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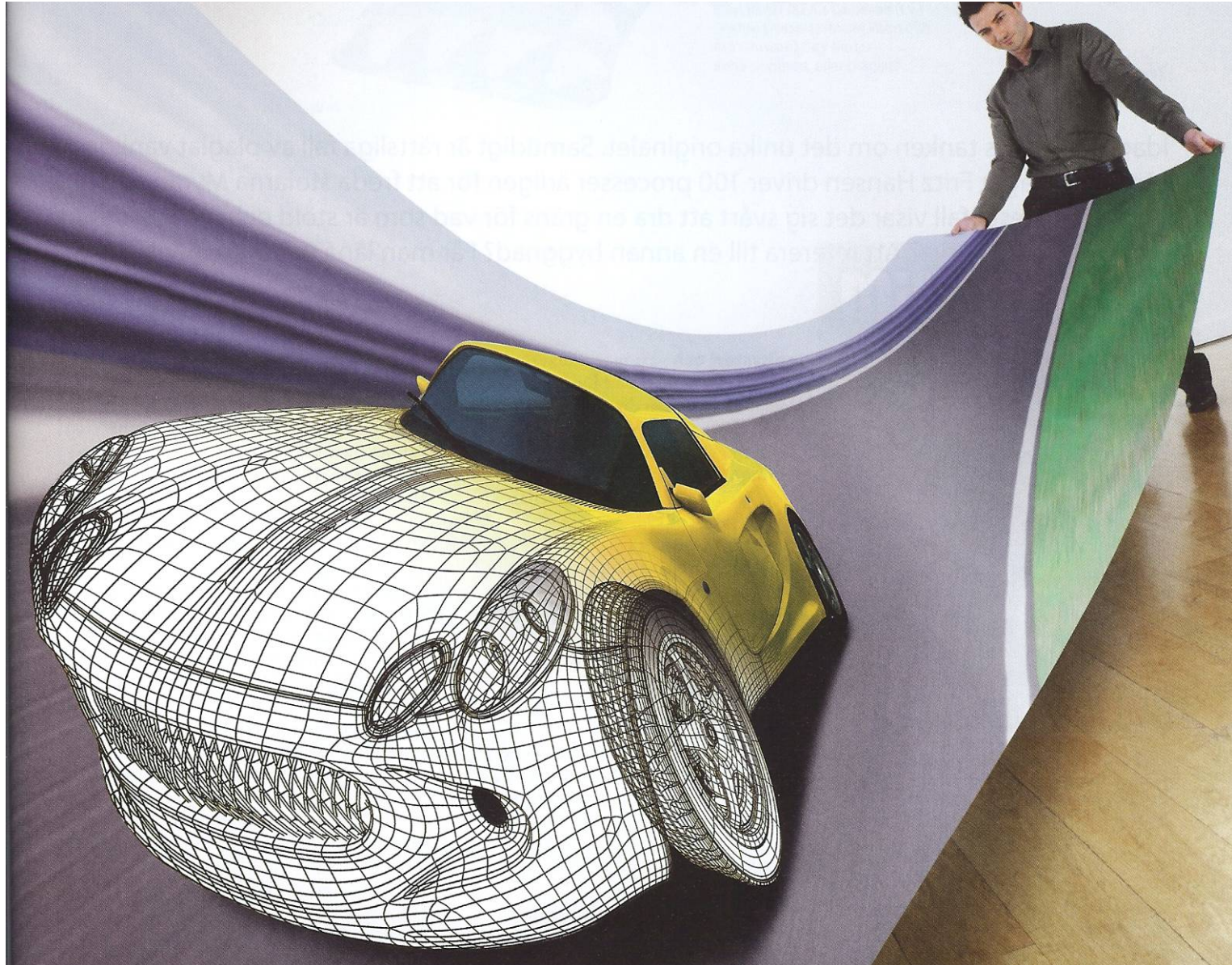
# **The Landscape Laboratory Concept in Scandinavia**

*Beyond the mainstream in landscape planning and design*



**New time means a need of new models. There is an urgent need to deepen and articulate principles of construction.**

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The landscape laboratory concept was invented in the 1980ies. The first one that was established was Alnarp landscape laboratory. Here: The university campus of Alnarp. About 400 hectares of agricultural fields, an ancient woodland and a park are framing the buildings. The winter 2005-2006. For the university it is a long time program, which for each year should become more and more valuable. Today with an interesting link to the European Landscape Convention.





Establishing a landscape laboratory; is to start a growing resource, based on both known and unknown research questions. Landscape for people, landscape for multiple use. The meeting of three main cultures in science. Human science, social science and natural science.

*Alnarp landscape laboratory, the campus island, Västerskog & Tor Nitzelius park*

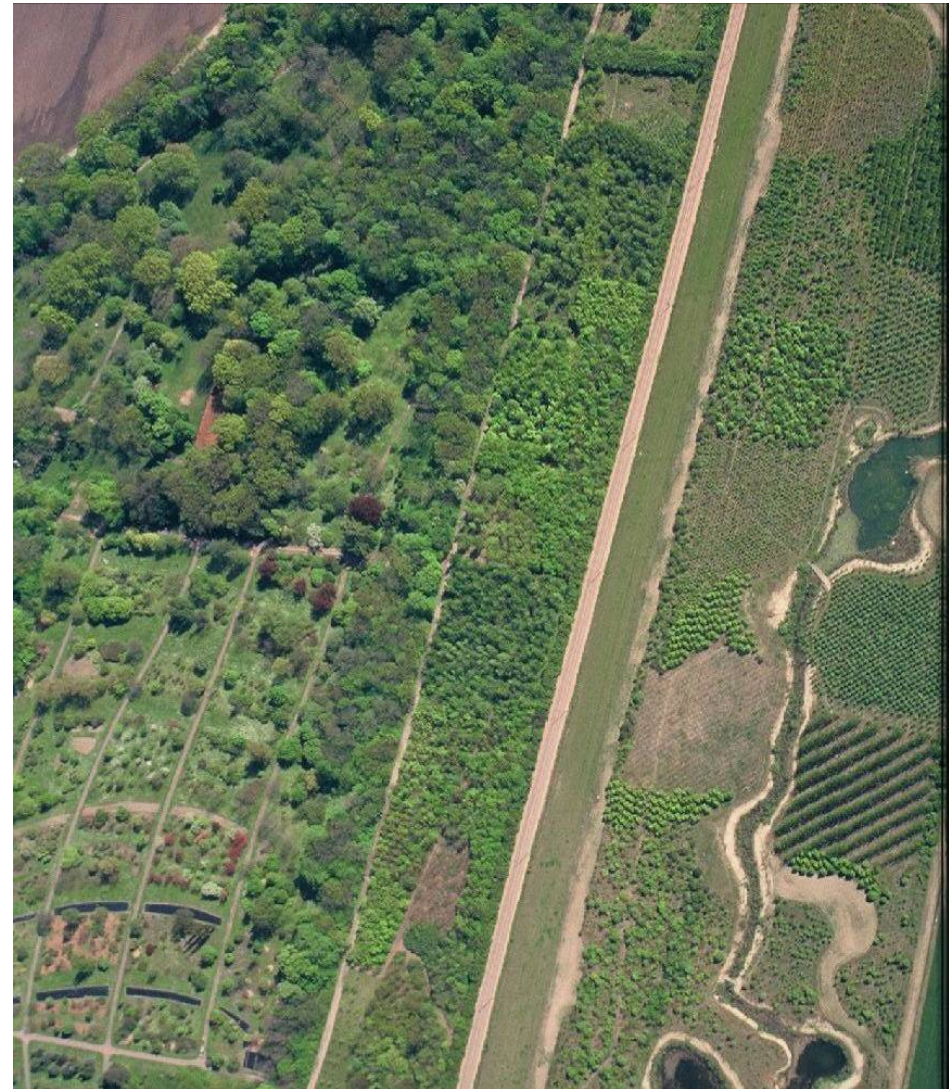


Earlier research: Structural studies, combined with studies of reference landscapes and studies of how to grow wild perennials



This lead to the next research step: the landscape laboratory concept: Here the two main areas Tor Nitzelius park & Alnarps västerskog.

**Emphasizing the concrete, the full-scale examples, to test new concepts, to refine**



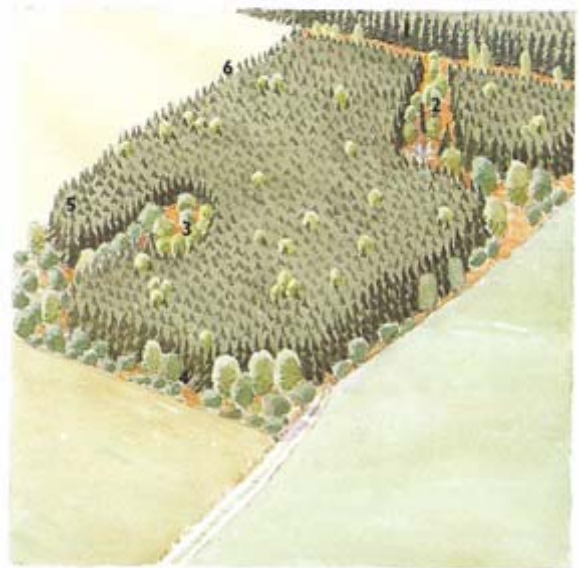
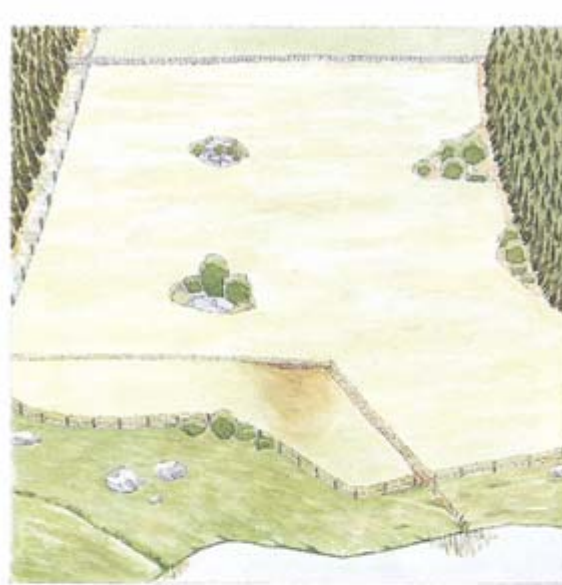




**Earlier "failures"; Experimenting with the establishment of field layer.  
- Not only did we fail. Also the English research groups had failed.**

Lägervägen woodland belt in Helsingborg. 35 years after planting trees and shrub, 20 years after establishing wild perennials. Combined with thinning program in the front, reference plot behind.





**Within the university the landscape laboratory can be seen as a project which started as a fight for a more varied landscape, and a critic to too much of standardisations and oversimplifications.**

Two examples of design in a landscape and Afforestation.

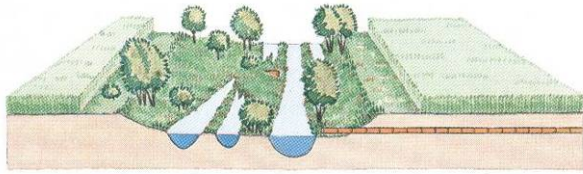
The importance of context.  
From the book  
"The New Landscape".



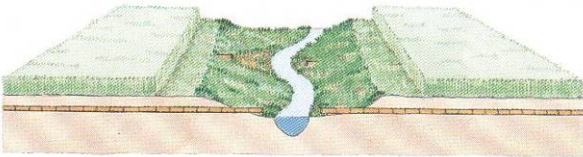
# Alnarp landscape laboratory. Articulating small landscape elements.

