

# P2 Thesis Plan

## Free space vs. Framed space

Searching for a balance between Bottom Up input and Top Down control in urban planning to improve the quality of the local urban fabric of the city fragment Hirzbrunnen and its connection to the surrounding city of Basel, Switzerland.

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## **Appendix I**

Review Paper: Course AR3U022 Theory of Urbanism  
'How parts make up a city'

# Introduction

The area chosen for this graduation project is an urban fragment, Hirzbrunnen South, in the city Basel in Switzerland. The borders of this city fragment are part of the infrastructure network: the river Rhine, train tracks and the border between Germany and Switzerland. By the morphological conditions of the site, the structure of the city of Basel was formed (Fig.2.). The hills surrounding Basel left only certain spaces suitable for infrastructure. The traintracks formed the temporary city walls for the city of Basel till the end of the nineteenth century. The infrastructure also formed the urban fragment of Hirzbrunnen South in Basel by its bordering spatial structure. The area developed as an isolated area close to the city edge including leftover functions such as: sports fields and allotment gardens.

Since the economy of Basel is still growing and attracting foreign employees the Kanton of Basel-Stadt assigned housing as the main program for this area. The project area is one of the last opportunities for densifying the city with housing. A competition in 2004, initiated by the Kanton, with the aim to form a master plan for new housing on the site, has resulted in a winning plan. According to the proposed plan, there will be eleven residential towers build on the project area before 2020. However, in the plan there is little attention for the infrastructural connections and pressure on the existing infrastructure by this action. Also, the role of the Rhine is not mentioned in this plan neither the bordered situation this area is in.

This situation triggered me to define a new way of looking at this area in a more integral way, including the fragments relation to different scales in the city. This thesis plan will provide an overview on the approach of the problems of this fragment by finding a balance between the Top Down control and program planned for this site and the Bottom Up input which enhances the local qualities of the site.

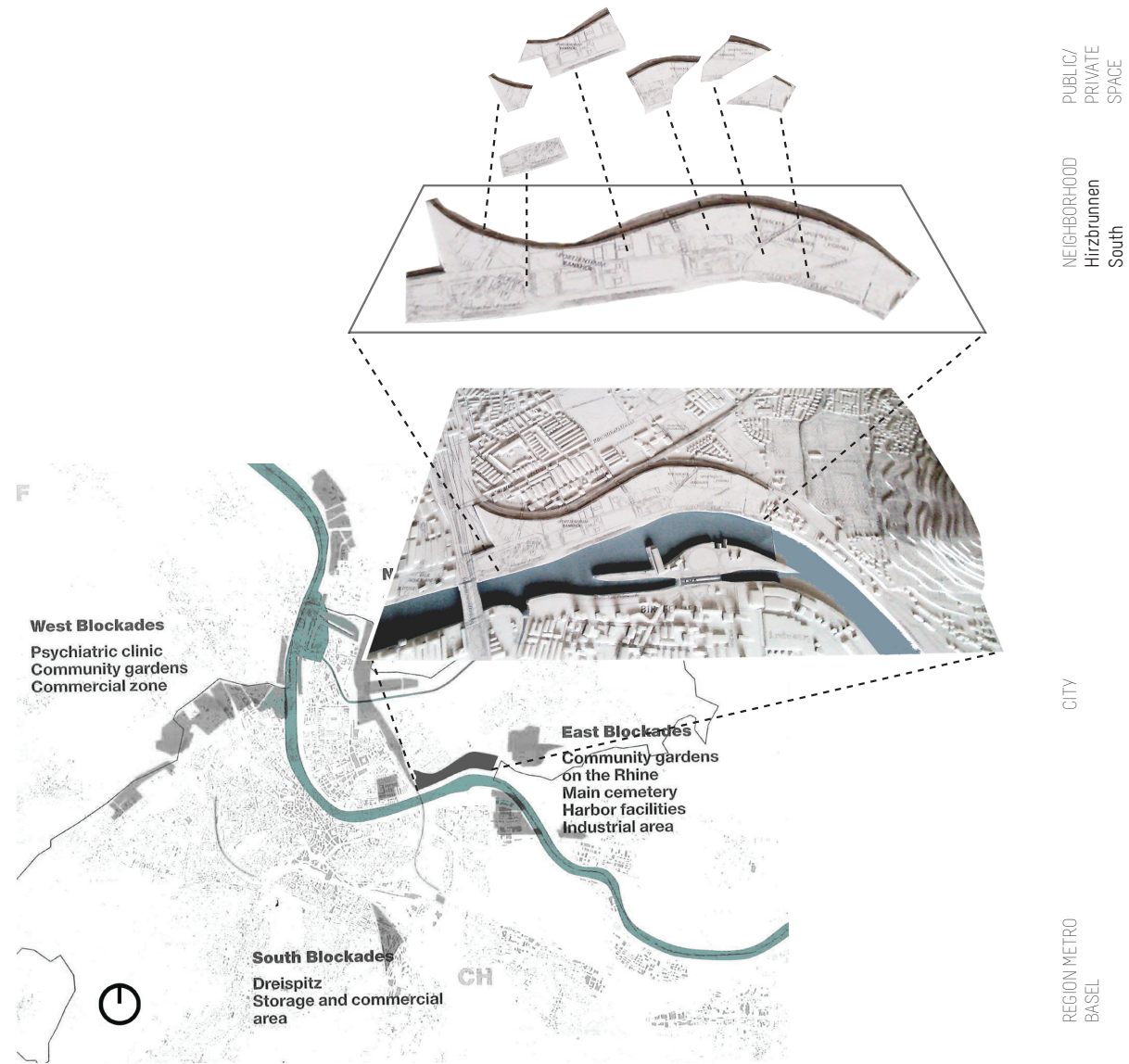


Fig. 1 Collage showing the different scales the graduation project deals with to come to a coherent design (image by author).

