

Multisensorial Architecture for Wellbeing

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Introduction

After gaining awareness of the different methods employable in architectural research, this paper is an attempt to detail and reflect upon the approaches from which *collective research* has benefited till now. Henceforth, *individual research* will be conducted further, drawing valuable lessons and principles from the previous cooperative work.

Following a collective investigation about the *historical traces* of the city of Nijmegen and of the Molenpoort Passage, we developed a group urban plan envisioning the site as an opportunity to manifest the end of consumerist leisure rituals based around shopping. The group vision, sewn around the concepts of *time, space and ritual*, remarkably influenced the proposition of my individual topic of investigation. My proposal for the thesis project stemmed from a personal fascination and existential question regarding the fundamental importance of *health and wellbeing* for human beings. Deeply convinced that architecture should be human-centered, the aim of the project is, therefore, to explore the interrelation between *architecture, rituals and well-being*. In particular looking to the theories of multisensory architecture and biophilic design.

As Edward Wilson writes in his book *Biophilia*, from 1984: "You cannot live a healthy and complete life away from nature. Therefore, we need direct contact with life forms, and not with the dreary surrogates we see today in so many architectural works. We need contact with nature, and with the complex geometry of natural forms, as much as we need *nutrients and oxygen for our metabolism*." These concepts of *health and nutrition*, conceived holistically as anything that can sustain humans' well-being, are topics I feel personally bound to. Having struggled in the past with an eating disorder and then having overcome it, while understanding what really feeds my *body* and my *mind*, my goal would be to explore further these topics in relation to space and the built environment.

Although, in the recent decades, multiple studies on architecture and well-being have been conducted and the awareness about the importance of multisensory design for healthy environments has increased, there is still a lack in understanding the influence of architecture on the human senses. As Richard Sennett, author of *Flesh and Stone*, laments in his critical take on the sensory order of modernity: "*sensory deprivation seems to curse most modern buildings; the dullness, the monotony, and the tactile sterility which afflicts the urban environment*". (Sennett, 1994, p.15)¹ Therefore, with this project I would like to take up the challenge of designing for the multisensory mind, asserting the theoretical framework and trying to bridge the multidisciplinary fields of architecture, nutrition and wellbeing.

Finally, the topic is noticeably relevant in the current *context of time*, worn-out by the COVID-19 pandemic. Periods of self-isolation in an enclosed space have revived my awareness regarding the importance of the places we inhabit in influencing our mental and physical well-being. Those of us living in urban environments spend more than 95% of our lives indoors. The tendency is in danger of accentuating. In this context, architects seem to bear at least some responsibility for ensuring that their buildings deliver a multisensory experience that positively stimulates the senses, and, by doing so, facilitates our well-being, rather than hinders it.²

These crucial questions have a particular resonance in the Molenpoort Passage of Nijmegen. Therefore, my research questions related to the site: How can the Molenpoort Passage and its surrounding neighborhood, from being the forgotten and avoided blank spot of the city, become a beneficial place for the community again and a social point of reference for the inhabitants of Nijmegen? How can this be done with a project that tries also to give an answer to the question: what really nourishes our mental and physical wellbeing? And how can architecture contribute to it?

¹ Spence, C. *Senses of place: architectural design for the multisensory mind*. Cogn. Research 5, 46 (2020). <https://doi.org/10.1186/s41235-020-00243-4>

² Ibidem, p.5.

Field Vision

I find the proposed individual topic suitable for its specific context of space, the Molenpoort Passage in Nijmegen. The collective historical and contextual analysis of the site have contributed to understanding the shopping mall in the city centre of Nijmegen as an *obsolete* object of architecture where the activity of shopping is slowly dying. Born in 1972, from the collaboration of State, Market and Society, the Molenpoort represents the perfect specimen of the European mall. A building for shopping meant to "improve the well-being of the people of the city."³ Although, is the Molenpoort Passage truly ensuring the well-being of its visitors?