**First step: Creating new landscapes. Second: enriching existing planted landscape; a creative process wave after wave.**

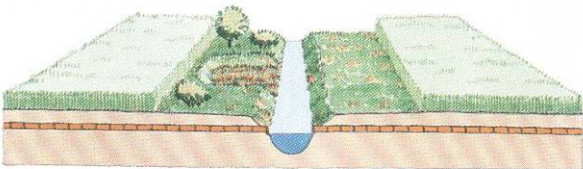
*120 woodland interior plots, mostly 50 x 50 metres. Incl. Snogeholm almost 200 plots. & 10 woodland edge plots. 10 plots with exotic trees. The plots organized in main and sub themes*  
*12 concepts for woodland belts, pedestrian walks & avenues*  
*3 design concepts for small waters, 3 for waterstream. Plus meadows and meadow strips in between agricultural fields.*



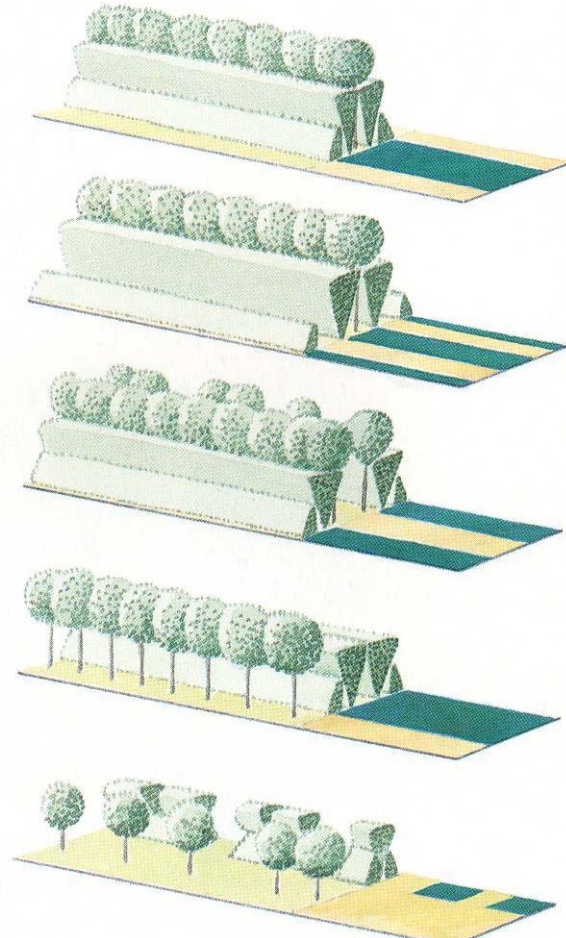
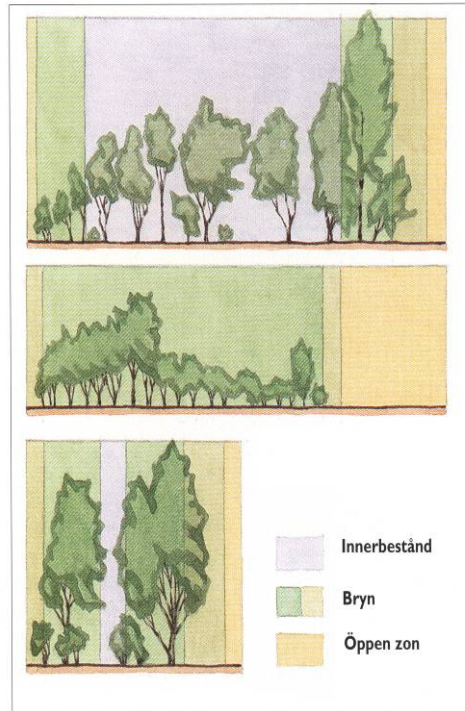
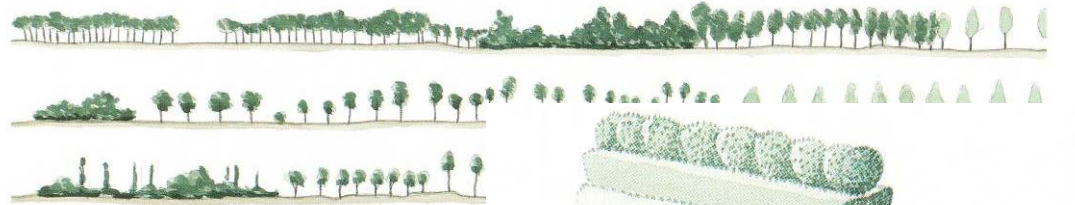
6. Sumpskog.

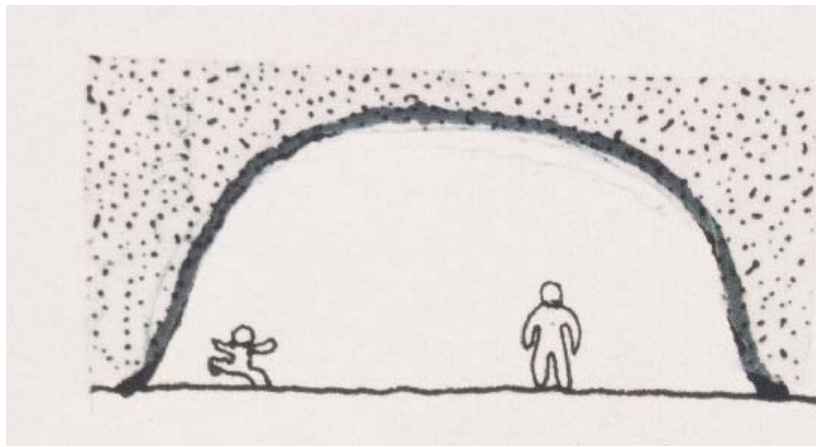


3. Meandring (total längd mer än 1,5 ggr längre än fågelvägen).



5. Hästskovâtmarker





**The interior, closed room**



**The interior, open room**



**The exterior room, the "open sky" room**

In conventional landscape design of today "room" means an open room, in which trees can just be walls or furniture. I suggested a rediscovery of the three contrasting rooms as a platform for a successful futural landscape design (R. Gustavsson 1981)



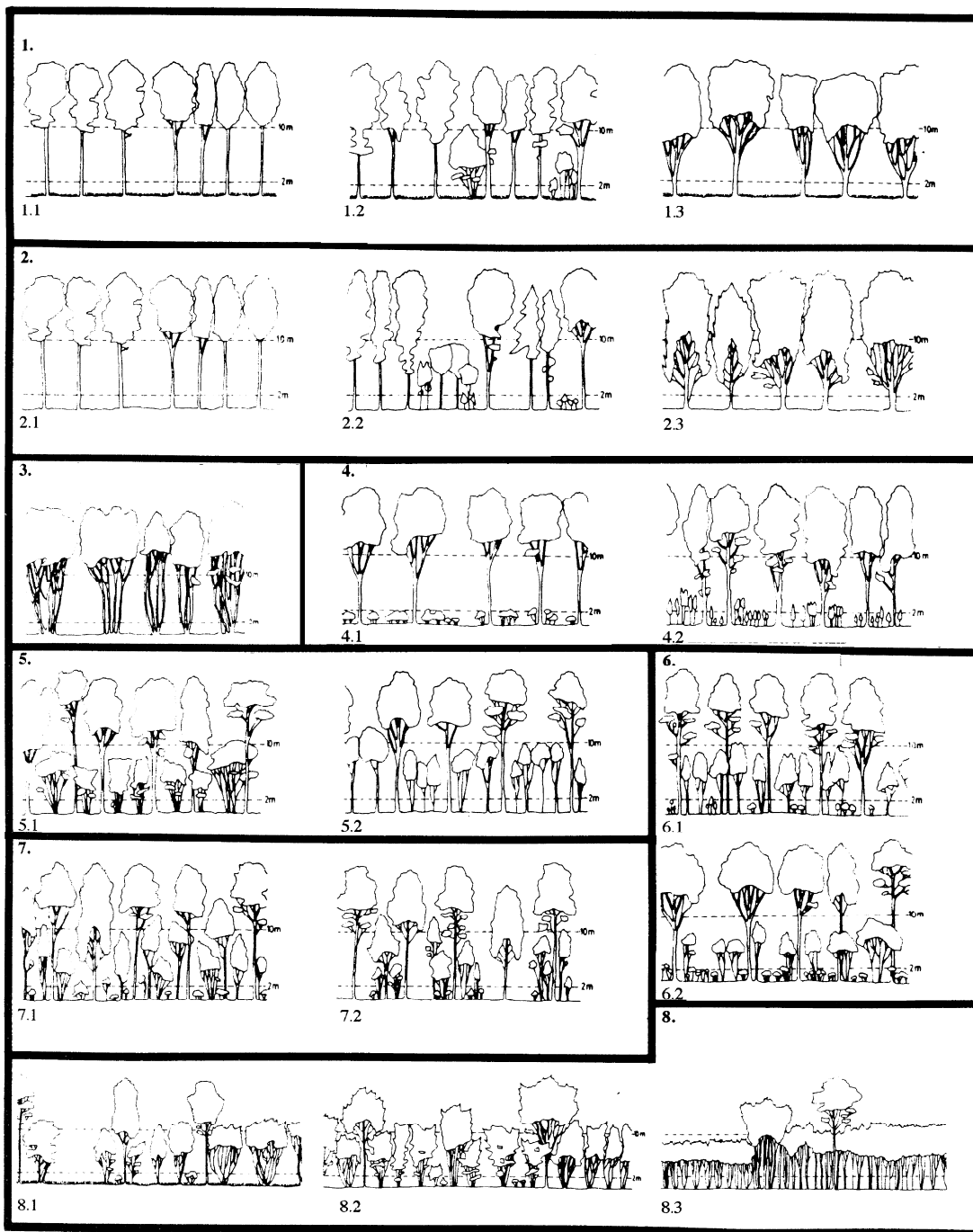
# Rediscovering Woodland interior types

An interest towards people and their experiences leads to a growing interest towards structure and architecture. Here, structural types of woodlands are identified to make us see which one can be relevant and which one has so far been too much forgotten.

## Thinking vertically!

Much more attention is here in particular given to different layers, the undergroth, but also to the tree height, the canopy and its openness.

Low woodland types and multi-stemmed characteristics become qualities that can create specific characters







**Main purpose: Rediscover the demonstration, and the place-contextual dialogue as an educational tool in between academics and practitioners**

**Demonstration for visitor groups. 2005, 2006: 170 special arrangements for groups which were coming in**





Learning by doing; Rather than separating theory and practice: mix them.  
Planting of "plug-plants" by students while explaining the whole story about interactions.





The hazel forest. after 20 years. 2 years after the establishment of the field layer.





Photographing the entré May 2006, Alnarp Västerskog, part of Alnarp landscape laboratory. After twelve years the main comments from many politicians as visitors are: How can it be that it goes so fast! ... And that you can reach so much of content and surprises within such a small area!



# the path of Orpheus sustainable opera

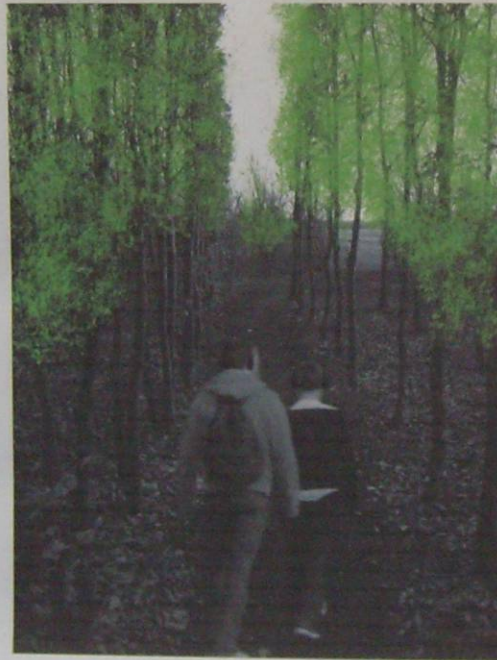
inspiration

As the eternal heavens have eyes or as these  
Pleasant hills have green leaves in May,  
Each would be full to overflowing

**With the pleasure that makes me so happy today**



**With the pleasure that makes me so happy today**



Shall I **never again** see  
The lovely eyes of my beloved Eurydice?  
In the sun and the stars  
You **will be able to** contemplate her beauty.