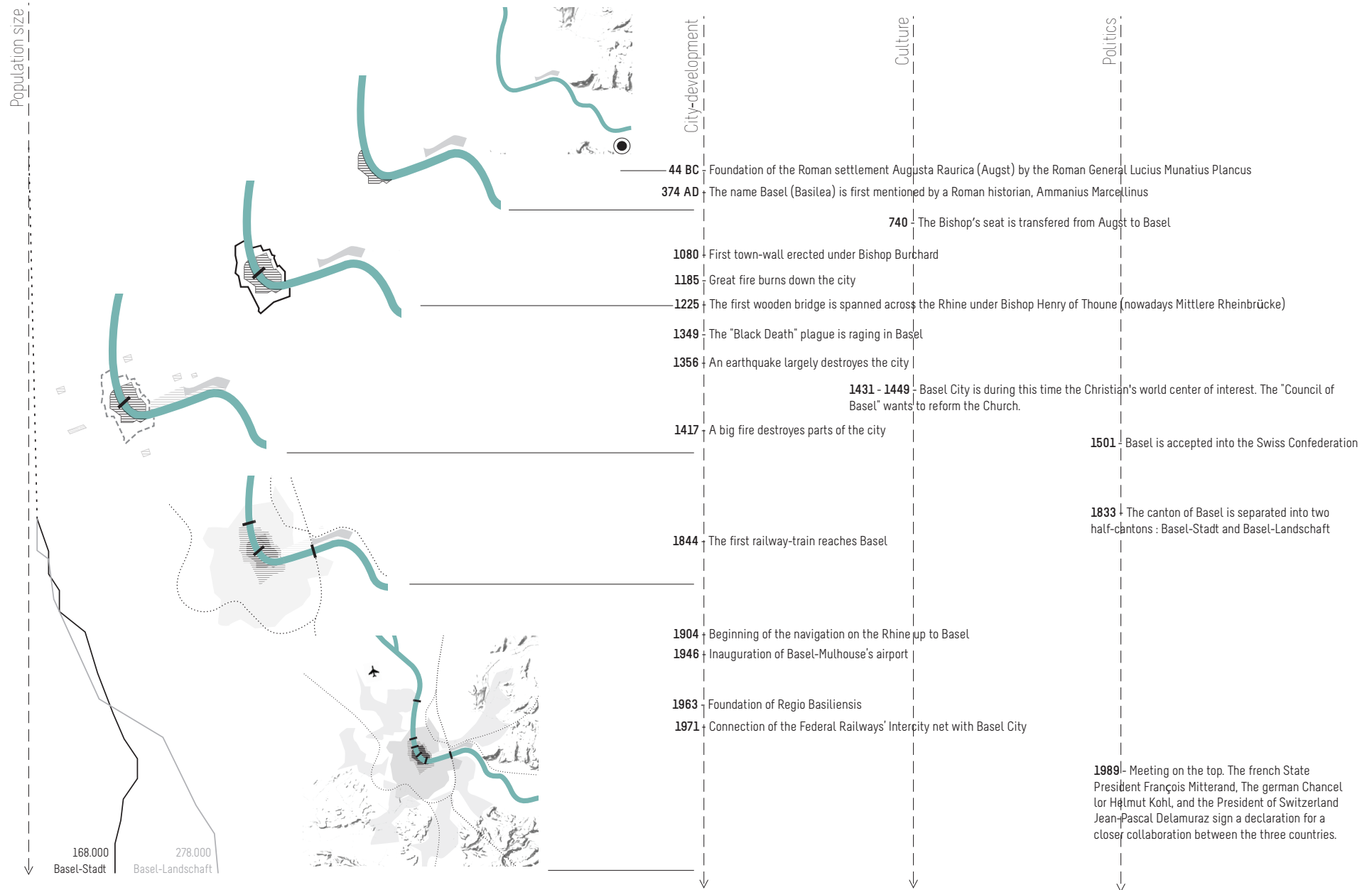


Fig. 2 Timeline of the citydevelopment of Basel, influenced by the river Rhine, the mountains and the infrastructure (image by author).

# Problem Statement

## Societal problem statement

The fragment of Hirzbrunnen is formed by infrastructure and therefore got its position as an isolated wasteland for rest functions within the city. The connection with the Rhine, which is the identity forming structure in Basel, is not visible on the location despite its close relation. Besides, the heightened train tracks surrounding the area cause sloping streets perpendicular to the main east-west directed road, crossing the train tracks underneath in a semi-sunken road, forming fenced islands in the area (Fig.3). However the quality of the space must be recognized as an area with freedom for people in their own gardens in the allotment areas. The recreational program however is heavily fenced and not accessible by the public and therefore losing its meaning and relation to the city. The problems in the area can be summarized in the following themes (Fig.4):

### – [Fragments]

Lack of coherence between fragments on different scales.

### – [The river Rhine]

Poor access to the river Rhine.

### – [Identity]

Underdeveloped identity in relation to the city of Basel.

## Academic problem statement

In urbanism the urban fabric, from private space to city network, is divided into scales. More often parts within the city are treated as isolated elements when being analyzed and redesigned in urban regeneration. This method however is only useful when these parts are brought back into the bigger context of the urban complexity (Alexander, 1965). Also the human factor of control is more often not taken into account when decomposing the city into scales. This project aims to contribute to the understanding of the transition between scales and the role of the control agents on these urban scales with the goal to improve the effectiveness of urban interventions by finding a balance between Top Down and Bottom Up planning.

# Research Questions

The problem statement leads towards the following main research question and sub-questions:

## Main research question:

How to improve the quality of the local urban fabric of a city-fragment and its connection to the city by striving for a balance between Bottom Up input and Top Down control?

## Sub-questions:

### Theoretical

- What are the control units within the urban fabric on different scales?
- How do the control units interrelate between these different scales?
- What are the variables to work with, when improving the coherence between scales?

### Site-specific

- What are the site specific characteristics of the city fragment Hirzbrunnen?
- What are the characteristics of the city of Basel?
- How do the city fragment and the city cohere?

## Research Aim

The area of research focuses on the relation of parts in the city and the control on these elements on different scales. The aim of the research is to form an understanding on how to deal with the balance between control and freedom in planning; what must be dealt with from Top Down and what elements can give the flexibility for a Bottom Up input.

