P5. REFLECTION REPORT

THE RIVER DNA

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STUDIO FLOWSCAPES

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INTRODUCTION

The Design project THE RIVER DNA explores the complexity of the River landscape of the Upper Rhine. The title of the project derives from the coherence between the continuously changing character of the river landscape and the spiral form of the DNA. Every time period the landscape is turned around and the character of it is changed. The main factors of change were in the past the straightening of the Rhine (1817-1876) and the urbanisation of the surroundings of the river. The main factors of the current time period are flood prevention, ecology, energy supply and recreation. In this project these factors are called the DNA strings. As the image below shows the question is how these strings will change the landscape. On this proposed question this design tries to find an answer.

THE PROCESS OF THE UPPER RHINE DNA

The location of the design project is the Rheinschanzinsel. This island along the Rhine came to existence because of the straightening of the Rhine in the 19th century. Since 1970 the nuclear plant Kern Kraftwerk Phillipsburg has been located on the island. Since 2014 a large part of the island is in use as a retention polder. The DNA strings flood prevention, ecology and energy supply are all present on this location. That is why this location is chosen to work on the complexity of the Upper Rhine. With the use of recreation these strings are connected with each other in the project.
STUDIO FLOWSCAPES

“The Graduation Studio Flowscapes is concerned with the design of new topographies by integrating new programs into the ‘genius of place’ and time, and with regard to landscape processes, the continuation of spatial quality and cultural identity of the landscape. It does this through the development of landscape architectural concepts, methods and techniques for design research and research by design. Our landscape architectonic design explorations require a multilayered understanding of landscape: its spatial structure or visual landscape, history, context or relational system and involve the underlying ecological, economical and social processes.”

(Study Guide 2013/2014)

The design project THE RIVER DNA seeks for the complexity of this design discipline and tries to create a new form to experience the river landscape. It tries to find a new equilibrium of the four most important contemporary topics in the current landscape: flood prevention, ecology, energy supply and recreation. All nuclear power plants in Germany are planned to be taken out of use in 2019 or before. This creates a great shift to the reliance on renewable energy and has a great impact on the visual and spatial qualities of the landscape. This contemporary topic is a driving force in the design project. The regular approach is to wipe out the buildings of a nuclear plant, out of our landscape and out of our memory. This is called the green meadow approach. This project tries to develop a different approach that seeks for new possibilities. The complexity of the contemporary landscape with all its different aspects can get a new form on this location along the Rhine.

RESEARCH <> DESIGN

The relation between research and design in the project is being discussed by the guideline of four perspectives that together characterize the work of landscape architects. (Nijhuis 2006, Marot 1999, Prominski 2005):
1. Landscape as ecological, economic and social process

The river landscape is continuously changing. The driving forces behind the change are these days: flood prevention, ecology, energy supply and recreation. Every factor has its own urgency. At the top is flood prevention.

Flood prevention:

The estimated damage of a flood of the Upper Rhine area is 83 billion Euros. The estimated damage of the whole Rhine basin is 317.5 billion Euros. This means the Upper Rhine area will be accounted for 26% of the damage. This makes it understandable that the investment in flood prevention reaches the 1 billion Euros. Because the geomorphological structure consists out of terraces that go up from the river level, the flood prevention consists out of retention polders. There are 28 retention polders planned along the Upper Rhine of which 16 are realised up to this date.

Ecology:

The Rhine had originally around 8000 km² of floodplains. The straightening of the Rhine in the 19th century and the urbanisation of the last centuries diminished the floodplains with 85%. This drastically changed the quality of the ecosystem along the river. The straightening of the Rhine can be seen as cutting the elements of the river apart. This design tries to make a new connection by using the retention polders as ecological areas with the characteristics of the landscape that has largely disappeared.

Energy Supply:

The nuclear plants in Germany will be shut down around 2019. This decision was made after the disaster in Fukushima in 2011. The nuclear plant at the Rheinschanzinsel has two reactors. One is from 1970, which has been shut down in 2011, and the other is from 1980, which is scheduled to close in 2019. This design explores the possibility to remain this future industrial heritage and to look for new possibilities to bring people in contact with energy production. Also will be thought of a new way for the owner of the plant, the energy company EnBW, to give itself a profile that communicates more what the company wants to achieve.

Recreation:

Landscape architecture is developed for people. This is why recreation is always important. Along both sides of the Rhine there is a cycling route. This goes from the North Sea all the way up to the source of the Rhine. The landmarks along the way are religious and military buildings from the past. The tendency of the last decades to use industrial heritage to create new areas in cities can also be prolonged to the landscape. The Emscher Landscape Park and the Rhein-Main Regional Park are examples of this. The location of the Rheinschanzinsel will be used in this project to connect people with the history and the future of the landscape around them.
2. Landscape as palimpsest

The landscape can be seen as a palimpsest that evidences all the activities in the past that contributed to the shaping of the landscape. To get more grip on this structure through time and space I explored the genius loci in the Methodology paper: *Searching for the genius loci*. The method of the landscape biography was applied and also the addition of the cultural expressions biography was invented to contribute to the grip on the genius loci. The character of the place, the genius loci, is something abstract that therefore can rather be approached than be defined. The landscape biography is a useful tool to get a more thorough understanding of the construction of the landscape through time. It shows how decisions are made, but no so much why decisions are made. This extension could improve the grip on the genius loci. To get more grip on the abstract quality of the genius loci the cultural expressions biography was invented. This gives a wider understanding of the creating spirits that can be connected with the specific landscape. This wider understanding helps in a subtle way to make decisions along the design process.

![Cultural Expressions Biography of the Upper Rhine](image)

3. Landscape as scale-continuum

The processes that influence the landscape of the Rheinschanzinsel extend its boundaries by far. Of course the Rhine itself, but also the energy supply that will come from off shore wind energy in the near future and the ecological systems that connect with the living areas of birds. This design tries to make the history of the Rhine visible and at the same time create a new dynamic equilibrium for this time. The islands that came to existence by the straightening of the Rhine are connected with each other on an ecological level. At the same time these areas have a function
for the flood prevention. The energy supply will also face a shift from an old source, the nuclear plant, to the new source of renewable energy. This design tries to make the history understandable and give a possibility for future development of the site. Also the element of the water is involved in this process.

4. Landscape as spatio-visual structure

The architect and theorist Christian Norberg-Schulz described architecture as the means to visualize the genius loci. He developed a method of looking for visual patterns in the natural and build environment of the project. He derived this focus on visual patterns from the Gestalt psychologist Rudolf Arnheim. This method of looking for visual patterns is also applied on the environment of the Rheinschanzinsel as an extra tool to get more grip on the genius loci.

This method helped to get more feeling with the spatio-visual structure of the surroundings of the Rheinschanzinsel. It is a tool that adds a more visual character to the information of the place. The methods that are applied helped to transform the incredible amount of information that comes up with a project like this to the process of making decisions in the design process and creating connections through new pathways.