

Towards an experiential architecture

Graduation Plan

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Explore Lab XIII

Theme: The architectural contribution to the experience of peacefulness

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Why Explore Lab?

I have chosen the Explore Lab studio because of my fascination with peacefulness and the architectural experience. Explore Lab offered me the possibility of doing research in this area as a part of the graduation project. Additionally Explore Lab provided the opportunity of integrating sustainability in the design project, allowing me to meet all requirements of the TiSD specification.

Research

The problem that this project addresses is that many buildings and urban situations in our built environment are experienced as unpleasant, mostly due to a lack of concern for this qualitative property during the time in which they were designed, which I think is a shame. I believe it is one of the most important aspects of our job as designers of the environment to make sure that the designs are experienced as pleasant.

However, one of the main reasons why experience is undervalued as a design parameter is the problem of a lack of common ground or consensus on the topic of experience and of its effect on behaviour. Therefore, the aim of the research is to find or construct a theory of experience that can be used in the practise of designing an architecture of experience, as well as the reviewing and assessment of architecture's experiential aspect. The main question that guides this research is: How can the architectural experience be conceived in such a way that it can be used as a method for design?

In order to find the answer to this question, several subtopics with corresponding subquestions need to be dealt with, such as: "what is experience?", "where does it take place?", "which entities take part in experience?", "what determines experience?" and "what is the role of recognition and association in experiencing?", "how do we recognise places, and how do we recognise certain typologies?", "how does this process of acquisition work?", "why is it that we like some spaces, whereas we strongly dislike other?", "what gives us the experience of unpleasantness?", "what determines whether we feel like we can do or create something in a space?", "what makes us feel 'at home'?" and "what role do typical architectural elements such as scale and materialisation play in the experience?".

Approach

The research starts out with the careful description of some of the most profound architectural experiences that I had that will serve to test any theory of experience on — if the theory wouldn't be able to explain those experience, it would automatically fail as a general theory of experience. These case studies comprise the experiences I had in the Bruder Klaus Kapelle by Peter Zumthor, in the Jewish Museum by Daniel Libeskind, in the Holocaust Memorial by Peter Eisenman, in and around the Notre-Dame du Haut by Le Corbusier and inside Karl Friedrich Schinkel's Neue Wache of which the interior was designed by Heinrich Tessenow.

After these initial descriptions of experiences, the research continues to try to find the answers to the research questions and an explanation for the experiences above, to, in the end, find a

generally applicable theory of experience. In order to do so, two seemingly opposing fields of thought in philosophy and psychology are investigated for their ability to explain the experiences and the emotional reactions in the case studies and for their ability to answer the research questions.

The first of these two fields is what is called behaviourism in psychology, rationalism or naturalism in philosophy and mechanism in biology, which offers an anatomical and physical approach towards behaviour, perception and experience. Works of philosophers such as Descartes and psychologists like B.F. Skinner and Ivan Pavlov will be reviewed and put to the test.

The second of these two fields is called Gestaltism in psychology and phenomenology in philosophy. It offers a more holistic approach towards behaviour, perception and experience, however, it is therefore also not physically verifiable. Here, the ideas of psychologists such as Kurt Koffka, Max Wertheimer and Abraham Maslow and the philosophy of Maurice Merleau-Ponty are reviewed for their ability to explain experience and answer the research questions. It is in the end Maslow's Theory of Human Motivation (the hierarchy of needs) that is reconstructed into a set of guidelines for working with experience.

