

TALK ABOUT CITIES

In-between art and science

Irene Zluwa



studies and although city governments do their best to implement plants in cities^{4,8} sometimes hard facts are not enough. However, some works of art, like e.g. by F. Hundertwasser or Patrick Blanc, seem to be more convincing and inspiring than texts and figures. Projects like theirs formed a starting point for my quest to develop alternative ways of communicating beyond numbers and the abstract de-

Since I was a child I was fascinated by the dream of amalgamating buildings and plants. I recently found one of my drawings from primary school: a building with a meadow, trees and sheep on the roof. I had to smile because, maybe, this was the reason why I studied at the University of Natural Resources and Life Sciences in Vienna and why I am now part of the working-group for vegetation techniques, where we are dealing with green roofs, living walls, and the implementation of green and blue infrastructure in cities in general¹.

duction of rules, and, to develop a more 'intuitive' voice. They made me apply for the Art & Science programme at the University of Applied Arts Vienna. My aim was to develop my artistic self. Within the course 'experimental studies' two main research questions popped up:

- Which kinds of tools and possibilities are there to transform an utopian vision?
- What can they look like?

I became a scientist investigating the benefits of establishing vegetation in urban environment, some of which are listed below:

- the uneven surface of the leaves can reduce wind and noise in comparison to 'hard' building material²
- the 'coat' of substrate and plants works as insulation for the building and can reduce heating and cooling costs³. It will also protect the material below, because of balancing extreme temperature changes⁴.
- Because of evaporating water (and therefore lowering air temperature) trees, shrubs and herbs help against the urban heat island effect caused by the storage of long-waved radiation in common building materials like concrete and bitumen⁵.
- Plants are able to help against air pollution by their potential to bind CO₂ and to filter pollutants in their leaves.
- Also problems of flooding during storm water extremes in dense areas can be reduced by unsealing hard surfaces and the possibility to trickle water in the growing medium of plants⁶.
- Finally there is the function as a habitat for animals⁷ and as recreation space for humans.

(As the reader can see, plants are great, and this makes me and my scientific self excited to explore more in this field.)

Although all of this research is carried out in several

Wildwerk Baustein-Stadt (photos: Reinhard Stundner).



Semester 1

Methods:

During the first semester my scientific self was studying inspiring artists (like Friedensreich Hundertwasser, Patrick Blanc, Ernst Fuchs¹¹, M.C. Escher¹²) as well as architects (Antoni Gaudi¹³, Stefano Boreri¹⁴, Karin Raith¹⁵, Ferdinand Ludwig¹⁶) that were working in the fields of landscape and architectural design. I was immersed in matter-of-fact reasoning: a straight line from planning, methodical considerations, to implementation, should lead to my goal. However, no satisfying solution revealed itself.

Through learning from lecturers and colleagues my scientific self learned, that art doesn't exactly work in such a straight way. And my evolving artistic self did something completely different to ever before: it temporarily abandoned the path of linear

thinking. Since she had always enjoyed to illustrate her presentations with books and toy blocks, (after the hint of a classmate), she sat down and started to play. Proper research on different 'building games' (Lego¹⁷, Playmobil¹⁸, Brio¹⁹, Anker-Steinbaukasten²⁰, Matador²¹) ended with all my friends invited to my flat, where the entire floor of the living room soon became completely covered with a town built with everything they could find. With this experience as a starting point, the 'Wildwerk-Stadt Baukasten' was developed.

Results:

The *Baukasten* was conceived as a typical building block game, but with non-typical material, like natural stones, wood and moss with uneven surfaces and inclined slabs. The different types of building blocks refer to a different theme or artist (e.g. vegetation,



implementation of water, Art Nouveau) and allow the player to understand the different concepts, in a playful way.

Description on the box:

Wildwerk baustein kit is a conceptual tool to understand strategies for sustainable, artificial cities and buildings. It allows the creation of a counterbalance to a straight, naked and emotionless architecture. It leads to an understanding of how visionaires like Antoni Gaudí, Friedensreich Hundertwasser and Banksy conceptualized their work. It brings to mind the integration of plants and water cycles into infrastructures. It informs about renewable energy and the importance of mechanics. It promotes craftsmanship and motivates to reuse and repair stuff. Look around, everything is there, take it! Shape the environment like your imagination paints it.'

Semester 2

Methods:

After playing for a while the artistic self remembered, that there was a bigger story she wanted to tell, but that there was too little space for this in between the small *Bausteine*.

So the search for a medium went on. Reading more sources like Ernest Callenbachs *Ekotopia*²² (an utopian novel that appeared, maybe, too early), fantasy novels (easy consumable literature where concepts of landscapes and environment formed an integral

part)²³⁻²⁵ and media theory like Marshall McLuhan's *Understanding Media: The Extensions of Man*²⁶ she finally found a way that was worth a try: the letter seemed like a possibility to tell a complex story, not necessarily bound to timelines, brought in short portions to the reader.

Results:

The world of *Wildfeld* is an imaginary realm that becomes exposed by the exchange of letters between Hedwig Madner and Mika Irene.

During their exchange the reader gets introduced to a holistic and sustainable world, rich in details with a lot of ornamental and careful craftwork, where various strategies for energy supply and consumption are envisioned by a perfect combination of mechanics, bionics and electronics. Concepts of slowness, creative and critical thinking of the inhabitants are prerequisites of this wild fairytale world, that is narrated in the first person descriptions of Mika Irene.

Discussion/Conclusion:

The scientific self knows well that the artistic self is describing and idealising a romantic picture of wilderness – a wilderness that humans were glad to escape only a hundred years ago and that, today, is not causing major fears anymore. However, her artistic self does not care.

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Chère Hedwig,

You were asking why I use the word 'grow' instead of 'build' when I was talking about houses. 'Building', well, it sounds too static to my opinion. I mean, houses are living structures, of course they grow!

Using the word 'build' would mean, that a house is finished at a specific moment – but it never is. It's even hard to define the starting point.

Sometimes we set up a structure to support upcoming herbs/grass/trees and fill the space between the living with wood, stones, bricks or chloroplast texture (sometimes even glass or whatever else is accessible). Or we first set the structure of the house between existing trees or rocks. When the plants need more space later on, we simply remove some of the nonliving material, or we shape the living ones.

It's a constant transformation, the moving and removing of materials adapting to seasons and life cycles: in summer we use chloroplast-membranes to collect the energy of the sun and to provide shadow, in winter the chloroplast-membranes will also insulate when it's cold. Because of their flexible structure, one can easily roll them in, when not needed.

You could imagine the rigid support structures in our houses as a kind of skeleton, where pipes collect and drain rainwater (plants will use the water whenever they need it).

And the soft and living materials around and in-between these structures can be seen as mussels (organs) and fur (a permeable structure, that will let air in the house, but also protect it from cold, wet or windy weather).

The soft chloroplast structure in combination with the trunks of columns and trees – and the hard surface of rocks and bricks – the transition from inside to outside almost invisible. Nature becomes one with the protecting shell that we call house.

What kind of dwelling you are inhabiting?

Hope to hearing from you soon,

Yours truly,

Mika

PS: I also attached an image of the main library in downtown Vinn, because I really like it.



Collages and images of construction kit by Irene Zluwa.