NAVIGATING THE HYBRID REALM

Exploring architectural innovation through hybrid design concepts for hybrid education

AR3A010 Research Plan Abstract
Master - Architecture, Urbanism and Building Science

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Date: 27th of November, 2023

Introduction

This thesis delves into the concept of ''hybrid'' within architecture and hybridization within the world of education. While the two subjects are quite different from each other, this thesis focuses on creating a connection between both in a hybrid-oriented approach.

The term hybrid has gained recognition and relevance within the world of architecture for some time now, manifesting itself through the implementation of hybrid constructions and the exploration of hybrid uses for buildings (Ptichnikova, 2020). Hybrid education has been around for more than a hundred years, starting in the 19th century when correspondence courses were introduced.

Hybrid education, known today as *a combination of attending classes in person and online*, developed at Stanford University between 1970 and 1980. After 2000, with the rapid development of the internet and technology, hybrid education gained more growth worldwide. During the COVID-19 pandemic, hybrid education was almost the only form of education being given globally (Tritsch, 2021).

While defining the concept of hybrid education is quite obvious, the definition of hybrid architecture is harder to formulate. To give a more precise definition of the term, we refer to the description made by Ujjwal Dawar (2020), an alumnus of TU Delft, who describes a hybrid building as follows: *''A hybrid building is understood as a building in which certain contrasting functions come together and create a habitable block.''*. However, this only describes a single form of hybridization, namely Functional Hybridization, as Ptichnikova describes in her article. Together with Functional Hybridization, there are also Typological Hybridization and Formalistic Hybridization as forms of architectural hybrids. With this in mind, it seems more fitting to define hybrid architecture as the following: *''A hybrid design is understood as a building in which certain contrasting functions, aesthetics, and/or constructions come together and create a coherent design.''*.

Problem Statement

Despite the long-standing recognition of the term hybrid, its practical application remains somewhat limited in both the realm of architecture and education. For education, it is mostly that the application of hybridization can mean that educational buildings have less of an occupancy rate than desired, which leads to vacancy. To counter this vacancy, an educational building that focuses on hybrid education should have hybrid programming.

This is where hybrid architecture comes into play. According to Joseph Fenton in the publication Pamphlet Architecture: 11. Hybrid Buildings (1985), there are two types of hybrids in architecture: hybrid architecture by form and hybrid architecture by program. With the latter of the two, it can be possible to solve the problem of vacancy that occurs from hybrid education.

Objective

With the main objective of the graduation studio being to design a Vertical Campus in the Central Station area of The Hague, the goal of this thesis is to research the connection between hybrid architecture and hybrid education and therefore design an educational building, a *hybrid Vertical Campus*, using hybrid building. To reach this overall objective, the research question of this thesis is the following: *''How can hybrid architecture and hybrid education be connected through a building designed with hybrid building technologies located in a new green area in The Hague?''*.

Approach

To answer the research question and therefore reach the objective of this research, there are multiple actions that have to be carried out. The main one is general research into the different forms of hybridization within architecture and how this can be connected to hybrid education.

