VERTICAL REALM

Vertical Campus The Hague as an extension of the public realm

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Introduction

Higher education has undergone major developments over the years that started mainly in Oxford and Cambridge. One of the first colleges in Oxford was Balliol College started as an act of charity in 1260 by the King of Scots, John Balliol, where Balliol housed poor students in a house rented by him (Jones, n.d.). Over the years, several colleges have been built, each with its character and identity and mostly horizontally organised. These colleges are, sometimes, connected by footbridges but are mainly self-contained complexes. The complexes are organised out of several courtyards to which university facilities are attached. The resulting introverted colleges are the outcome of courtyard-facing facades that create close street frontages and have therefore little connection with the public realm. The reason for this was that it helped to counter the intrusion of villagers but also kept students inside for more control (Coulson et al., 2011). The typology of colleges provides spaces where green courtyards and the intersection of circulation routes act as meeting places. Furthermore, the college houses different programmes and facilities, such as housing, dining rooms, meeting and learning spaces and other university facilities. These facilities can only be used by the students and lecturers and that creates the opportunity to form a community within a college (Turner, 1984).

With the rapidly growing number of students around 1900, new typologies were adopted where there was no need for student housing as in traditional colleges and connecting to the existing urban fabric (Turner, 1984). While focusing to deal with the growing number of students in the most efficient way possible is understandable, a self-contained part of the city will not easily integrate into the existing urban fabric and is not the way a city should function (Sennett, 2020). In developing the new typologies, a transition is already started as Dober stated in 1964: *"Campuses which are horizontally scaled may meet their expansion requirements by gradually changing to a vertical scale as they construct taller buildings"* (p. 171). The verticality created by this transition will challenge the integration of campuses into the existing urban fabric and keeping the local small-scale character in the area

> *"In architecture such disjunction implies that at no moment can any part become a synthesis or self-sufficient totality; each part leads to another, and every construction is off-balance, constituted by the traces of another construction".*
> (Tschumi, 1987, p. 118).

Tschumi explains his design for Parc de la Villette with this statement, however this can also be used to deal with new buildings in the city. Koolhaas (1994) argued in *Delirious New York : a retroactive manifesto for Manhattan* that New York's grid filled with skyscrapers form an archipelago, *"Cities within Cities"*, where each skyscraper has its own identity between which, the public realm and *"the unity of the archipelago as a system"* is strengthened (p. 296).

Future campus buildings will be more integreted in cities again, often already densely built, so it has to be organised vertically. However, how can a vertical campus integrate into the public realm and have a place in *"the unity of the archipelago as a system"* of Koolhaas (1994, p. 296) and at the same time allow the public realm to penetrate the building vertically?

This research plan describes the problems of transforming a horizontal campus into a vertical campus with the following research questions: 'How can traditional horizontally organised universities transform into a vertical hybrid organisation?'; 'How can vertical circulation contribute to the continuation of the public realm?'; Which circulation routes/patterns can be implemented in a vertical building to encourage users to move vertically?'; How can local characteristics be implemented in a vertically organised building?'. The following paragraphs will further define the problems that resulted in the research questions followed by a description of how the research can be further developed to eventually create a coherent campus design.

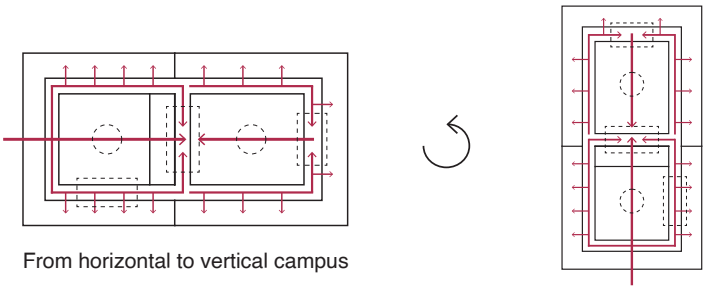
Research problem

A new campus will be designed in the Temporary House of Representatives of The Netherlands in The Hague. However, there is little room for a horizontally oriented campus as in Oxford in The Hague's densely built Central Innovation District (CID). In fact, in the future, the Municipality of The Hague plans to densify further the CID (Municipality of The Hague, 2021), leaving even less space for buildings and public spaces but creating on the other hand opportunities for more multi-use high-rise buildings. Therefore the campus needs to grow in height which causes implications for the "traditional" circulation patterns between different floors and functions within the campus and around the building. How can vertical circulation be created by breaking through the stacked floors as Musiatowicz (2008) argues without creating a monotonous identity?

