

LECTURE

plants, plantation in urban design and landscape architecture

Martin van den Toorn



Outline of the presentation:

0. Introduction

1. Material; basics, conditions for growth

2. Material and design process; design techniques

3. Form, use and meaning of plantation

4. Representation techniques related to plants and plantation in planting design



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- Goals of this lecture
- Terms and concepts
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1. Material

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0. Goals of this lecture

- > First of all to give some insight into disciplines that deal with 'plantation' like vegetation studies, plantation design, landscape architecture and how you can make use of that in urban design
- > Get a basic understanding of the main principles of plantation design, planting techniques and maintenance
- > Showing you some possibilities and impossibilities of plantation as design material



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Flora

Is abstract:
the natural
vegetation of a
certain
territory

Vegetation

Is concrete in
the sense that
is always
substance
matter; natural
plants that
form a certain
unity
(vegetation
types)

Plantation

Is abstract and
concrete but is
always man-made



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1. Material

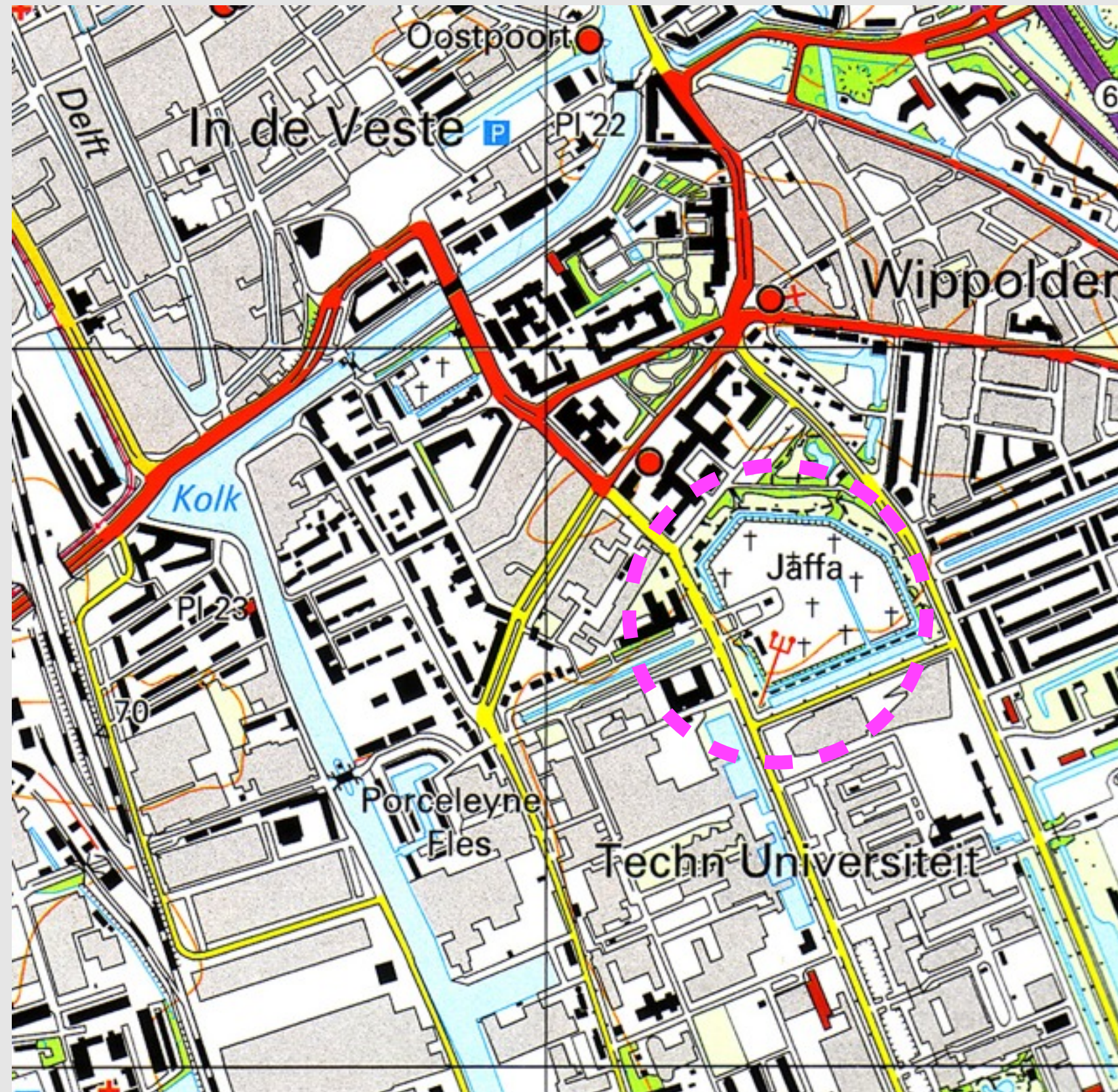
2. Material and design process; design techniques

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0. Reference projects in Delft and surroundings (4)

- Jaffalaan and the cemetery 'Jaffa' as urban structure that organises and structures the transition between the campus and the city



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and landscape architecture

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0. Reference projects in Delft and surroundings

- The 'Agnetapark' as a small neighbourhood where water and plantation play a key role



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0. Reference projects in Delft and surroundings

- The Delftse Hout; a former sand pit, now transformed into a leisure park



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- The Delftse Hout



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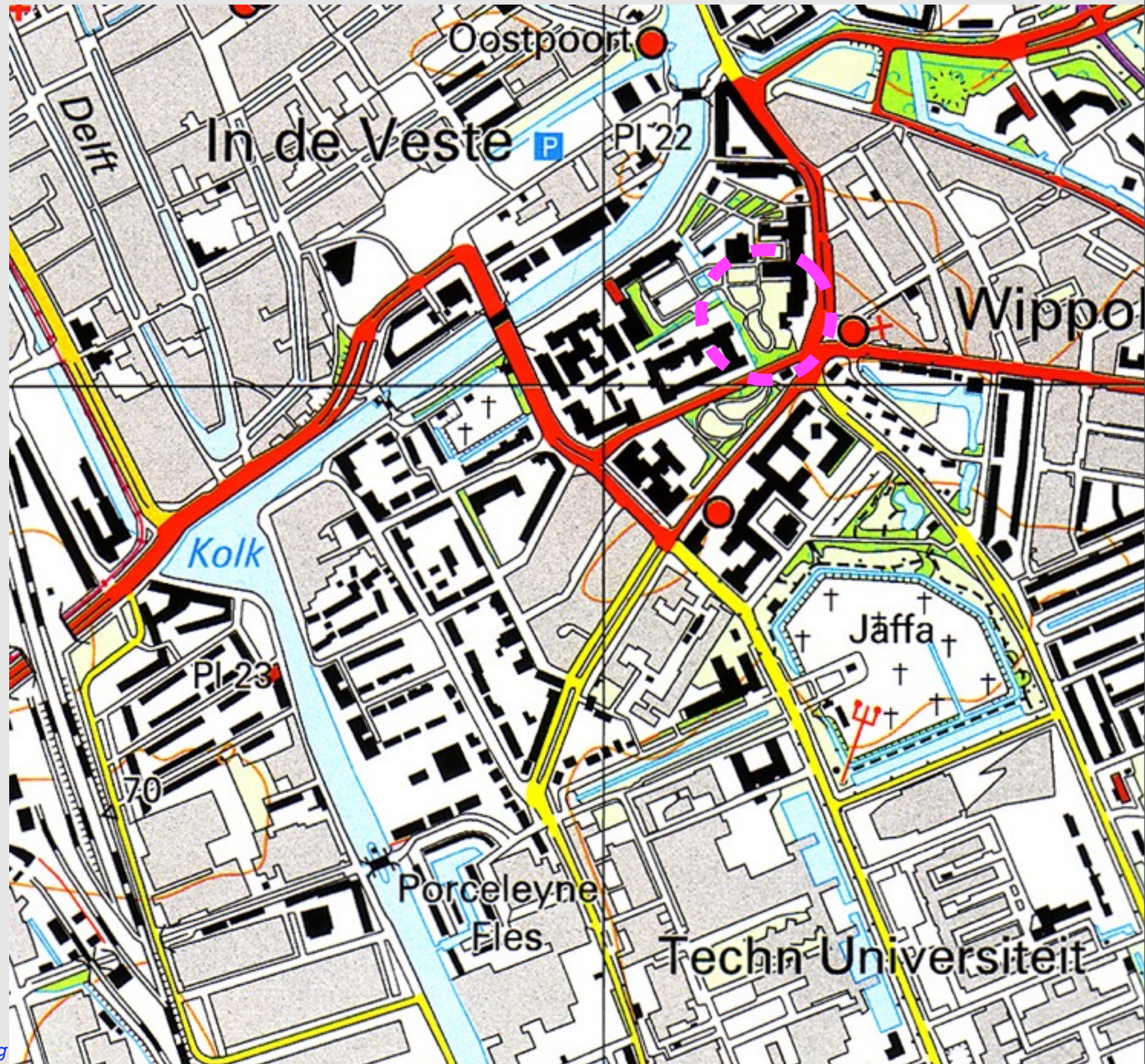
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0. Reference projects in Delft and surroundings

- The Botanical Gardens of the University





0. Introduction

1. Material

1.1 Plants and plantation as natural material; growth, change and development

1.2 The carbon cycle and photosynthesis

1.3 Growing conditions for plants; climate, soil, water

2. Material and design process; design techniques

3. Form, use and meaning of plantation

4. Representation techniques related to plants and plantation and planting design

1.1 Plants and plantation as natural material; growth, change and development. Plants are living organisms that need light, space, oxygen, ground to grow.