Literature consulted

- Baumeister, RF, and JD Campbell. "Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles?." *Psychological science in the public interest* 4 (2003): 1-44.
- Baumeister, Roy F., and John Tierney. 2011. *Willpower : the rediscovery of humans' greatest strength*. New York: Penguin Press.
- Brown, Deborah J. 2006. *Descartes and the passionate mind*. Cambridge: Cambridge University Press.
- Descartes, René. 1650. *Les Passions de l'âme*, par René Descartes. Paris: E. Pépingué (sur la copie imprimée à Amsterdam).
- Descartes, René. 2008. *Les passions de l'âme*. Translated by T. Verbeek. Groningen: Historische Uitgeverij. Original edition, 1649.
- Descartes, René, and Stephen Voss. 1989. *The passions of the soul*. Indianapolis: Hackett Pub. Co.
- Forsyth, DR, NK Lawrence, and JL Burnette. "Attempting to improve the academic performance of struggling college students by bolstering their self-esteem: An intervention that backfired." *Journal of social and clinical psychology* 26 (2007): 447-59.
- Gladwell, Malcolm. 2001. *The Tipping Point. How little things can make a big difference*. Translated by M. Stoltenkamp. Amsterdam: Contact.
- Hall, Edward T. 1966. *The hidden dimension*. [1st ed. Garden City, N.Y.,: Doubleday.
- Heschong, Lisa. 1979. *Thermal delight in architecture*. Cambridge, Mass.: MIT Press.
- Holl, Steven, Juhani Pallasmaa, and Alberto Pérez Gómez. 2006. *Questions of perception : phenomenology of architecture*. [New ed. San Francisco, CA: William Stout.
- Lowry, Richard J., ed. 1973. *Dominance, Self-Esteem, Self-Actualisation: Germinal Papers of A.H. Maslow*. Monterey, California: Brooks/Cole Publishing Company.
- Maslow, Abraham H. 1977. *Toward a psychology of being*. 2d ed, Van Nostrand insight books, 5. Princeton, N.J.,: Van Nostrand.
- Maslow, A., & Lowry, R. (Ed.). (1998). *Toward a psychology of being* (3rd ed.). New York: Wiley & Sons.
- Maslow, A. (1971). *The farther reaches of human nature*. New York: The Viking Press.
- Mattheson, Johann, and Ernest Charles Harriss. 1981. *Johann Mattheson's Der vollkommene Capellmeister : a revised translation with critical commentary*, *Studies in musicology*. Ann Arbor, Mich.: UMI Research Press.
- Mattheson, Johann, and Margarete Reimann. 1954. *Der vollkommene Capellmeister, 1739*. Faksimile-Nachdruck, *Documenta musicologica* 1 Reihe, *Druckschriften-Faksimiles*. Kassel,: Bärenreiter-Verlag.

- Merleau-Ponty, Maurice. 1963. The structure of behavior. Boston,: Beacon Press.
- O'Donohue, William T., and Kyle E. Ferguson. 2001. The psychology of B.F. Skinner. Thousand Oaks, Calif.: Sage.
- Varga, Bálint András. 1996. Conversations with Iannis Xenakis. London: Faber and Faber.
- Vischer, R., H.F. Mallgrave, and E. Ikonomou. Empathy, form, and space: problems in German aesthetics, 1873-1893. Getty Center for the History of Art and the Humanities, 1994.
- Wolverton, B. C. 1997. How to grow fresh air : 50 houseplants that purify your home or office. New York, N.Y.: Penguin Books.
- Zumthor, Peter. 2006. Atmosphären : architektonische Umgebungen, die Dinge um mich herum. Basel ; Boston: Birkhäuser.

Encyclopedia Britannica

Design

In the design I want to use the architectural experience to contribute to the solution of another problem that I think is significant in our society, which is that the experience of peacefulness is problematic for many people. This becomes a problem especially in some parts of our cities where people are packed together closely and a lack of peacefulness can quickly turn into violence, addictive behaviour, etc.

Therefore, I have chosen such an unpeaceful site for my design project: Kottbusser Tor, Berlin, Germany. It is right at the centre of SO36, the poorest part of Kreuzberg. Around Kottbusser Tor there is a high diversity of nationalities — around eighty percent of the inhabitants of the area are of foreign origin, mostly Turkish, hence the nickname "Kotti". Besides immigrants, the area is rich in students, creatives, anarchists. It has a high level of unemployment and is well known for its attraction to drug users.

Kottbusser Tor itself is a very busy square, where two main car traffic streets cross and two U-bahn lines have their stops — one "Hochbahnhof" elevated above the street and one U-bahnhof underground, this last one being in a very bad condition.

The area on and around Kottbusser Tor is known for its high levels of criminality and violence and the unpleasantness of the place. Additionally, the place consumes lots of energy and water and the air quality, both on the street level as well as in the U-bahnhof, is of low quality. These are the problems that I will try to solve, for as far as possible, in this design project.

The aim of the design project is to redesign Kottbusser Tor and the U-bahnhof in such a way that it contributes to the experience of peacefulness, which in its turn might help contribute to a more peaceful society. Besides that, the whole of Kottbusser Tor, including the connections between the U-bahn stations, should be designed as a functionally and aesthetically pleasing whole.

Additionally, the changes that will be made should contribute to an energy-neutral (or even energy-positive) and healthy whole, in which the energy- and waste- inputs and outputs of the different elements around Kottbusser Tor will be well integrated and eco-effective materials will be applied for the new constructions, along with measures that will promote (bio)diversity.

The end results of the design project will be a masterplan for Kottbusser Tor and a very detailed redesign of the U-bahnhof which also contains (as it currently does) a florist's shop and a small cafeteria.

To get to this end result, the main question that will guide the design project is: "How can Kottbusser Tor and its U-bahnhof be transformed into a place where one experiences peacefulness and a healthy and energy-neutral place without compensating in terms of functionality?"