You, my companion and guide,  
Have led my weak and faltering steps  
Along strange and unknown paths,  
Where today I still hope

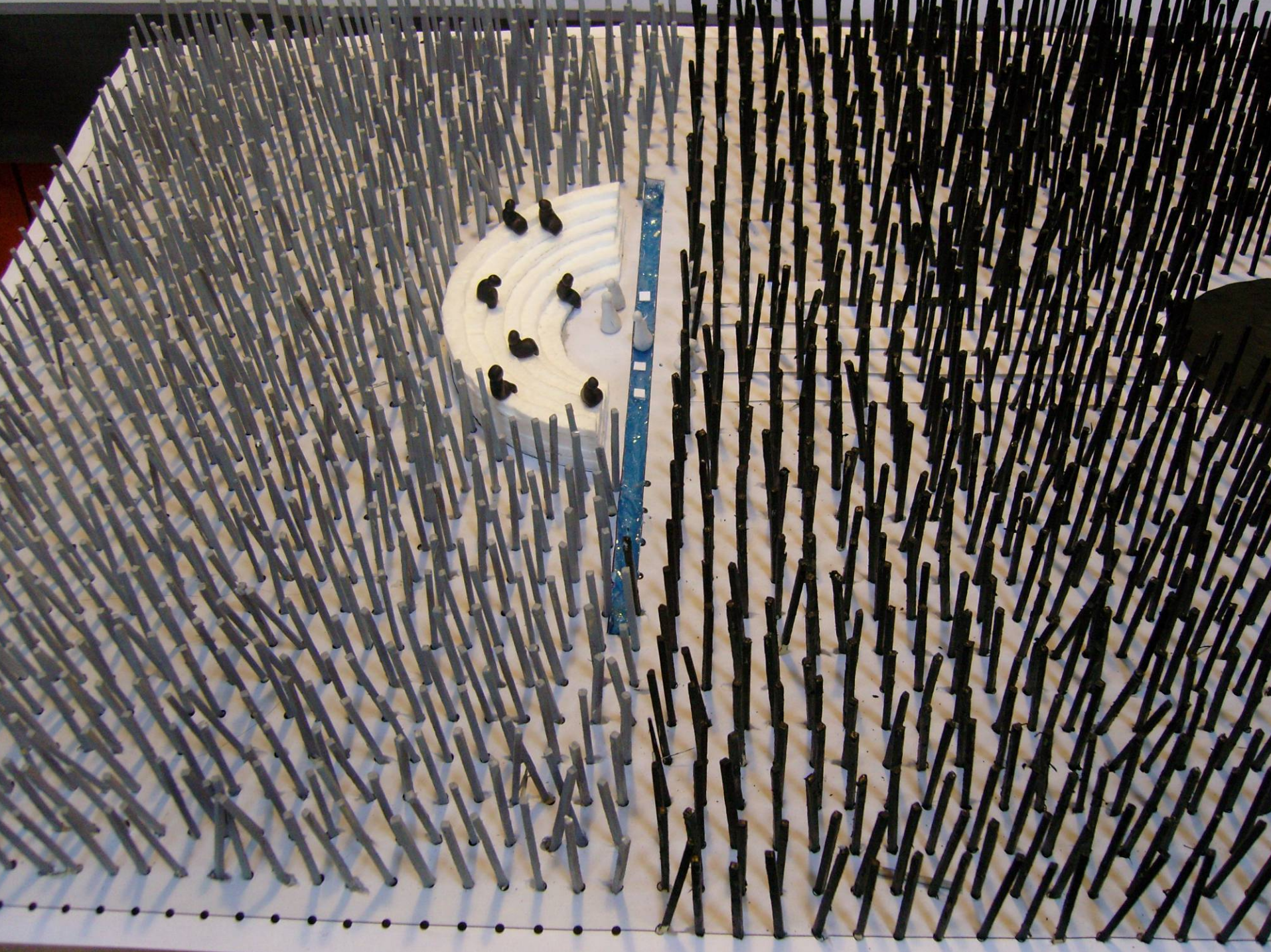
O sweetest eyes, now I see you,  
Now I...but, ah, what **suddenly** obscures you?  
You have broken the law and deserve no mercy.  
Ah, vision **too sweet** and **too bitter...**

**I come to you, Orpheus,**  
The unhappy bearer  
Of most **unhappy,** most **tragic news:**  
Your fair Eurydice...

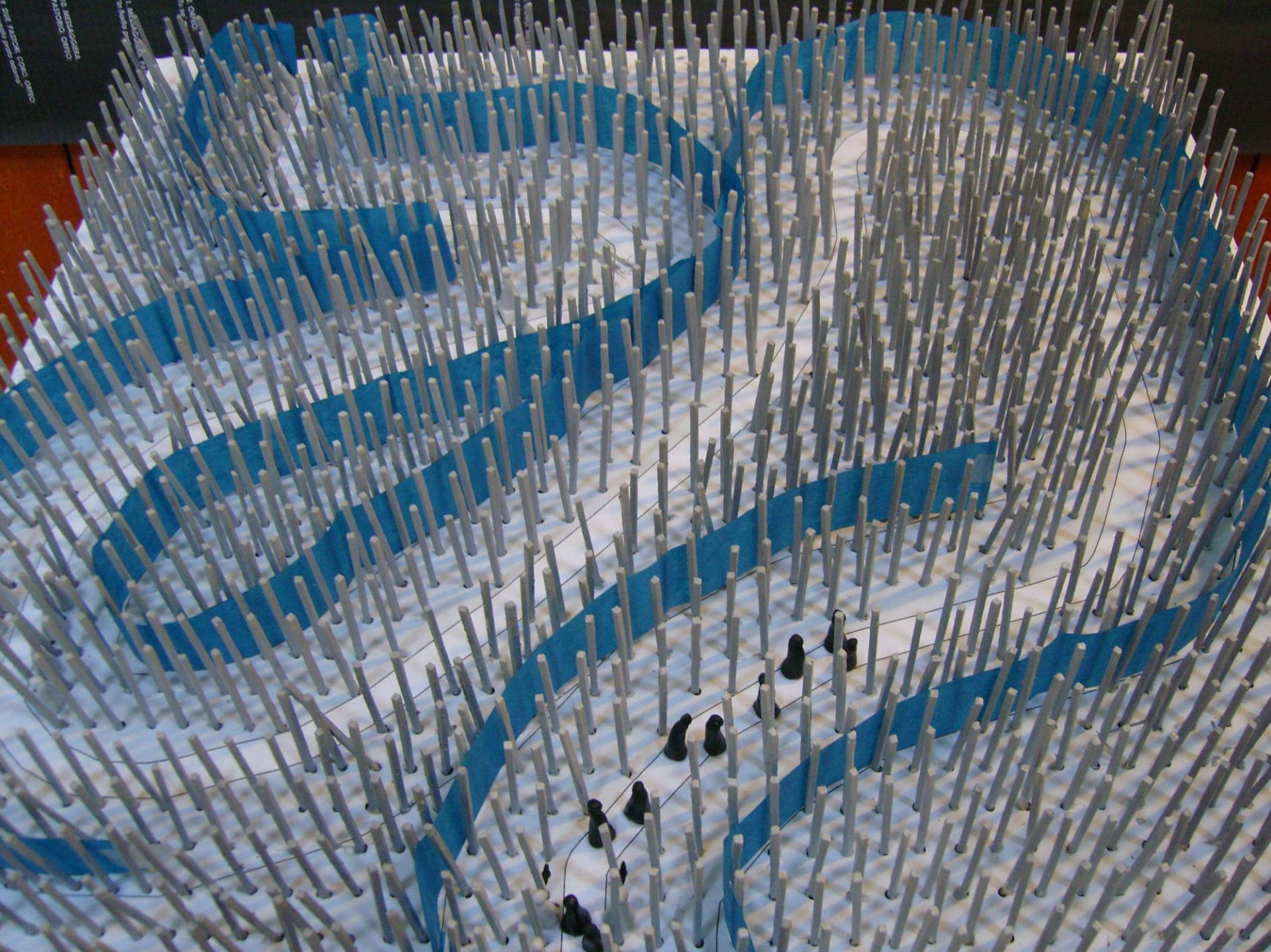






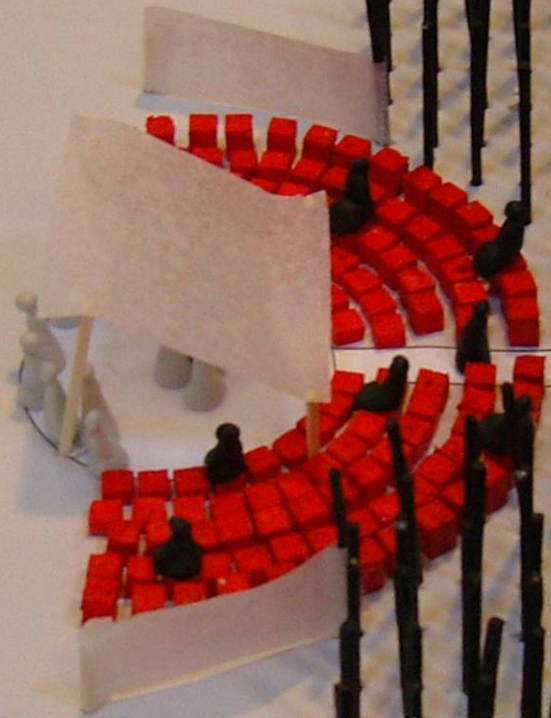






LA MEXICANA  
ANTONIO GARCIA  
CONO GARCIA  
del 1950 con el  
del 1950 con el















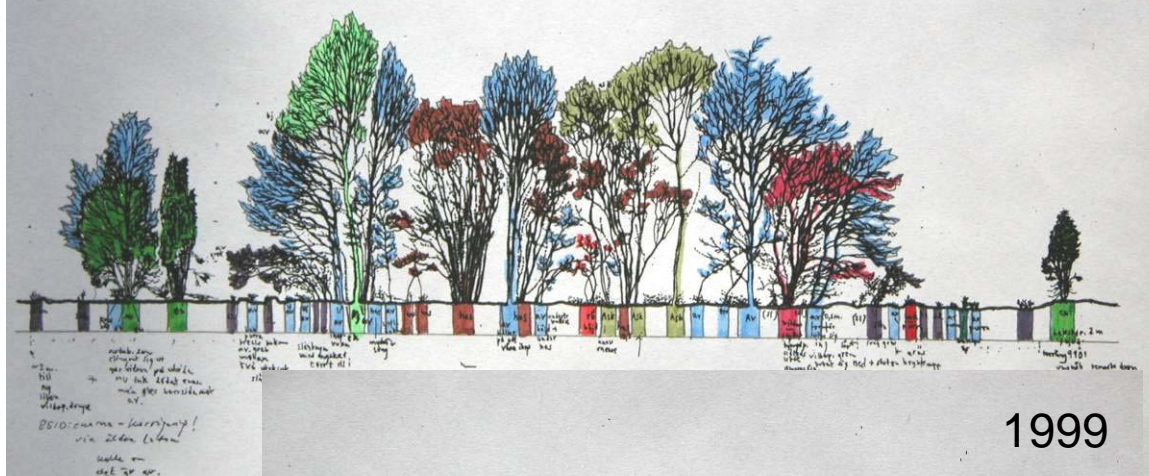
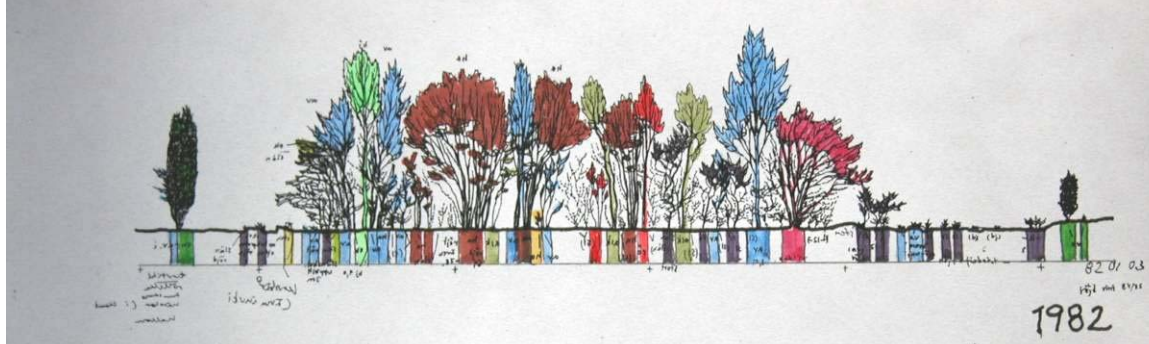




# Dynamic architecture!

## Trees

asp. *Populus tremula*  
 ask. *Fraxinus excelsior*  
 tall. *Pinus silvestris*  
 björk. *Betula*  
 ek. *Quercus*  
 vildkörs. *Prunus avium*  
 vildapel. *Malus*  
 rönn. *Sorbus aucuparia*  
 avenbok. *Carpinus*  
 skogslönn. *Acer*  
 bok. *Fagus sylvatica*  
 gran. *Picea abies*