1. Plants grow; that means they change and develop in size over time

2. Plants grow; that means they need light

3. Plants grow; that means they need water

4. Plants grow; that means they need ground, minerals



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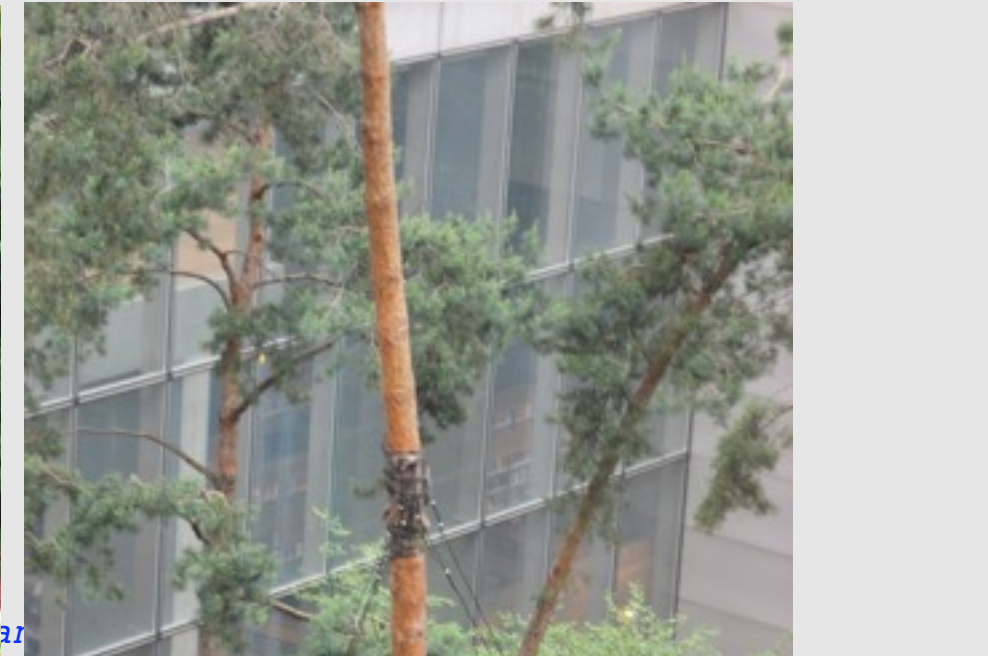
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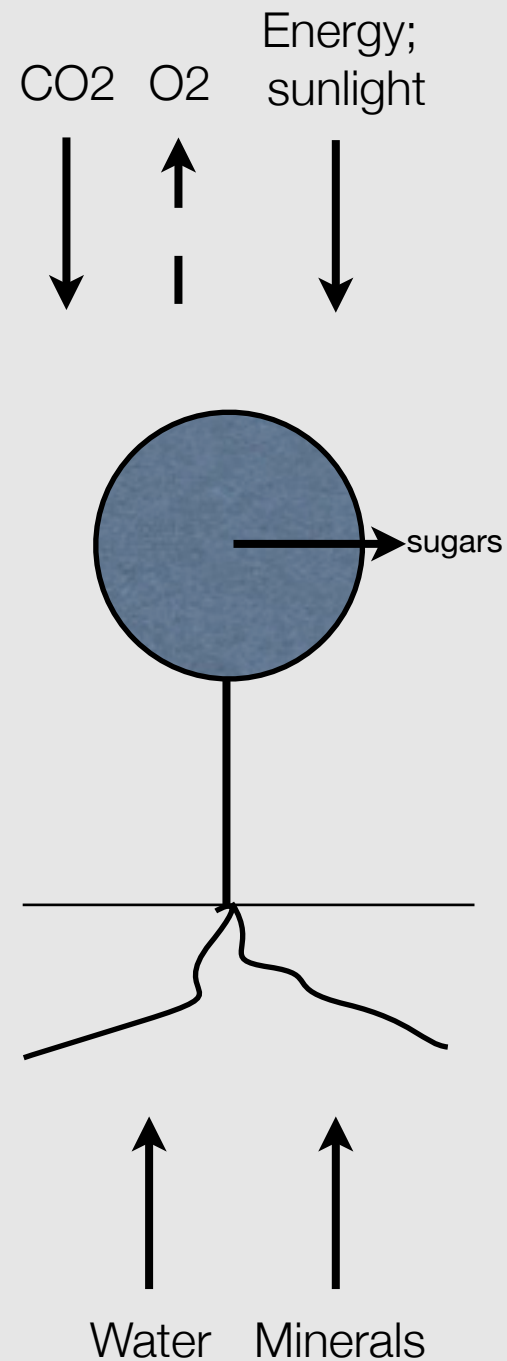
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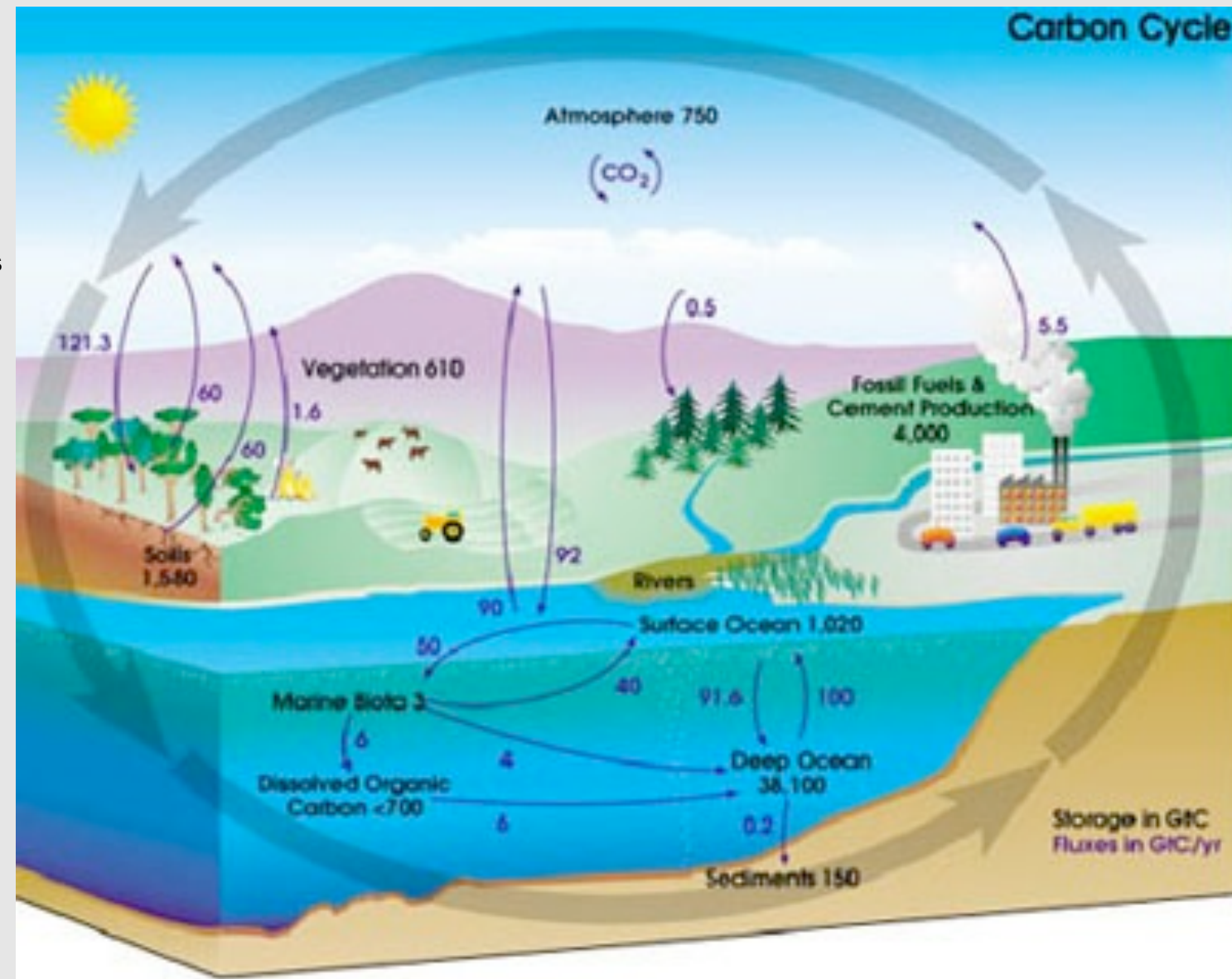
Photosynthesis in the individual plant



