Relation between research and design

My project is titled; *Japanese sensibility in the Dutch context*. In short, the research I did concerned the first part of the title; the Japanese sensibility. Subsequently the design research entailed the second part: ‘Dutch context’ in which the results of the research are translated. In the following I will explain the relation between the research and design, followed by the methods I employed and relation between the project and the wider social context. As in the past year, a lot of process has occurred, I will only touch upon the topics that have been most significant for my final design. To reflect upon the relation between research and design I will start with writing my research question.

*What can I learn from my observation regarding traditional Japanese architecture and can I use certain aspects for the Dutch context?*

Throughout the project, I have investigated how and if I could use or translate the results of my research regarding Japanese architecture which existed of the analysis of my documented photo’s of Japan, a literature research and case study analysis, regarding the design assignment of designing a museum in the rural surroundings of Friesland, the Netherlands.

The Japanese sensibility in architecture can be seen as being greatly related to nature. In comparison with the thinking in Europe in which dualism has played the most significant part, from Aristotle to Kant, to Descartes and Catholicism, nature is in opposition to architecture. Thus, in building, nature is conquered. However, for Japanese architecture the space between those opposites may be something of even greater importance.

According to Buddhism, which is of great influence on Japanese culture, people cannot live separated from nature. There is a clash of interests - how can we live in harmony with nature while we are building in opposition? As the site is a Natura 2000 area, called de Groote Wielen, an important theme for my project became the relation to nature; connecting the research and design.

While designing, I investigated implementing the architectural Japanese features I had researched that beautifully incorporate nature inside the building. However, when looking at the local rural surroundings these architectural features seemed alienated from their context. Although of course I have still learned from these features, during my design process the three topics I had formulated as a conclusion of my research appeared to be a valuable base for my design. This was because these topics were not only based on literature and background studies into Japanese architecture, also each topic had a social relevance for the Dutch context, which will be explained later.

The topics are: ‘temporality’ regarding materials (the state of existing within or having some relationship with time), ‘flexibility’ regarding construction (the ability to be easily modified) and ‘relation’ regarding space (the way in which two or more people or things are connected; a thing’s effect on or relevance to another).

By formulating and framing these definitions as a result of my research into Japanese architecture, I was enabled to seek for a translation into the local context of my site. Below, a few pictures show my early design process in which I tried to implement the Japanese architectural features in the design of the museum.
Methods

Site Analysis
A method that was of great influence of my eventual design was analysing the local context, both the natural surroundings as the built surroundings. This also included interviews with the nature organization that preserves the area. The rural surroundings are characterized by the silo’s and shed’s used for agriculture and farming, which is significant for this area. As my site has been used for agriculture and farming over many years, the landscape has been cultivated and modified already since 900. Both the abiotic and biotic features of the landscape present today and the built surroundings provided an important base of my design. Below studies are shown in which I analyzed architectural objects from the surroundings for my design, as they became of great inspiration in the way they are situated in the local nature and how they are built.

First sketches based on the rural objects in the surroundings of my site

Photography
The beginning of my research started with my own photography, which was a documentation of my observations in Japan. Based on these observations, my further research into Japanese architecture was directed. However, also in later stages photography was an important source of inspiration.

The images of photographer Bas Princen contain a notion of contemporary landscape by showing the relation between the man-made and the natural, that they are one; one type of idea of space. Also the Japanese photographer Toshio Shibata photographs how built structures are in dialogue with nature, how the built structures are built by man in order to control nature while nature in turn is taking over. By looking at photographers that deal with the same theme: ‘the man made and natural’. I started to understand my own pictures not only as documentation of facade materials and textures, but of signs of the way how nature and the building are in dialogue. Also, these photographers enscene abiotic interventions in a biotic environment, which is clearly visible in my site by the dams and canals that control the waterlevels of the different polders in the landscape.

Even more important, I learned that an architectural object as a barrier, can actually frame the nature, as visible in the photograph by Toshio Shibata below and I used this way of thinking in my design in order to frame the characteristics of the different types nature on my site.

Toshio Shibata
My own documentation in Japan of weathered facades
Material research
Based on the topic of temporality regarding materials as an important conclusion of my research, I was interested in three time scales: the process of making the materials, time in use and time in the weathering of materials.

This resulted in a material research in which I focused on concrete, as this material has a great potential of showing these time scales while it is usually produced with as little imperfections or signs of production as possible. Below a few tests are shown of the material research. On a practical level one could say that they are studies into the ways of nature as if its processes belonged to those of a craftsman. Those movements of nature are recreated, appropriated into processes that are specific to the material: the pouring of concrete.

Also by visiting concrete factories, learning about the making, the demands of the industry and observing the afterlife in terms of weathering in daily life, I was enabled to incorporate these time scales in the design of my project, making prefabricated concrete elements based on the processes I learned from making the concrete myself and incorporating weathering in the design of the elements by a relief that controls the weathering. The aspect of using the weathering of materials, in order to make an intentional aesthetic pattern, I had viewed in the Japanese wooden facades (shown in the picture on the previous page).