The contextual analysis highlighted how, in the streets of Molenstraat and Ziekerstraat, "shopping" has become one the last remaining forms of public activity. Through a battery of increasingly predatory forms, shopping has been able to colonize - even replace - almost every aspect of urban life.⁴ Nevertheless, the vibrant life and the active vibe perceived in the shopping avenues is very far from the atmosphere encountered inside the shopping mall.

As part of site exploration, I wrote a short story, "A Tale of Senses and Perceptions". It resulted in being a useful narrating medium in order to describe my subjective perception of the Molenpoort. As perceived, the environment of the mall is artificial, *controlled*: sound, scent, light, air and even plants are all artificially manipulated. A completely detached environment from the exterior, as if not belonging to the lively coming and going of the outer streets.

Although, this controlled environment presents some positive aspects, such as the perception of a more protected and safer space, the soundscape (i.e. the music playing in the background) or the very peculiar scent permeating the air, people do not seem to be attracted by it. Moreover, also nature services the most artificial process, by becoming a mechanized manifestation of commercialism.⁵ Fake plants in big pots are spread throughout the mall. An unsuccessful, almost desperate, attempt to re-evoked the presence of nature in this place. Despite the efforts, the Molenpoort Passage fails in providing an appealing environment for the people of Nijmegen, resulting unattractive and - almost - forgotten. Probably, the problem lies at the base. The stark truth might be that the spaces of the Molenpoort are *not so pleasant* and do not

guarantee the "so promised" well-being to its visitors.

The emptiness of these spaces is the demonstration that the visionary idea on shopping malls of the '70s is now dead. Shopping, as we knew it, is disappearing. As argued in the book *Mutations*: "Shopping revealed itself as one of the most unstable and short-lived activities, the most vulnerable to the threat of decline and obsolescence."⁶

It is probably time to change direction. It is time to give a new value to the neighborhood by introducing new daily activities and valuable rituals for the inhabitants of the city. Therefore, the following question: *How the Molenpoort Passage, symbol of an architecture of consumerism and capitalism, could be changed, demolished or reused in order to become a fruitful place for the people of Nijmegen?*

In this concern, a closer look to the history of the site might offer some helpful insights. The collective field study of historical layers lighted up a past when the site was occupied by a monastery. A religious building where its inhabitants were living following the rhythms of precise *spiritual and physical rituals*. A set of regulations determined the monastic life, interweaving spiritual and physical labor into a strict daily routine.

The monastery was *self-supporting* and a *place of retreat* from which the surrounding community could benefit. A place where nomads and passers-by could stop asking for some *help, refectation and cure*. The place was constituted by an ensemble of buildings and gardens within the *protective walls*. It was an *enclosure*, yet different in kind from what we experience today in the mall, devoted to the *authentic well-being* of its inhabitants. Therefore, *which lesson is possible to learn from the past of this place? How to translate it as a meaningful architectural intervention for the future of Nijmegen?*

With this direction in mind, we conducted a group investigation of nowadays daily rituals around Nijmegen. The study, conducted by surveying the site by taking short videos and mapping the functions and activities around the city centre, highlighted an unproportioned and unbalanced presence of consumerist leisure activities based

³ Z. Gao, K. Huijben, J. Xu, Y. Sun, *Shopping till You Drop*, p. 27

⁴ R. Koolhaas, S. Boeri, S. Kwinter, N. Tazi, H. Ulrich Obrist, *Mutations* (Actar Publishers, 2001), p. 125.

⁵ Ibidem.

⁶ Ibidem, p. 174.

only on shopping. As a collective vision, we recognized the need for an architectural intervention that would celebrate life. A necessity to introduce new meaningful rituals into the site,

from which the inhabitants of the neighborhood could benefit and that could promote the interaction and interrelation between all the characters.



Fig. 1: A Tale of Senses and Perceptions

Fig. 2: Screenshot movie "Molenpoort: The Beauty or the Beast?"