The carbon cycle:

- Geological carbon cycle; rock, minerals, atmosphere

- Biological carbon cycle; photosynthesis and respiration



0. Introduction

Growing conditions for plants; the restoration of Het Loo

1. Material

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plantation as natural
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development

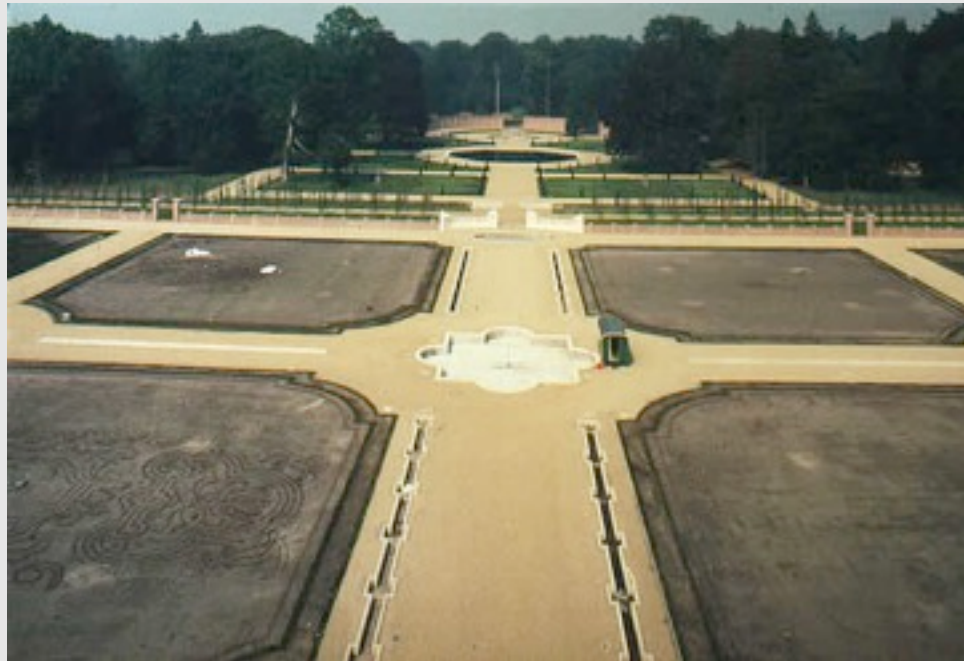
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process; design
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Planting technique; creating conditions for growth





Texture and plantation

0. Introduction

Goals of this lecture

Terms and concepts

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2. Material and design process; design techniques

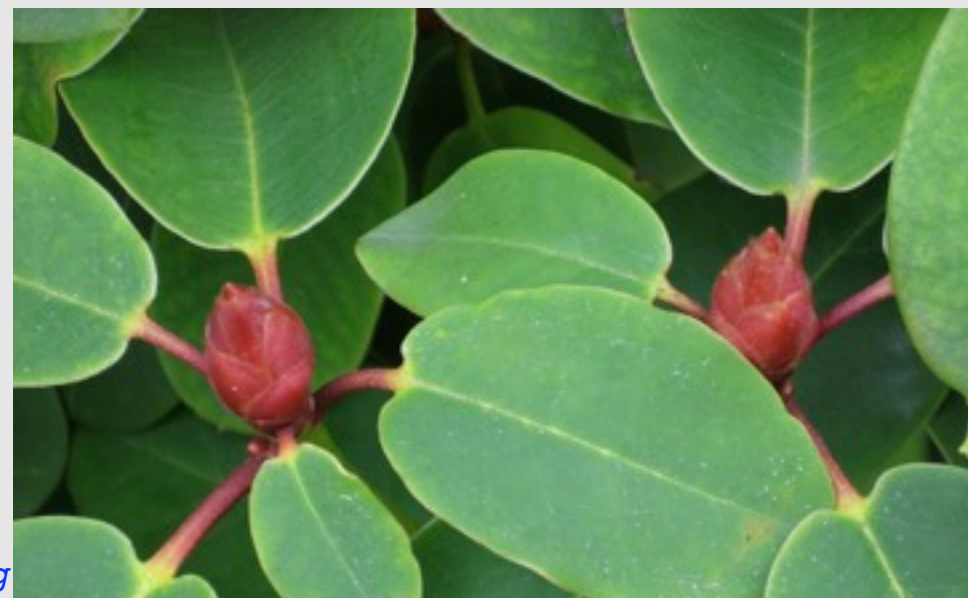
2.1 Plants and plantation and perception

2.2 Plants and plantation and conditions for growth; analysis of natural system

2.3 Plants and plantation and space making; synthesis

3. Form, use and meaning of plantation

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Colour and plantation



Seasons and plantation

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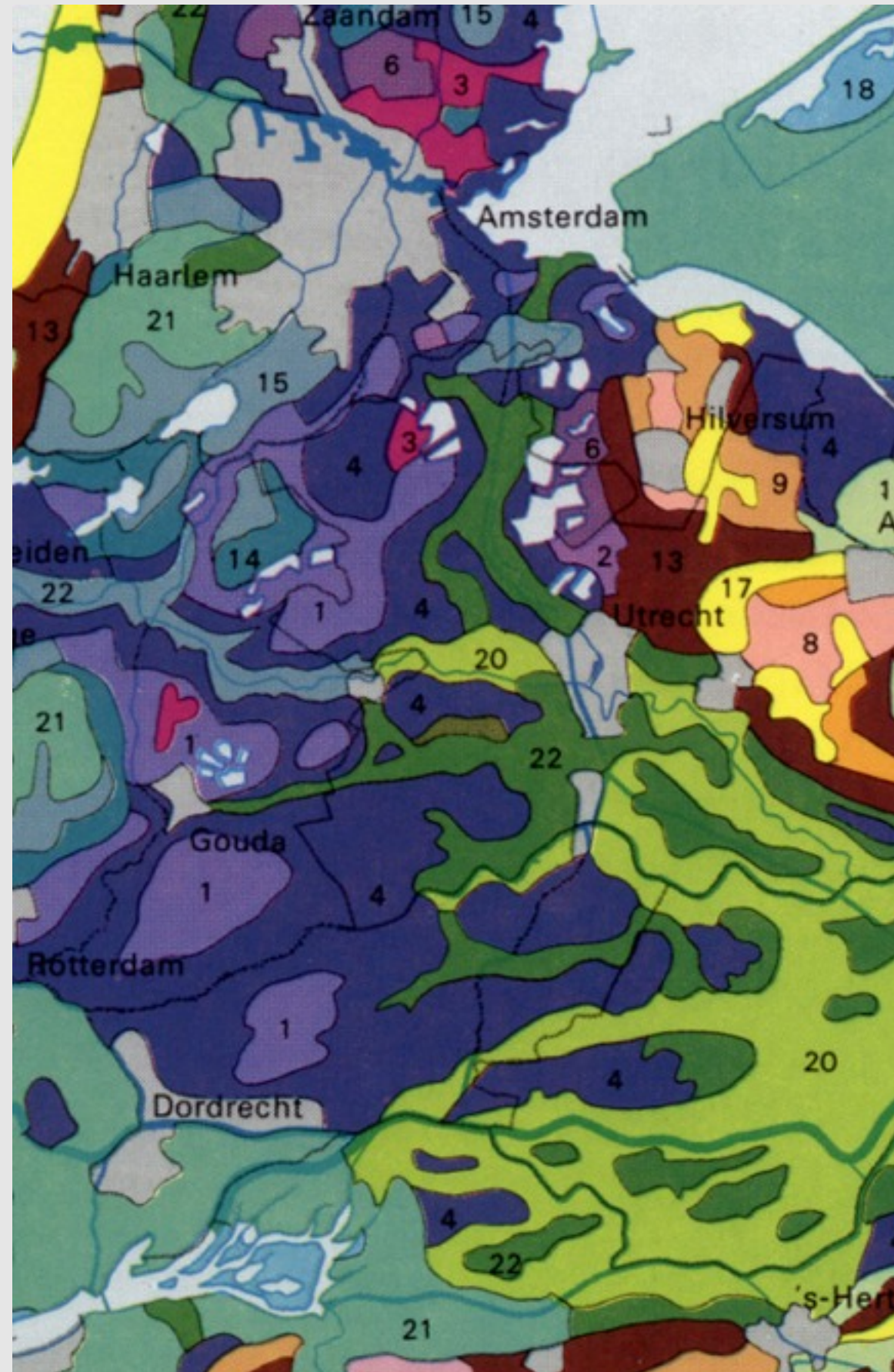
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2.2 Plants and plantation and conditions for growth; analysis of natural system