Concluding, these different methods together enabled to translate my research according to the three formulated themes into my final design of a museum.

In order to explain clearly the framework in which I have developed the project, below is the core described of what my project is about, regarding why, what and how I have designed my buildings.

WHY
I BELIEVE we should build more in dialogue with nature, instead of building in opposition to nature and even conquering nature. This means allowing:
• Temporality in materials
  Incorporating time in the process, use and weathering.
  People nowadays become more connected to the materiality of a building.
• Flexibility in structure
  Allowing future use and seasonal changes.
  People are able to appropriate the building and allow natural changes in the future.
• Relation in space
  Incorporating nature also inside the building.
  People experience nature more from the inside of the building.

HOW
IT SHOULD be a sequence of buildings that emphasizes the natural characteristics of the site and shows the dialogue between the natural and the man made.

WHAT
IT IS a sequence of robust local rural structures that symbolize the man made interventions specific for this area. Together they show and record the characteristics of the nature specific for each place within the site and house a museum.
The relationship between the project and the wider social context

Beauty of the Dutch landscape
Ecosemiotics is a term that circumscribes these signs of human interference and the nature that has developed. It is defining the precondition that they are always interwoven and in interaction with each other. In this landscape there are many traces of man. After years of exploitation, the landscape has continuously been modified in order to allow agriculture and farming. As the area is below sea level, the risk of flooding is high and by periods of heavy rains the land is fully under water. The ditches and trenches were dug in order to allow the water to flow, while dams and windmills made sure to protect the area from flooding, resulting in a characteristic local type of landscape. As the polders have different soils and use over time, each polder has a different ecology within the site. Nowadays the area is preserved as a Natura 2000 area and it is open to the public. By framing the nature of this site, not only the different characteristics of the local landscape are framed, also people are able to view the beauty of this typical Dutch type of nature.

By framing the characteristics of the Dutch landscape as a result of the interventions by man over years for agricultural reasons 'het polderlandschap', an awareness is created for the beauty of this nature and its particularities.

Temporality, Flexibility and Relation
The research aimed create a design in the Dutch context based on the Japanese connection between nature and architecture. The research was not aimed on redefining the relation of nature and architecture in general. To me, this relation was about specific topics that I viewed in Japan and which I aught to be relevant for the Dutch context regarding materiality, construction and sense of space. More specifically, this means the close relation towards the natural aspects of materials, the permanence or life of a building and the poetic quality of the building towards framing the ephemerality of nature.

In other words, these topics can be respectively summarized by the definitions of temporality, flexibility and relation. Together these topics formulate an argument for improving or enriching the Dutch architectural context also for the wider social context.

By incorporating ‘temporality’ in building materials, people nowadays become more connected to the materiality of a building and the lifespan of a building is prolonged. Due to on-going industrialisation in the building industry based on efficiency and cost-consciousness, the aspect of time in relation to the material is not sufficiently incorporated in the present building process. These mass-produced materials lack in showing a degree of tectonics and details of how they are made. They reveal traces of weathering as unexpected stains on the facade that need to be cleaned. The result of not incorporating the effects of the process of making and use or weathering in materials, is a disconnection from the materiality of the building both to its surroundings and its users and ultimately results in a short lifespan of the building. In the words of Paul Ricoeur: “..it must be said that we understand ourselves only by the long detour of the signs of humanity deposited in cultural works.”

Flexibility of structure will enable people to appropriate the building in the future. Already in 1954 Walter Gropius said “that the architect should conceive buildings not as monuments but as receptacles for the flow of life which they have to serve”. Still today flexibility by the incorporation of the time factor in the built environment is the key to the future, as we see that buildings continuously are being re-used differently over time. Allowing adaptation by use of the building provides a longer life and functionality, prohibiting demolishing and enabling re-use and appropriation over time. Also flexibility in terms of climatic adaptation can offer benefits due to decrease in the use of energy and the way nature, its daylight and seasonal changes become part of the building.

Lastly by designing a building with a relation in its spatial layering to its surroundings, people experience nature also from the inside of the building. Interior walls and a uniform facade with limited openings, often cause a disconnection from the interior spaces to the exterior. However, instead forming a clear boundary between the indoor and outdoor space, the facade can play a potential role in forming a transition in a spatial sequence between the interior and exterior as people appreciate a connection with nature and it is one of the basic needs for people. Florentine Sack also advocates the importance of creating a relationship between the exterior and interior to represent the unity of man and nature in architecture. Among multiple reasons, she refers to American architect Frank Lloyd Wright who was deeply convinced by the fact that an individual’s personal, spiritual and physical well-being increases in proportion to his association with nature.
Literature