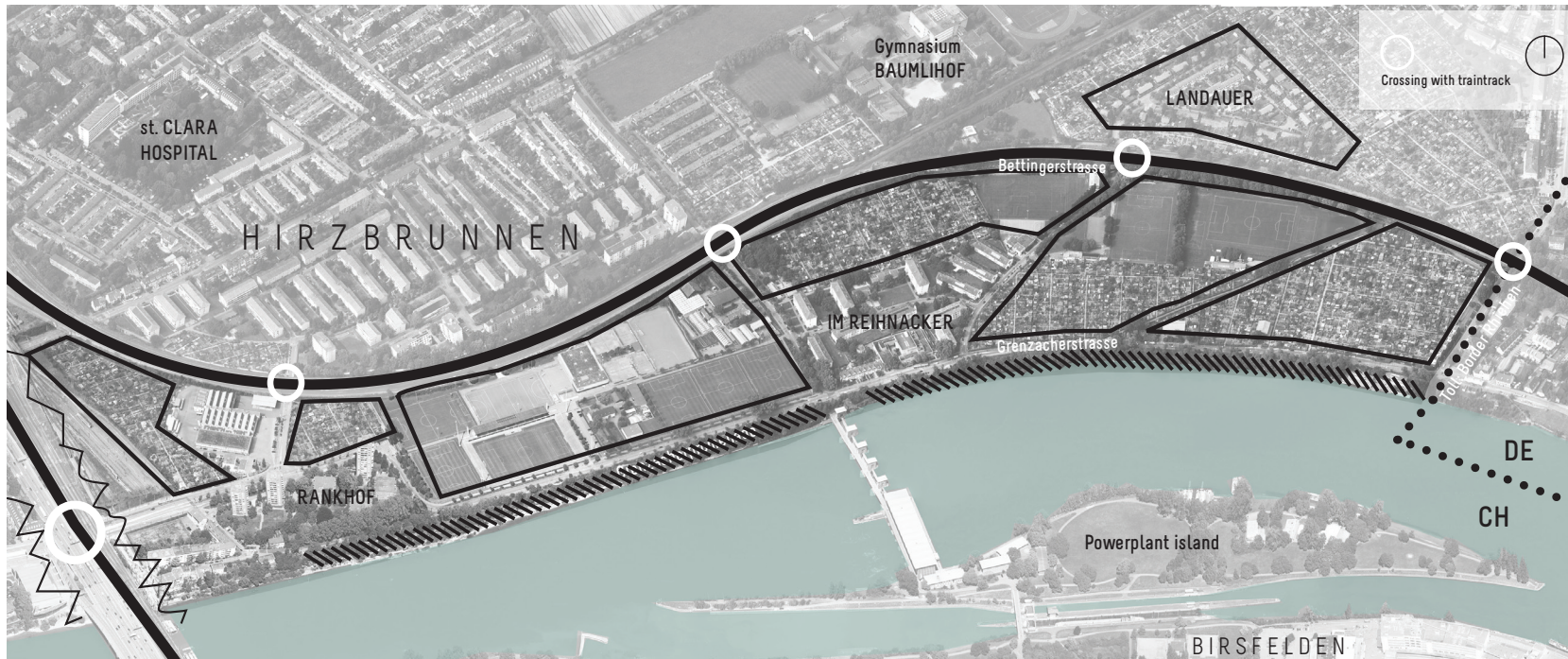
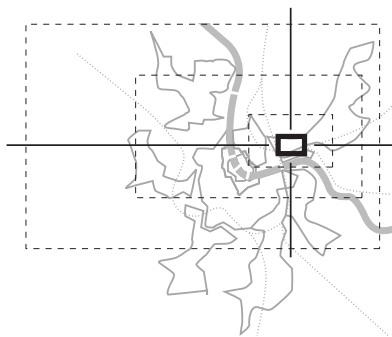


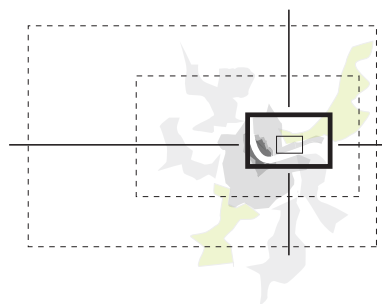
Fig. 3 Problems in the project location (image by author).

**[Fragments]**



+

**{Identity}**



+

**{The river Rhine}**

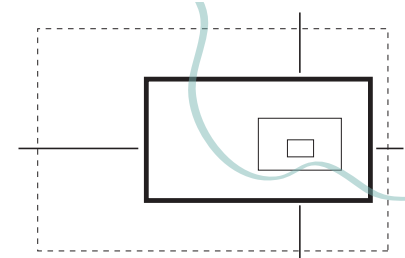


Fig. 4 The three themes of the problem analysis addressed in the spatial analysis of the project location (image by author).

# Methodology

## Research Methodology

### Literature research

The literature research has the aim to answer the research questions and form a theoretical framework as a starting point for the design methodology.

### Spatial analysis;

An analysis on the themes: Fragments, The River Rhine and Identity. The scales defined in the literature review are addressed in each theme of the analysis: private/public space [S], neighborhood [M], City [L], Region [XL] and country [XXL]. In this way the relation of the fragment with different scales is investigated to have an overview of the impact of certain scales on the area.

### Analysis of current methods and references

Analyzing references of current methodologies and planning software with a pure Bottom-up approach. An overview of pitfalls and qualities is given to form a starting point for the flexible design strategy with freedom of planning for the (future) residents on the scale of the public and private space.

### Design methodology

Integral design methodology, based on the outcomes of the literature research, by:

### Modeling

Additional to sketching, a model technique is used to test and analyze the proposed transformations and scenarios. A big context model leaves a hole at the parameter of the project location. In this way different concepts and solutions can be tested into the context of the surrounding area.

## Literature Research

The literature review is based on the main literature of the complexity theory considering the city as a complex system (Alexander, 2003; Portugali et al, 2012) and combined with the theory of the implicate order which states that the whole is more than a sum of the parts (Bohm, 1990). Complementary, rules for the coherence between these parts (Salingaros, 2005) are addressed and form together the theoretical framework of the field of urbanism on this topic. Complementary to this theory the organization in biology described in the article 'How parts make up wholes' (Findlay & Thagard, 2012) is translated to a schema for urbanism: urban scales are decomposed to the wholes, parts, organizers, attachers and communicators. The literature research answers the question: 'How do control units in the urban fabric interrelate on different scales'. With the answers of this question formulated by review of the urbanism theory, a framework is set up for the design methodology for the urban regeneration of the city fragment of Hirzbrunnen.

