IN THE GARDEN OF ANTHROPOS

THE CITY AS A PLACE FOR PRODUCTION

P5 PRESENTATION

PETTER HABOSTAD

TU DELFT • 11/07-18

PETTER HABOSTAD • 4620291 • COMPLEX PROJECTS • AMS STUDIO
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ZAANSTAD: FRAGMENTED INDUSTRIAL AREA
IN-BETWEEN ZONE

Zaandam

Sloterdijk

Amsterdam Centrum

Petter Habostad

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TWO KEY ELEMENTS OF INTEREST ON SITE

INDUSTRY

TUINDORP OOSTZAAN GARDEN CITY
TUINDORP OOSTZAAN GARDEN CITY

VERY CONNECTED TO INDUSTRY
THE GARDEN CITY MOVEMENT: FOCUS ON SELF-SUFFICIENCY

GARDEN CITY GOALS:

PERSONAL FULFILMENT
(LIVING & WORKING)

+ COMMUNITY FULFILMENT
(SELF-SUSTAINABLE)

CENTRIC CITY MODEL

EBENEZER HOWARD

FROM AN INTEGRATED PLANNING UTOPIA TO THE PRODUCTIVE CITY
URBAN PLANNING PRINCIPLES

COMBAT OVERPOPULATION BY MIXING CITY AND NATURE
URBAN PLANNING PRINCIPLES

MIXING OF FUNCTIONS (LIVING-WORKING-INDUSTRY)
URBAN PLANNING PRINCIPLES

FOCUS ON COMMUNITY
IT HAD A HIGHLY UTOPIAN VISION
(JUST LIKE THE MODERNIST CITY)
WE HAVE MOVED AWAY FROM FAILED UTOPIAN PLANNING MOVEMENTS, BUT IN URBANISM TODAY A MIXED CITY IS DESIRABLE

ZAANSTAD 2050:

AMSTERDAM HAVENSTAD
80% LIVING, 20% WORKING

LIVING AND WORKING POPULATION:
150,000

80% 20%
WE HAVE MOVED AWAY FROM FAILED UTOPIAN PLANNING MOVEMENTS, BUT IN URBANISM TODAY A MIXED CITY IS DESIRABLE

ZAANSTAD 2050:

AMSTERDAM HAVENSTAD
80% LIVING, 20% WORKING

80% 20%

THE PRODUCTIVE CITY
THE HEALTHY CITY
THE INCLUSIVE CITY
WE HAVE MOVED AWAY FROM FAILED UTOPIAN PLANNING MOVEMENTS, BUT IN URBANISM TODAY A MIXED CITY IS DESIRABLE

ZAANSTAD 2050:

AMSTERDAM HAVENSTAD
80% LIVING, 20% WORKING

THE PRODUCTIVE CITY
THE HEALTHY CITY
THE INCLUSIVE CITY
THE MUNICIPALITY WANTS THE FUTURE OF ZAANSTAD TO BE GREEN AND PRODUCTIVE
INDUSTRY HAS BEEN HISTORICALLY IMPORTANT FOR THE CITY,

BUT HAS TODAY BEEN PUSHED AWAY TO ITS OUTSKIRTS
HOW CAN PRODUCTION BE BROUGHT BACK TO THE CITY AS A PART OF EVERYDAY LIFE?

WHAT IS THE INDUSTRY AND PRODUCTION OF THE FUTURE?

RESEARCH QUESTION
THE CITY AS A PLACE FOR PRODUCTION

RESEARCH
MANUFACTURING IS CHANGING

FOURTH INDUSTRIAL REVOLUTION

INDUSTRY IS BECOMING INDIVIDUALISED
THE 3D PRINTING INDUSTRY IS GROWING QUICKLY

ADDITIVE MANUFACTURING GROWTH WORLDWIDE

IN BILLIONS

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PRINTERS ARE ACHIEVING MORE AND MORE MORE

Studio Klarenbeek’s ‘3D bakery’ prints objects from algae
THE GROWDUCE TURNS WASTE INTO CELLULOSE WHICH CAN BE 3D PRINTED
SYNTHETIC BIOLOGY:
3D PRINTING OF MEAT, CELLS, TISSUES AND ORGANS
3D PRINTERS ARE ACHIEVING MORE AND MORE
MERGING TECHNOLOGY AND NATURE
IMITATION OF NATURE
THE GARDEN: IMITATION OF NATURE

The Garden of Villa Livia at Prima Porto, fresco
THE GARDEN HAS BEEN MERGING CITY AND NATURE FOR CENTURIES

**CITY:** SACRED

**NATURE:** PROFANE

**THE GARDEN**

**‘HUMAN’**

**‘NON-HUMAN’**

**CITY:** PROFANE

**NATURE:** SACRED

**THE GARDEN**

**‘HUMAN’**

**‘NON-HUMAN’**
Nicolas Poussin: “The Garden of Eden”
WHAT IF THE GARDEN WAS THE MERGER OF INDIVIDUAL & COMMUNAL?

HARMONIOUS RELATIONSHIP OF LIVING AND WORKING (PERSONAL FULFILMENT)

MANUFACTURING OF OWN PRODUCTS IN A COMMUNAL, PUBLIC SPACE (PERSONAL FULFILMENT)
MANUFACTURING OF THE FUTURE

- COMMODITIES
  - ALGAE
  - WOOD
  - ORGANIC WASTE
  - PLASTIC
  - DNA

- RECYCLING STATION

- SYNBIO
IN 2050......