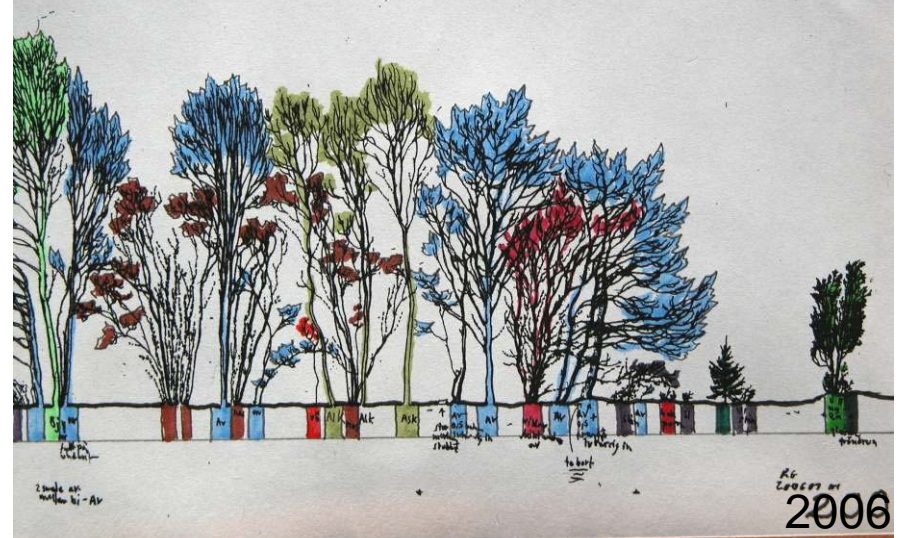


## Shrubs

slån. *P. spinosa*  
 en. *Juniperus*  
 rosor. *Rosa*  
 hassel. *Corylus*  
 hastorn. *Crataegus*

**1982**  
**1999**  
**2006**

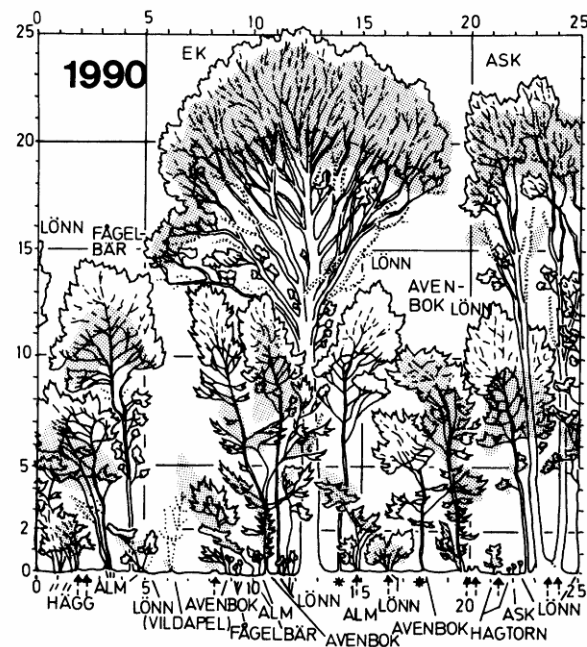
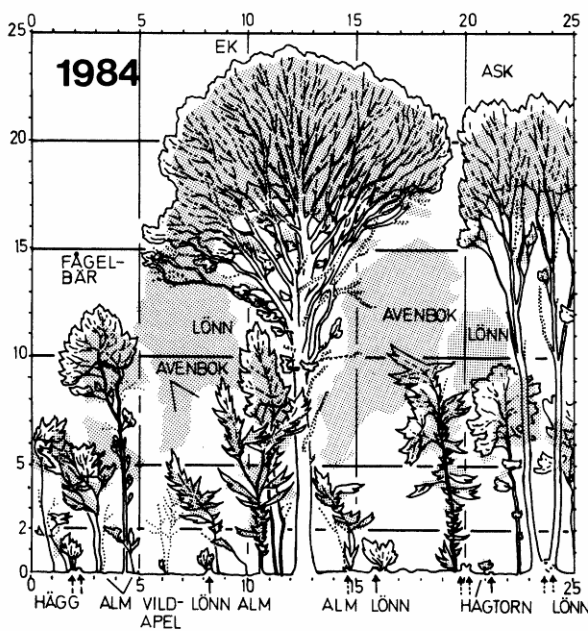
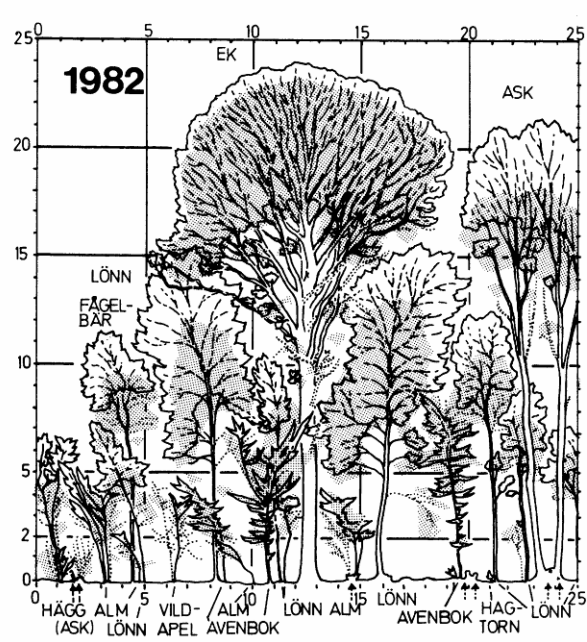
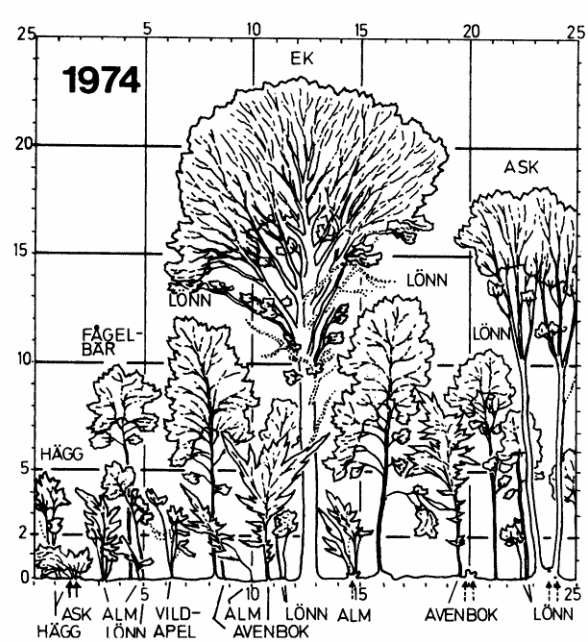
**Example:**  
**Bårakullen,**  
**Sjöarp**











”Gulsippslunden” at Sjöarp,  
Blekinge

1974, 1982, 1984, 1990,  
1994, 2009.





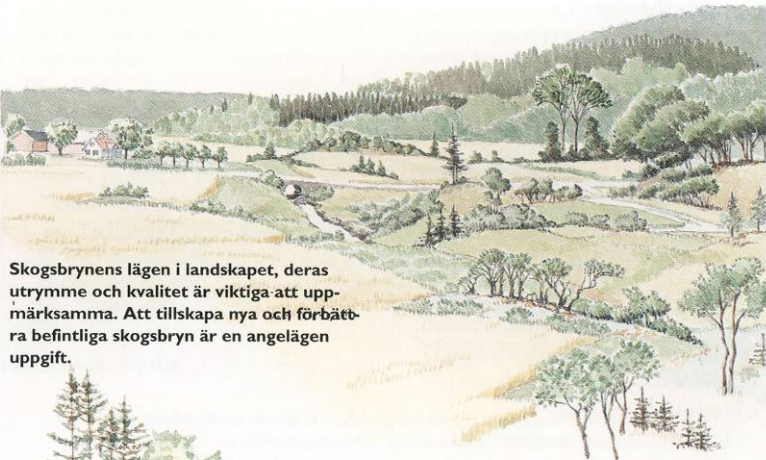
A small woodland (illustrating a grove) as a multi-layered high woodland type with wonderful autumn colours and fantastic spring carpets of flora. Sjöarp.





The city forest of Eslöv, by many called "Sherwood forest" after the story of Robin Hood; was another area where we had made careful analysis of structure and dynamics, also including more open grown trees and glades

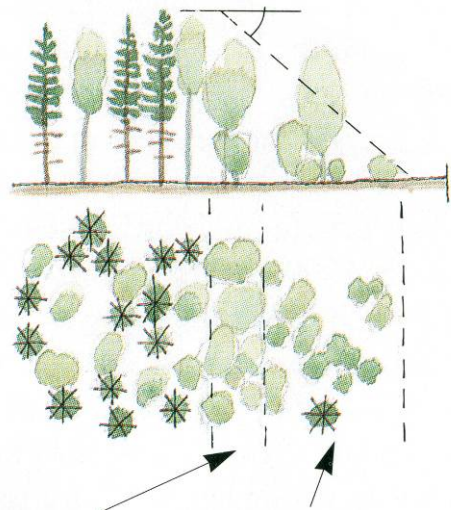
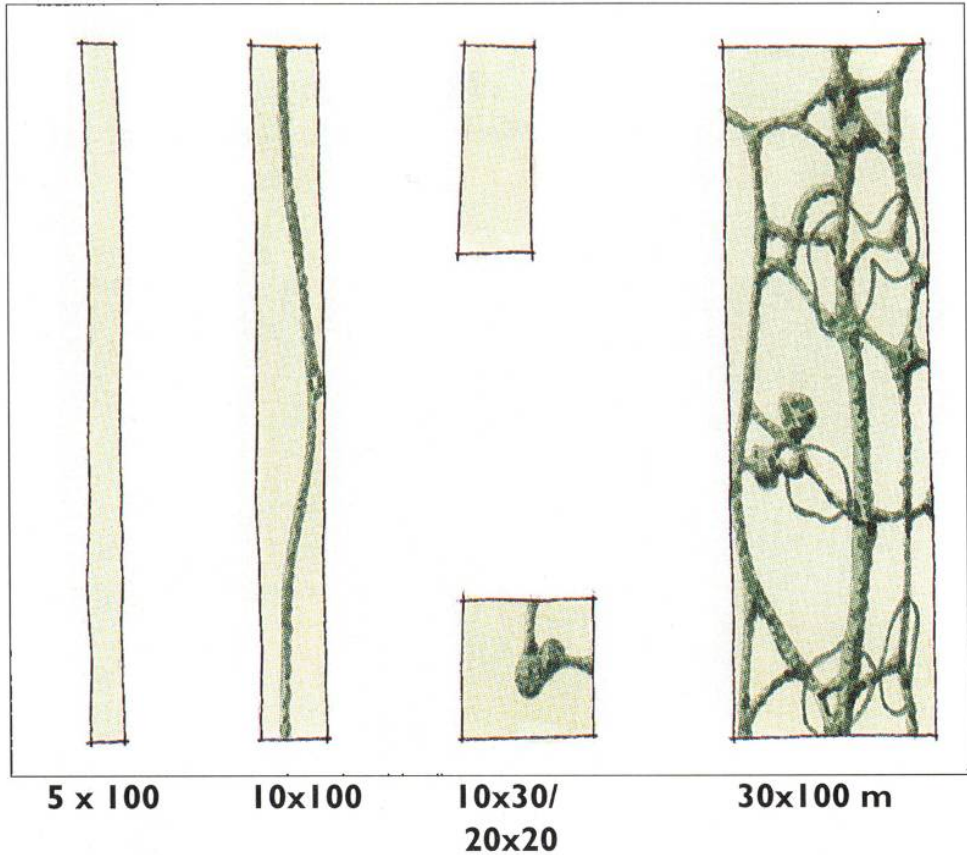




Skogsbryns lägen i landskapet, deras utrymme och kvalitet är viktiga att uppmärksamma. Att tillskapa nya och förbättra befintliga skogsbryn är en angelägen uppgift.



IB. Utdraget bryn med mosaikartad ytterbrynzon



Among elements we focused not only on plots as interior, but did early understand that values as something that often should be linked to strips and woodland belts; here testing the importance of width and structure in the design



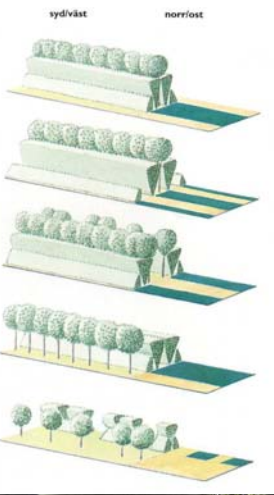


Alnarps Västerskog, as part of the laboratory, 12 år. In future all pillard hall of beach.

