

Flow & Movement

Research Plan

Study of Various Factors Influencing Horizontal and Vertical Flow and Movement, to Enhance Integration of the Vertical Campus with the Urban Fabric and Circulation-Space Relationships within Buildings.

Research Introduction

The zone Den Haag Central, within the Central Innovation District, forms the high-density urban fabric at the heart of the city and often provides the image of a Central Public Hub. Public hubs often remind one of the associated qualities, such as efficient and accessible, frequent and fast, vibrant and lively, affordable and safe, and much more. While Den Haag Central does possess some of these qualities, after several trips to the site, one would realize that there are many shortcomings that can be improved.

Upon initial site readings, I have observed several significant challenges that revolve around the concept of *flow and movement*. Diagram 1 shows a personal subjective mapping illustrating various “levels of obstacles” identified on-site, both visually and physically, which have the potential to impact how individuals navigate in and around the area. The observation is closely linked to the main issue identified where few routes are favourable and inviting, with many “dead-ends” environments. It suggests the reason for the public to pass through the area rather than remaining and engaging with it, as well as, various actors and users on-site who do not often interact or cross paths. Thus, The Hague Central appears to be rather lifeless, although located in a dense central location.

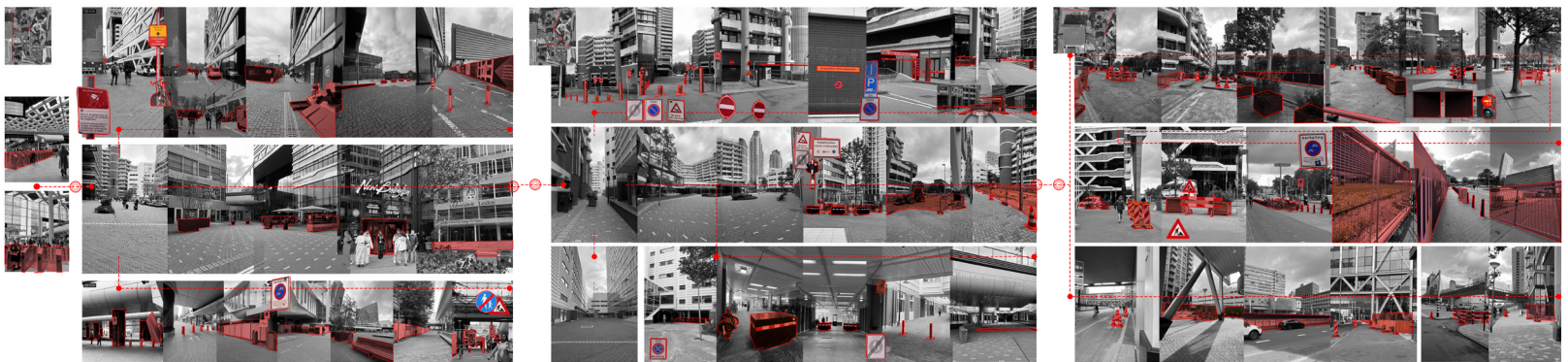


Diagram 1: The samples (symbols, physical and visual obstructions) collected that could potentially induce different reaction, decision, and speed which influences the movement and routes of people on site. (Authors own diagram)

Research Aims

As mentioned by Jan Gehl, ‘...it is important to clarify that the experience of liveliness in the city is not limited to quantity.’¹ Therefore, drawing from the initial field study and problems underlined, this research aims to discover: **What are the factors that affect people’s horizontal and vertical movement?** The sub-question to this research question is: **how does horizontal and vertical movement affect people’s relationship with public realm or spaces?**

Movement or Flow in this research denotes the speed, direction, continuation and halting of a journey.

‘Walking is the beginning, the starting point.’² By studying the vertical and horizontal movement patterns, we can discern the prevailing successes and shortcomings within the urban realm and its buildings. The research will be a vital step towards understanding how people move through and interact with public spaces, hence creating a more cohesive urban fabric with ‘Life between Building’³ and extending this vitality to “Life in Buildings”. Consequently, a holistic urban experience can be created by injecting life into the existing context in various layers.

