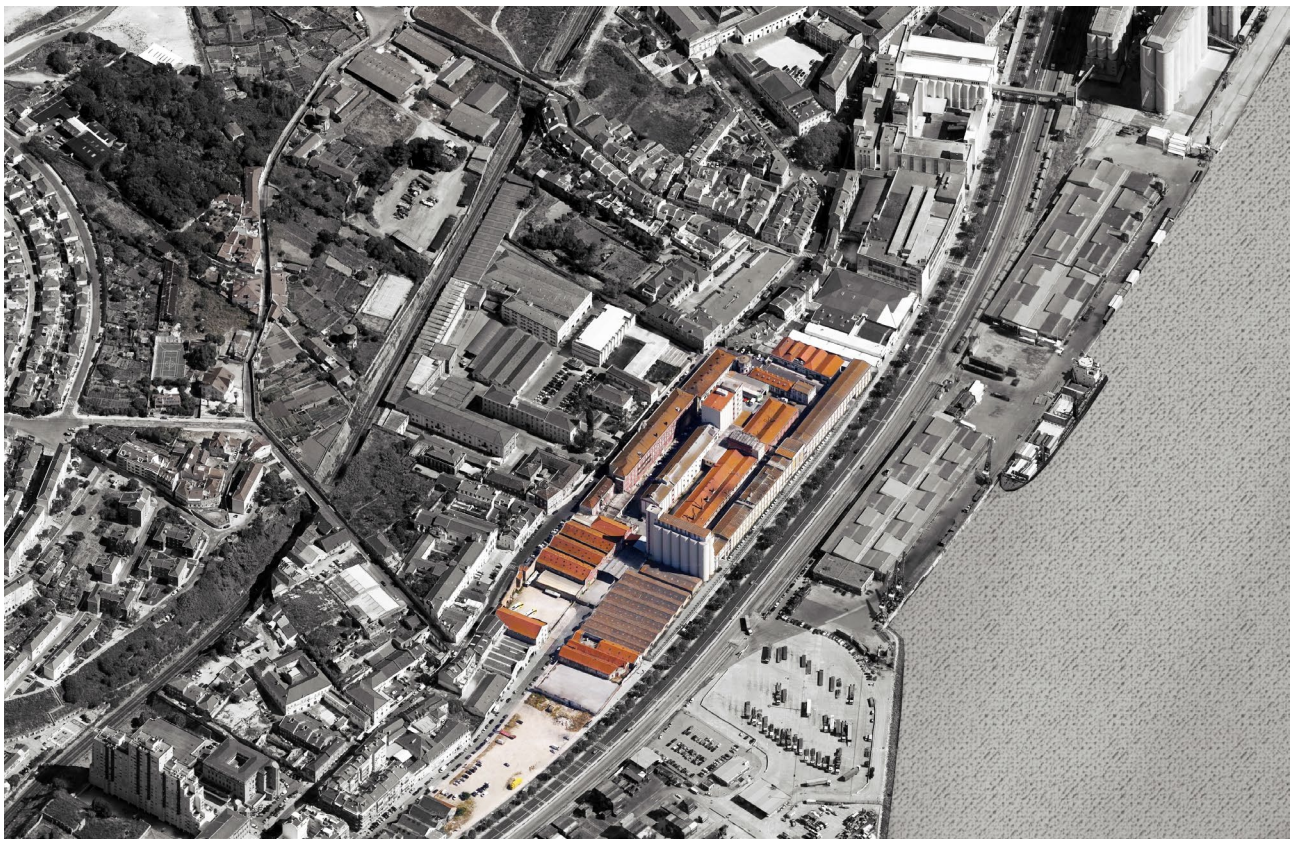
VALUES OF NON-INTENDED ARCHITECTURE

REFLECTION PAPER

Heritage & Architecture
Disclosing the Military City Lisbon

CONTENT



1. Bird's eye view MMC, southern part accentuated in color (image provided by Guido Martin)

1. INTRODUCTION

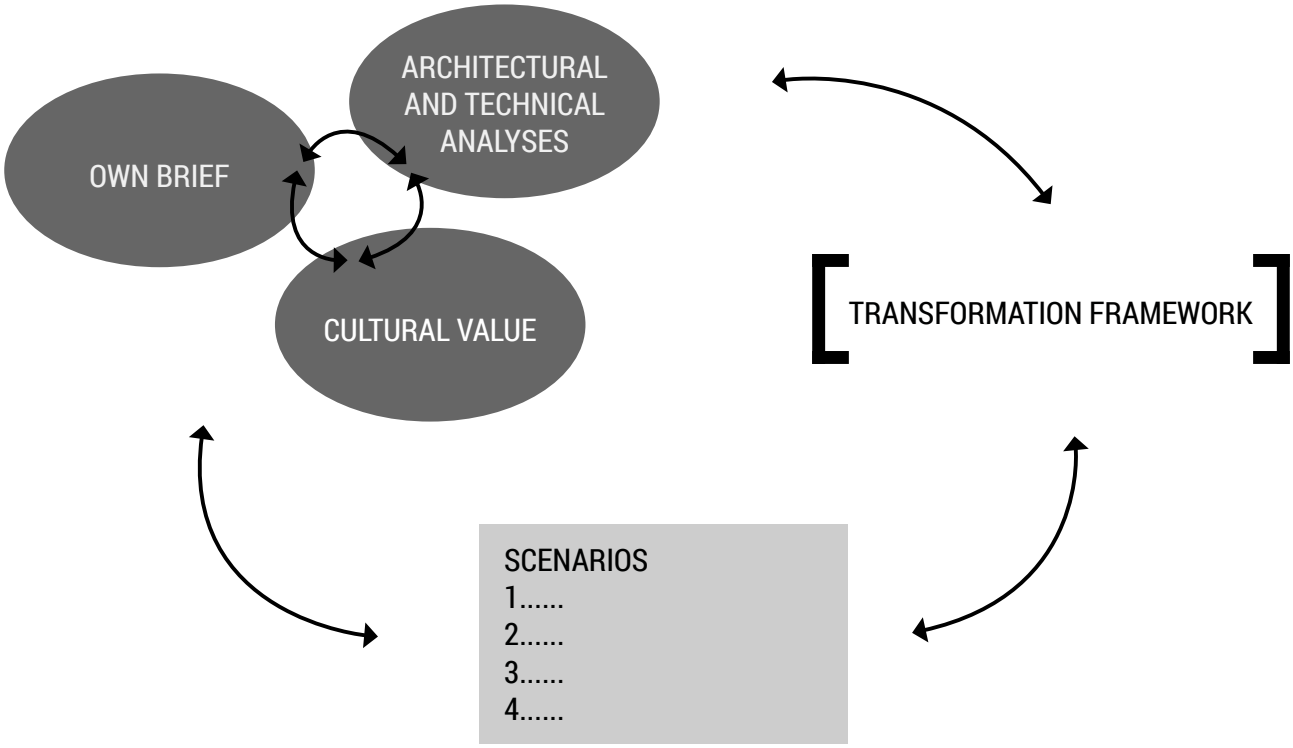
The graduation studio 'Disclosing the Military City Lisbon' is part of the section Heritage & Architecture at the TU Delft. The project is initiated in collaboration with the 14th International Conference of DOCOMOMO (International Committee for Documentation and Conservation of Buildings, Sites and Neighbourhoods of the Modern Movement). The subject of the studio is the southern part of the former Military Maintenance Complex (MMC) in Lisbon (picture 1).

The MMC was an industrial facility that produced food, uniforms and other goods for the Portuguese Army. Gradually the factories closed and the MMC was finally substituted by a public enterprise. The termination of the industrial production raised the problem of finding new sustainable uses for this area on the Tagus riverfront, between the Pombaline City Harbour and the contemporary Parque das Nações. The graduation studio kicked off with an on-site workshop organized by DOCOMOMO international.[1]