- ADDITIVE MANUFACTURING HAS BECOME SO PRECISE AND SOPHISTICATED THAT PRODUCTION IS NOT ONLY HIGHLY INDIVIDUAL AND CUSTOMISED, BUT ALMOST EVERYTHING CAN BE 3D PRINTED

- OPPORTUNITIES FOR SELF-SUFFICIENCY AND HYPER-LOCAL PRODUCTION, RECONCILING WITH GARDEN CITY AIMS
ORIGINAL GARDEN CITY RELATIONSHIP
SITE STRATEGY - ALONG & ACROSS THE IJ

- ZAANDAM
- WESTPOORT
- AMS-NOORD
- ACHTERTUJS POLDER
- NOORDER IJ-PLAS
- FERRY
- A10 HIGHWAY
- PETROLEUMHAVEN
- TUINDORP
- AMS CENTRUM

IN THE GARDEN OF ANTHROPOS

- COMPLEX PROJECTS AMS STUDIO
- P5
- 11/07-18
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TRANSITION FROM URBAN TO GREEN
WORKING WITH THE GREEN
ACROSS THE RIVER AS GREEN CONNECTION
PRESENT SITE CONDITION
PARK NOT ACCESSIBLE DUE TO A10 HIGHWAY

38,000 m²
FUTURE PLANNED METRO STATION

38,000 m²
NARRATIVE: ENTERING FROM THE CITY INTO A GARDEN OF ‘WONDERS’
AN ALWAYS-CHANGING GARDEN
3//SPATIAL CONCEPT: THE ENCLOSED GARDEN

TYPOLOGY

IN THE GARDEN OF ANTHROPOS

COMPLEX PROJECTS AMS STUDIO

PS

11/07-18

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GARDENS DEPICTED IN HISTORY
THE PALACE IN THE GARDEN
THREE ELEMENTS OF THE GARDEN

1

THE WALL

WOODLAND CEMETERY, GUNNAR ASPLUND (STOCKHOLM)
THREE ELEMENTS OF THE GARDEN

WATER

BOUTIQUE HOTEL, NERI&HU (YANGZHU, CHINA)
THREE ELEMENTS OF THE GARDEN

ART/SCULPTURES

PARC DE LA VILLETTE, BERNARD TSCHUMI (PARIS)
CONCEPT: HORTUS CONCLUSUS (THE ENCLOSED GARDEN)
THE PALACE AND ITS GARDENS
PALACES: COLUMNS FORMING INTERIOR/EXTERIOR

KARL FREDRICK SCHINKEL: ROYAL PALACE ORIANDA, CRIMEA (1838)
COLUMNS ORDERING SPACES

SCHINKEL: ROYAL PALACE ORIANDA (1838)

OMA, AGADIR CONVENTION CENTRE (1990)
COLUMNS ORDERING SPACES
ADAPTATION TO SITE CONDITIONS: ESTABLISHING AXES
IT ALL STARTS WITH A WALL
AXIS ONE: LETTING THE WATER IN
AXIS TWO: CONTINUATION OF URBAN STREET, GRADUALLY GOING FROM URBAN TO GREEN
ITERATIVE METHODOLOGY (DRAWING THE SAME SQUARES OVER AGAIN)
ITERATIVE METHODOLOGY (DRAWING THE SAME SQUARES OVER AGAIN)

1. Iteration of the square: the courtyard capturing the axes
2. The Garden City: Small-sized production units
3. The Palazzo: Series of interior and exterior spaces
4. Production units aligned along monumental axis
ITERATIVE METHODOLOGY (DRAWING THE SAME SQUARES OVER AGAIN)
SUMMARY OF CONCEPT DESIGN

1. Combining living, working and production as a way of city planning (Garden City)

2. Controlling nature in an enclosed environment (Gardens)

3. The column shaping spaces (The Palace)

SYNTHESIS

In the Garden of Anthropos ● Complex Projects AMS Studio ● P5 ● 11/07-18 ● Petter Habostad
4//THE GARDEN OF ANTHROPOS

DESIGN PROPOSAL
PROGRAMME
PROGRAMMATIC DISTRIBUTION BASED ON OBJECTS TO BE PRINTED

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### PROGRAMME AND ORGANISATION