Fig. 3: Hortus catalogic in the city (15th century), Flemish illustration

Reflections on the Methodology and Construction of the Approach

Pl - Collective Research

"The movie as a multisensorial medium"

The research conducted as a collective has been characterized by a *qualitative approach* with different methodologies being applied over time. During the first phase of the research we conducted "more conventional" site explorations and collected empirical materials, such as videos, drawings and pictures, that would have been further interpreted and studied in the following steps. As the group had to investigate the History and Traces of Nijmegen, we started off with one open-ended research question: "What Time is this Place?". This led us to explore the meaning of the question in the homonymous book by Kevin Lynch, which gave us an understanding on variegated interpretations and interrelation of the concepts of *time* and *space*.

After an initial traditional approach to historical research through archive documentation, we conceived an exhibition that would have manifested with the idea of *"Talking Buildings"*. Big Buildings Books that would have narrated their own story, with their *personal interpretation* of time. Three main characters came into play: St. Ignatius church, the monastery/guesthouse and a farmhouse. All collocated on the site object of our study. A further step was taken when the exhibition turned into the medium of a movie.

Our aim became to strengthen the relationship between the site, the Molenpoort Passage in Nijmegen, and the historical research. At this point, the building books became *anthropomorphized models* and living actors able to feel emotions and express them. By giving emotions to the characters we automatically interpreted the history of the place, reconfirming the qualitative approach of the research. Moreover, depicting the buildings as their own subjects rather than man-made objects, arose in us a doubt concerning the hierarchical relation

between the two. *Do humans shape architecture or does architecture shape humans?* Is the human body shaping the space with its movement or, vice versa, the space is the shaping factor of the human body? An interrogative that I aim to further investigate in my thesis.

As the professor Klaske Havik mentioned in her lecture, the field of *phenomenology* presents a strong focus on the *body that experiences the space*. The human body, as a pivotal space-shaping factor in architecture, allows us to experience and perceive the space. Nevertheless, my impression is that architecture does not appear to have a systematic approach, yet an explorative and blurred way of exploring the field of phenomenology.

The film resulted in an opportunity to truly relate to the history and the development of the buildings, by also *embodying* them and *giving them a voice*. It allowed us to describe parts of the site which traditional architectural media fail to show. We were able to introduce *real life*, movements and sounds. Moreover, to study the ephemeral and transient quality of time, videos resulted being truly supportive in order to express the - non-visual dimensions (such as the temporal quality of rituals, emotions, the seasonal change in nature, the ticking of the metronome and the ringing of the church's bells) - otherwise not explicable and perceivable with the conventional use of static drawings and models. In conclusion, the use of video was definitely a more comprehensive medium than pictures. It became in itself an integrated experience that involves multiple fields of perception and different dimensions. I would define it a *multisensorial medium* that allowed us to provide a holistic view of the site.