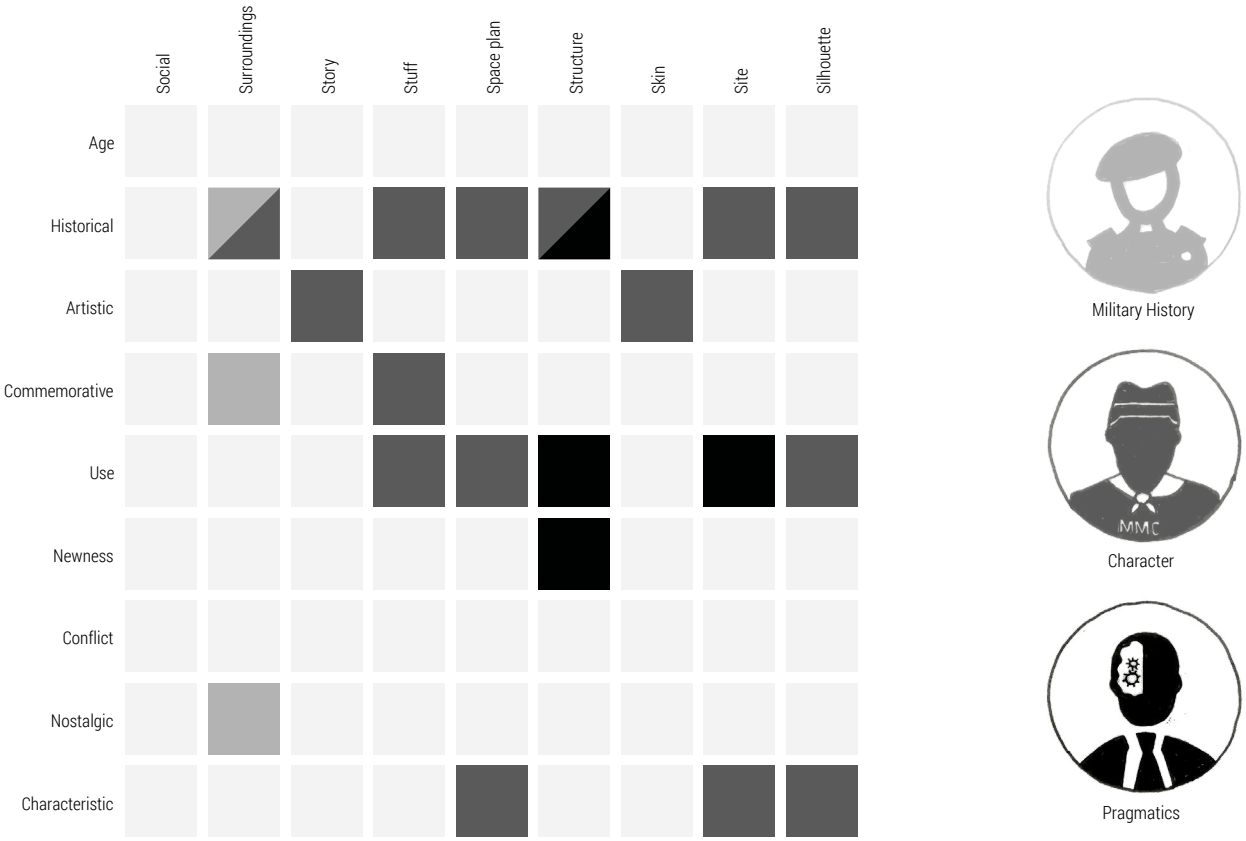
During the site visit I was intrigued by the different construction typologies and machinery that were present in the buildings. This was mainly the case in the bakery, cookie factory and milling. This ensemble is the main object of my graduation studio, because it represents the 'timeline of technological evolution of the buildings, which is considered exceptional within the industrial heritage in Portugal'.[2] Based on the outcome of the workshop, site visit and analysis I formulated the following research question:

How can the spatial character of industrial heritage be translated into spatial design that facilitates future use of the site and buildings?

1. Graduation manual Lisbon. Accessed on May 8th, 2017, https://blackboard.tudelft.nl/
2. Colenbrander, B. (1990). *Chiado, Lissabon. Alvaro Siza en de strategie van het geheugen.* Rotterdam: Nederlands Architectuurinstituut