In Pamphlet Architecture: 11. Hybrid Buildings (1985), Joseph Fenton mentions three types of hybrids that can be classified as hybrid architecture by form. These three types of hybrids are Fabric Hybrids, Graft Hybrids, and Monolith Hybrids. These three types of hybrids are similar to the hybridizations that Ptichnikova describes in her article 'Hybridization in Architecture' (2020).
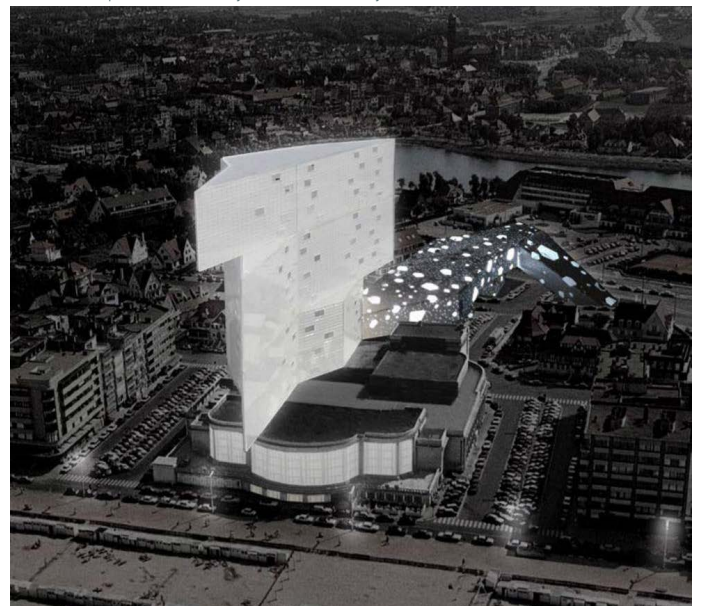
The first form of hybridization Ptichnikova discusses is Functional Hybridization, or Fabric Hybrid as described by Fenton. This is the most well-known and common form of hybridization and is collectively known as 'mixed-use' and does not always have a pretentious exterior aesthetic. An example, that does have a pretentious aesthetic, of this hybrid form is 'The Valley' designed by MVRDV (Abdel, 2022), which can be seen in **picture 1**. This project mixes office functions with public functions and even residential functions.

The second form of hybridization is Typological Hybridization, also described as Graft Hybrid. Whereas Functional Hybridization does not focus on aesthetics, Typological Hybridization does solely focus on the aesthetics of a hybrid design. As the name suggests, this form of hybridization combines multiple architectural typologies into one design. An example of Typological Hybridization is 'Sail Hybrid' designed by Steven Holl Architects (Divisare, 2005), which is shown in **picture 2**. The building has become a combination of three architectural themes: the "sea" — cylindrical forms of the reconstructed casino in Art Nouveau style, the "hybrid creature" — a fragment of "porous architecture" (congress hall), and the "sailing boat" – a glass prism-tower (hotel and apartments) (Ptichnikova, 2020).

The last form of hybridization is Formalistic Hybridization, which can also be described as Monolith Hybrid. Noticeable for this form of hybridizations is that the buildings firstly focus on their aesthetic form and within this form manage their hybrid program. An example of this form is the 'Markthal' designed by MVRDV (ArchDaily, 2014), which can be seen in **picture 3**. As Ptichnikova describes the building in her article: 'It is an 11-story building with the shape, resembling a giant hangar. The city market occupies the inner open space under the vaults of the residential building.'