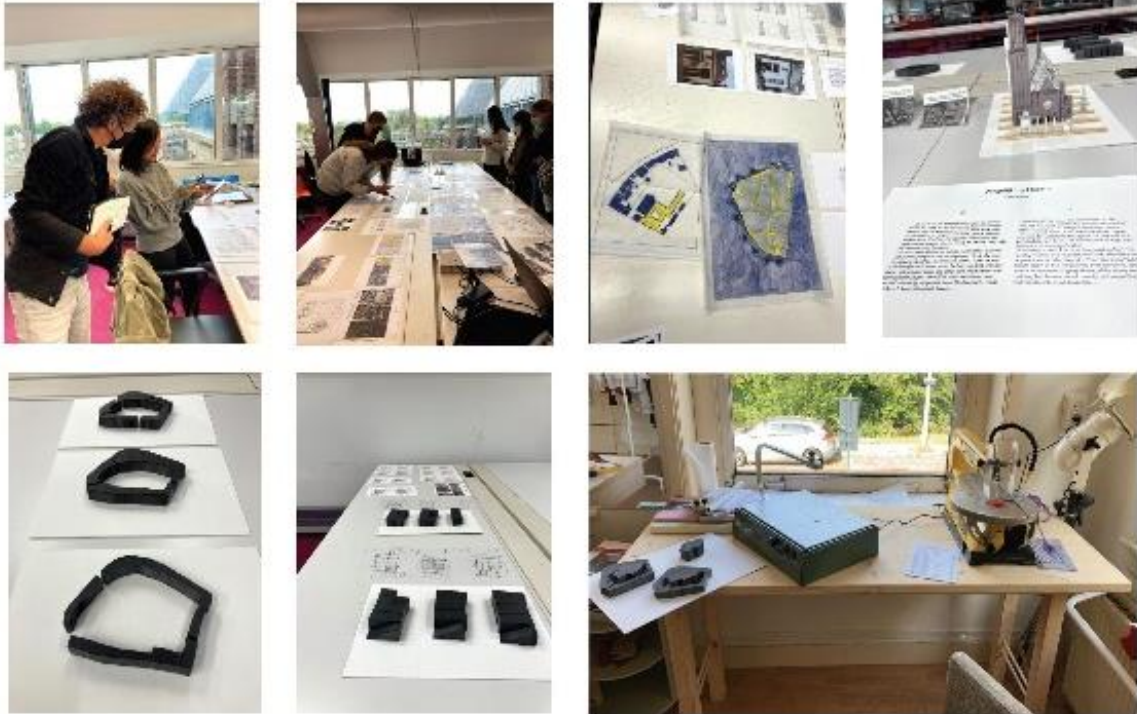


Figure 4. Research and Analysis



Figure 5. Filming days

Pl.5 - Group Research

The section as "life stemming drawing"

During the second phase of investigation we followed our intuition trying to trace rituals that happen around the neighborhood of the Molenpoort. Once again, we went on site, although with a more organized methodology. We decided to go on four different days of the week and at different times of the day, in order to observe the typical weekly activities that occur around the site (such as markets, church masses, school and work days, leisure and sport activities, etc.). We collected videos, sounds, sketches and few interviews. We also wrote short stories of perceptions and impressions in the attempt to depict the whole picture.

Secondly, the use of section drawings became research tools that allowed us to explore four topics that we considered relevant for the conception of our urban plan. Each section, or sequence of sections, explored one of the following topics: the portal as a process of entering a space, the inner courtyards, the alleyways and the role of unplanned activities and, finally, the backsides. Although, at the beginning, working in section on a proposal for an urban plan, seemed to us a bit experimental and an "unsafe" method, it contributed to unveiling an accurate sensitivity towards the relationship between the buildings. Elsewise, with a top-down approach in plan, we would have missed. Most importantly, it resulted in being the most effective way of representation in order to *imagine life and rituals* into the site. It allowed the inclusion of *human experience* into the research and design.

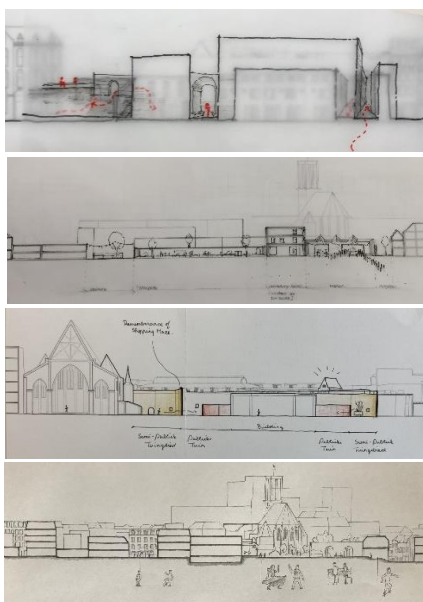


Figure 6. Investigative Sections

"Ruination" as a strategy of demolition

After this investigation, it was time to reconsider the great forgotten, yet protagonist, of the neighborhood: the Molenpoort Passage. How to intervene, change and modify its structure? What was the right procedure in order to evaluate which parts were worth keeping and which ones needed to be demolished? We looked back at the research done previously and realized that a small community of shopkeepers is still willing to maintain its stores and believe in a new future for the mall. It appeared wise to reduce the shopping structure to an essential core and few other fragments, to dismantle it progressively and keep just what necessary and with potential for new uses. With a process of erosion, while attentively relegating the remaining stores to the busy shopping streets, we were able to define a plan where re-use of the old and new coexist. Such a strategy permits to leave a trace of history. Layers from the past that take their place next to each other's, yet start a conversation with the new characters of the future.