2. Working method as presented in the graduation plan (own image)



3. Cultural Matrix subdivided in three themes (own image)

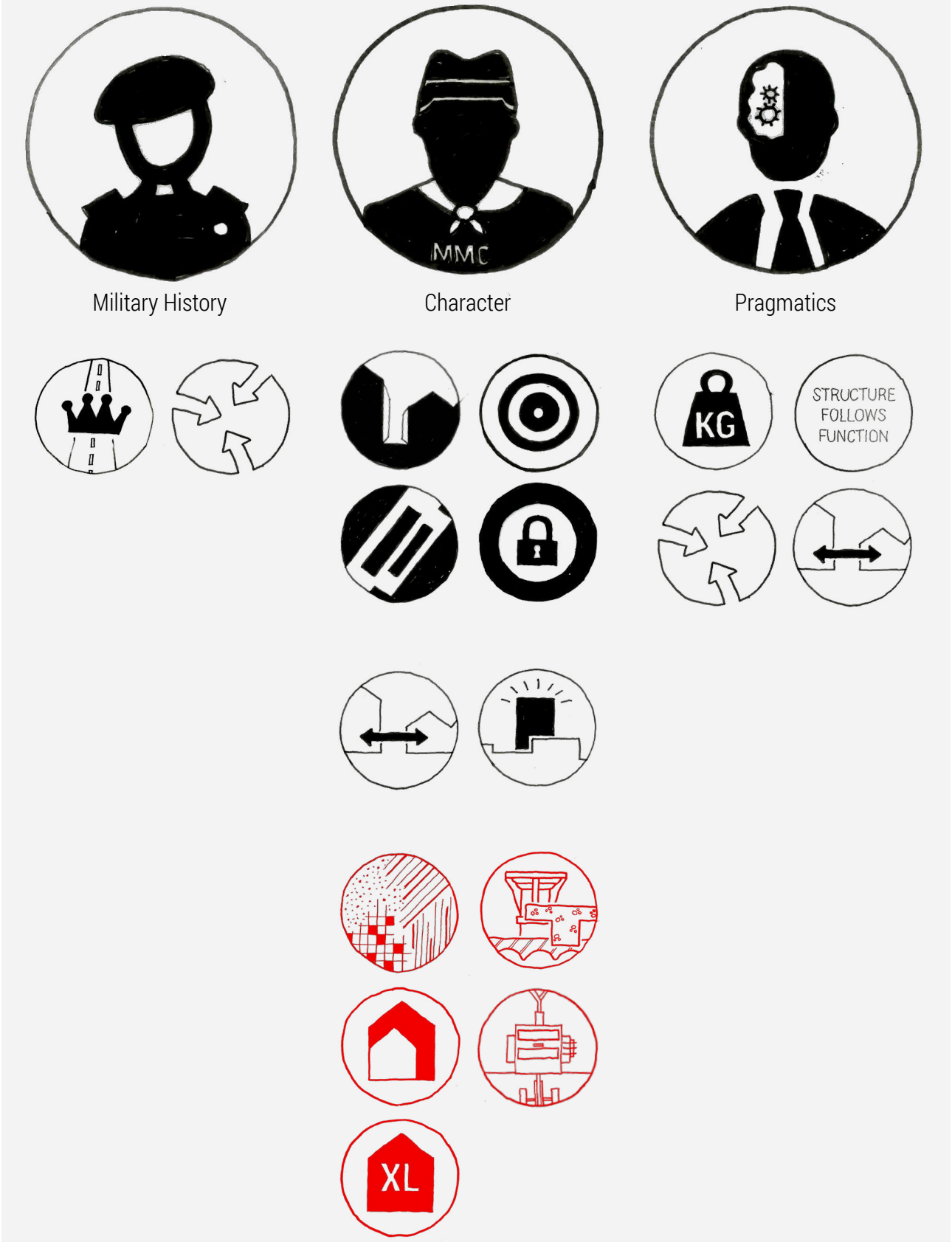
2. THE RELATIONSHIP BETWEEN THE METHODICAL LINE OF APPROACH OF THE GRADUATION LAB AND THE METHOD CHOSEN BY THE STUDENT IN THIS FRAMEWORK.

Heritage & Architecture (HA) brings together the fields of cultural history, technology and architectural design. It differs from other studios, because "the starting point for design is not just a functional brief and a blank sheet of paper but the challenge of an existing spatial setting and cultural-historical context".[3] HA approaches research and design on all levels of scale ranging from the use of materials and technology, through the reuse and redesign of a building complex, to the development of landscape and urban structure. Context is an important informative on all scale levels. This approach is of vital importance in order to address the challenges and responsibilities of working with existing built structures.[4] My interpretation of the above described research method is depicted in picture 2.