1. Jan Gehl, *Cities for People* (Washington, DC: Island Press, 2010), 63.

2. Ibid. 19.

3. Jahn Gehl, *Life between Buildings: Using Public Space* (Washington, D.C.: Island Press, 2011).

Design Agenda

The knowledge and findings gained on the horizontal and vertical levels are interchangeable and can inform each other in the design process, enabling the enhancement and interconnectedness of flow, circulation, and connectivity along both axes. Therefore, the study on flow aims to enrich the core design principles of the Vertical Campus namely Multiplicity, Sustainability, and Resilience, through Hybridity. a+t research group underlined that *Hybridity* is about insertion adapted to the urban fabric and the interconnectivity between programs, not just in terms of mixed-use, to ‘...produce a new being with a unifying personality.’⁴

This integrated approach serves as a pivotal foundation for the vision of the project to create an ‘*Exchange Hub Catalyst and Nexus*’, to strengthen the crucial role of the Central Innovation District. The central think-tank hub will allow constant exchange between various actors, particularly between education and governmental sectors, and at the same time, provide a sense of belonging for people to stay. It also enhances the idea of life-long learning and plays a significant role in the environment of the 5th Generation Campus, for perpetual invention and innovation.

Framework & Methodologies

City Life

‘City Life was a matter of course in old traditional cities until the mid-1950s.’⁵ It is crucial to reevaluate the meaning and nature of the public realm and buildings in today’s context.

Perception and Phenomenology

Embodied experiences formed through specific perceptions and senses can influence flow and movement. Elements such as sound, color, light and shadow, scale, proportion, perspective, sightlines, and vision thresholds play a part in this.

Praxeology

Understanding socio-spatial practices is essential for discerning behavioral and movement patterns, which are influenced by factors like distance, spatial dimension, safety, human needs, and access.

Spatial Gradient

Studying the various transitions between the black and white of the Nolli Plan to understand thresholds, sequences, and hierarchy, that can influence people’s flow on various scales and axes.

To achieve the research aim and design agenda, a more comprehensive literature review and archival research will be conducted to further enhance the theoretical and historical framework. This will help form a strong basis for approaching the research question. The study of various frameworks will inform the hierarchy and significance of the factors influencing flow and movement. Additionally, archives could help inform the transformation of the site, to better link the past, present and future.

4. Aurora Fernández Per, Javier Mozas, and Javier Arpa, *This Is Hybrid: An Analysis of Mixed-Use Buildings* (Vitoria-Gasteiz, Spain: A+t architecture Publishers, 2014), 38.

5. Jan Gehl, *Cities for People* (Washington, DC: Island Press, 2010), 89.

Moreover, the research will involve comprehensive case studies encompassing various scales, that prioritize the public's flow. Successful urban planning models will be examined from cities like Oslo, Copenhagen, and Venice, while also delving into unsuccessful projects like 'Streets in the Sky'⁶ to discern valuable lessons from their shortcomings. Besides, I will explore individual projects that shed light on how movement can influence architectonics, spaces and functions. For instance, Roy and Diana Vagelos Education Center⁷ and Jussieu Library Competition⁸. Special attention will be given to educational projects, contributing to the design of an integrated campus.

Furthermore, the flow and movement are intended to be observed and recorded in three ways. Firstly, observations will be carried out whilst sitting at different spots on site, at different hours and days to observe how people navigate around the site. The 'Time-lapse Filming Technique'⁹ will be helpful in capturing and analysing people's behaviour and movement, particularly speed. Secondly, personal experience can be extracted by taking thematic walks through the site, in order to develop an observational mapping. To do so, *Eisenstein's Montage* (diagram 2)¹⁰ is a great inspiration for illustrating various layered realities in parallel and showing the relationship between various factors. It also embeds the notion of time which is inextricably linked to flows. Thirdly, ethnographic research which would involve interviews and mapping of routes will be conducted, to gather collective information for more private areas and to identify repeating patterns. However, I am aware that this method might be challenging as it involves personal data and is time-consuming for participants.

It is also worth noting the relationship of *Space, Movement and Events* explored by Bernard Tschumi in 'The Manhattan Script', with a series of drawings and notations (diagrams 3,4)¹¹. He mentioned 'Rather than merely indicating directional arrows on a neutral surface, the logic of movement notation ultimately suggests real corridors of space, as if the dancer has been "carving space out of a pliable substance..."'¹² The deconstruction architectural design and reinterpretation of the relationship between movement, space and events could also serve as beneficial inspiration and approach towards the research and design goals.