#### CATEGORIES:
- **PRODUCTION - PUBLIC**
- **PRODUCTION - LESS PUBLIC (DNA)**
- **LIVING & SOCIAL**

#### DETAILED:

#### PROGRAMME:
- Storage of DNA and tissue
- Production biomedical tissue
- Production foods (+ other cultivations)
- Storage of algae, material + re-/upcycling
- Production place 3D-printing
- Workshop space (assembly, pack, send)
- Administration, research & development
- Technical rooms, toilets & storage
- Apartment/living unit
- Social space (café, restaurant, lounge)

#### TOTAL SQM:
- **27.457 M2**
EVERY-DAY COMMODITIES

SYNTHETIC BIOLOGY

SYNTHETIC BIOLOGY & FOODS

EVERY-DAY COMMODITIES
Mezzanine with suspended columns
ENCLOSED FACADE BUT SIMULTANEOUSLY CAREFULLY OPENED
INDIVIDUAL PRODUCTION UNITS CAN BECOME INDEPENDENT
A BUILDING WITH TWO FACES (FAÇADES)

1) CITY FAÇADE

2) GARDEN FAÇADE
MICROCOSMOS
Window panels with sun screens for dwellings can be opened.

First Floor production space.

Openings for Ground Floor shops/market places/production units.

Arches refers to interior column facade.
MATERIALISATION: THE COLUMN
COLUMN AS SPATIAL TOOL IN ARCHITECTURE AND GARDEN

Diocletan’s Palace, Split

Atrium in Alhambra, Granada

Garden berceau

Garden berceau with vegetation
COLUMNS MANIPULATING SPACE
FIRST FLOOR: THE URBAN PALACE
BT CONCEPT: THE COLUMN AS SPATIAL NARRATOR

‘PERSONIFICATION’ OF SPACES
THE COLUMN AS VERTICAL AND HORIZONTAL DISTRIBUTOR

Heating
Underfloor heating

Water
In/Out

Ventilation
Supply & exhaust
SPATIAL TOOL

Axonometry, First Floor
COLUMN FACILITATING PRODUCTION
3D printers
Production and waste
1 Concrete column, 2000x2000 mm
2 Additive manufacturing area, print area of 1000x1000 mm
3 Storage of filaments
4 Hatch for filament supply
5 Electric supply
6 Column services
7 Cavity for ventilation
8 Waste shaft, 230x520 mm

INTEGRATED COLUMN WITH PRINTER

Detail drawing original scale 1:10
DIMENSIONS OF COLUMNS

1. 200 x 200 mm
2. 500 x 500 mm
3. 1000 x 1000 mm
4. 2000 x 2000 mm

INTEGRATED DESIGN: COLUMN DIMENSIONS
SECOND FLOOR: LIVING UNITS

SPATIAL LANGUAGE OF SEQUENCES

SMALL, GREEN COMMUNAL SPACES
WIDENING OF COLUMNS

First Floor

Second Floor
DWELLING SPACE

Second Floor dwellings, orig. scale 1:50
Second Floor dwellings, orig. scale 1:50
Apartment, Second Floor, Kitchen 3D production unit
Garden Elevation fragment, 1:20 (scaled to fit media)
High sun in summer
Low sun in winter
Water drainage from roof is
goes through the column and is
connected to canal in garden or
integrated within column

DETAIL: CONTINUITY OF THE VERTICAL

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Portico provides shade and buffer zone for natural climatization. Mechanical ventilation for dwellings extracted from ground via column. Water from canal system in garden makes vapour for cooling down in summer. The shape of the garden makes generous natural ventilation possible. Trees provide shade and dispersion of air. The portico captures the heat rising up in the buffer zone.
6//REFLECTION & CONCLUSION

RELEVANCE
SUMMARY - ESSENCE

BRINGING INDUSTRY BACK TO THE CITY

GARDEN CITY PLATFORM

INNOVATION AND CUTTING EDGE TECHNOLOGY

REFLECTION OF HUMAN AND NATURE (ANTHROPOS)
SUMMARY - ESSENCE

1. INNOVATION AND CUTTING EDGE TECHNOLOGY
2. BRINGING INDUSTRY BACK TO THE CITY
3. GARDEN CITY PLATFORM
4. THE GARDEN
5. REFLECTION OF HUMAN AND NATURE (ANTHROPOS)
RELEVANCE IN WIDER SOCIAL AND SCIENTIFIC FRAMEWORK

Creates a local productive community
1. Creates a local productive community
2. Brings production back to the city
RELEVANCE IN WIDER SOCIAL AND SCIENTIFIC FRAMEWORK

1. Creates a local productive community

2. Brings production back to the city

3. Innovation and business incubator
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4. Sustainability: No packing or vehicle transport
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5. Brings food production to the city through lab-grown meat
RELEVANCE IN WIDER SOCIAL AND SCIENTIFIC FRAMEWORK

1. Creates a local productive community

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3. Innovation and business incubator

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6. Platform for cutting edge technology within health and life sciences
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A different typology based on intimate contact with production
THANK YOU!