Subquestions that need be answered in order to find the answer to the main question are:

What is the expression of peacefulness?

What materials, scale, geometry, etc. can be used for this expression?

How did Kottbusser Tor grow into the current situation urbanistically, demographically and sociologically?

What makes Kottbusser Tor into such an unpleasant place to be?

Which parts of Kottbusser Tor are of essential functional and economic value?

What are the different functions on Kottbusser Tor and how are they arranged?

What makes the U-Bahnhof such an unpleasant place to be?

Can the car traffic be rerouted in such a way that car traffic does not cut Kottbusser Tor into many small pieces?

What does the ecological and geological environment of Kottbusser Tor look like?

What is the solar potential of (the buildings around) Kottbusser Tor, both in terms of insolation and energy production?

What is the situation on Kottbusser Tor like in terms of wind, and what restrictions and possibilities does this give in terms of creating a place for recreation and energy production?

What kinds of waste (both material and energetic) are produced on and around Kottbusser Tor?

What are the energy demands of the different buildings on and around Kottbusser Tor?

What kinds of materials (e.g. food, water) are needed on and around Kottbusser Tor?

What are the possibilities for daylight allowance into the U-bahnhof?

What are the pros and cons of a central platform and two separated platforms in the U-bahnhof?

How should the connection between the U-bahnhof, the Hochbahnhof and Kottbusser Tor be conceived?

Approach

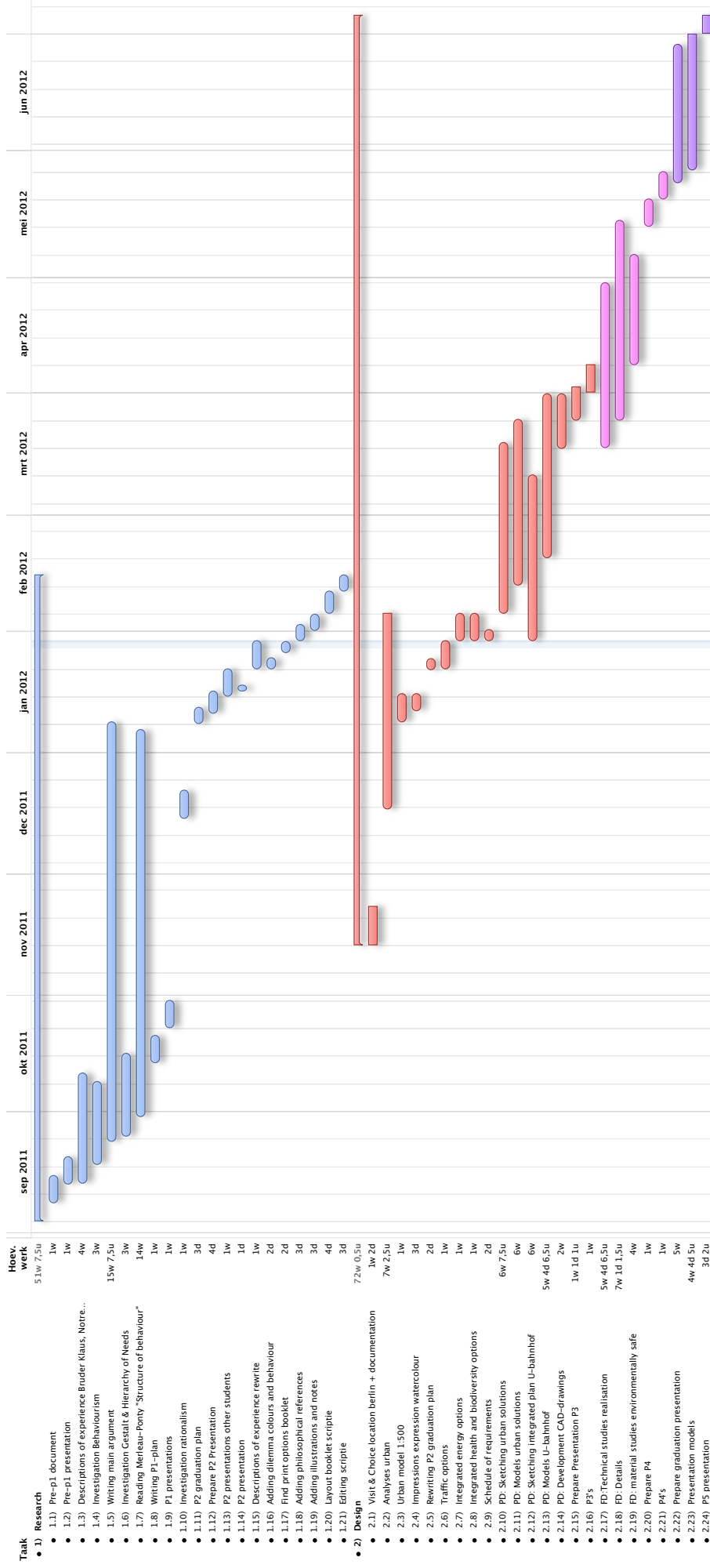
The design has started with a visit to the site and the documentation of it, through sketches, photographs and written experiences and annotations. Next, the site will be analysed on different levels: a historical analysis along with a traffic analysis, a morphological analysis, typological analysis, sociocultural analysis, etc. but also a geological analysis, and analyses of waste streams, solar potential, public transport, ecology, energy use and production. Additionally, a schedule of requirements will be formulated. Based on these analyses, the areas on Kottbusser Tor with the highest potential can be selected.