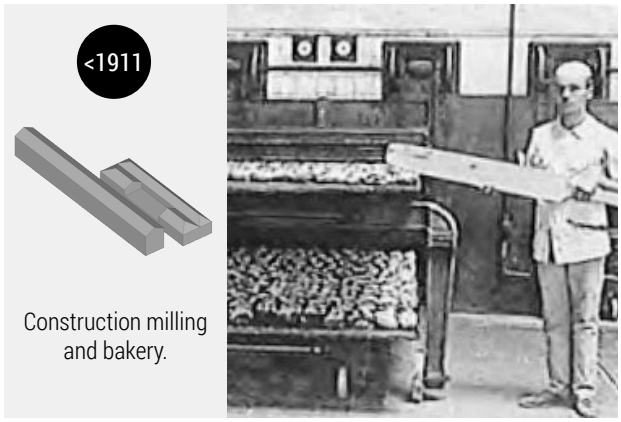
During the first quarter of the graduation studio we've made an architectural and technical analysis of the buildings, site and surroundings. For the analysis we made, among other things, use of the 'traffic light method' of Suzanne Fischer. Although I first thought this method was to explicit and formal, I'm now aware of the qualities of it: you have to lable each single part of the building so you can't miss anything. From the analysis I've filtered cultural values by using the Cultural Matrix. I think this matrix is really helpful to understand the values of the MMC and to create a transformation framework. However, the matrix and the transformation framework are maybe too explicit to use for making scenarios: they 'just' give an overview of all values that are present. Therefore I decided to subdivide the values in themes. These themes can differ for each project. In the case of the MMC these themes are *character*, *pragmatics* and *military history* (picture 3). These themes have been leading in my design process. It should be mentioned that it concerns a dynamic process.

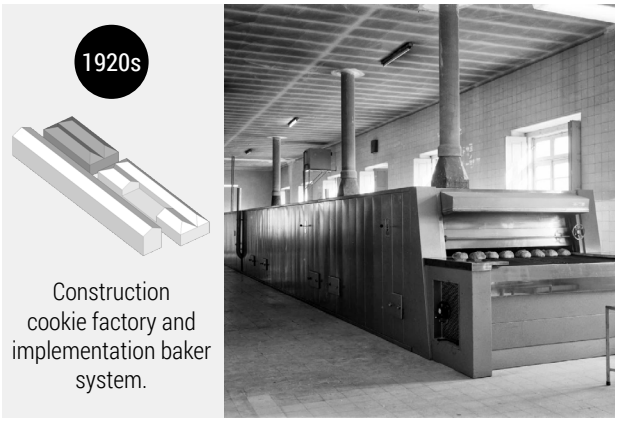
As explained, I was fascinated by the different construction typologies and machinery that were present in the bakery, cookie factory and milling. Both represent development, which is one of the characteristics of military architecture[5], and determine the spatial character of the buildings. The spatial characteristics of the buildings, which I call the 'values of non-intended architecture', are for me the most valuable. Therefore I made a differentiation in my transformation framework (see next page). This framework, which is depicted by using symbols, has functioned as an input and filter for the design. The level of abstraction of the framework really inspired me during the design process and did not restricted me. In a next project I would do exactly the same.

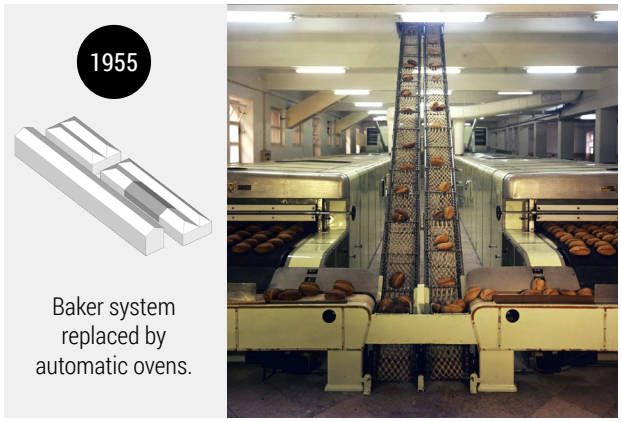
3. Professor Wessel de Jonge, B-Nieuws, nr 06, 2015-2016
4. Graduation manual Lisbon. Accessed on May 8th, 2017, https://blackboard.tudelft.nl/
5. Mallory, K., & Ottar, A. (1973). *The architecture of war*. United States: Pantheon books.

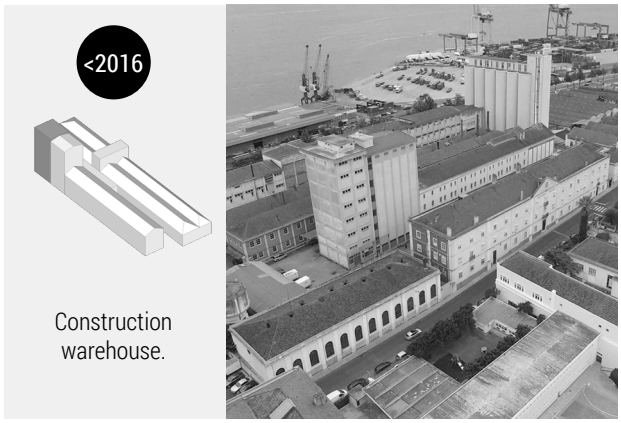


4. Transformation framework with differentiation (own image)









5. Development of the ensemble in five stages (own image)

3. THE RELATIONSHIP BETWEEN RESEARCH AND DESIGN.

When designing interventions it is of a fundamental interest to find an appropriate balance between the old and the new. Research is a substantial part of the design process and is reflected in the statement Design by Research and Research by Design.[6] For the reflection of this aspect I want to make a distinction between the two.

