and slender character of the stand and the wooden material, as well as in relation to how children could be attracted and led into a world of wonder and mystery.





FROM WOODS TO CITY: WORKSHOP AT THE KNOWLTON SCHOOL OF ARCHITECTURE (OHIO)

In autumn 2016, Roland Gustavsson was invited to organise a one-week workshop at the Knowlton School of Architecture, The Ohio State University, in the United States. The proposed topic of the workshop was on linking the urban and the natural, as well as indoor and outdoor teaching. Excursions were made to striking content-rich and exciting landscapes, and sections with profile diagrams were laid out and recorded, complemented with photographs and notes. Through observation and drawing, students analysed how the form of tree growth relates to and reveals specific environmental conditions and their dynamics. This was discussed on site as a potential guide for planting design in different urban settings. Back indoors, the students used hand drawing as a method to deepen their understanding as well as to communicate their observations and interpretations. The workshop concluded with an exhibition.

The structural approach to vegetation as illustrated by the Ohio example is meant to convey the insight that the designed environment in urban contexts can be explored more deeply than is the case in conventional design approaches. Site conditions should be treated as a foundation for living material, and trees can be personalised by a more exact relationship to the site. Doing so generates public interest and makes spaces more dynamic and sustainable.

The young woods of the Sletten Landscape Laboratory have become an asset to many a resident's everyday life. They have turned out to be robust enough to accommodate and even inspire activities as forms of co-management and co-creation. Co-management, as we call it, is a new concept for contemporary urban development projects that offers the residents a place beyond their homes where they can cultivate communities – of human and non-human life, of neighbours, gardens, and woods, and of care for their closest urban surroundings, which contributes to social sustainability.

8. CO-CREATING URBAN WOODS

A LABORATORY FOR MANY

Hanna Fors
Anders Busse Nielsen
Stefan Darlan Boris
Helena Melqvist
Roland Gustavsson



Co-management day, September 2010 in a low woodland of *Tilia cordata* (H35).



Co-management zone (2022). Leaving the garden means entering the wood (H35).

Co-management zone in September 2022: a garden that dissolves into a woodland. A walk into the low woodland of *Tilia cordata* (H35), ending as a window to the pasture behind.



6 / Stefan Darlan Boris, *Urban skov og landskabsinfrastruktur* [Urban forest and landscape infrastructure], PhD diss. (Aarhus: Arkitekt-skolen I Aarhus, 2010).

Co-management in Sletten

The Sletten Landscape Laboratory is an integral part of the urban expansion of the Danish city of Holstebro in Jutland, developed as a residential district from 1995 to 1998 on previously agricultural land. The housing units have been built into a landscape of new woodland (32 hectares) and pastures (30 hectares) planted between 1999 and 2004. They are organised as eight ‘forest villages’ in glades within the woods and six ‘fortress villages’ located along the forest edge, overlooking the open pastures.

As is the case for all landscape laboratories, the key motivation is to experiment with woods as a central component of urban development, experimenting with different establishment methods, management strategies, and various degrees of complexity. What distinguishes Sletten from the other landscape laboratories is its direct connection to the city expansion, and in that connection, the direct relationship between new woodland and new housing units, and thus a direct relationship with locals.

In Sletten, the co-creation process has developed via an unconventional set-up. Residents were encouraged to engage in their everyday landscape from the very beginning, which has resulted in long-term participation, something that is often difficult to achieve. Many residents have lived in Sletten from the beginning and have followed the growth of the woodland. In this way, they were not invited to maintain a readymade landscape, but rather played an active role in forming the evolving woodland, and still do.⁶

Soon after moving in, several of the residents in the forest villages began – by their own initiative – to weed around the small, newly planted seedlings or grow vegetables and flowers between the planting rows along the woodland edge bordering their new gardens. Residents interested in gardening were the pioneers, inspiring their neighbours to join in. This was not only tolerated but in fact encouraged by Carl Aage Sørensen, the head green space manager in Holstebro. He took a step back as manager and formalised

APPENDIX

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IMPRINT

This book is published by Blauwdruk Publishers in collaboration with SLU (Swedish University of Agricultural Sciences)

Text

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Photography

Stefan Darlan Boris, Daphne de Bruijn, Roland Gustavsson, Dana Hladíková, Lars-Göran Lillvik (p. 273), Dan Meyer, Anders Busse Nielsen, The Ohio State University, Jan Šesták, Henrik Sjöman, Catherine Szanto, Björn Wiström

Illustrations

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Editing

Anders Busse Nielsen, Lisa Diedrich, Harry Harsema, Catherine Szanto

Text editing

Andy Tarrant

Design

Daphne de Bruijn, Harry Harsema, Blauwdruk Publishers

Lithography

Harry Harsema, Blauwdruk Publishers

Printing

Modderkolk productions, printed in Lithuania

Printed on acid-free paper

produced from chlorine-free pulp.

TCF ∞

Distributed by

Idea books, Amsterdam

2023 © Blauwdruk Publishers and Swedish University of Agricultural Sciences (SLU)

ISBN 9789492474650

www.blauwdrukpublishers.com



This book has been made possible by a grant of the Swedish Research Council Formas and the support of the Swedish University of Agricultural Sciences (SLU), namely the Department of Landscape Architecture, Planning and Management, and the Research Platform SLU Urban Futures.