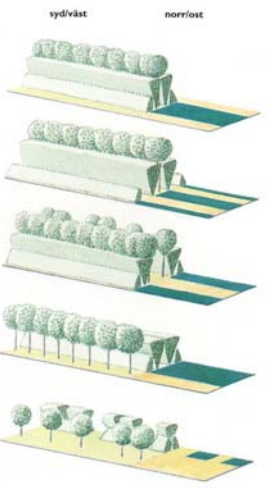




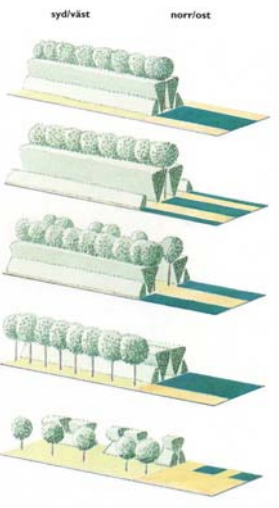












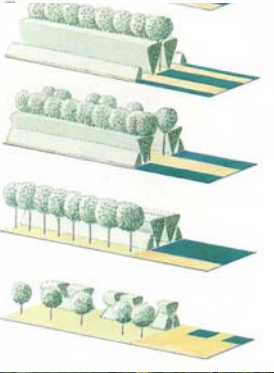




The combination between biotopes; here meadow systems and edge systems. Alnarp landscape laboratory; after eight years.



**Theme:  
Woodland  
strips and  
avenues**



The avenue of ash to the right is far from sustainable. A challenge is to find new design concepts to replace the conventional avenue as a formal line. Here with clumps of oak in meadow. Alnarp landscape laboratory Sept. 2009.





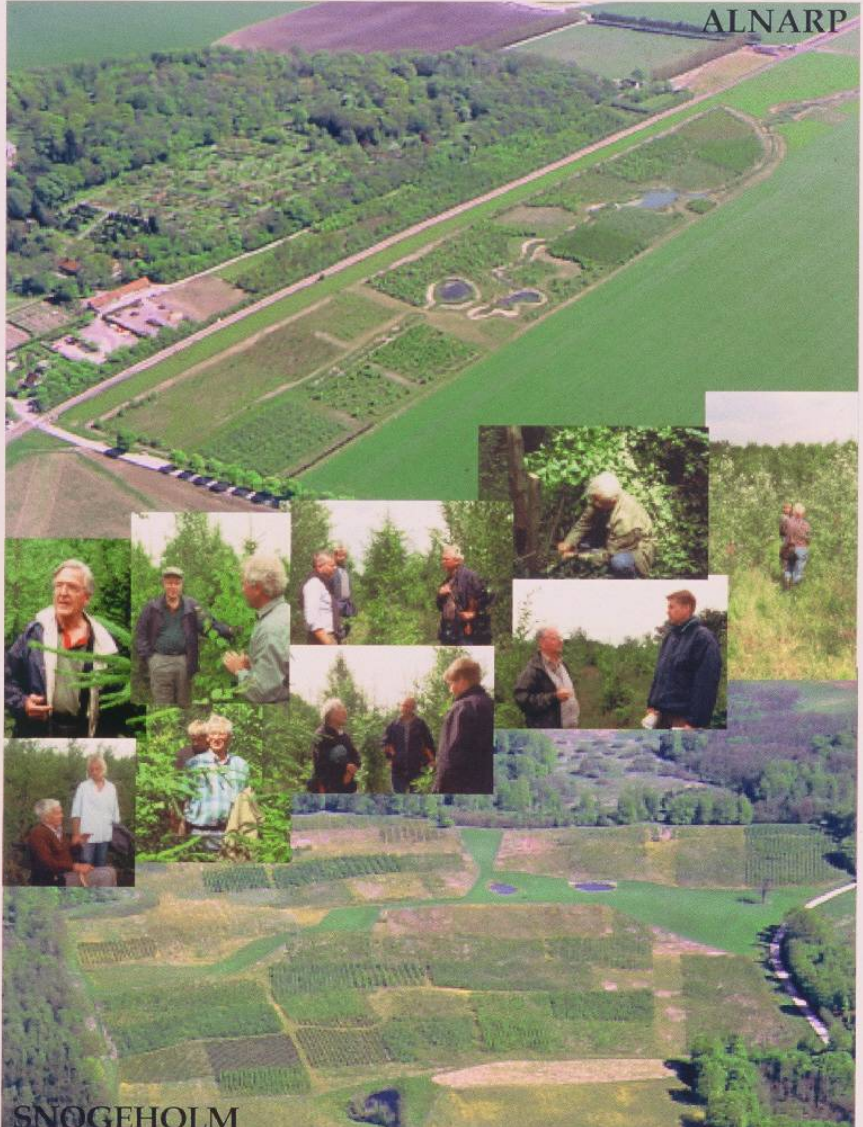
***Outdoor teaching; Learning by doing; The embodied knowledge***

Snogeholm, February 2006. The week-exercise in the international "Urban Forestry and Greening" master program



# MANAGEMENT CULTURES OF YESTERDAY AND TOMORROW

Interviews of 15 prominent professionals in Ecology, Forestry and Landscape architecture, influential in Sweden between 1950 and 2000.



**"Giving birth", phenomenological approaches. Studies of the dynamics.**







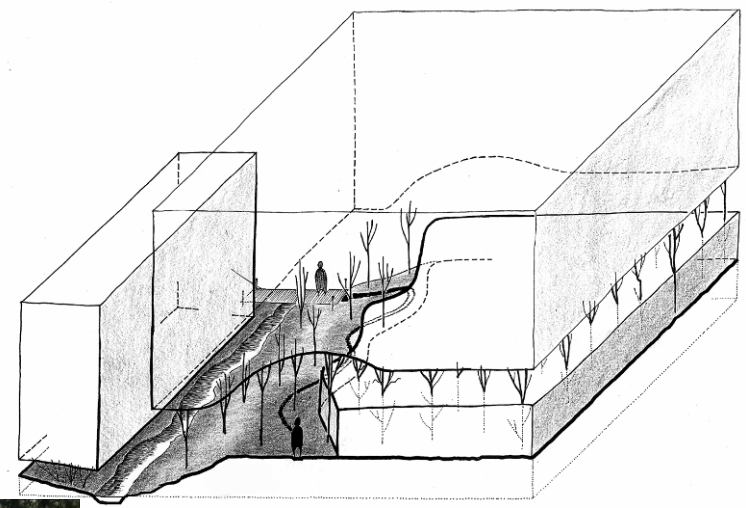
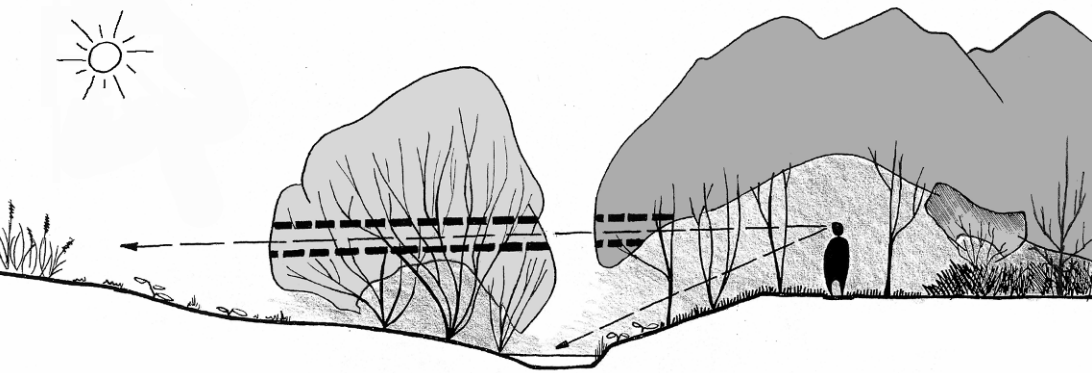
Dynamics should also be directed to views and knowledges of people. Learning about different cultures, professionals and generations; their languages and thinking concepts, learning how to bridge, to take care of traditionally knowledge, and, parallel, to go for the brand new.



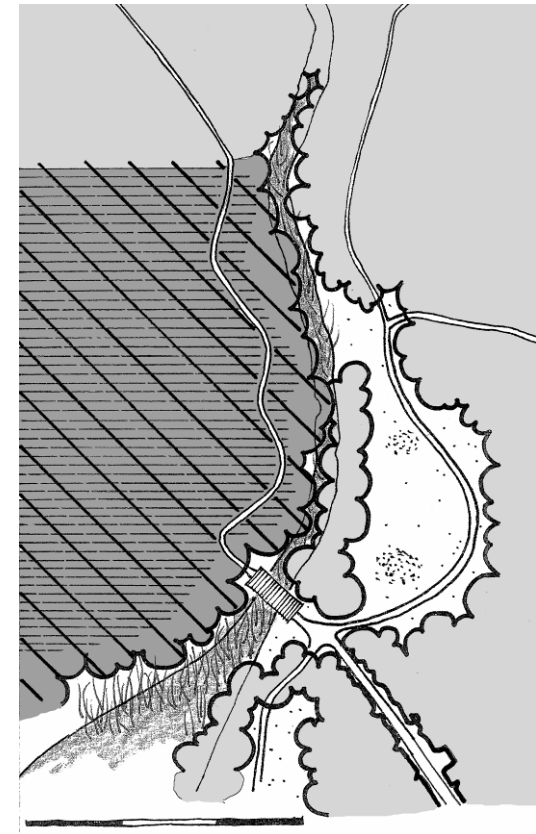


The creative management project; young managers express themselves in a young landscape. Outdoor designers as exceptions in an indoor urban culture of today.





# Place- and time-contextual landscape design











Design principles of walks & art installations. Alnarps Västerskog, landscape laboratory 2007.





2007



2009

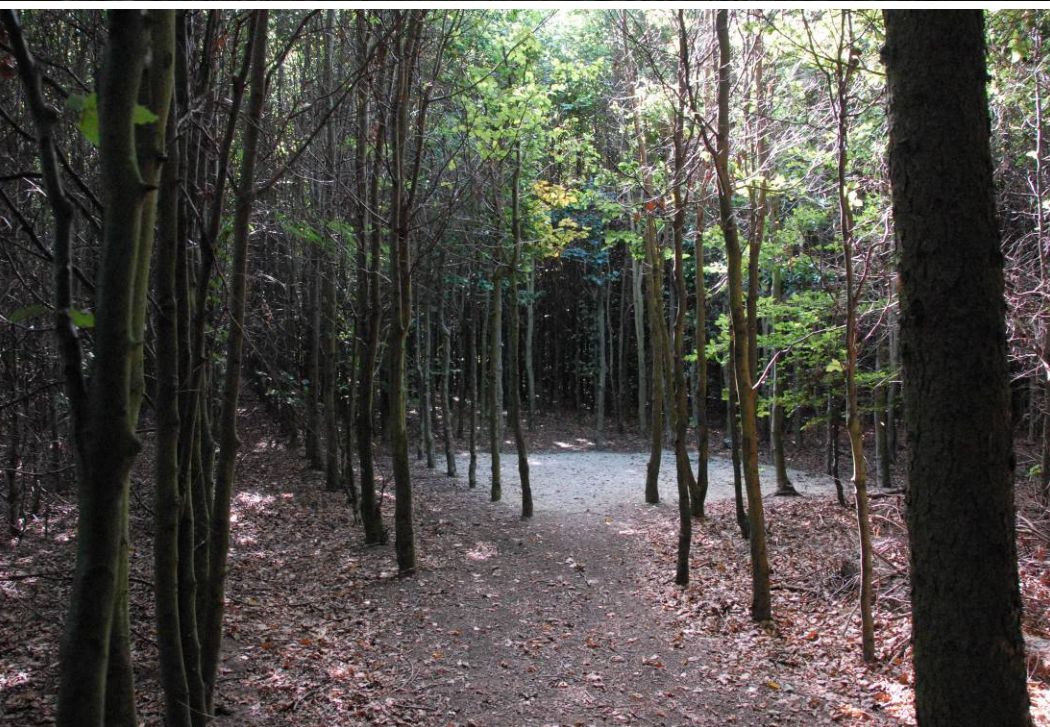
**Landscape architecture  
and art as time-contextual  
rather than instant**





## Place-specific design

Linn's micro mountain landscape  
Dana's square







Dana's square; a creative approach using the contrast in between shadow and pockets of light, Using design as a tool in the management phase.