Then, in the preliminary design phase, the first sketches will look for ways to increase the quality of these areas. Additionally, other problems that were found with the analyses will be solved by means of reiterative sketching. To understand the spatial qualities of these solutions, physical models and CAD-models will be made. Next, an attempt at an integrated energy solution will be made, in which the different functions and buildings on and around Kottbusser Tor exchange their (waste) energy in such a way that Kottbusser Tor becomes an energy-neutral or energy-positive area. Several measures to increase the air quality of the area and in the underground need to be taken.

In the preliminary design phase some first ideas on the expression of peacefulness will be created and transformed into a preliminary design for both the square and the underground station. It is important to do this at the start, so that this expression can be integrated into and guide the design process. Preliminary explorations into the feasibility of the design in terms of technology will be made, so as to be sure that the proposal will not encounter major structural problems during the next phases. The preliminary design phase results with an integrated functional, aesthetic and technical design proposal, worked out in an urban masterplan 1: 500 and plan, facades and sections 1:100 and additional 1:20 facade fragments with preliminary details 1:5 along with a quantified energy plan, which can be presented during the P3.

After the P3 the design enters the final design phase, in which the design has to be taken to a level of technical and economical feasibility. Surfaces and volumes in the design need to be defined in terms of material and size, while at the same time the quality of the design should be warranted. Where needed, the design should be changed to make it technically or economically feasible or aesthetically more pleasing. Research has to be done into different environmentally safe materials and construction methods that can be used in the design. Detailed (perspectival) drawings of the actual construction of the design need to be made, so as to get an idea of what the building really looks like. When unpleasing, changes will have to be made. The final urban masterplan and detailed design of the U-bahnhof will be presented at the P4. When passed, the design will be further worked out into a beautiful and convincing presentation that will be held at the P5, complete with a nice urban model 1:200 and a model of the building 1:50.

Planning Research and Design



Reflection

Relevance in a larger scientific and social framework

This research forms an attempt to provide a framework for the designing with and the reviewing of the architectural experience. In times where the actual experience of our environment is often subordinated to functional and economical requirements as well as aesthetic appearance the method this research concludes with aims to provide a framework, albeit qualitative, that designers and clients can work with to create the experience and to communicate to each other what the actual experience should be.

Additionally, the research provides an analysis of the architectural experience from the behaviourist's point of view which shows that, even though environmental behaviourism has valuable general knowledge to offer, the approach of architectural experience in a behaviourist fashion should be abandoned for reasons given in other psychological work and in existential phenomenology.

The research explores new ways of working with the architectural experience and adds to the body of knowledge already present on the topic through the development of a framework for working with the architectural experience based on Maslow's hierarchy of needs.

Besides the scientific relevance, this research can also be relevant for (design) professionals working with the architectural experience. The research will conclude in a method that can be used by any other architect that wants to work with the architectural experience. It might even be useful for other design-related professions too.

The design will most probably not be built, but can nevertheless show what the possibilities are for a positive development of Kottbusser Tor. As such it can inspire other, probably smaller in scale, developments at the square that will be carried out. It can offer another vision for the square and the underground station than the projects that are currently being carried out on the site, which really seem like a waste of money and effort.

Additionally, aspects of the solutions of the design can also be used in designs for similar cases. For example, solutions for drug-user related problematics, dealing with urban renewal projects as they were built in the nineteen-sixties, coping with heavy traffic while creating a place for staying, letting daylight enter in underground stations and sustainable solutions in high-density areas are all problems that occur in other projects too. Designers of other projects can take advantage of the solutions provided here.

On a wider scale, it will be the first design in which the method that the research concluded in will be applied, and as such a test case for reviewing the value of the method. When the final design is designed using the method and proves to be working, in the sense that it does transfer the message of peacefulness that was intended, this might prove the usefulness of the method up to a certain point. Of course the real value can not be assessed before one can actually visit the project.