Towards a simple complex
Hand-out
Rivers, the breathing lungs of our landscape. It is here that life settles down, adapts, and develops. Meandering through its landscape it tries to find the most effortless route seaward in order to pursue its ultimate goal; spending its last days restful at the ocean. Not knowing that one day it will be evaporated away from its siblings and brought to an unknown destination from where its journey starts all over again. At the same time it is unaware of the fact that while repeatedly meandering downhill while optimizing every run, it constantly affects its environment. Birds move from the eroded land and nestle between the reeds while the amount of oxygen in the water provides good living conditions for water species on which the birds can feed off of. Even though we do not suffer so much from the river. Even though we do have a conscious, we are still travelling trough life searching for the most suitable route to reach our own goals. Since the last century, this route has mainly led us to the thought that an individual should focus on the art products in order to achieve the best for its users. As an individual we are able to shape a world for the collective, through our personal acts and efforts of a collective are more visible and effective than the introductory actions. We are becoming more and more conscious about the absurdity of this knowledge as an individual. We are and will remain unaware for many consequences of our deeds have simply been hidden from view. But what if some of this information would be right in front of us? What if instead of just hearing about the consequences, one would actually be able to see how the environment works and how our own deeds effect your surroundings? It is here that the architect should play an important role in fostering awareness of the impact that an individual has on the environment. Creating a sustainable world does not just require a change in the individual, it requires a change in the relationship between the individual and his social and natural environment.

The current urge of social and technological fashion is, like Adolf Loos said more than a century ago, merely a tool to satisfy our own need for esteem through the appreciation of others. Luckily we are becoming more and more conscious about the absurdity of this phenomenon through the eye openers of people who express the joy and importance of mutualism. Aiming to exchange, sharing and interchanging — a mindset which is beneficial to both involved organisms, whether they are both humans or something else. We should understand that the continuation of human development can not be separated from its relationships whether they are between ourselves on a social level or between the environment and us. As architects we have the possibility to create the built environment and therefore we have the privilege to play an important role in shaping society. We create livable spaces, nudge people, flora, and fauna in a direction of which we think that it is the best for its users. As an individual we are able to shape a world for the collective, while facilitating its needs. Many architects see our role more passively. They believe that creating a sustainable building is as far as we can go. In those cases, sustainability is simply reducing the building its energy usage and making sure that energy harvesting technologies are applied in order to provide at least enough energy for your own usage. Yet we believe that we are capable of more.

We can restructure society by implementing ideologies into the buildings with measurements which are capable to let people rethink their own behaviour. We can nudge and stimulate users of our architecture in such a way that we can minimize their effort to act sustainably. In order to understand how we can do this, one needs to understand how social structures can play a role, what relationship there should be between the environment and us, and how we should learn to coexist with the never ending story called technological progression.

Taking responsibility

At the moment we see sustainability as a fact, it is just here. We are proud to say that we implement some sustainable features, such as mounting photovoltaic panels, driving electric cars, or separating waste/adjusting our food pattern, into our lives. But do we currently act so out of genuine care for the planet or because it is more practical or financial attractive than the alternative? I believe the latter. When we have to invest some of our own time, belongings, or money, we tend to drop out quite easily. If we do not immediately see a personal benefit related to our actions, then why should we even bother investing? Why should we be proud on acting 'sustainably' while we have not integrated the benefits which are provided by unsustainable actions? Some actions like driving a polluting car are understandable since we safely have become dependent on them. But going on far away vacations for our own benefit or importing luxury and fashionable items from all over the world in order to merely embellish our need for esteem is something which goes straight against the concept of sustainability. The problem is that it is difficult to accept that it is necessary to give up some of the unsustainable and unnecessary luxury we are used to while not directly seeing the benefits of our disadvantage. We should reconsider our necessities by asking whether our unsustainable actions are worth to be approached selfishly — which is not by definition a bad thing — or can be adapted in such a way that its consequences are less or not destructive to the environment.

As individuals we constantly walk away from our own responsibilities. We tend to demand that the local authorities have to initiate and implement sustainable features. Meanwhile, we wait with implementing it ourselves until it seems that it needs no additional personal investment, whether this is time, materialistic, or financial based. From a certain point of view this is completely understandable. After all, why should we spend his own precious earned time and money in creating a world which is even faster being demolished by a hand full of egocentric minded and profit orientated individuals, collectives, and governments?

Currently we are at a turning point. We slowly see a political change towards an environment movement. Seeing a collective, rather than one individual, being able to make environmental issues visible with architecture in order to broaden ones perspective than the older generations did in their youth. There is no doubt that there is an increased awareness for creating a sustainable environment, the only questions are when and how.

The right to circularity

Since money is necessary to implement sustainable features and wealth — which makes people able to invest not only in themselves — is just a privilege to the few, some changes are necessary in order to change society. First of all, we should acknowledge that sustainability is part of our basic needs. That every human being should be able to act sustainably in order to meet the needs of the present without compromising the ability of future generations to meet their own needs. This means that we should strive for a society in which no individual should have to live with sustainable limitations. In other words, we need a right for every individual to be able to act sustainably. Just as we strive for enough water, food, and shelter for everyone, we should strive for a society where an individual has all the means to act sustainably.

Secondly, we should understand that acting sustainably on an individual level is just the beginning. If we assume that the projects we use will become sustainable and will be based on a circular economy, all we have to do is become aware that the disposal of our waste is not the end of its life cycle. Waste and products that we produce should be part of the many circular processes in the environment. In contrast to the river, we can become conscious about the circularity of the products that define us and use them appropriately. This firstly asks for rescheduling ones personal priorities from an egocentric towards an ecocentric point of view. Choose not for what merely benefits yourself or others, but take your environment in regard and find solutions which are mutual beneficial to all.

