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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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 it 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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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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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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Reference projects in Delft and surroundings
- The Botanical Gardens of the University
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   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

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dinsdag 14 april 2009
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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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The carbon cycle:
- Geological carbon cycle; rock, minerals, atmosphere
- Biological carbon cycle; photosynthesis and respiration

Photosynthesis in the individual plant:

\[ \text{CO}_2 + \text{O}_2 \xrightarrow{\text{Energy; sunlight}} \text{sugars} \]
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Growing conditions for plants; the restoration of Het Loo
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2.2 Plants and plantation and conditions for growth; analysis of natural system
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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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3. Meaning of plantation

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   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

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3. Historical meaning of plantation; the restoration of Het Loo
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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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**Sequential movement and experience of plantation**