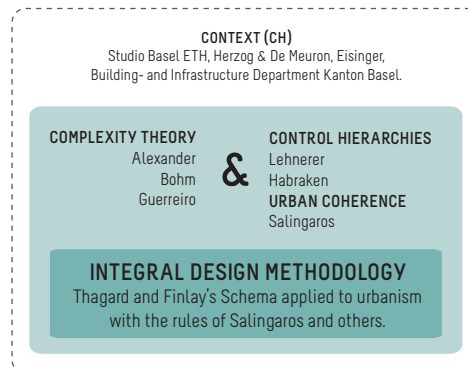


Fig. 5 Diagram showing the relation between the variety of theories and literature in the literature research (image by author)

## Analysis of methods and references

As described before, current references and methodologies of planning software and projects with a pure Bottom-up approach will be analysed such as: Almere Oosterwold (De Klerk, 2013) and the planning software Kaisersrot (Lehnerer, 2007). On the topic 'transitions between public and private space' the projects Usonia of Frank Lloyd Wright (Van Gameren, 2013) and the allotment gardens designed by Sorensen (Lund, 2004) are analysed. An overlapping topic between these two themes is the way how to deal with boundaries and borders between private and public space.

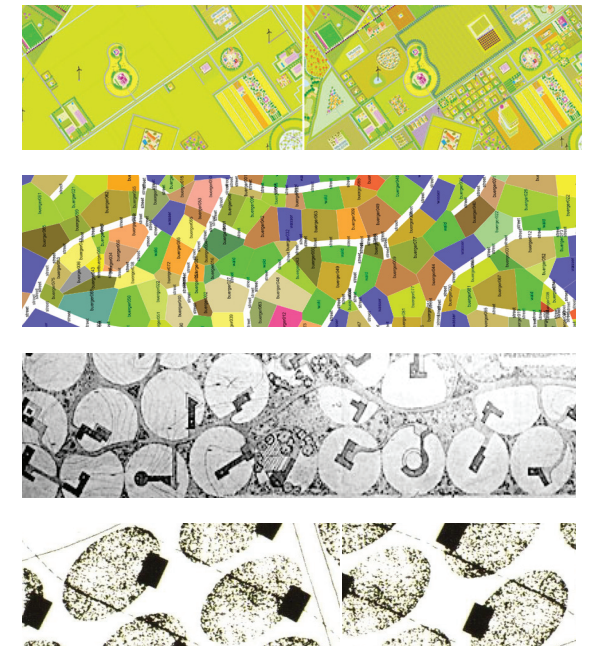


Fig. 6 References: (from top to bottom): DIY Almere Oosterwold, MVRDV, NL (De Klerk, 2013), Planning software Kaisersrot (Lehnerer, 2007), Usonia, Pleasantville, USA, Frank Lloyd Wright (Van Gameren, 2013) and Naerum allotment gardens, DK, Sorensen (Lund, 2005)

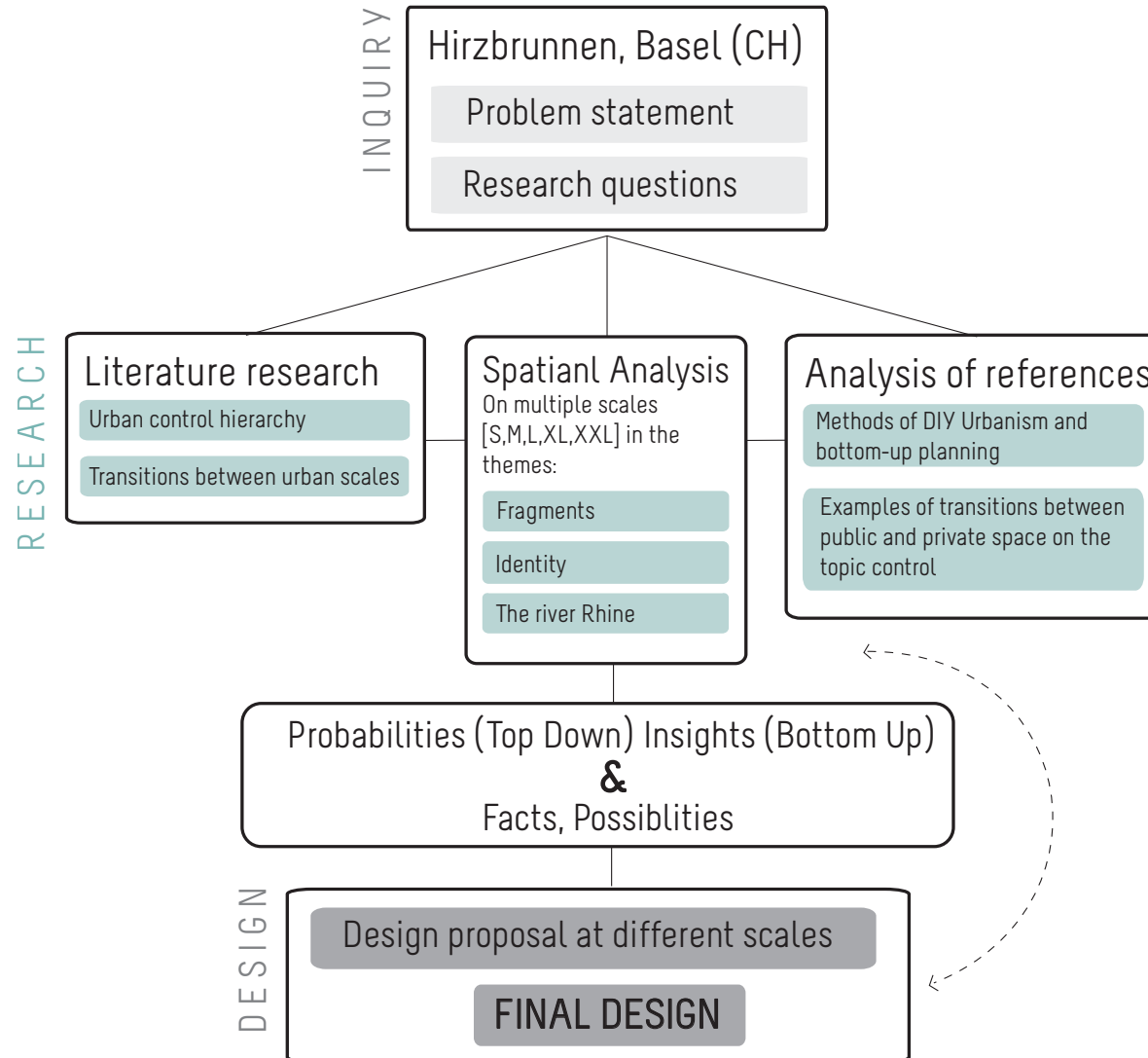


Fig. 7. Diagram showing the relations between parts of the methodology: the research methodology and the design methodology (image by author)