Picture 1 I The Valley by MVRDV
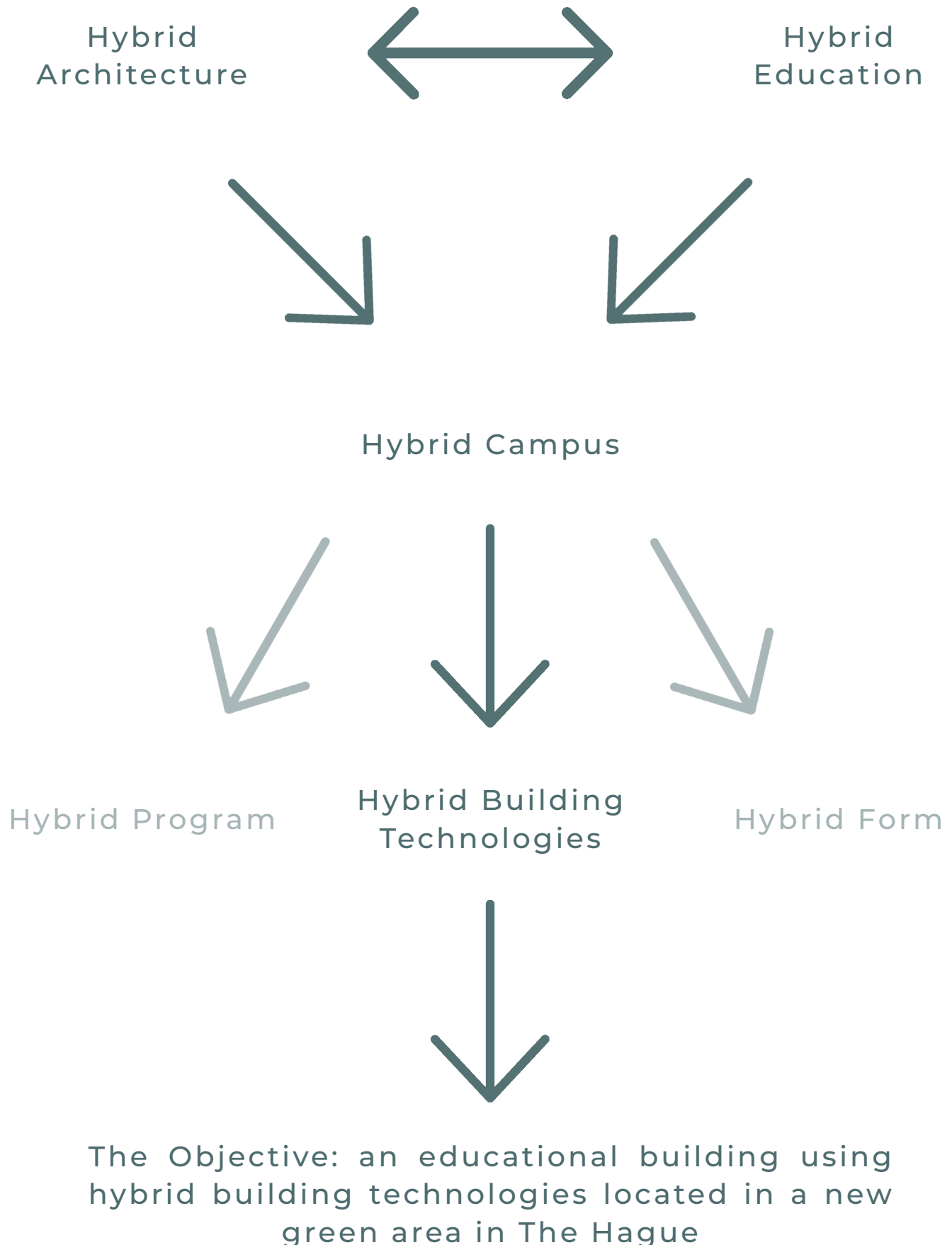Van Duivenbode, S. (2022, 20 September). *Valley Towers / MVRDV*. Found on https://www.archdaily.com/989217/valley-towers-mvrdv

Picture 2 I Sail Hybrid by Steven Holl Architects
Steven Holl Architects. (2005, 2 November). *Sail Hybrid*. Found on https://divisare.com/projects/steven-holl-architects-sail-hybrid

Picture 3 I Markthal Rotterdam by MVRDV
Daria Scagliola+Stijn Brakkee. (2014, 8 October). *Markthal Rtterdam / MVRDV*. Found on https://www.archdaily.com/553933/markthal-rotterdam-mvrdv

After these forms of hybridization are researched, the next step in the approach is to set up a design brief that focuses on a hybrid design connected with hybrid education and that also incorporates the Program of Requirements given by the Public Building Design studio. This design brief will then be used to design the Vertical Campus, where hybrid architecture and hybrid education get connected within a newly developed area of The Hague. A scheme showing the approach of the research can be seen below.

Hybrid
Architecture

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Hybrid
Education

Hybrid Campus

Hybrid Program

Hybrid Building
Technologies

Hybrid Form

The Objective: an educational building using hybrid building technologies located in a new green area in The Hague

Conclusion

In conclusion, this thesis will focus on the research on how hybrid architecture and hybrid education can be connected into one coherent entity, this in the form of an education building that will have a hybrid program and will be designed with hybrid building technologies. This education building will become the Vertical Campus, the main subject of the graduation studio.

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