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Brandevoort; existing and new plantation as part of urban green structure



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Linear plantations, roadside plantations, hedges



Linear plantations

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Plantation as mass



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Plantation as solitary tree



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2.1 Plants and plantation and perception

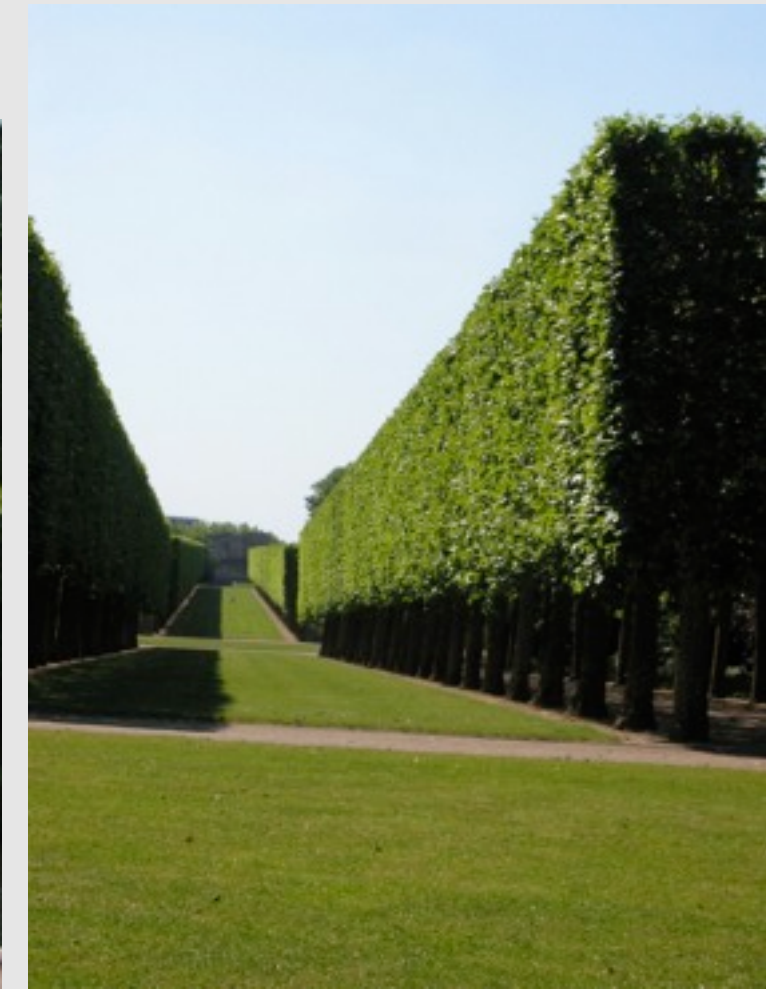
2.2 Plants and plantation and conditions for growth; analysis of natural system

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The park of Sceaux; site, water, slopes and plantation



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The interchange at Vianen; A2 and A28



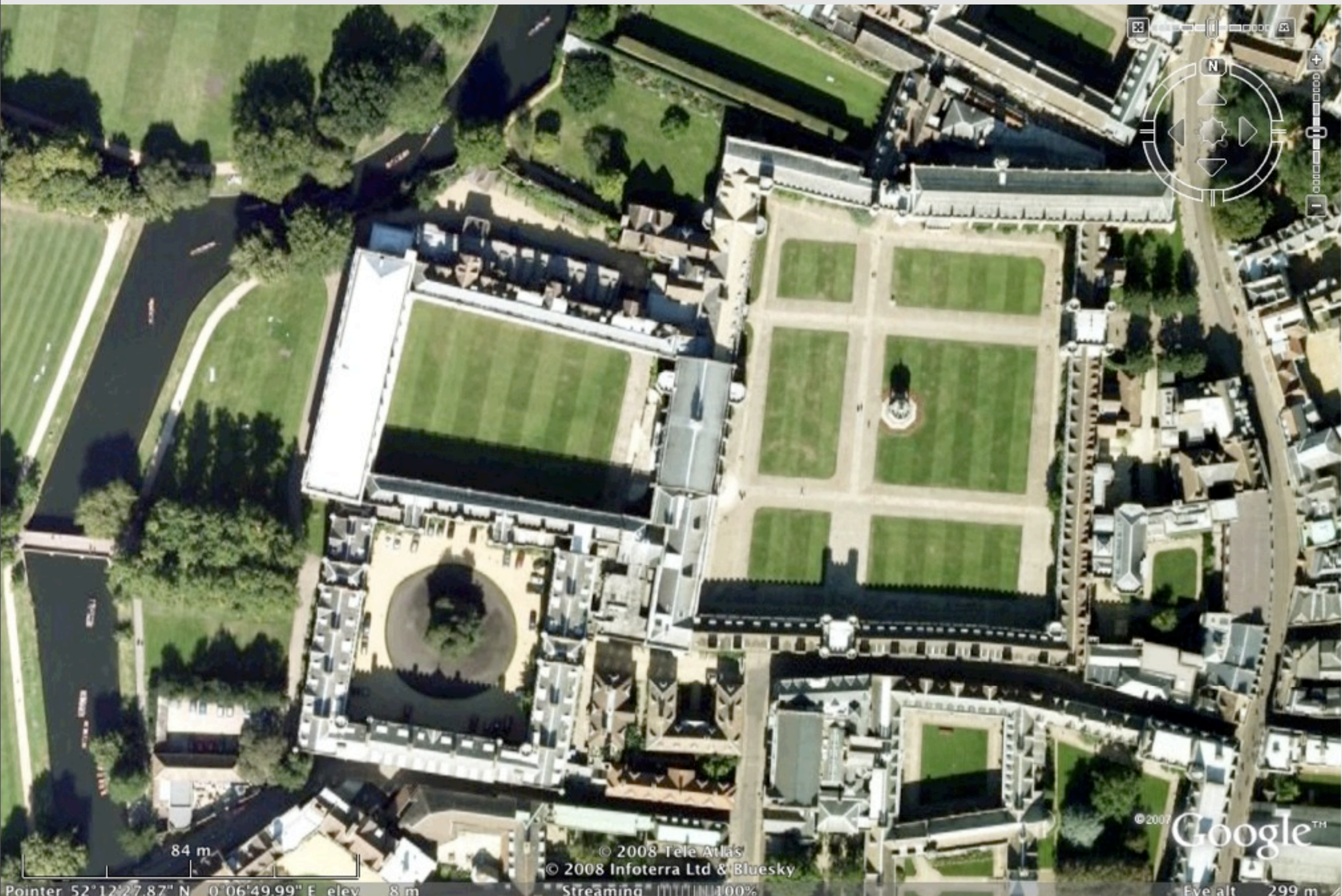
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Terms and concepts

The 'power of grass'; the colleges of Cambridge University UK

Magnificent urban spaces created by buildings and grass



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2.1 Plants
plantation and
perception

2.2 Plants
plantation and
conditions for
analysis of
system

2.3 Plants
plantation and
making; synthesis

The 'power of grass'; the colleges of Cambridge University UK





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2. Material and design process; design techniques