Figure 7. Conceptual Sketches

Bricolage as a "treasury" of ideas

Introducing the subject of the studio with the definition given by Irène Scalbert, "bricolage" can best be described as the hands-on creation of an object using the *limited* but the *heterogeneous repertoire* at hand, often resulting in atypical means of construction opposed to those used by a craftsman. Reflecting back, I believe the methodologies applied till this moment closely reflect the attitude of the architect as *bricoleur*.

Moreover, by using the tool of a movie, slightly atypical in architecture research, we were able to provide a rich and miscellaneous *treasury of ideas*. A collection of ingredients that I intend to carry with me and re-use in the course of my graduation year.

As stated by Bruno Latour, "Bricolage may simply be design based on what surrounds it. (...) It is about the existing means. It is about *reuse in the*

narrative of history. It is about reclaiming contingency in the reuse of materials and buildings, territories and most importantly knowledge.⁷ Acting as bricoleur-architects we re-used acquired knowledge and coherently framed our own narrative and vision of the site.

Bricolage is, therefore, interpreted as an approach, as the use of multiple tactics⁸. The researcher

becomes a bricoleur that sews together vary and not immediately clear connections. By sewing together the different elements he/she becomes aware of previously - not evident - correlations. The final product of bricolage is "a pieced-together, close knit set of practices that provide solutions to a problem in a concrete situation."⁹

Towards P2 - Individual Research

The research was sparked by an interest in the character of phenomenological experience of urban spaces. The visual survey of the city through footages, analytic sketches and writing, was essential in reading the city and documenting my own findings. Writing reflections and stories helped me to synthesize issues, lacks and opportunities that characterize the site.

I think the research conducted till now is positioned within the *naturalistic paradigm* described by Groat and Wang¹⁰, since it is not aimed at providing a certain hypothesis but rather a description or problem statement of the context. My research problem seems to be located in the episteme of phenomenology, which according to the professor Klaske Havik, is the study of things as they appear to us and it focuses on the role of the body in experiencing space. I would like to explore forward this method because I believe it

resonates well with the topic of architecture and wellbeing. Reflecting on the methodology applied, I found it having affinities with the work of Cuff and the Wheatley studies, which ground their work in the empirical realities of their observations and interviews, but also clarify that the *interpretation and meaning* of the collected data plays a crucial role.

The first part of the individual research has started developing a set of key terms (such as well-being, multisensorial architecture, ritual, health, etc.) that would help me frame the project within its context and its theoretical background.

Secondly, I would like to study and analyze a series of exemplary case studies. The aim is to enable the crystallization of a set of "ingredients", a *toolkit* of directions for the further development towards a design proposal.

⁷ Latour, B. and Porter, C. (1993). *We have never been modern*. Cambridge, Massachusetts: Harvard University Press.

⁸ Groat, Wang, *Architectural Research Methods*, 219

⁹ Groat, Wang, *Architectural Research Methods*, 219

¹⁰ Ibidem

Framing the theme, key-terms and notions

From now on the research will be carried individually and, in order to do so, I am willing to further investigate the research methods and tools described previously. The further definition of the theme of my graduation thesis is strictly interweaved with the outcomes of the group collaboration. The urban plan has been drawn around the concept of an intervention that *celebrates rituals of life* and proposes a vision of the site as a hidden landscape, an oasis, and an escape from consumerism. My aim for P2 is to define the theme of *ritual* in relation to *well-being* and how I envision it onto the site.

Architecture exerts a profound influence over our well-being.¹¹ It plays an essential role in creating places that can favor the happiness, comfort and health of the people who experience it. According to WHO¹², health is “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”. Being a combination of emotional, cognitive and physical features, health depends on *subjective* characteristics, that imply the consideration of embodied experiences, senses and perceptivity. Aspects belonging to the episteme of phenomenology.