Design by Research
I consider research in this as scientific. This way of working really helped me to position myself and base my design upon. In the graduation project I can describe two examples of *Design by Research*.

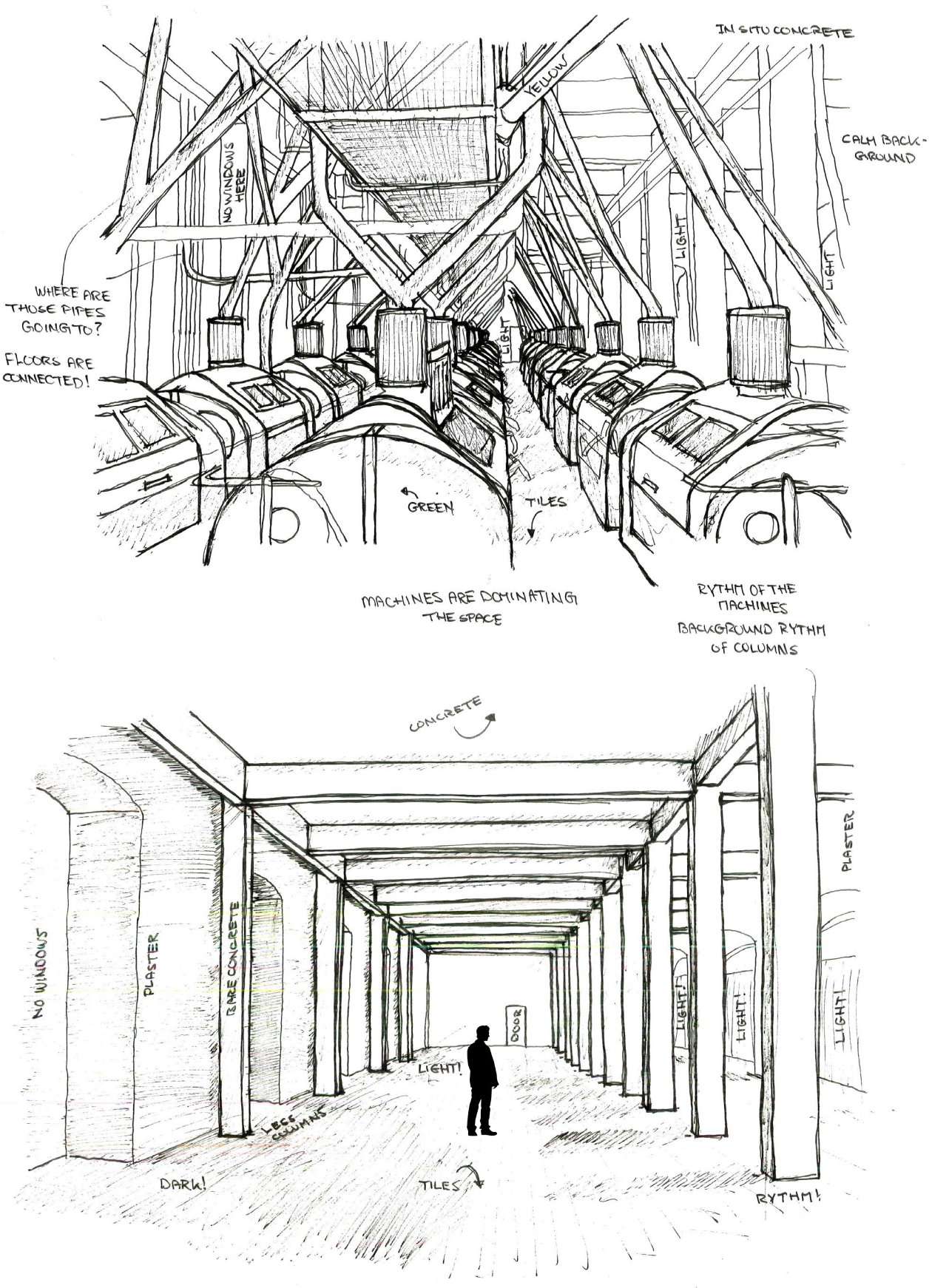
1. I've written a position paper about 'Dealing with Industrial Heritage'. It describes the dilemma between the preservation of the commemorative values of the machinery versus the use value of the structure and skin. This paper helped me to argue whether to preserve the machinery or not. I have to admit that my opinion has changed during the graduation project: first I wanted to remove all the machinery, but now I see the importance and (inseparable) relation of it with the different construction typologies that are present.
2. The research to the historical development of the bakery, cookie factory and milling is a very important part of my analysis (picture 5). Based on this research I came up with the three themes as described in the previous chapter to subdivide my values. Historic research is of fundamental importance within Heritage & Architecture, because we deal to deal with an existing spatial setting and cultural-historical context.