3. Form, use and meaning of plantation

3.1 Plantation and green material as part of urban structure

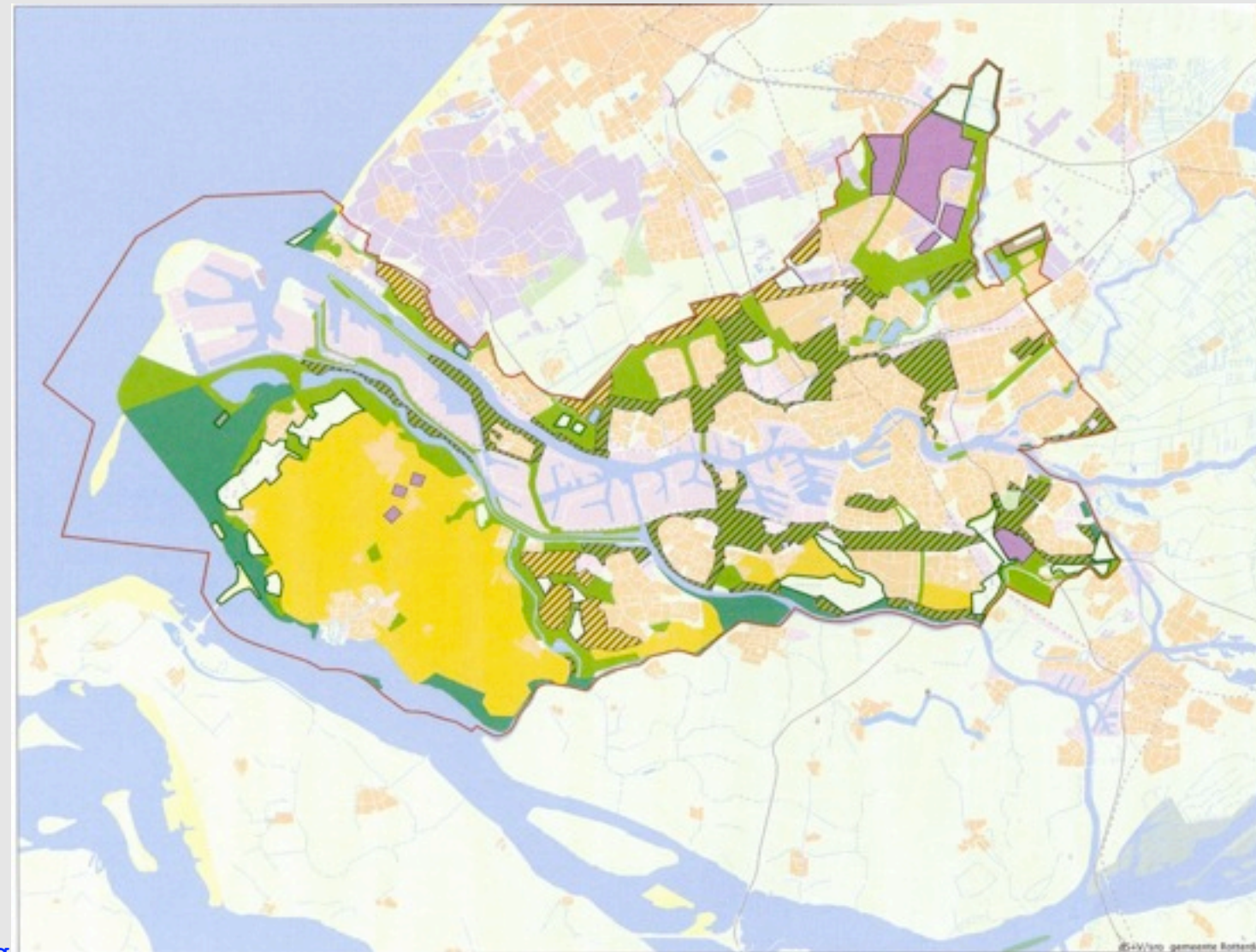
3.2 Meaning of plantation for social life in the urban landscape; the quality of urban space

3.3 Plantation as part of the natural system; ecology

3.4 Plantation, green structure, landscape factors that create a certain identity, a specific atmosphere

4. Representation techniques related to plants and plantation and planting design

Plantation as part of urban structure



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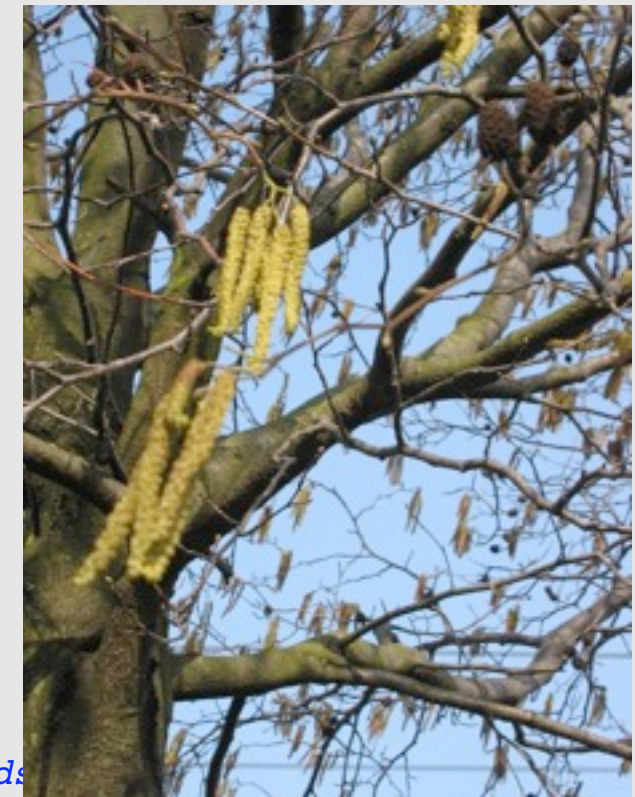
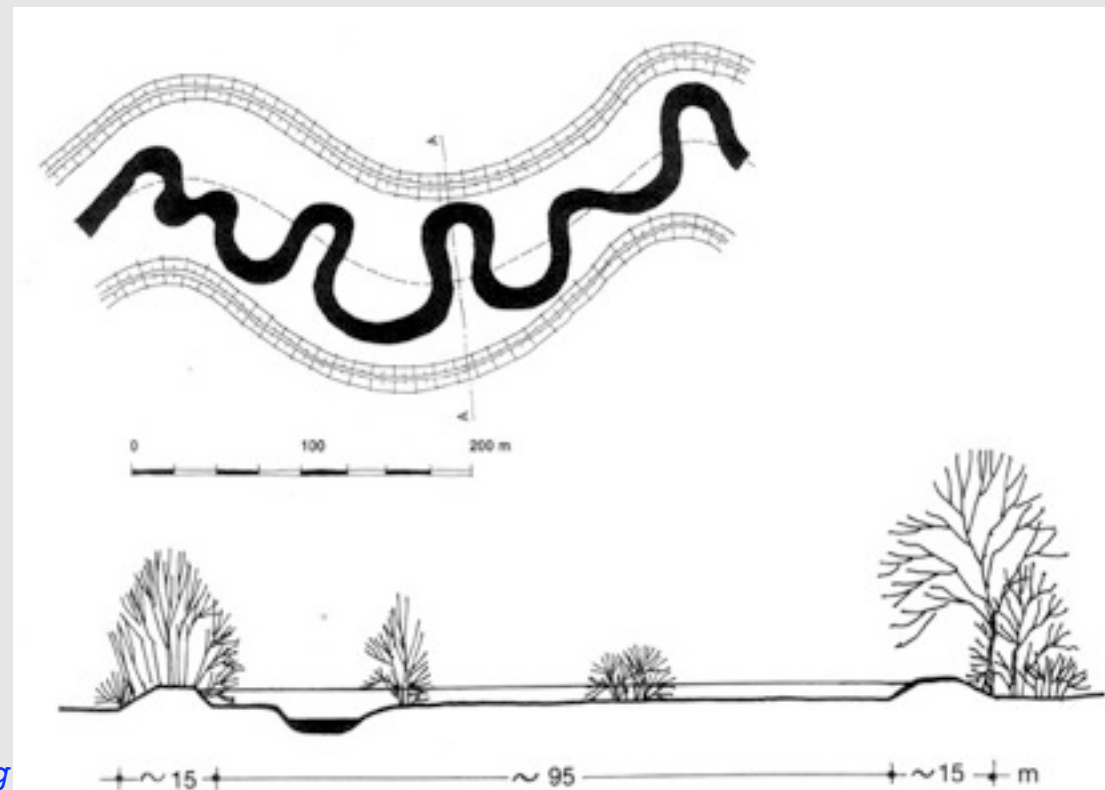
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Plants and plantation as part of the natural system; ecology



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Villandry; a distinct atmosphere due to use of plants, plantation