# Design Assignment

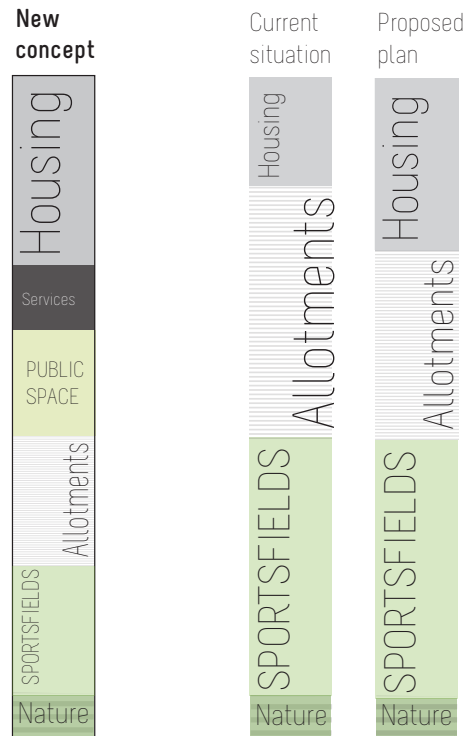
The design goal of this graduation project is to achieve a balance between Bottom Up and Top Down planning with guidelines derived from the literature research combined with the site specific characteristics of the city fragment of Hirzbrunnen concluded from the spatial analysis. The aim of the project is to find a new angle of view on city fragments to improve their relation between different scales.

A vision for the area is formed based on the relations of the fragment with the large scale structuring elements such as infrastructure and landscape elements on the scale of the city and the surrounding landscape, these structures are considered as Top Down planning instruments as a conclusion from the literature review.

This vision is combined with scenarios of program on a smaller scale as an outcome of the analysis of the Bottom Up needs of the current or future residents and visitors of the area. Combined, a balance between the Top Down vision and the Bottom Up needs for a certain program (Fig.8) form a concept for the future identity of the city fragment. On the small scale of the neighborhood the attention of the design is the coherence between the private and public space and the freedom of (future) residents to control the private space and public space.

The attention for freedom of (future) residents in combination with an existing urban fabric as a way of urban regeneration is a version of the tabula rasa method of the current Do It Yourself neighborhoods, as Almere Oosterwold (De Klerk, 2013)

and the planning software Kaisersrot (Lehnerer, 2007). The final proposal for the design is not based on the existing assignment instructed by the Kanton Baselstadt as one of the last opportunities to build new housing on the edge of the city. The area itself is investigated in relation to the city and a vision for the fragment is formed according to that.

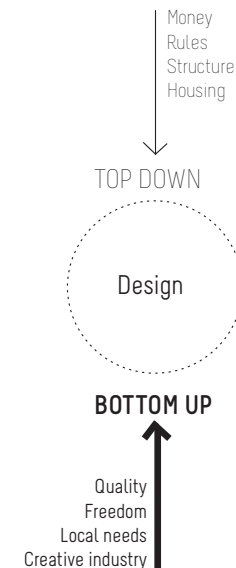


**Fig. 8** The new proposed program for Hirzbrunnen South in this graduation project compared with the current program and the proposed program by the winning design (image by author).

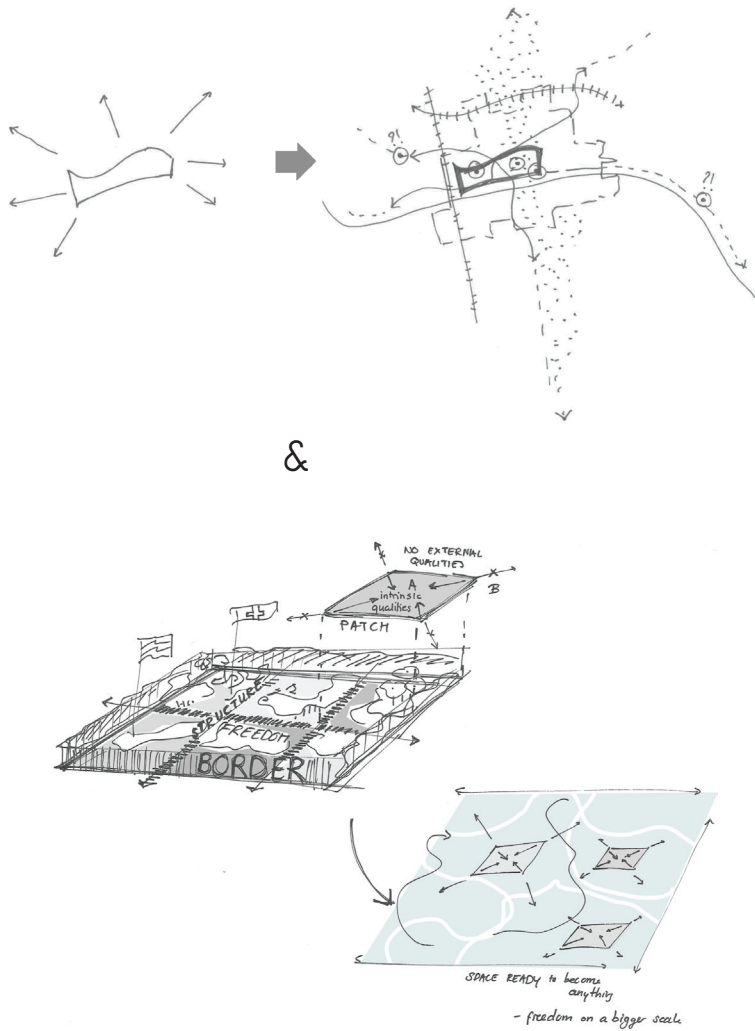
## Design Goal

The design goal is a master plan which gives the outlines of the design and options for flexibility and possible scenarios on a small scale. On this smaller scale the freedom increases and only regulations form an outline of the public and private space.