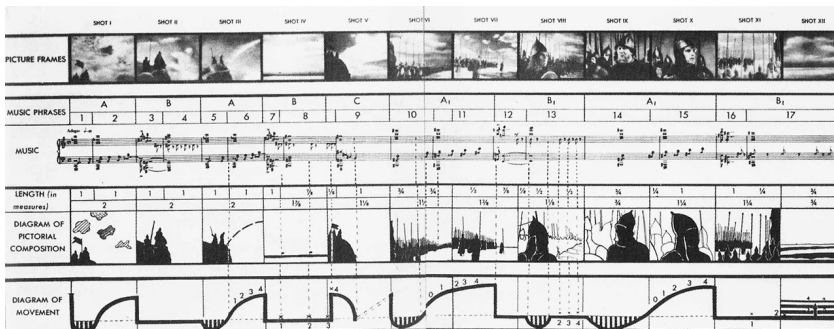


Diagram 2: Eisenstein's Montage

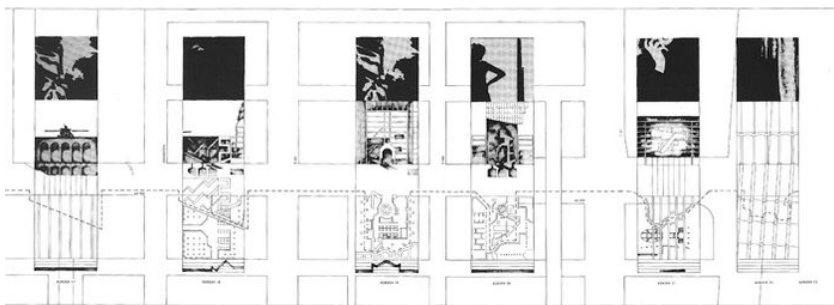


Diagram 3: Notation on Space, Events, and Movement on 'The Street' (Horizontal Movement)

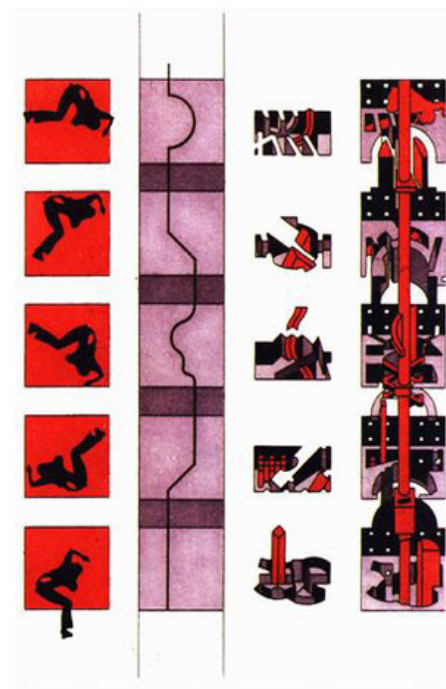
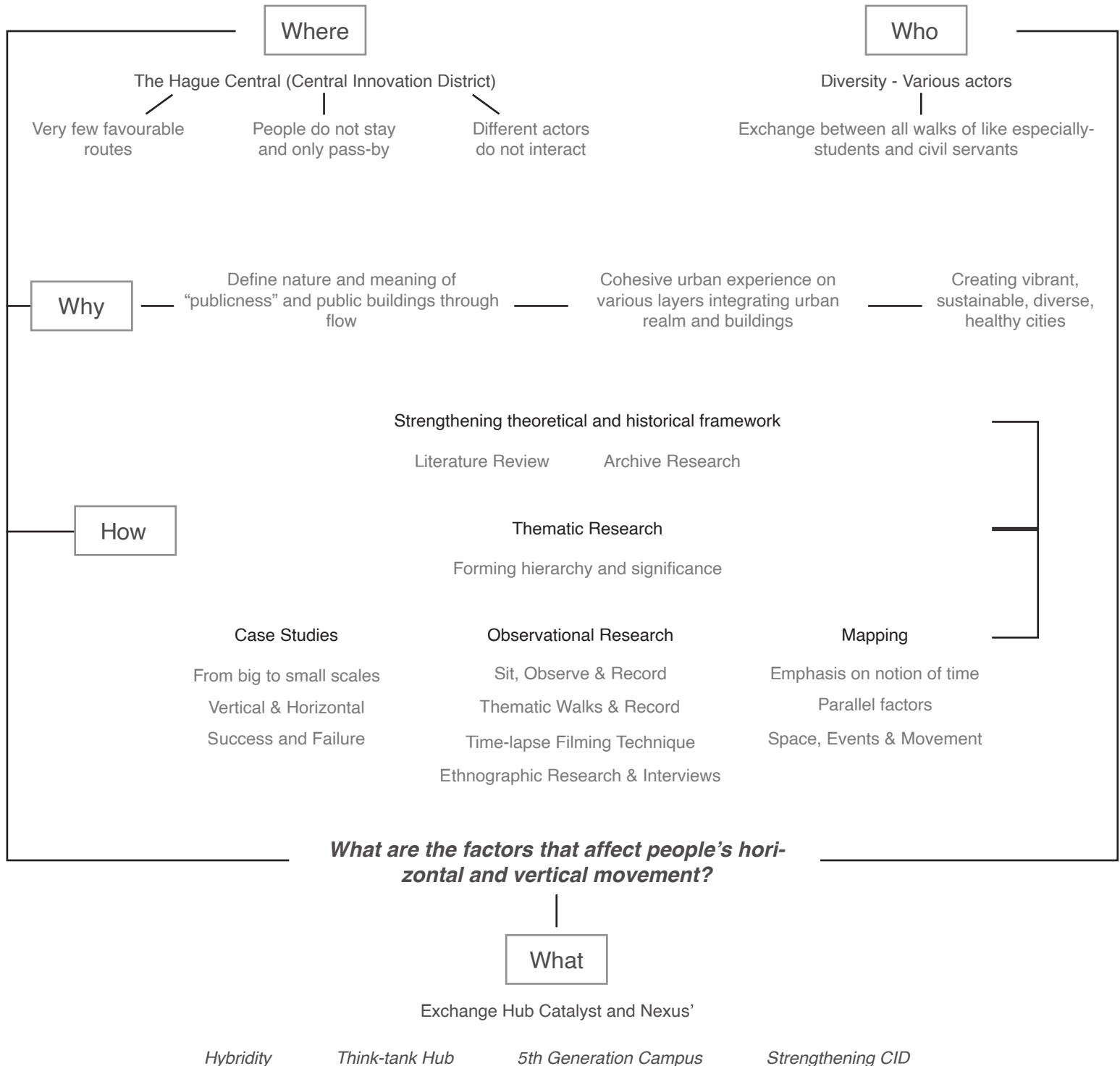