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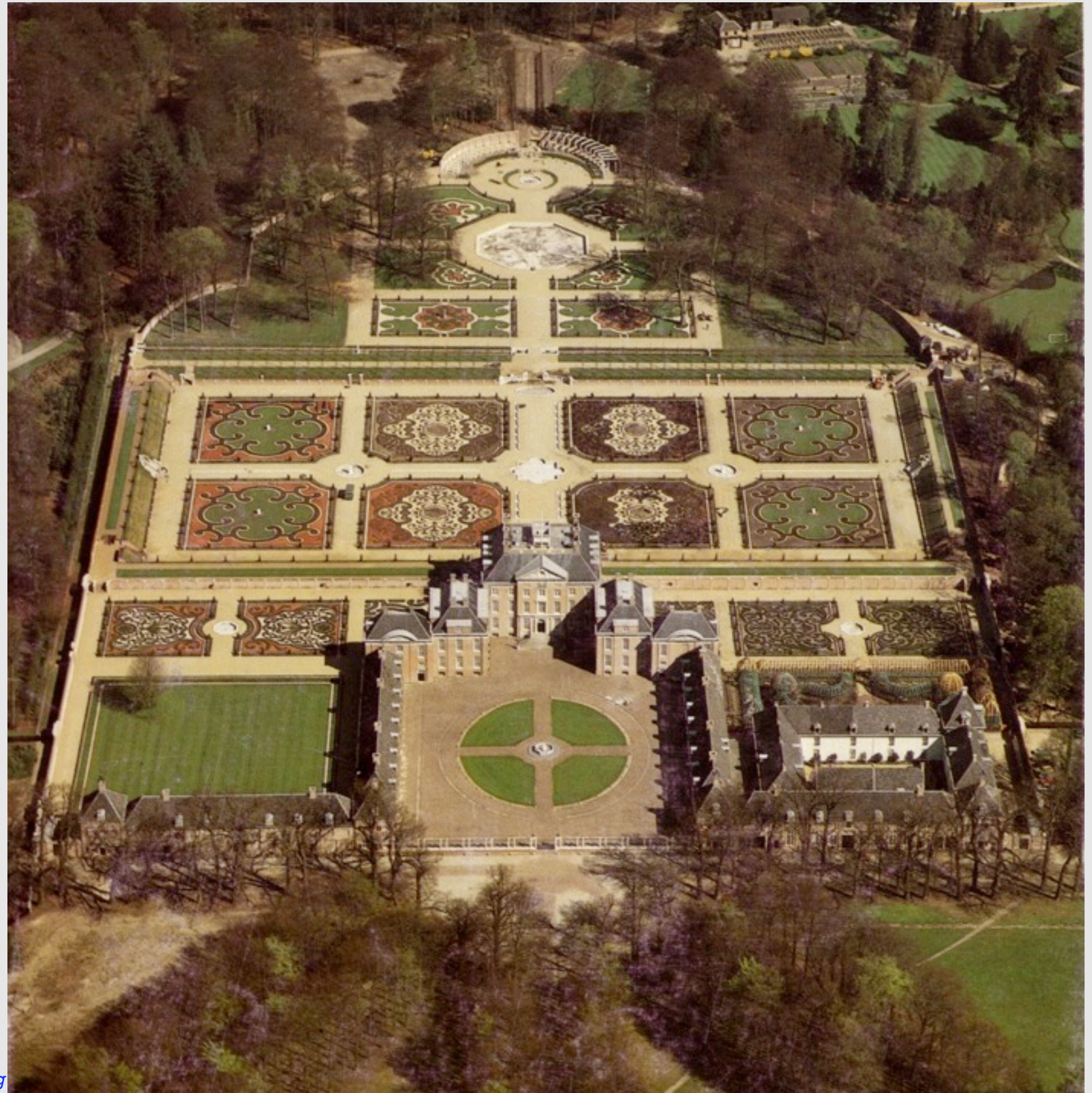
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3. Historical meaning of plantation; the restoration of Het Loo



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3. Historical meaning of plantation; the restoration of Het Loo



landscape factors that
create a certain
identity, a specific
atmosphere

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LECTURE Spring

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Trees close to buildings

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LECTURE Spring





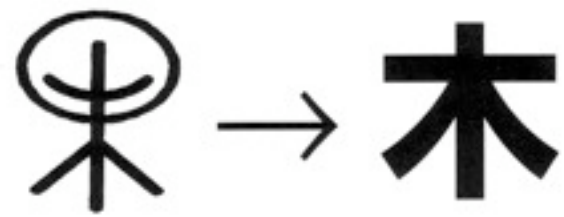
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TREE
[ki]



WOODS
[hayashi]



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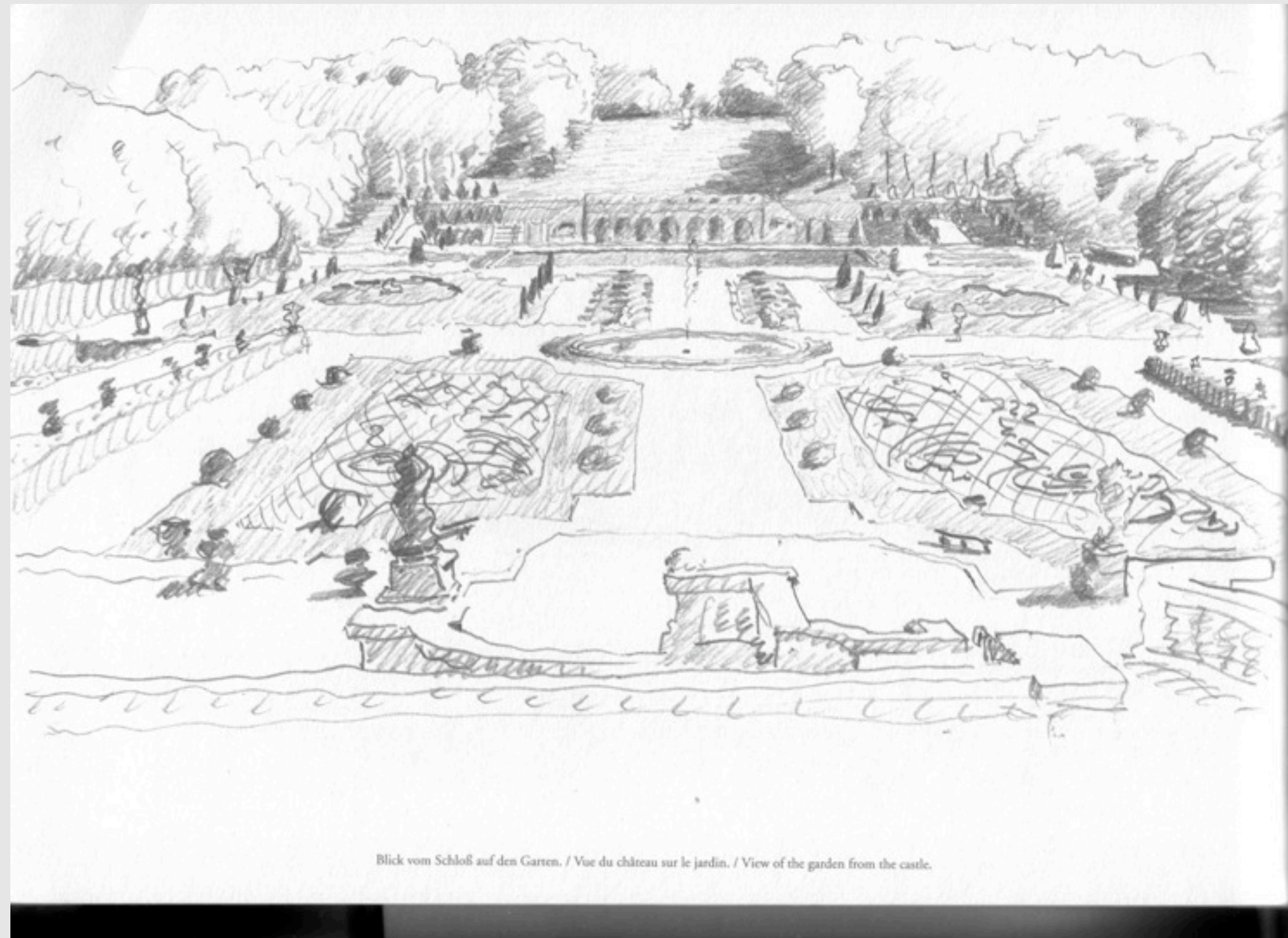
3. Form, use and meaning of plantation