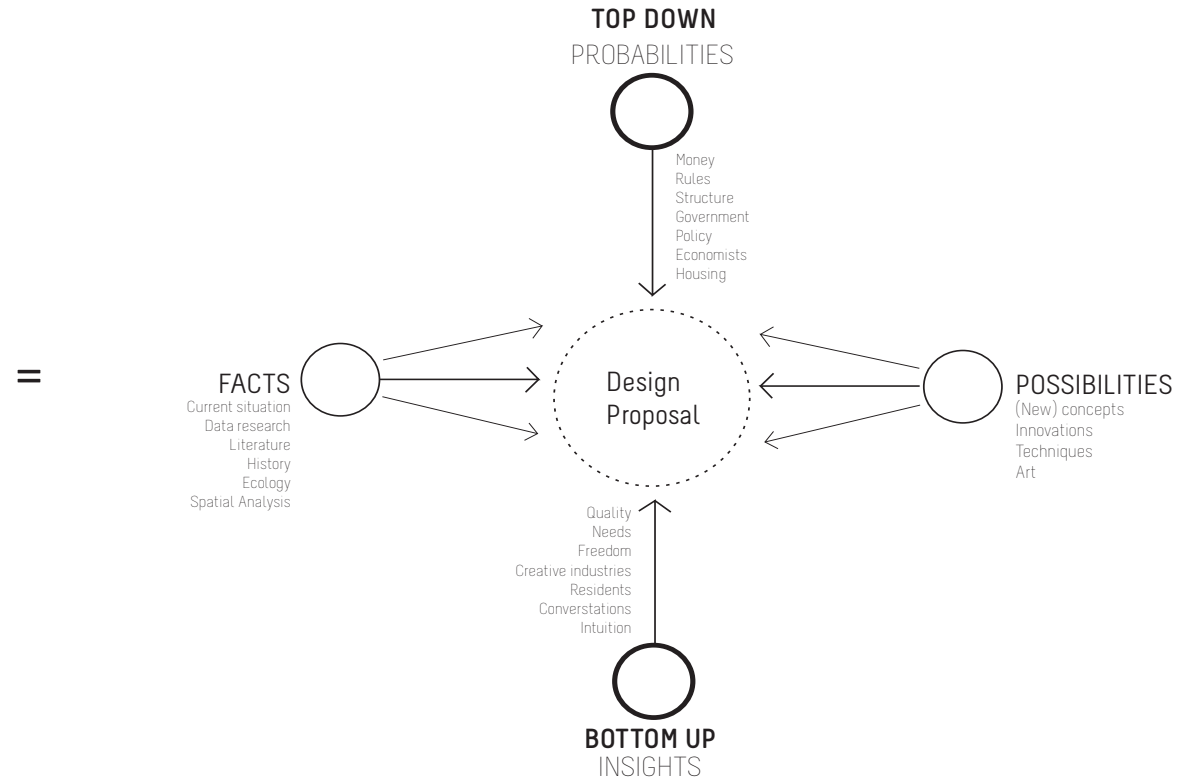
From the Bottom Up a program is formed (Fig.8), which suits the needs of the area itself. This program is combined with a vision on a large scale for the city with the fragment as a coherent part of it. (Fig. 9.) Summarized, a vision is formed and according to that vision a design is made for the area of Hirzbrunnen South and the surrounding needed changes.



**Fig. 9** The concept underlying the idea of freedom of planning: it is a counterweight to the Top Down proposed plan which is influenced by money and policies. The starting point of this project is to start with a high quality plan, and during the project run through an optimizing process to find a balance between feasibility and quality.

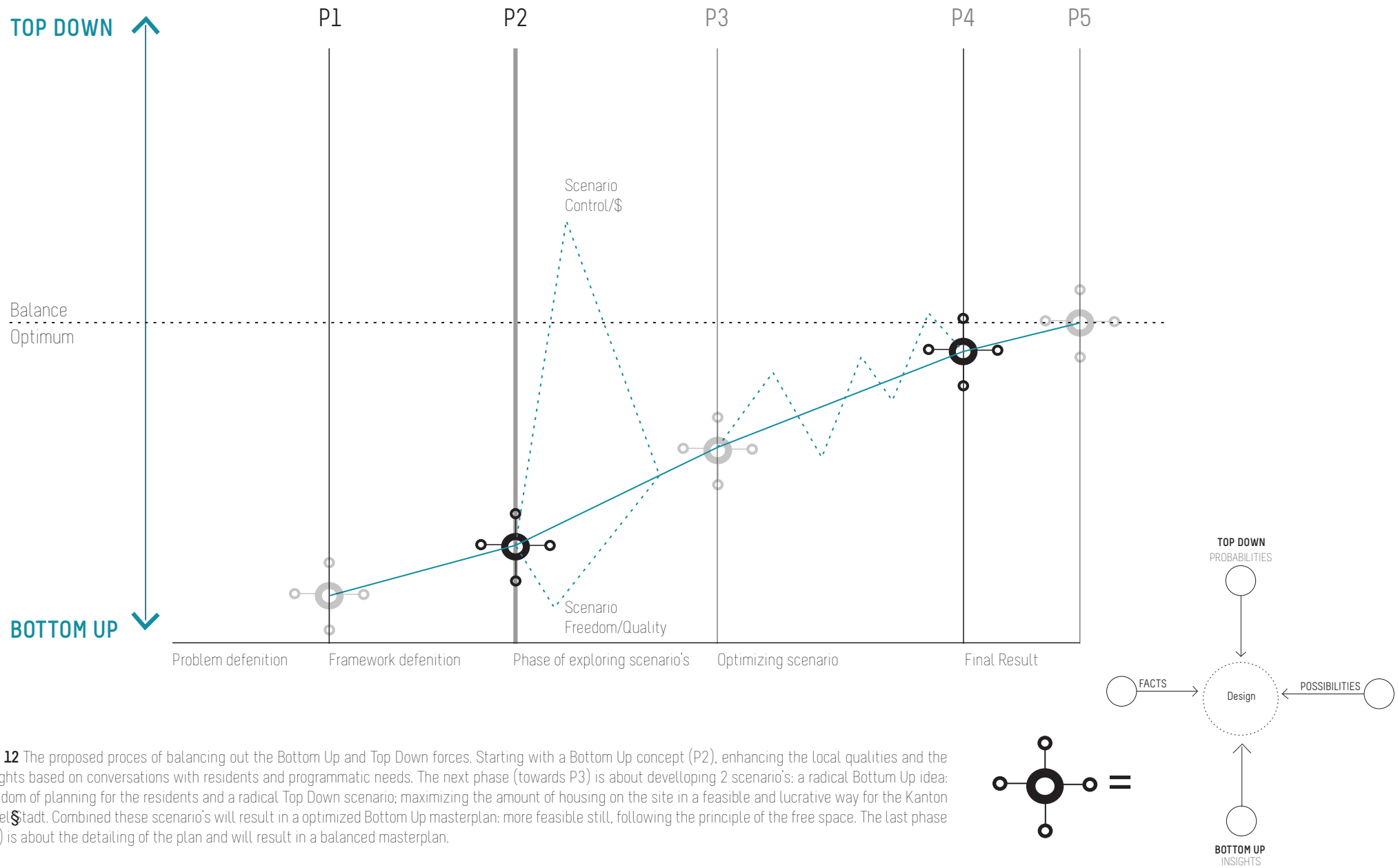


**Fig. 10 (Top left)** Opening up the view on the fragmentation, taking into account the scales which have impact on the Top Down planned structures combined with the concept of opening up the bordered view on city development (**bottom right**) in the Swiss culture and offering free space to break open the framed view on urban space. (images by author).