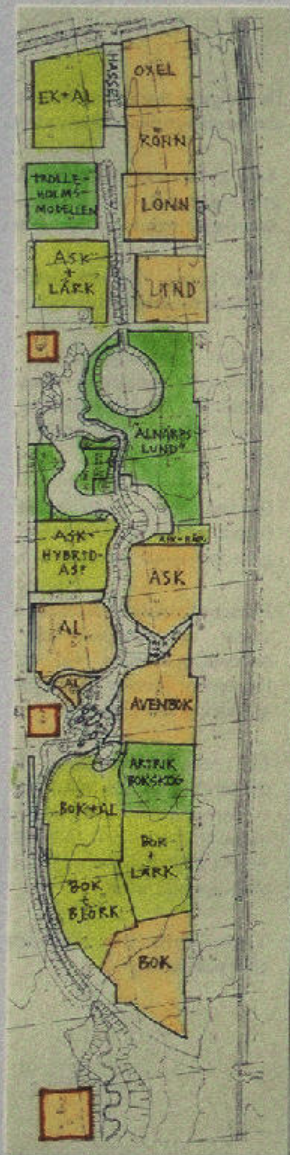


# Combined environmental and production lead concepts when establishing woodlands.

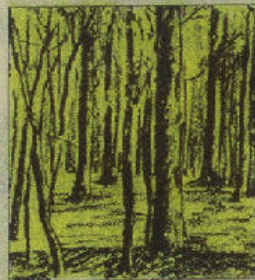
25% classic, 75 % brand new concepts. More: The introduction of complexity ladders

*Alnarp landscape laboratory*

*Snogeholm landscape laboratory*



Enartsbestånd



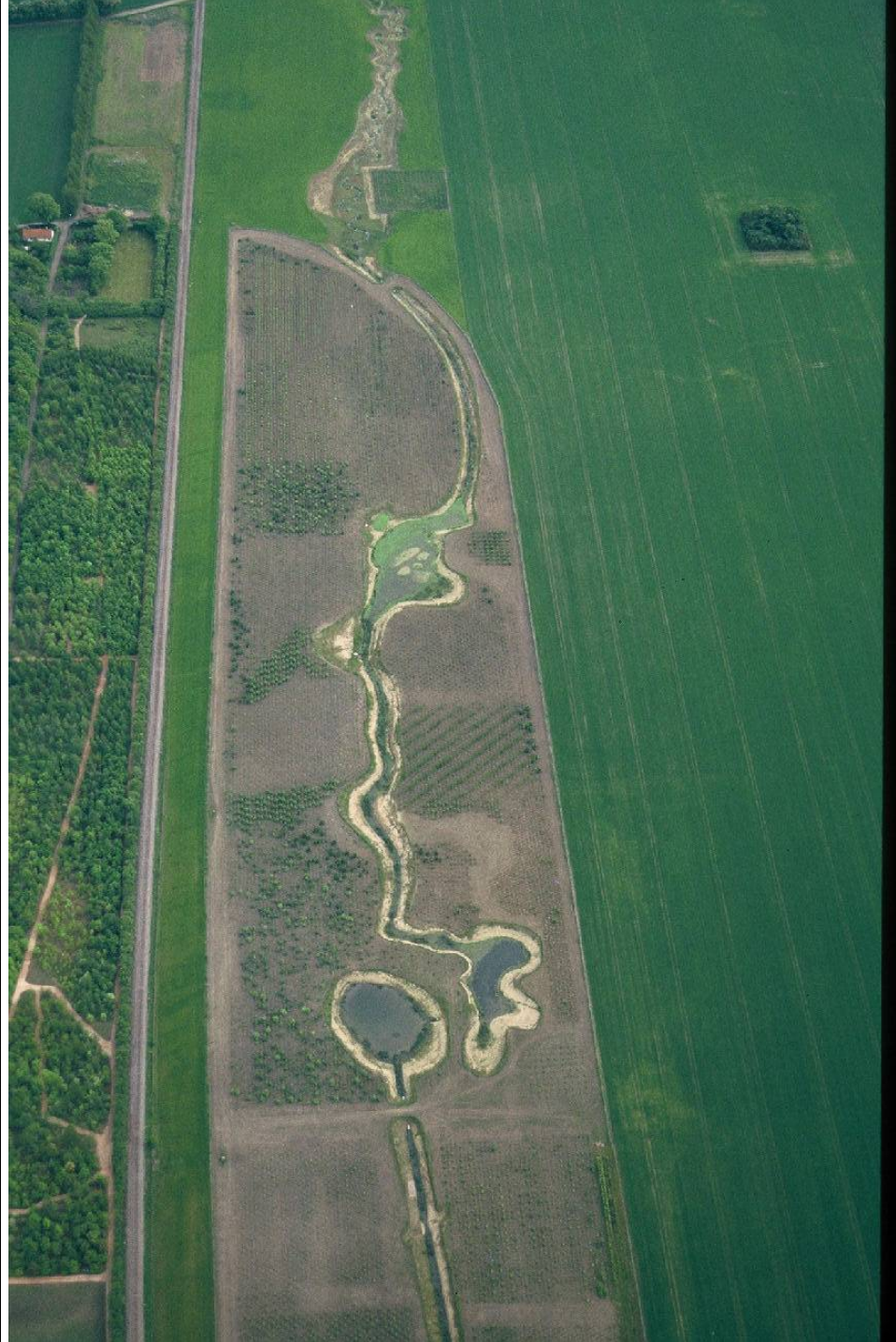
Enkla blandbestånd



Artrika blandbestånd











Snogeholm landscape laboratory 2005; SLU in cooperation with Region Skåne. Primarily linked to forestry traditions, expanding it into landscape architecture, design, also emphasizing landscape experiences, and recreation



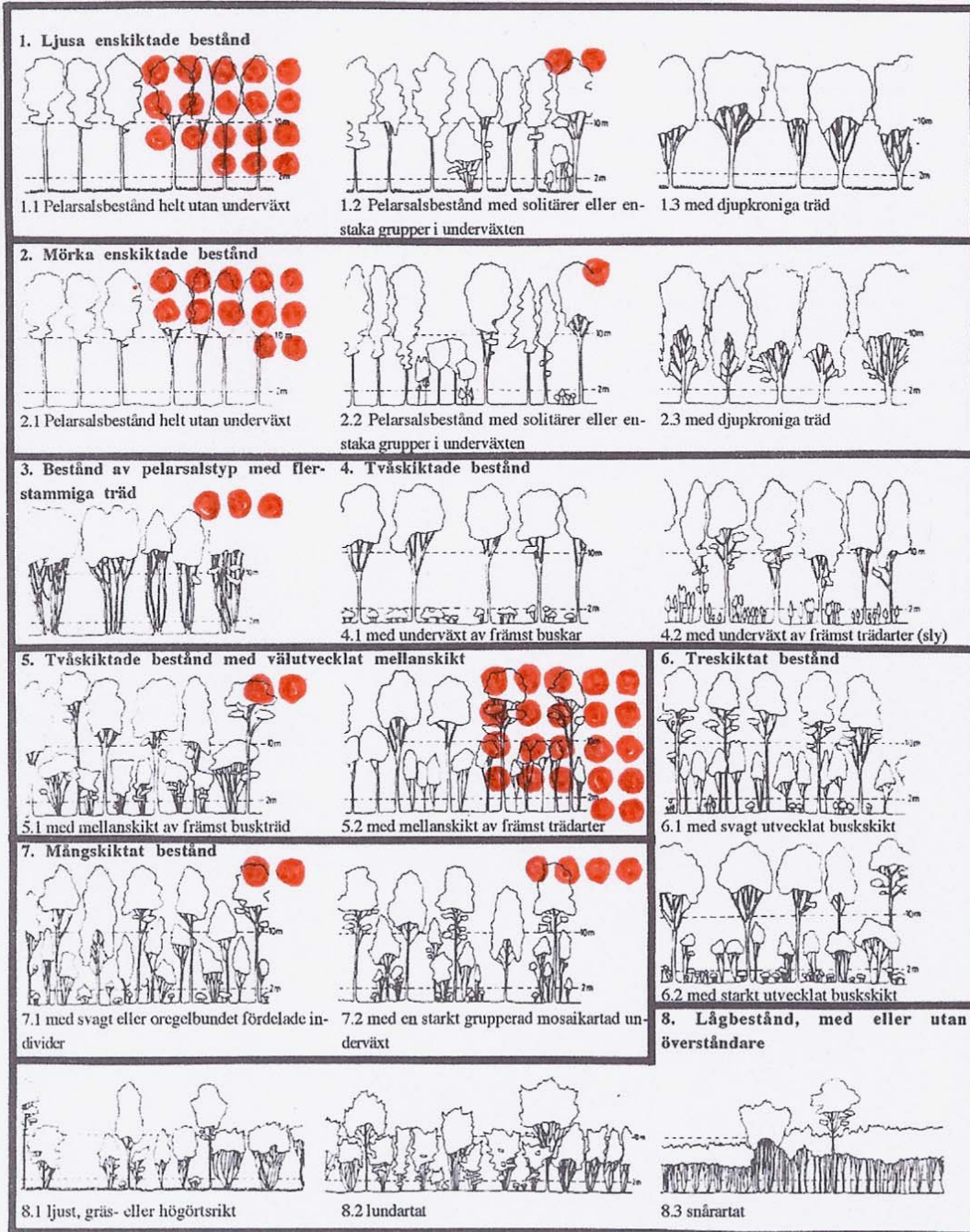
# What structural woodland types have been prioritized in Snogeholm & Alnarp landscape laboratories?

The choices have been very much affected by our choice to find alternatives in which production became possible.

Three types dominate: **Pillard hall types** in the long term perspective with either **light** or **shadow** giving main trees, and **two storied types**, in which one or two tree species are found in a lower tree layer or in an intermedian (middle) layer. Some few with a clustered undergrowth are also possible to find.

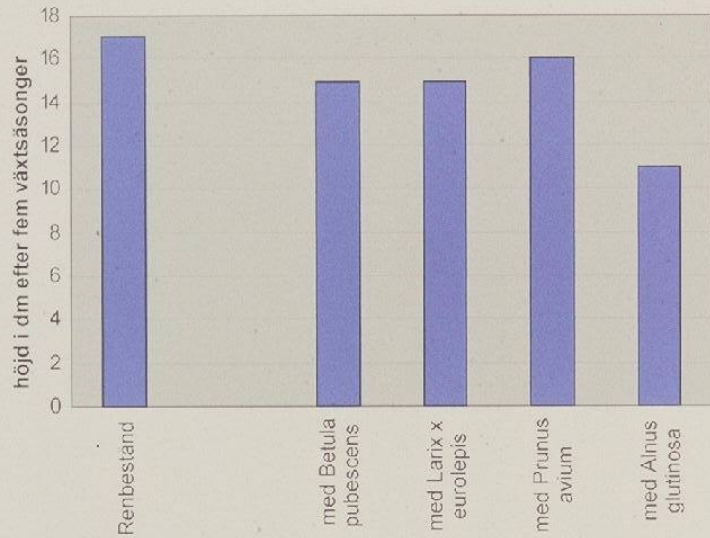
Types of plantations in which human experiences and appreciation, and/or biodiversity is highlighted without interacting with production outcome is not present, but could be interested to identify and study in other areas.

Through management it is possible to diversify the present types considerable.