4. Representation techniques related to plants and plantation and planting design

4.1 Size and scale of trees; trees grow

4.2 Cross-sections and plans

4.3 Sequential experience and movement



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Plantation; representations

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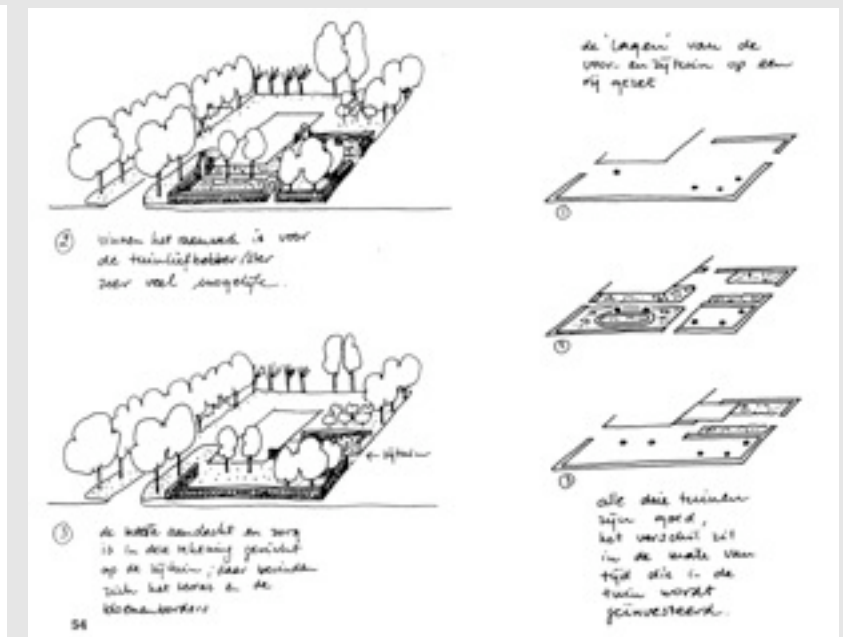
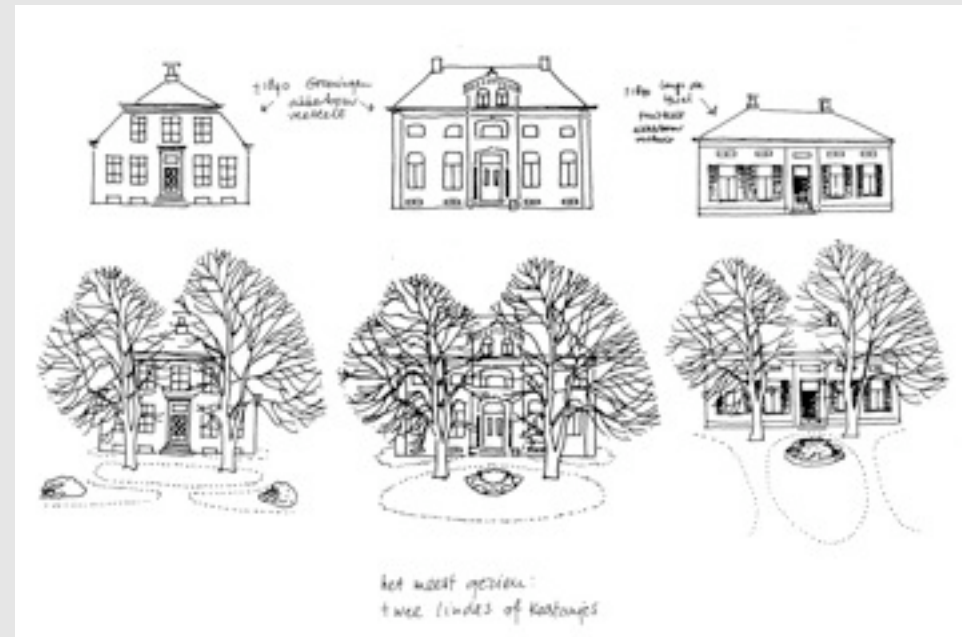
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Cross-sections