The experimental psychologist Charles Spence extensively researched about the multisensory nature of the human mind and how multisensory environments can affect our well-being. Nevertheless, the majority of architecture produced till today is still designed for the eye of the beholder, and tends to neglect the non-visual senses of hearing, smell, touch and even taste.¹³ This oculocentric position was largely sustained by the Swiss architect Le Corbusier who affirmed “*I exist in life only if I can see. (...) I am and I remain an impenitent visual. (...) One needs to see clearly in order to understand.*”¹⁴ On the contrary, the Finnish architect, Juhani Pallasmaa, argues that “*spaces, places and buildings are undoubtedly encountered as multisensory lived experiences. Instead of registering architecture merely as visual images, we scan our settings by the ears, skin, nose and tongue.*”¹⁵

Finally, to date, even though sensory qualities of the environment have long been explored (i.e. color-scapes, sound-scapes and thermal-scapes in hospitals and houses), very often, the approaches were reductively uni-sensory and uni-dimensional. Spence argues that little improvements have been achieved in considering the senses *holistically* and *interacting* with each other.

Interdisciplinary research is defined as the study of architecture integrating knowledge and method from different disciplines.¹⁶ In conclusion, I believe my thesis will be enriched and benefit from such an interdisciplinary approach. Therefore, my personal challenge will be to investigate the latest discoveries emerged, in the recent decades, from the field of cognitive neuroscience and their practical implications in a project of architecture.

In order to achieve this, I will start defining the theme of the project. From the historical study of the monastery life and structure, a primitive idea arose about a possible program happening around the space of an *enclosed garden*. An *hortus conclusus* transposed into contemporary terms. I will conduct an exploration of the garden as a space. A place that is associated with qualities that do not belong merely to our eye-minded world view, yet it will incorporate sound, smell and tactile aspects, even taste, and the properties of landscape including space, mass, volume, time, movement, color, light, texture and pattern.

Nature, intended as an enumeration of sorts with iconographic, aesthetic, healing, culinary or scientific value¹⁷, will have a pivotal role. Moreover, nature will be only one of the new actors introduced on the site. I intend the garden as the space that will allow interaction between other characters and programs (such as collective and student housing, a cooking and nutrition school, a training centre, food production, etc.). A variety of possibilities that will be unfolded in the coming weeks.

¹¹ Spence, C. *Senses of place: architectural design for the multisensory mind*. Cogn. Research 5, 46 (2020), p.1. <https://doi.org/10.1186/s41235-020-00243-4>

¹² World Health Organization

¹³ Spence, C. *Senses of place: architectural design for the multisensory mind*. Cogn. Research 5, 46 (2020), p.1. <https://doi.org/10.1186/s41235-020-00243-4>

¹⁴ Le Corbusier (1991), *Précisions*. Cambridge: MIT Press. p.83.

¹⁵ Pallasmaa, J. (2011). Architecture and the existential sense: Space, body, and the senses. In F. Bacci, & D. Melcher (Eds.), *Art and the senses*, (pp. 579–598). Oxford: Oxford University Press.

¹⁶ “Disciplinarity: intra, cross, multi, inter, trans,” Alexander Resume Jensenius, last modified May 3, 2012, <https://www.arj.no/2012/03/12/disciplinarity-2/>.

¹⁷ Saskia de Wit, *Hidden Landscapes*, p. 24.

Conclusion

In conclusion, I believe the course helped me in gaining awareness of the different research methodologies that before I was unconsciously applying. Writing this paper has resulted in being useful to clarify my ideas and position regarding the project. I, now, realize how architecture research can be diversified depending on its different purposes. Some methodologies are, in fact, more appropriate than others in order to answer specific research questions. It is therefore of crucial importance to choose the right one. Nevertheless, I remain also convinced that research is never unidirectional and can benefit from a cross-

contamination of multiple approaches. Therefore, during my graduation year, I intend to keep challenging the habitual issues, methodologies and solutions that architecture offers.

Finally, while composing this essay I became more aware of its relevance for me. I feel that, not only I shaped a proposal for my graduation project, yet I have also strengthened my position as future architect and my mission in life.

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