Alnarps landskapslaboratorium

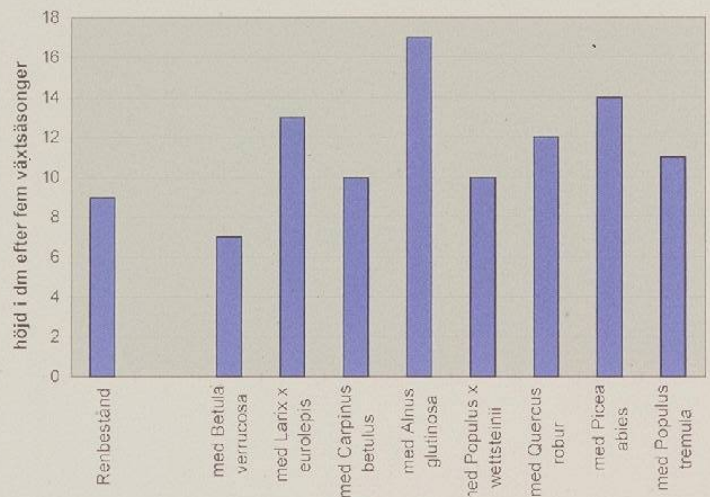


*Fagus sylvatica* i renbestånd och i bestånd med andra arter

*Fagus silvatica* – beech (left)  
*Prunus avium* – wild cherry (below)

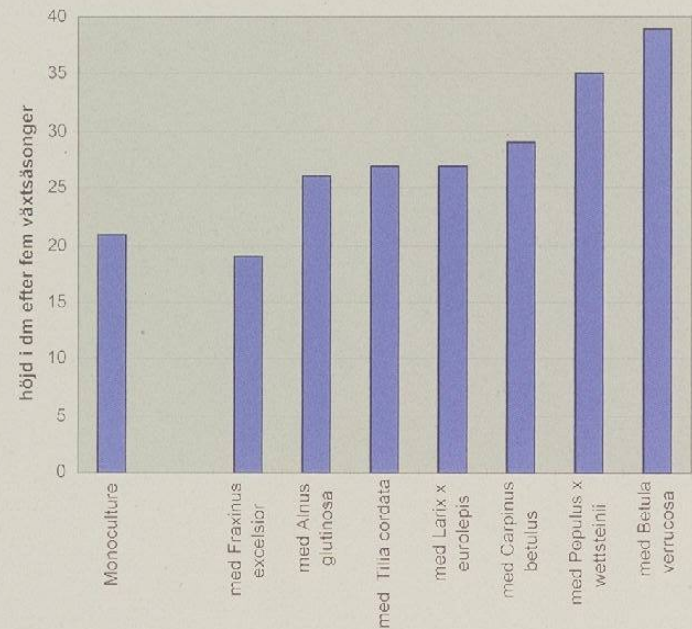
In monocultures and different mixed stands after five years

Snogeholms landskapslaboratorium



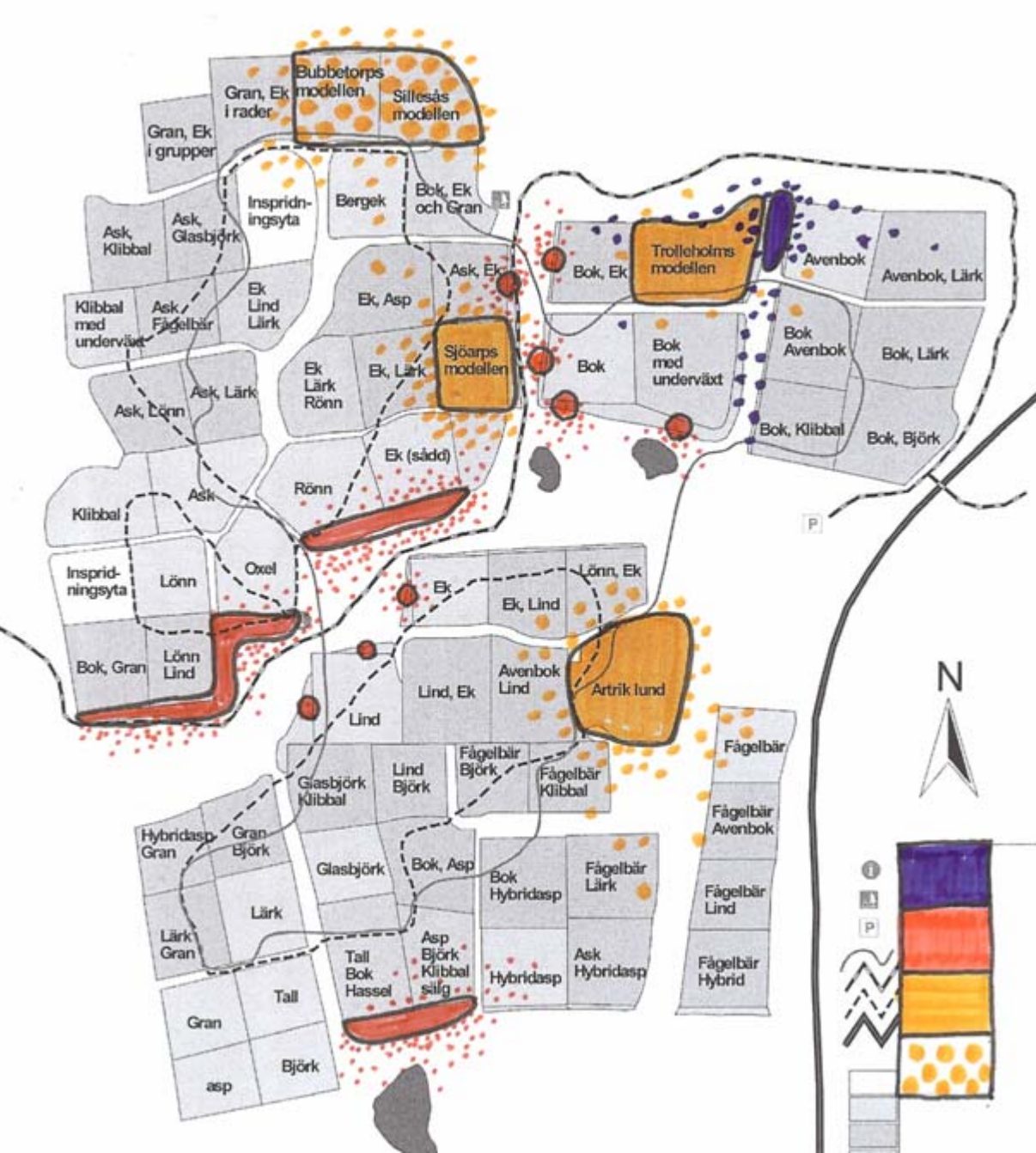
*Fagus sylvatica* i renbestånd och i bestånd med andra arter

Snogeholms landskapslaboratorium



*Prunus avium* i renbestånd och i bestånd med andra arter





## Biodiversity strategy

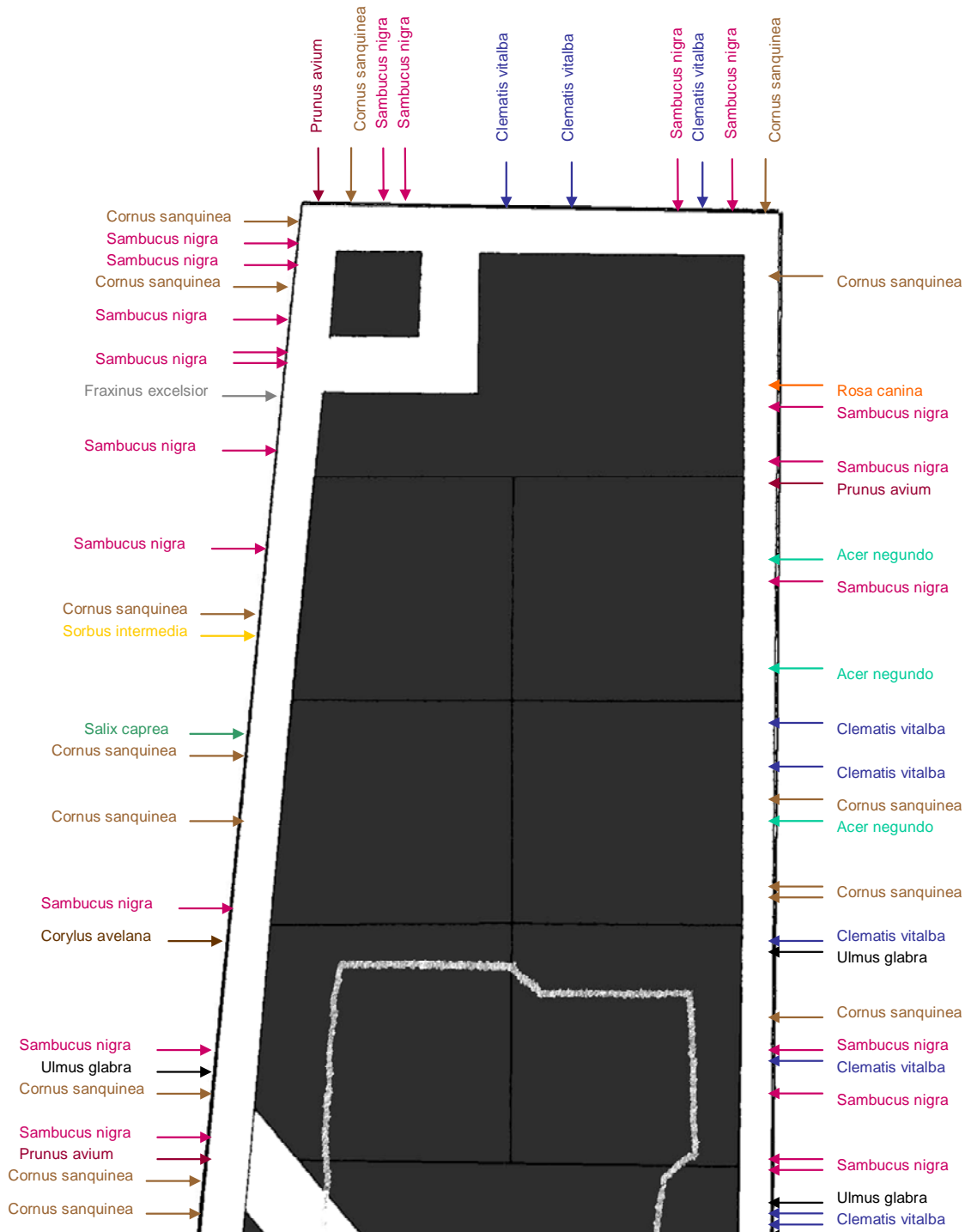
Regional gene pool

Species rich edges

Species rich mixed stands

Probable spreading patterns in a second step





## The story of the "shit" fence

Outside the plantations a **fence** was set up before planting to prevent it all from hares, rabbits etc.

Already after five seasons a lot of visits by birds, that had been sitting on the fence, had done what they should. An half open, impressionistic outer edge of trees and shrubs, and sometimes hedge, had been created increasing values.

The northern part of Alnarp  
Västerskog after five seasons





In the "older" part of Alnarp västerskog, after 12 years, this "spontaneous edge" (to the right) is sometimes dense like a hedge, and gives wind shelter for butterflies etc. Consequences of this as part of a design: Probably this should be predicted, making such "spontaneous" processes to become a conscious part of a design.





**The third landscape laboratory in Scandinavia:**

**Sletten, Holstebro, Jutland, Denmark**

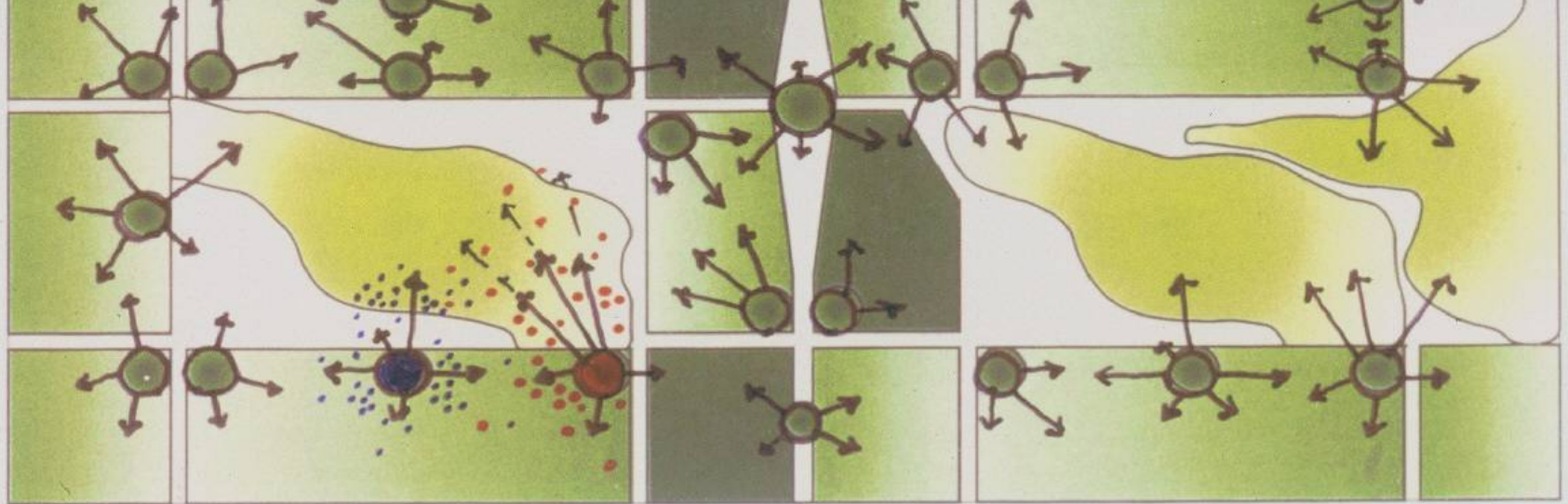
**The most innovative issues: The three design principles & the interaction zones**