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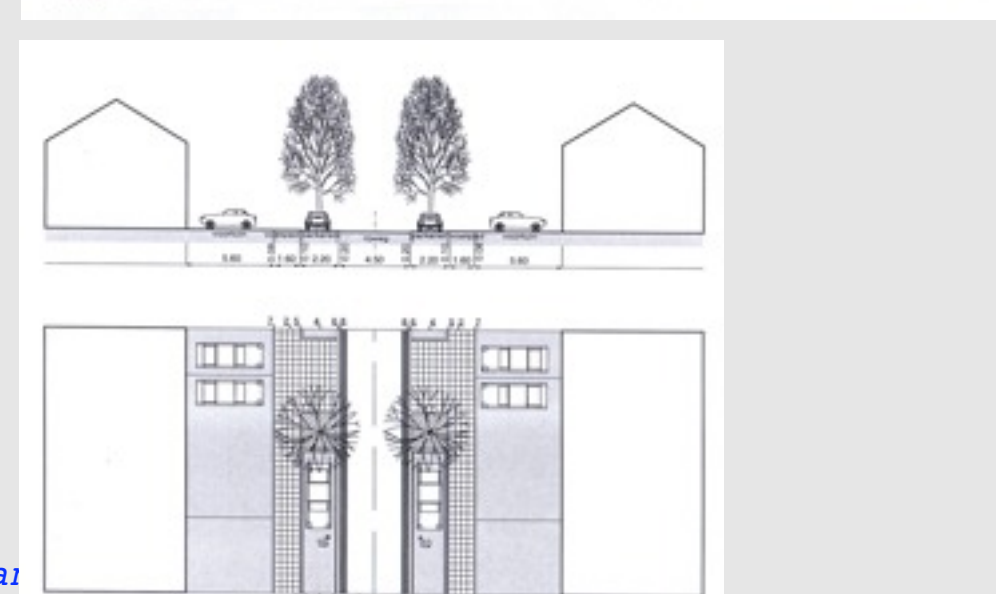
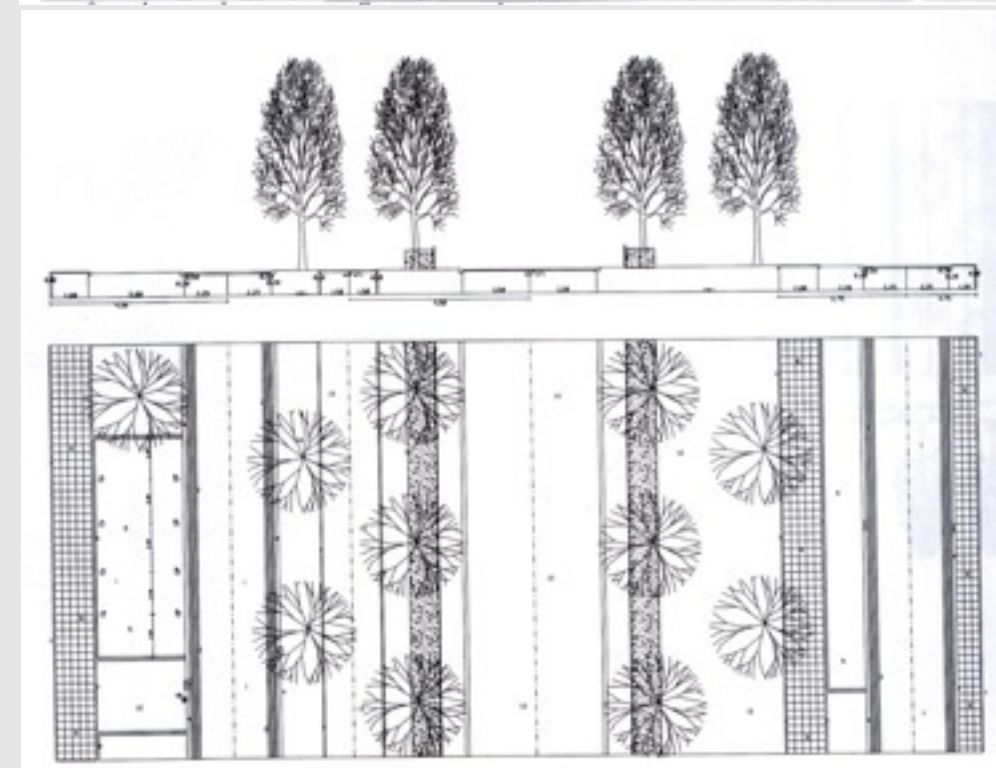
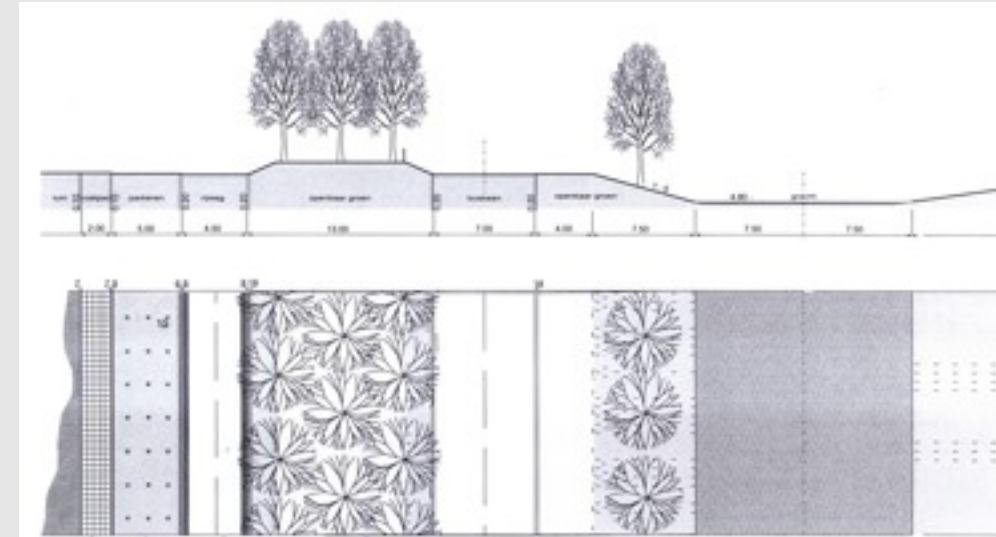
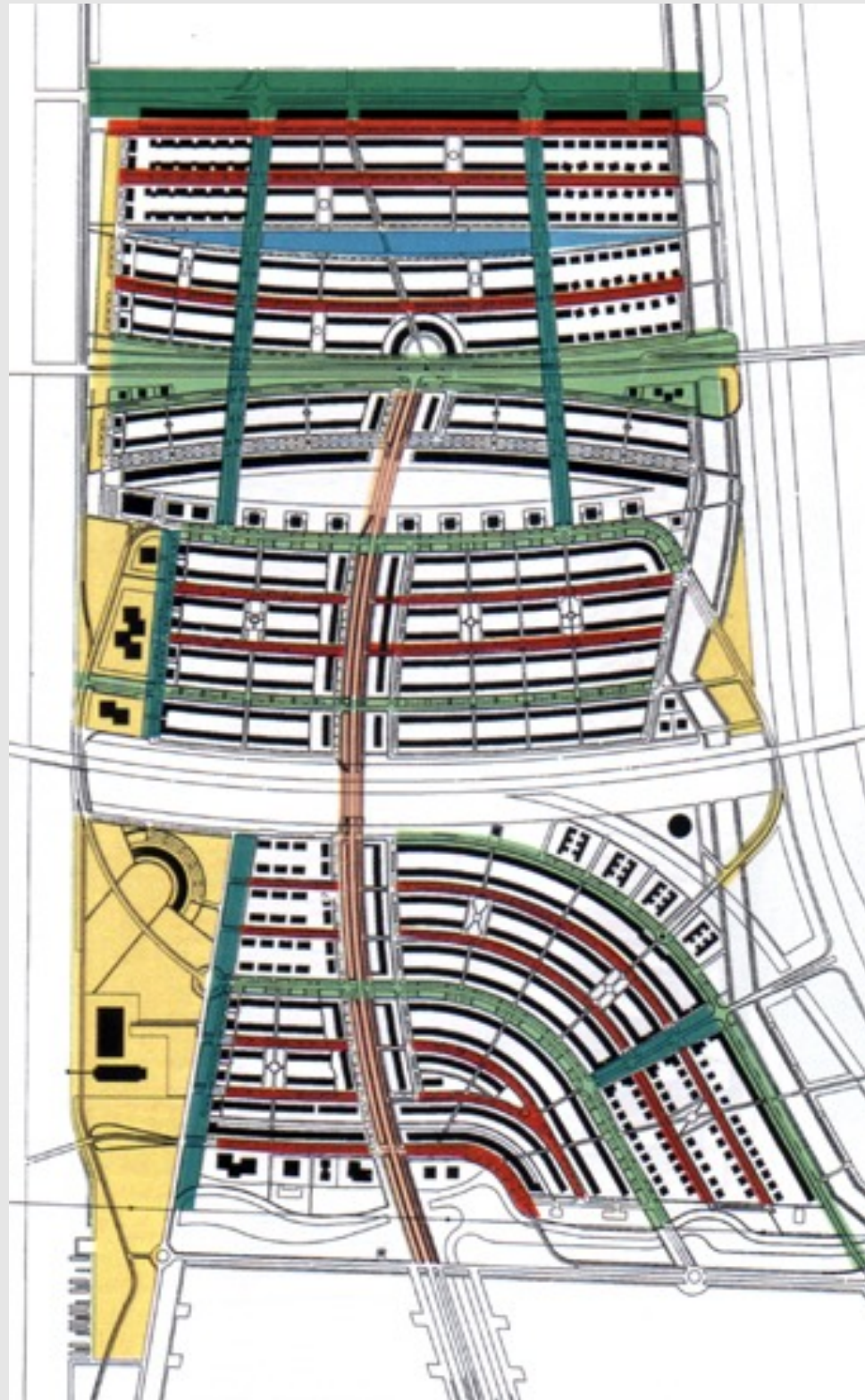
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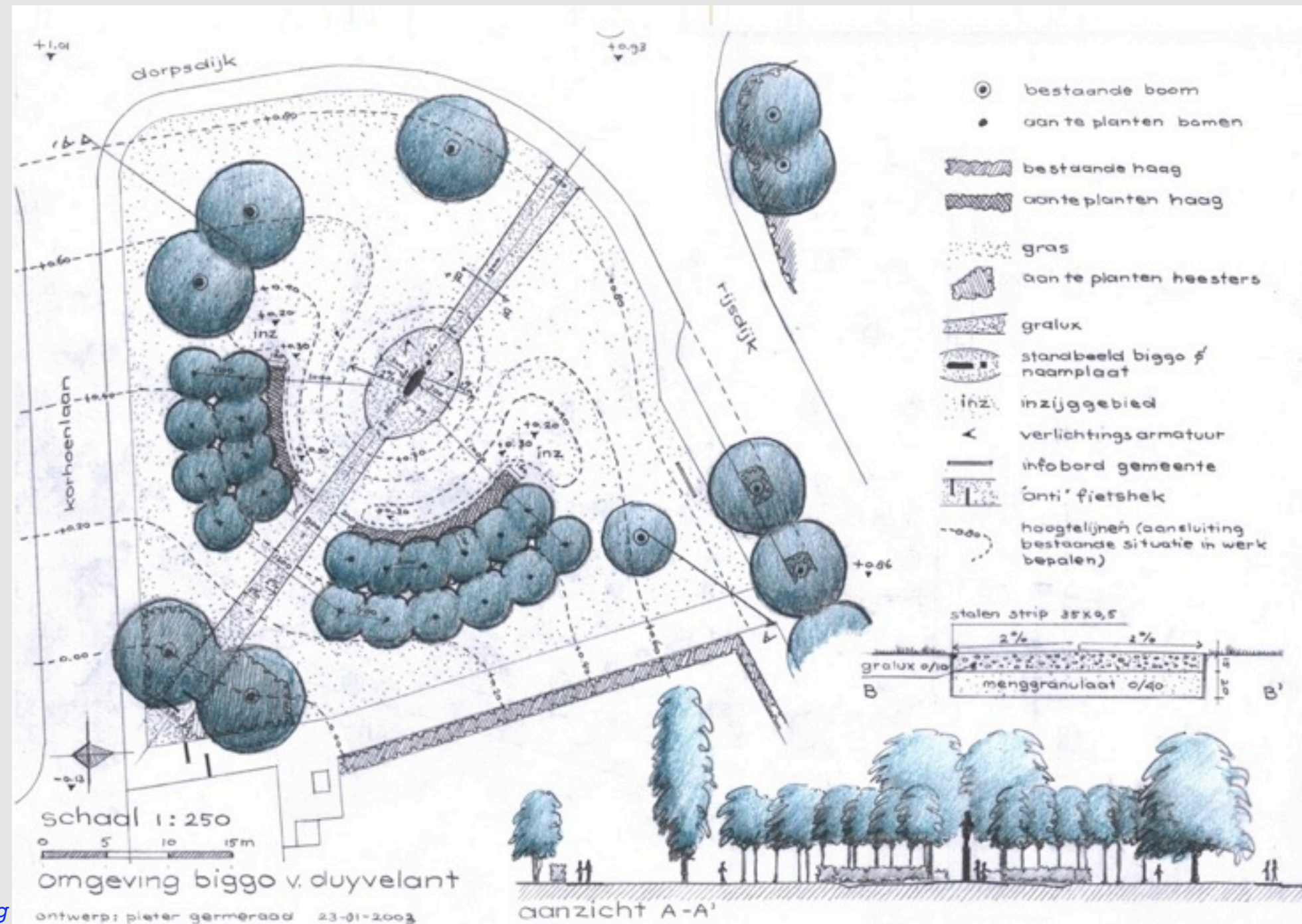
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Plantation; representations



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Sequential movement and experience of plantation