Additionally, at the moment the building of the Temporary House of Representatives of The Netherlands colloquially the Monkey Rock, is seen as a monotonous closed structuralist building. Although the building has a distinct identity and is part of "the unity of the archipelago" (Koolhaas, 1994, p. 296) in the high-density area of the Hague, the local small-scale character of The Hague is lost. How can this local character of The Hague be vertically organised?

Frame work

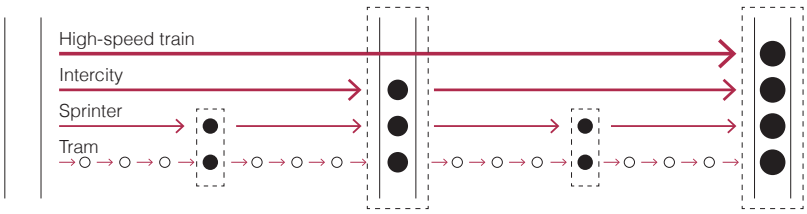
When the horizontal traditional Oxford college is organised vertically for example and the spaces and functions remain the same, courtyards are created at different levels around which circulation space connects the different layers with its functions. The space between the two courtyards, where all vertical movements converge, can then become an interesting place in the building, where meeting and interaction can occur.



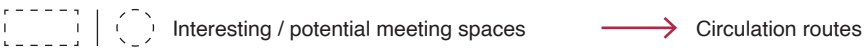
From horizontal to vertical campus

Despite the potential outcomes of this transformation from the horizontal college to the vertical, some examples deal efficiently with vertical circulation in high-rises through a hierarchy. This is important because the campus needs to handle a lot of traffic movements due to the many potential students and other users using the facilities in the building.

Public transportation is a good example of how to deal with the hierarchy of different connections. This involves distinguishing how someone wants to travel from A to B and how important the final station is. Additionally, nodes are interesting spaces where different connections and travellers come together. What are the potentials of these nodes so that they are not only used as usual routes but also as places to stay to stimulate hybridity?

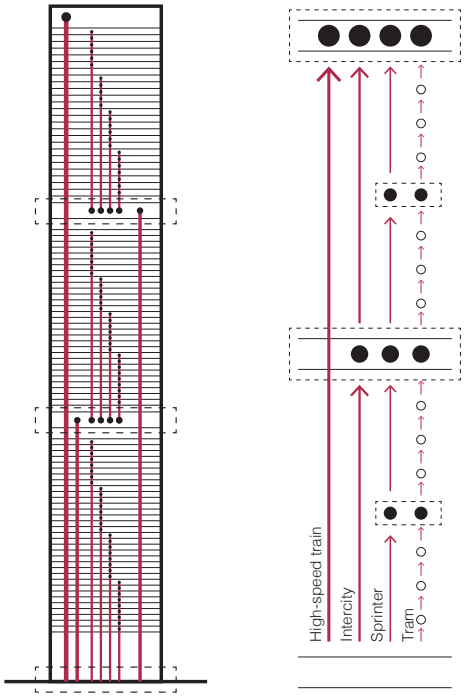


Concept hierarchy public transport, The Netherlands



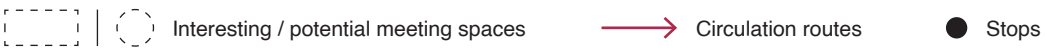
An example of a building with efficient vertical accesses that deals with a hierarchy is the former Twin Towers. The lift system differentiates between connecting building sections and storey floors. This involves the use of express lifts connecting the ground floor to the top, secondary lifts connecting the ground floor to a particular building section and lifts going to the storey floors. This is similar to the hierarchy of public transport. Using this concept, potential spaces are created at the nodes where the lifts come together. However, the focus in the design for the new campus will be to connect and overlap different spaces and functions to allow users and visitors to move more vertically through the building, and this will require breaking through the stacked storey floors (Musiatowicz, 2008).