**Fig. 11** The influencing forces working on a design proposal. The design is proposed as a balance between the Top Down probabilities and Bottom up insights. The facts and possibilities are complementary enforcing for either the top down or the bottom up forces. These forces change throughout the design process, for the detailed proposed design process see p.12, Figure 11. (Image by author)

# Process



**Fig. 12** The proposed process of balancing out the Bottom Up and Top Down forces. Starting with a Bottom Up concept (P2), enhancing the local qualities and the insights based on conversations with residents and programmatic needs. The next phase (towards P3) is about developing 2 scenario's: a radical Bottom Up idea: freedom of planning for the residents and a radical Top Down scenario: maximizing the amount of housing on the site in a feasible and lucrative way for the Kanton Basel-Stadt. Combined these scenario's will result in an optimized Bottom Up masterplan: more feasible still, following the principle of the free space. The last phase (P4) is about the detailing of the plan and will result in a balanced masterplan.

# Reflection

## Societal relevance

The current proposed plan as a result of the competition initiated by the municipality of Basel does not result in an integral design taking into account the existing qualities of the fragment. The current infrastructure and public space do not fit the new plan and the restricted program of new housing in the area is not an answer to the local problems. The setup for the design method derived from the literature research is a relevant way to form a vision, which fits the big scale of the city and the small scale needs. Only in that way the society benefits when the complexity of the city is taken into account and there are no new created problems cause by the limited parameter of the project.

## Academic relevance

As stated before in the academic problem statement, more often parts within the city are treated as isolated elements when being analyzed and redesigned in urban regeneration. This method however is only useful when these parts are brought back into the bigger context of the urban complexity (Alexander, 1965). Therefore the integral method is relevant to achieve this transition between scales and form a starting point for a different view on parts within the city.

Also attention for freedom of (future) residents in combination with an existing urban fabric as a way of urban regeneration is a version of the tabula rasa method of the current Do It Yourself neighborhoods, as Almere Oosterwold (De Klerk, 2013) and the planning software Kaisersrot (Lehnerer, 2007). This method is an attempt to provide a certain freedom for residents to plan their own space and in this way is a contribution to the current methods of urban regeneration.

## Personal relevance

The aim of this research is to form a personal position in the professional understanding of the complex city. Questions which trigger me are: To which extend can we, as urban planners intervene and prescribe a certain structure for the city where the inhabitants live in? Structuring seems to be the main task you have as a planner, but when do the residents need their own freedom to plan? How to balance quality and feasibility?

# Link to the TU Research Program

The research as a part of this graduation project is linked to the program of the department of Urbanism on the topics 'transitions between scales' and 'the control of the urban fabric' as a part of the Research program 'Design of the urban fabric'. Specific researchers on these themes are: Machiel van Dorst, coordinator of the Urban Regeneration Studio, who has an expertise on control in relation to environmental behaviour interaction and Egbert Stolk, specialized in the scale changes in urban design and their transitions.

Egbert Stolk is the first mentor of this project in relation to his expertise on the complexity theory and scale in urbanism. I used the complexity theory in the literature research to define a framework for an integral design method, which intends to improve local urban fabric of a city fragment and its connection to the city. The main aim of the research program 'Design of the urban fabric' is to understand through research how we can contribute to the making of sustainable, attractive and vital urban design he graduation project 'Free space vs. Framed space' shares this goal to contribute to the design of a vital urban design by defining the framework of an integral method, re-designing urban fragments to improve its coherence with the city.