Diagram 4: Notation on Space, Events, and Movement on 'The Tower' (Vertical Movement)

6. João Cunha Borges and Teresa Marat-Mendes, "Walking on Streets-in-the-Sky: Structures for Democratic Cities," *Journal of Aesthetics & Culture* 11, no. 1 (2019): 1596520, <https://doi.org/10.1080/20004214.2019.1596520>.
 7. Diller Scofidio + Renfro, Roy and Diana Vagelos Education Center, 2016, New York, United States.
 8. OMA, Jussieu – Two Libraries, 1992, Paris, France.
 9. William Hollingsworth Whyte, *The Social Life of Small Urban Spaces* (Washington, D.C.: Conservation Foundation, 1995), 102-111.
 10. "Space, Event, Movement: Bernard Tschumi," Pidgeon Digital, accessed November 8, 2023, <https://www.pidgeondigital.com/talks/space-event-movement/chapters/>.
 11. Bernard Tschumi and Robert Young, Bernard Tschumi, *The Manhattan Transcripts: Theoretical Projects*; on the Occasion of Their Showing, Together with Bernard Tschumi's Recent Projects, at the Museum of Modern Art, New York, April 21st - July 5th, 1994 (London: Academy Ed., 1994).
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Reflection and Conclusion

Ultimately, the research and project position itself within the contemporary academic debates and state-of-art discussions which involve architects and urban planners. It also explores the Research-by-Design methods by linking theory, history, practice, imagination, and speculation of the future. On a wider discourse, the knowledge gained on Flow and Movement can also be reapplied to other typology designs and disciplines, to design for vibrant, sustainable, and resilient cities.



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Journal Article

Cunha Borges, João, and Teresa Marat-Mendes. "Walking on Streets-in-the-Sky: Structures for Democratic Cities." *Journal of Aesthetics & Culture* 11, no. 1 (2019): 1596520. <https://doi.org/10.1080/20004214.2019.1596520>.

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