- The landscape plan for Sletten departs from site topography and existing vegetation
- It operates with: 1) Industri 2) Housing 3) infrastructure 4) woodland 5) pasture





-  Plantering, etapp 1
-  Oplanterade zoner för spontan beskogning alt. fortsatt öppethållande
-  Grupplantering av framtida fröträd
-  Ljusa planteringar med glest ställda lövträd som björk för att underlätta inspridning
-  Plantering, etapp 2 (efter 15-30 år)

Sletten, Holstebro

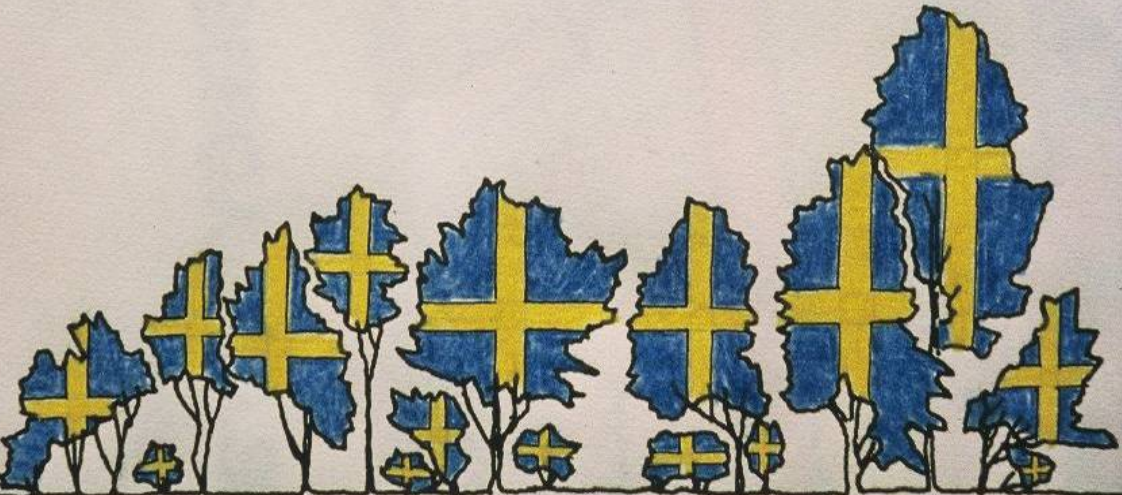
### ***Three Planting design principles;***

The **Habitat model** with its structural types, and complexity ladders, **The B+S model**, combining large, basic plantations with small group plantings of exotics strengthening the specific identity, but, parallel, also as a long time seed source; and (above) the **Gradient model**, with plantings, from dense to wide open.



# VAR KOMMER VÅRA STÄDERS VÄXTER IFRÅN ?

...naturliga förekomst?  
...fröförökning och upp-  
dragning av plantor?



Henrik Sjöman demonstrates the two North-American stands comparing the design with a South-Scandinavian stand with similar structure.

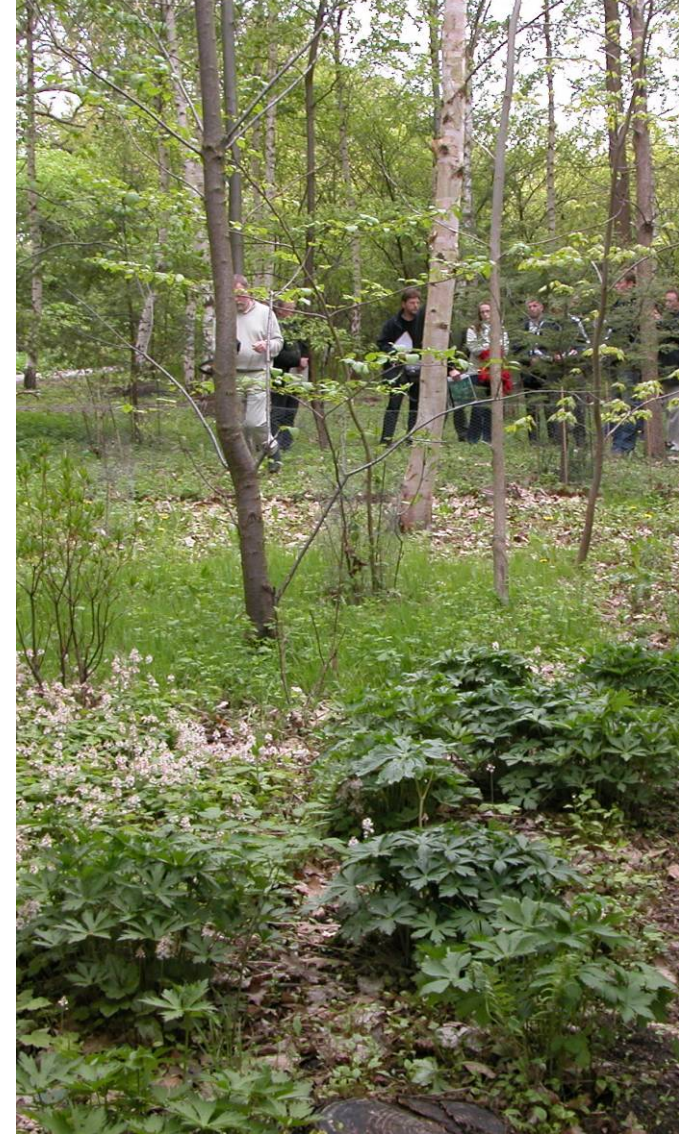




Middle European species-rich oak-hazel forest type



East Asian species-rich woodland type



North-American species-rich woodland type

**Today's success; two examples from Tor Nitzelius park**

**"Woodland experience is not only a matter of trees"! Experimenting with how to establish a field layer in Alnarp landscape laboratory has shown a series of successful approaches.**





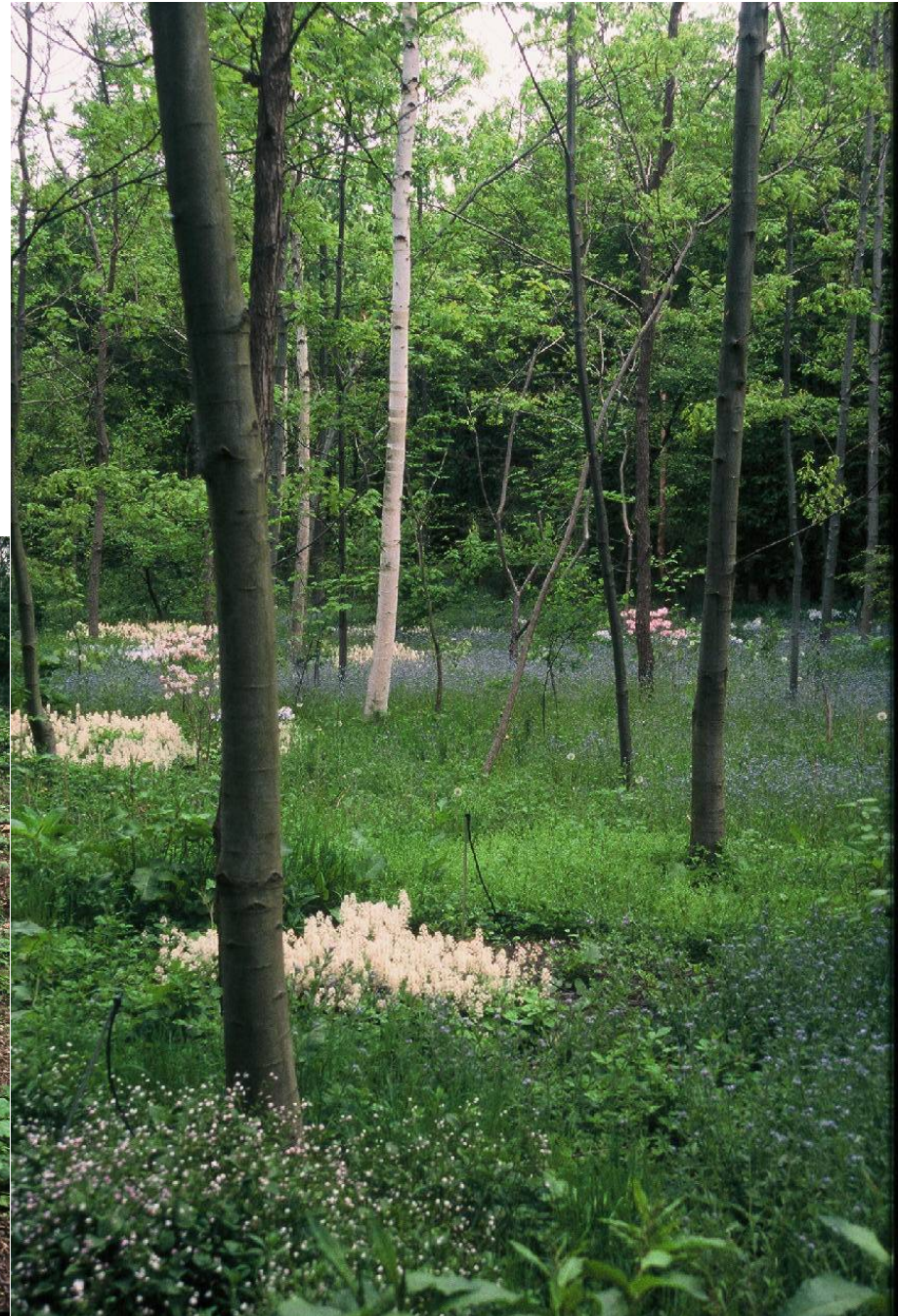




The north-American high woodland type; prepared for herb establishment



The North-American high woodland type, with a spot planting design one year after establishment.





# New challenges, new steps



Also in Sweden the weather is unpredictable, but even if more unpredictable it is more important to consider than ever before.





## **New phenomenas which should make us to reflect about landscape architecture:**

Epidemic diseases for a number of trees used as "key stone species" which makes it troublesome to talk about "long term sustainability"

Elm

Beech (USA)

Oak

Populus

Horse chestnut

Wild cherry

Ash

Alder

Lime tree





The future of a larch – ash – mixture????





New reasons to research more about the exotics.

*Magnolia stellata*

The New Magnolia forest at the campus of SLU-Alnarp. Integrated in the program for establishing new woodlands in Alnarp landscape laboratory. Today, 2009, 3 years old



New challenges, The integration of new plants in an exiting woodland.























**Prunus\_sargentii**



## Some concluding remarks

Our experiences from the three landscape laboratories are the following:

- As a concept it should help to strengthen landscape perspectives. The concept of landscape laboratory is essential for developing a deepened understanding of relevant meanings, actions and operations, linking to a whole series of elements, habitats, and patterns, that are relevant to develop as possible parts of a future landscape.
- A landscape laboratory should be seen as an experimental platform for many landscape contexts; from multi-functional countryside landscapes, city fringe landscapes, to park and garden landscapes. In practice one does what one believes is best, a landscape laboratory means a chance to compare relevant types side by side, and to follow the processes in a strict way.
- Respecting very different landscape types means that one landscape laboratory should not try to cover all types. Rather, Alnarp, Snogeholm, and Holstebro are in this case complementary to each other.



- Landscape laboratories mean long term investments. They are able to create interest right from the beginning. However, their values should increase with time, and with new investments. For the landscape laboratories in Alnarp and Snogeholm visitor interest increased after the first ten years.
- "A landscape should never be finished".
- There is a need to link landscape laboratories with specific reference landscapes, emphasizing important linkages such as young and mature systems
- A landscape laboratory should also be seen as an arena, in which different cultures and experts come together stressing an overlap between different people with various attitudes and aspects, and helping to formulate and test new innovative concepts as well as older traditions.