# Planning Graduation 2013/2014

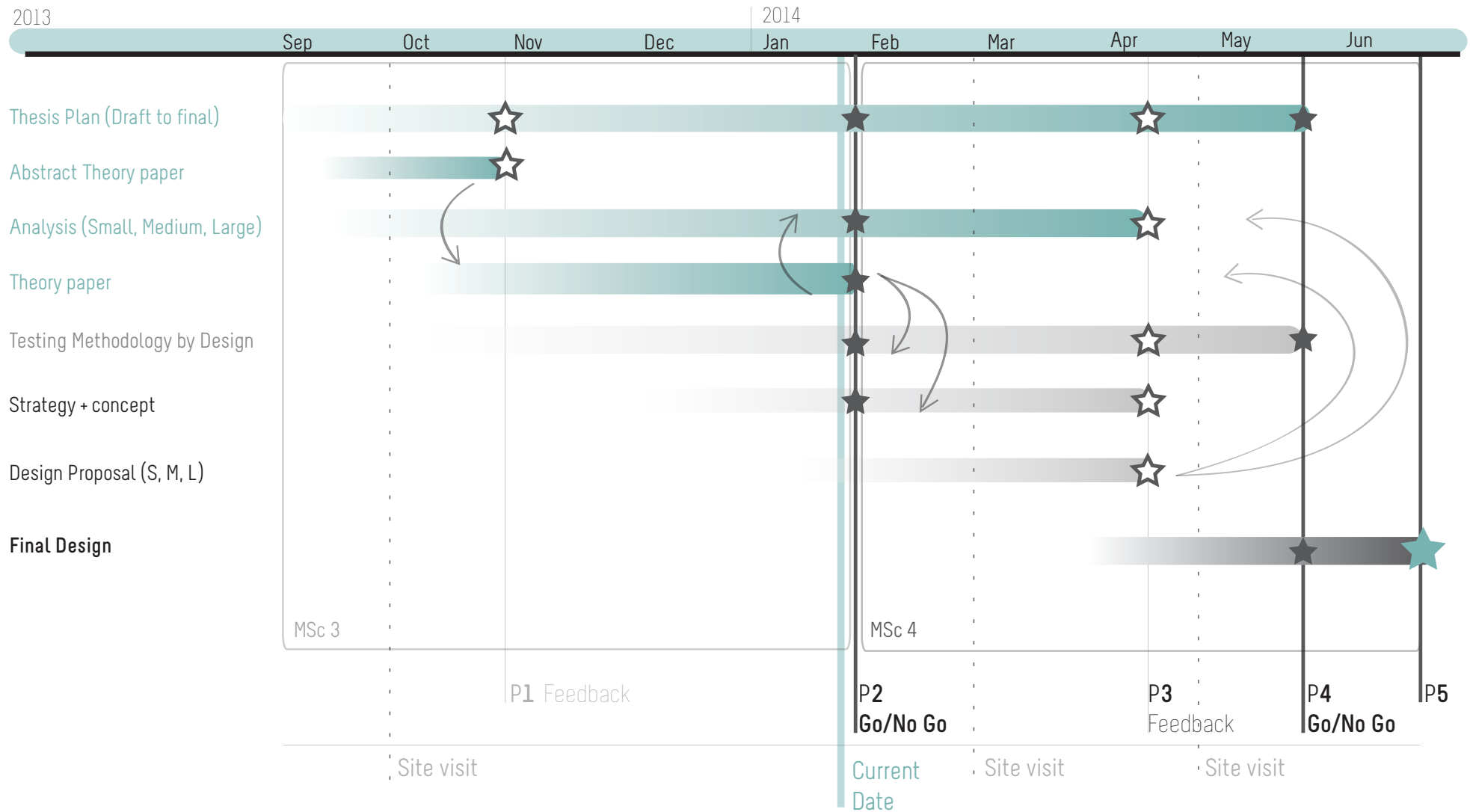


Fig. 13 The detailed planning towards P5.

## Reference List

- ALEXANDER, C. 1965.** A city is not a tree. Architectural Forum, London.
- ALEXANDER, C. 2002.** The nature of order: the process of creating life, Berkely, The Center for Environmental Structure.
- ALEXANDER, C. 2003.** New concepts in complexity theory. Available: <http://www.natureoforder.com/library/scientific-introduction.pdf>.
- BAU- UND VERKEHRSDEPARTEMENT DES KANTONS BASEL-STADT 2010.** Testplanningen: Stadrandentwicklungen: Ost, Süd und Nordwest. Basel.
- BOHM, D. 1990.** Wholeness and the implicate order, London, Routledge.
- CUPERS, K. & MIESSEN, M. 2002.** Spaces of uncertainty, Wuppertal, Muller und Busmann.
- DE KLERK, L. 2013.** Hoe planning toch niet verdwijnt uit Almere. S+RO, Nieuwe Steden, p:22-25.
- DIENER, R., HERZOG, J., MEILI, M., DE MEURON, P. & SCHMID, C. 2005.** Switzerland: An urban portrait, Basel, Birkhäuser
- EDENSOR, T. 2011.** Order/disorder. Urban theory beyond the west. Oxford: Routledge.
- EISINGER, A. 2004.** Städte Bauen - Stadtebau und stadtentwicklung in der Schweiz 1940-1970, Zürich, GTA Verlag.
- FINDLAY, S. & THAGARD, P. 2012.** How parts make up wholes. *Frontiers in Physiology* [Online]. Available: [http://www.frontiersin.org/systems\\_biology/10.3389/fphys.2012.00455/abstract](http://www.frontiersin.org/systems_biology/10.3389/fphys.2012.00455/abstract) [Accessed 28-10-2013].
- GUERREIRO, M. 2011.** Patterns in Nature, emergent urbanism and the implicate order. Available: [https://www.academia.edu/2052448/PATTERNS\\_IN\\_NATURE\\_EMERGENT\\_URBANISM\\_AND\\_THE\\_IMPLICATE\\_ORDER](https://www.academia.edu/2052448/PATTERNS_IN_NATURE_EMERGENT_URBANISM_AND_THE_IMPLICATE_ORDER) [Accessed 19-09-2013].
- HABRAKEN, J. 1987.** Control hierarchies in complex artefacts. Proceedings - of the 1987 conference on planning and design in architecture at the International congress on planning and design theory, Boston, Massachusetts. Boston: The American Society of Mechanical Engineers.
- HABRAKEN, J. 1998.** The structure of the ordinary, Cambridge, MIT Press.
- HANSON, J. 1989.** Order and structure in urban design: the plans for the rebuilding of London after the Great Fire of 1666. *Ekistics*, 56, 22-42.
- HERZOG, J., DE MEURON, P. & HERZ, M. 2009.** MetroBasel - A model of a European Metropolitan region., Basel, ETH Studio Basel.
- HOLYOAK, K. J. & THAGARD, P. 1997.** The analogical mind. *American Psychologist*, 52, 35-44.
- HÖLZER, C. 2010.** Riverscapes - Designing Urban Embankments, Basel, Birkhäuser.
- IBÁÑEZ LÓPEZ, D. 2013.** What advice a city game has for a plan... Available: <http://www.playthecity.nl/13178/en/what-advice-a-city-game-has-for-a-plan> [Accessed 06-01-2014].
- KRIER, L. 2009.** Drawing for architecture, Cambridge, MIT Press.
- LEHNERER, A. 2007.** The city of Kaisersrot - selected projects. Publication on the 2nd New Town symposium. Almere: The New Town Institute.
- LEHNERER, A. 2009.** Grand urban rules, Rotterdam, 010 Publishers.
- LUND, A. 2005.** Guide to Danish Landscape Architecture 1000-2003, Copenhagen, Arkitektens Forlag.
- OSWALT, P., MISSELWITZ, P. & OVERMEYER, K. 2007.** The pattern of the unplanned. In: FRANCK, K. A. & STEVENS, Q. (eds.) Possibility and diversity in urban life. New York: Routledge.
- PORTUGALI, J., MEYER, V. J., STOLK, E. H. & TAN, E. 2012.** Complexity theories of cities have come of age, Heidelberg, Springer.
- SALINGAROS, N. A. 2005.** Principles of urban structure, Amsterdam, Techne Press.
- SASSEN, S. 2012.** Ecologies and scales of cities. In: HAAS, T. (ed.) Sustainable urbanism and beyond: rethinking cities for the future. New York: Rizzoli.
- THOMPSON, C. W. 2002.** Urban open space in the 21st century. *Landscape and Urban Planning Magazine*, Elsevier, 60, 59-72.
- UNGERS, O. M. 1976.** City metaphors, Köln, Walther König.
- VAN GAMEREN, D. 2012.** Samen bouwen: de architectuur van het collectief particulier opdrachtgeverschap. DASH. Rotterdam: Nai publishers.