Collaborative living as a key to change

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Problem statement

1. Recognize and understand the problem
2. Find solutions to the problem, change lifestyle
3. The new lifestyle will slowly becomes common
The sustainable fieldwork of the architect

Change human impact on the environment

Sustainability

Ecological
- Minimalize human impact
- Flora and fauna diversity
- Facilitate circular processes
- Use natural sources
- Solar energy
- Wind energy
- Food production
- CO₂ regulation
- Climate control
- Water purification
- Mass
- Water re-use
- Visibility
- Fostering consciousness
- Behavioral stimulation

Sociological
- Sustainable mindset
- Have an example
- Choice architecture (nudging)
- Movements
- Acquaintances
- Suggest the preferred
- Voluntary Simplicity
- Frugality
- Self-sufficiency
- Equity
- Collectivity
- Social equality
- Loneliness
- Collaboration
- Individuality by collectivity
- Fostering consciousness
- Efficiency
- Behavioral stimulation

Technological
- Product efficiency
- Innovation
- Product sustainability
- State-of-the-art products
- Materials
- Demountability
- Embedded energy
- Visibility
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Ecological products
- Materials
- Local products
- Demountability
- Embedded energy
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The Architects role

The sustainable mindset of the architect

Fostering consciousness

Voluntary Simplicity

Efficiency

Behavioral stimulation

Frugality

Self-sufficiency

Equity

Collectivity

Social equality

Loneliness

Collaboration

Individuality by collectivity

Fostering consciousness

Efficiency

Behavioral stimulation

Climate control

Facilitate circular processes

Minimize human impact

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Facilitate circular processes
Public private friction in a collaborate living complex

The Architects role
Interactive shape

Roof terraces for interaction with neighborhood

Landmark at crossroad as eyecatcher

Opening up to the surroundings

Amsterdam centre

Mill De Gooyer
Shape explanation - solar gain maximization

Scheme explanation

Variant 1

Variant 2

Variant 3

Variant 4

Variant 5

Variant 6

Variant 7

Variant 8
Ground floor 1:500
1st floor mezzanine 1:500
2nd floor mezzanine 1:500
7th floor - roof

Floor plans
Dimensions and configuration

Main dimensions cluster

Height dimensions dwellings

Constructive dimensions

Cluster configuration

Configuration of the clusters and dwellings
Axonometric drawing shared space of the cluster

- Living room
- Guest bathroom
- Laundry space
- Technical room
- Collective storage area
- Dinner space for at least 2/3\textsuperscript{th} of the cluster’s residents
- Flexible space to fit the specific needs of the residents
- Unique staircases in order to stimulate vertical movement
- Collective kitchen for when with company
- Semi-private space in front of dwelling
- Semi-private space in front of dwelling
- Emergency exit and route to elevator
- Emergency exit and route to elevator
Cluster floorplan 1:200

1st floor

2nd floor

1st floor mezzanine

2nd floor mezzanine

Configuration of the clusters and dwellings
Axonometric drawing dwelling typologies

- **2 bedrooms**: ± 43 sqm
- **Studio**: ± 28 sqm
- **3 bedrooms**: ± 55 sqm
- **4 bedrooms**: ± 70 sqm

Configuration of the clusters and dwellings
Dwelling characteristics

- Build-in storage spaces
- Height difference divides public and private areas
- Minimize essential movement area
- Kitchen and bathroom divides public and private areas
- Deep window sill for seating
- Multiple bedroom layouts imaginable
- Build-in storage spaces
Facade elevations 1:500
Elevation 1:100 - Wintergarden exterior
Elevation 1:100 - Wintergarden interior
Elevation 1:100 - Streetside
Section and elevations 1:50 - Wintergarden
Section and elevation 1:50 - Streetside

Facades, elevations, and technical details
Section 1:20

Facades, elevations, and technical details
Facades, elevations, and technical details

6 mm Sliding panel for ventilation control
6 mm Perforated chipboard

19 mm Clay plaster
16 mm Floor heating system
22 mm Fibreboard
Finnjoist beam FJI 89×300
100 mm Hemp insulation
15 mm Fibreboard with clay plaster render

Blinds 2700×2600
Insulation glass 7 - 13 - 7
Window sill 300×90mm
Ventilation gap 5mm
Lamellae
Water retaining layer
Structural column 300×300
260 mm Substrate
35 mm Drainage layer
Gutter

Roller blind 90×90
Rimboard 89×300
Fibreboard with clay plaster render
Awning window sill
Detail 1:10 - 2

Facades, elevations, and technical details.

- 19 mm Clay plaster brown
- 16 mm Floor heating system
- 22 mm Fibreboard
- Finjoist beam FJI 89×300
- 100 mm Hemp insulation
- 15 mm Fibreboard with clay plaster render

- 20 mm Clay plaster light yellow
- 15 mm Fibreboard
- 360×480×800 mm Strawbales insulation
- 15 mm Fibreboard
- 20 mm Clay plaster light yellow

- 7 mm Layered glass
- Sliding window 67×92

- Awning window
- Sliding window 67×92
- Window sash 67×42

+ 14800
Ventilation and heating principles

Summer situation
Cross ventilation
Cool air enters through the bedrooms and leaves the dwellings through the by solar radiation pre-heated wintergarden

Winter situation
Passive stack ventilation
1. Cool air enters the wintergarden
2. Air is conditioned by solar radiation and floor heating
3. Air enters dwelling through cavities in the floors
4. Air exitst through kitchen and bathroom area
5. Air transported through ceilings to the shunt channel
6. The shunt channel provides equal extraction pressure in every dwelling
7. Dirty air exitst through solar chimney

Facades, elevations, and technical details