The Twin Towers' accessibility typology is efficient, but this common concept does not fit in the typology aimed at the new campus. Other forms of vertical accesses, which may not be obvious and are more radical, may give other insights into how the campus can be vertically accessed. For example, if a tree is stripped, the structure becomes visible and can be compared to vertical a circulation system. The structure of a tree, like in the Twin Towers and the public transport system, has a distinctive hierarchy where the vertices serve as nodes, the spaces where different users come together. In addition, what happens in the spaces where the branches cross? and how can the traffic spaces, the places where the birds sit in the tree, be designed flexibly and hybrid to make them functional for users? At the same time, the tree grows and changes as it ages and the same is true for hybrid spaces where programs can expand or adapt over time (Musiatowicz, 2008).



Circulation Twin Towers compared to public transport system

Tree as circulation concept



Research question

Different accessibility typologies are possible to access the vertical campus. This research will further explore how the given circulation systems can be combined to encourage people to move vertically through the campus and how traffic routes and nodes can be designed so that they can be used hybrid while allowing the public realm to penetrate deep into the building.

The resulting research questions following from this problem statement are:

How can traditional horizontally organised universities transform into a vertical hybrid organisation?

How can vertical circulation contribute to the continuation of the public realm?

Which circulation routes/patterns can be implemented in a vertical building to encourage users to move vertically?

How can local characteristics be implemented in a vertically organised building?

Significance

The buildings in the high-density area around the Temporary House of Representatives of The Netherlands, currently have little relationship with the public realm. In addition, there is little room for public spaces due to the densification of the project area. To create more public space, it needs to be oriented vertically instead of horizontally. Especially when *"more and more entrances to downtown complexes aren't doorways"* as Whyte (1980, p. 82) describes downtown areas in American cities which also implies for the current state of the high-density area in The Hague. Therefore, it is important to investigate how the public realm can continue vertically in a building where the circulation routes encourage people to move vertically so that these public spaces contribute to the current number of public spaces in the area. Additionally, it is important to implement a local character to these public spaces giving it its own identity.

Method

To achieve the intended research outcome, research will be conducted through research-by-design. Hence, in this research speculative thinking and projecting ideas goes hand in hand with theoretical research. However, the first phase of the research will focus on the history of university design and mainly the circulation patterns before speculating about the future design concepts. This will be explored by historical literature review and additionally with case studies, using *University planning and architecture : the search for perfection* from Coulson et al. (2011) as a guideline. In the second phase, case studies supported by a literature review will be used to investigate how to encourage people to move vertically in a building and how public spaces can contribute to this. In Addition, research by observation will be done on how the character of the kiosk typology can contribute to formal and informal design to create a variety of identities within the building.

Objective

The design project aims to showcase how the traditional horizontal campus can be vertically organised as cities are now even more densified. Additionally, the intention is to investigate different types of circulation patterns that can be implemented in the campus to encourage vertical movement, so that visitors not only use the public functions on the ground floor but also the functions situated on higher floors. At the same time, the design project seeks to not only enhance the public realm but also extend it vertically throughout the building with its own character.

Contribution

Contemporary architecture will have to deal with connecting public spaces and the interiors of buildings. Actually, it is about connecting people and the built environments, especially as cities, such as the CID in The Hague, become even more densely built and public spaces become scarcer.

This research and design project can contribute to future vertical campuses, but also to other building typologies that are vertically oriented. The design project can become an example of how public space can be drawn vertically into a building and at the same time encourage people to use the building vertically. In addition, different vertical circulation typologies will be investigated that can be implemented in high-rise buildings. Future building designs can consider the variety of these circulation typologies to deal with the organisation of the building program differently. In addition, this design project will focus on connecting people through programme and space.

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