In my design process this kind of research is mainly performed during the first half of the project (architectural and technical analysis and cultural value).

Research by Design
During the master it turned out that this way of working, especially by making models, helped me to extract new ideas and find design solutions. I wanted to apply this way of working during my gradution project as well. I will discuss some positive and negative experiences of this during the graduation project.

1. Design solutions come up unconsciously, just by the way the models are made. For example, narrowing of the ribs to preserve the imposing rhythm of the portals. In this case I firstly glued the roof and portals together and became aware of the imposing rhythm, something which I should not have seen in a drawing or on the computer.
2. By making models with a high level of abstraction I'm able to tackle dilemmas in an early stadium and master the complexity of the project.
3. The models function as an external hard drive: I can visualize all the ideas I have on different scale levels in order to keep my mind clear. The same result could be achieved by making sketches.

6. Graduation manual Lisbon. Accessed on May 8th, 2017, https://blackboard.tudelft.nl/

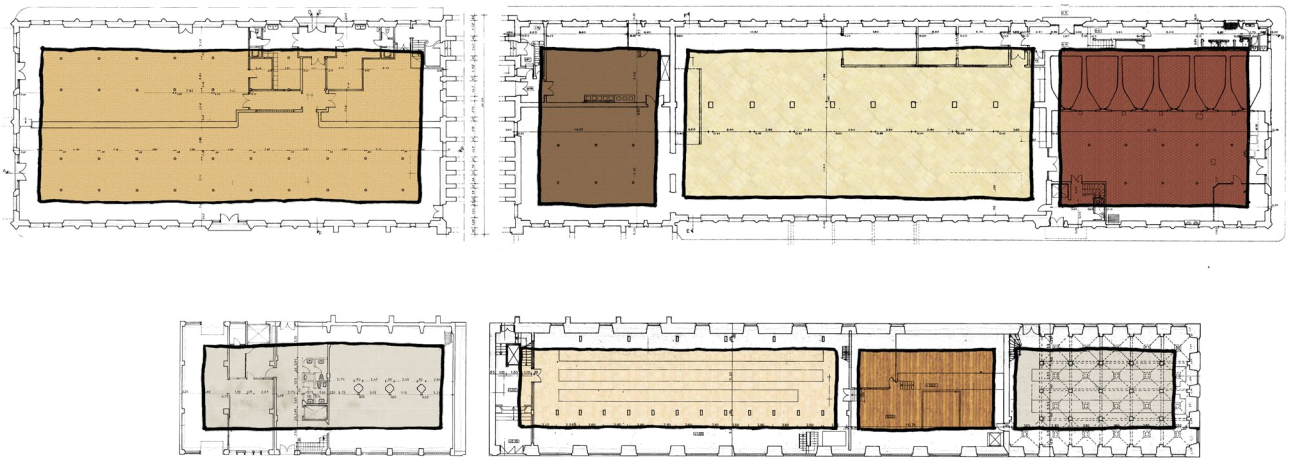


6. Dirty sketches to discover the spatial characteristics of the milling. With (above) and without (below) machinery (own image)

I also experience negative aspects of working mainly with models.

1. I do not get a grip on the tension between the old and the new by just making models. This was one of the remarks after my P3 presentation as well. Although the level of abstraction helped me to master the complexity, it's probably better to make 'dirty drawings' to get a grip on the character of the build heritage and the balance between the old and the new. During the analysis I already made such drawings of the bakery, cookie factory and milling to discover the characteristics (picture 6). I have to make such drawings when designing as well.
2. The level of abstraction of the models have to do with the limited available time. If I want to visualize *character* in models, I just need more time. I'm aware of the sensitivity and precision of the models of Zumthor, so maybe I have to be more selective in which models I want to make and do not try to solve everything.

