

Reflection P4

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True nature inclusive design, designing a building for nature and humans equally to improve the biodiversity in cities.

In the built environments campaign of sustainability, it is one of the greatest contributors to the decline in worldwide biodiversity. Removing spaces which nature has adapted to live in, such as cavity walls and roof cavities, building over habitats, densification and the misuse of green in and around projects which can be counterproductive. Making a true nature inclusive design, that increases the foothold for biodiversity, is as such the main topic of my graduation project.

The old Fluor building in Schalkwijk, Haarlem is a monolithic 70ies office building placed atop of a concrete parking lot. This building has been in use for over 40 years and at the start of this project is being demolished to be renovated into a different function. A perfect opportunity to step in and use it as the coat rack for my graduation project, by turning it and the surrounding area into a true nature inclusive master project.

The relationship between research and design

Because the topic of my research paper consists of nature inclusive design, the main topics explored are design requirements based on nature requirements. The research intends to create an example of how a design strategy can be created for specific geological locations through the creation of a program of requirements for nature. Aside from the creation of such a program of requirements, an example of translation to design will be created. Such as material, positioning of natural elements and usage of facade. All this information will give the framework for design.

The relationship between my graduation topic and the master track (Architectural engineering)

The main topics of my Architectural Engineering studio is "1 Million homes", "Harvest" & "2nd-Life", these topics requires combining of innovative knowledge with solving technical challenging problems. My graduation topic combines elements from "1 Million homes" and "2nd-Life", by transforming an old office building into an apartment building with a focus on nature inclusiveness.

Research method and approach in relation to the graduation studio methodical line of inquiry

This research will look towards setting up a program of requirements and design strategy for architecture in Haarlem Schalkwijk that will make nature an integral part of the design process. To create a suitable design strategy, case studies will be made of other buildings which are known for their nature inclusive design to see if there is any overlap in the way they were designed; examples being ACROS by Emilio Ambasz architects (1994), Bosco Verticale by stefano Boeri architects (2014), Vertical by NL architects, studio DVMB, Space

Encounters, Chris Collaris architects, DS landscape architects and De Dakdokters (2020) and other projects. Using that information a location study will be made of the case location by looking at the current ecological situation, an analysis will be made documenting the best suited target group of organisms for the location and their needs by working together with ecologists such as Eline Hin, Haarlem's urban ecologist specialized in nature inclusive building. The selection of organisms will be based on the ability of these to live in symbiosis with each other, humans and if they fit in the native ecology.

All this information will be combined into a program of requirements, which will be used to create a design strategy which demonstrates the possibility of true nature inclusive design. This form of methodology was in my opinion the most effective form to discover knowledge which normally would be out of reach for architects.

Relationship between the graduation project and the wider social, professional and scientific framework, the transferability of the project results

Even though this paper almost exclusively talks about the case location of Haarlem Schalkwijk, the paper's results are applicable in all situations. The direct results showcase the research needed for nature inclusive design to be implemented properly within architecture. This paper can be used as a template for further design projects to take the correct steps needed for nature inclusive implementation.

Learning points

I have learned during the research that when your own ability to find information starts to not be enough, asking the help of professionals within the field helps get over that gap and often brings you more information than desk research ever could.