Reflections for Reclaimed nature

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PROJECT DESCRIPTION & PROBLEM STATEMENTS

The architectural project is set in Zeeburg island in the city of Amsterdam which will develop as a metropolitan region in the next 20 years and under this process of urbanization and population densification, the reduction of habitats for local flora and fauna can be easily foreseen now.

So the purpose of this project is to establish new inhabitable places for animals before this urbanization process and establish interaction between animals and people which can set connections and enhance understanding. And the main focus of the project is the endeavor to the creation of nature that can be enjoyed by both people and animals, which based on the requirement of animals and people, as well as the climatic and landscape information.

APPROACH AND REFLECTIONS

The general topic proposed for the design studio of Hyperbody this year was “Climatic Ecologies”. The choice of the setting for my project has been Zeeburg Island because of its issues connected to the species conservation, and the solution strategy is to create an environment for both people and animals, which "regards the establishment of a synergistic relation between the environment, architectural space and its urban context". The main approach applied in the whole process from the research till the design can be easily expressed through the following steps and researches that have driven my work.

The first part of my work was based on a deep research into the habits of animals and the relationship between these habits and climatic, topographic Information. In the research, these Information was considered as input for computational tools and after following the habits rules of these animals, the best place can be found with good conditions for respective species.

The second phase basically answers to how these animal habitats will impact the human behaviors, observation, for example and architectural space and how the environment can be the common home for human and animals. The purpose of this step is to create a symbiotic environment for people and animals based on the results of the first step. For this aim, analysis of border conditions between programs and habitats was used in order to explore the relationship between behavior of people and animals.
The next step is related to the morphological process. Based on the spatial requirements of my project like the spatial continuity and the transitional smoothness of different spaces I have decide to investigate the topic of the fold curve in the field of architecture. These fold curves can be controlled by control points and give different space qualities when control parameters changes. And the combination of curves with different parameters can give diverse space qualities but also provide a smooth nature.

After the geometric experiment the final step is an attempt to come back to the architectural aspect: the skin and the structure of the design, as well as a rainwater recycling system for environmental maintenance, gray water reuse and indoor irrigation for eco-planting.

During these approaches, the relationship between research and design is gradually becoming clear. The design is based on the information of the Zeeburg island, including very specific geography and climate information. When we ignore these specific information, the entire design process becomes a subject about the space formation for the coexist of people and animals in an urban environment, which includes four aspects: the relationship between animals and the environment, the connection between people, animals and environment, the creation of environment for people and nature by architectural language, as well as the construction and materialization of the architecture. These sub-researches support every step of the design, and it can be applied in different places and can generate different forms in terms of different situations.

When comes to the methodology, the performance driven form finding processes by computational tools is helpful for the relational understanding between physical & climatic principles and architecture forms. In the first step of the design, a large number of data is mapped and processed by computer in order to find the optimum results. It is clear to see that how the result changes when different parameters was input; and in the third step for the geometric form finding, the space can be different if the input parameter changes, for example the height of the space.

To conclude these reflections I want to add that on a socio context. The process of urbanization, population growth led to city sprawling and the shrinking of natural environment, which will result in deterioration of urban environment (air quality, etc.) and loss of animal habitats, especially for some local species. For Amsterdam, the natural land are mainly developed for city development and human settlement, and the nature is getting away from the city. I propose the strategy of reclaiming nature from urban infrastructure, which, on one hand is a way to recall and embed nature into the city; on the other hand, is a upgrade of the land use strategy in the Netherlands, compared with the method of traditional land reclamation from the sea.