Making the models was really helpful for me during the gradution project, especially when making scenarios. At the same time it restricted me to find the right balance between the existing building and intervention. For this I have to make sketches as well (with the help of the computer). Especially within Heritage & Architecture abstraction is not always the right way of working: you have to go into the deep to discover the real character and balance. I can conclude that during my graduation studio *Research by Design* (scenarios) is preceded by *Design by Research* (analysis). Although this is not that evident, it describes quite well the way of working withing Heritage & Architecture.

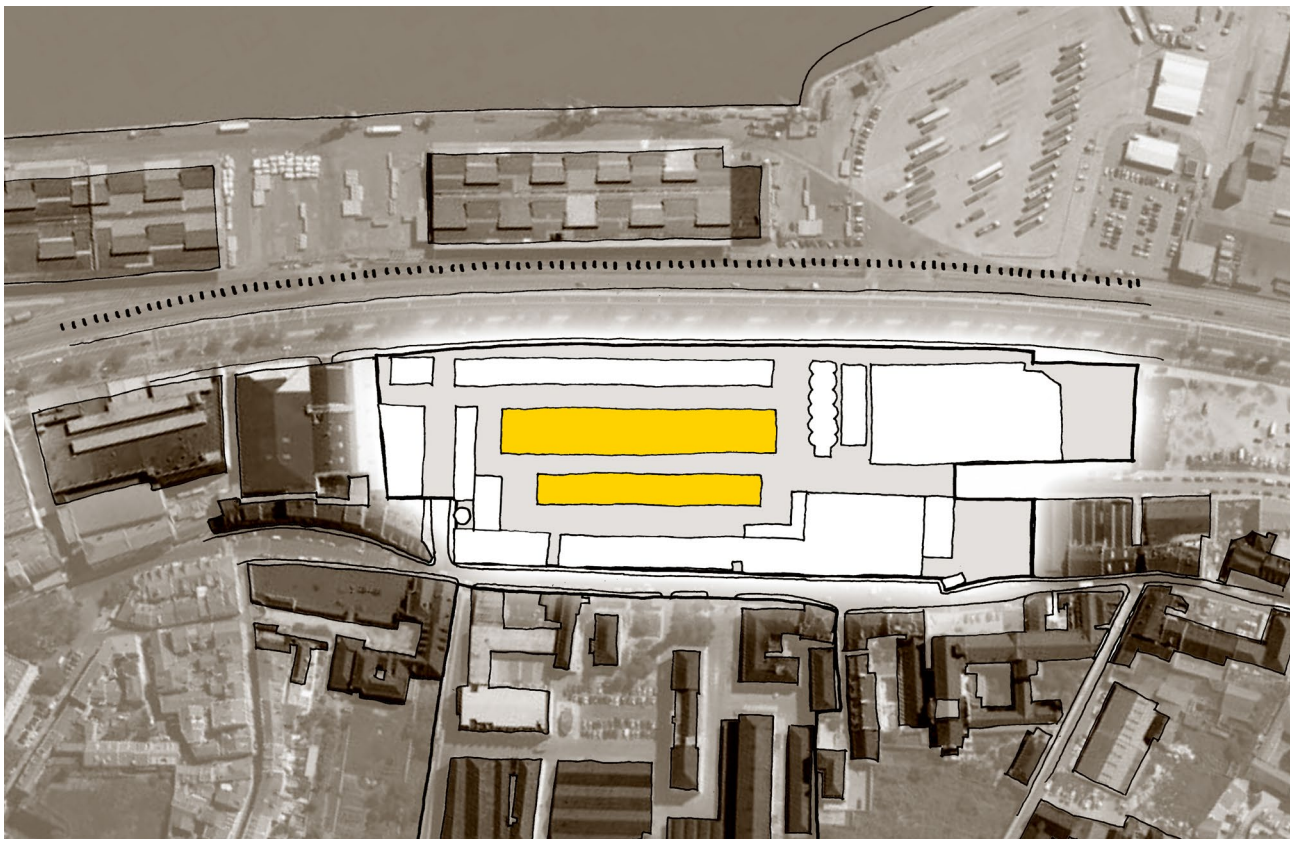


7. Building components with mutual spatial diversity as starting point for the design (own image)

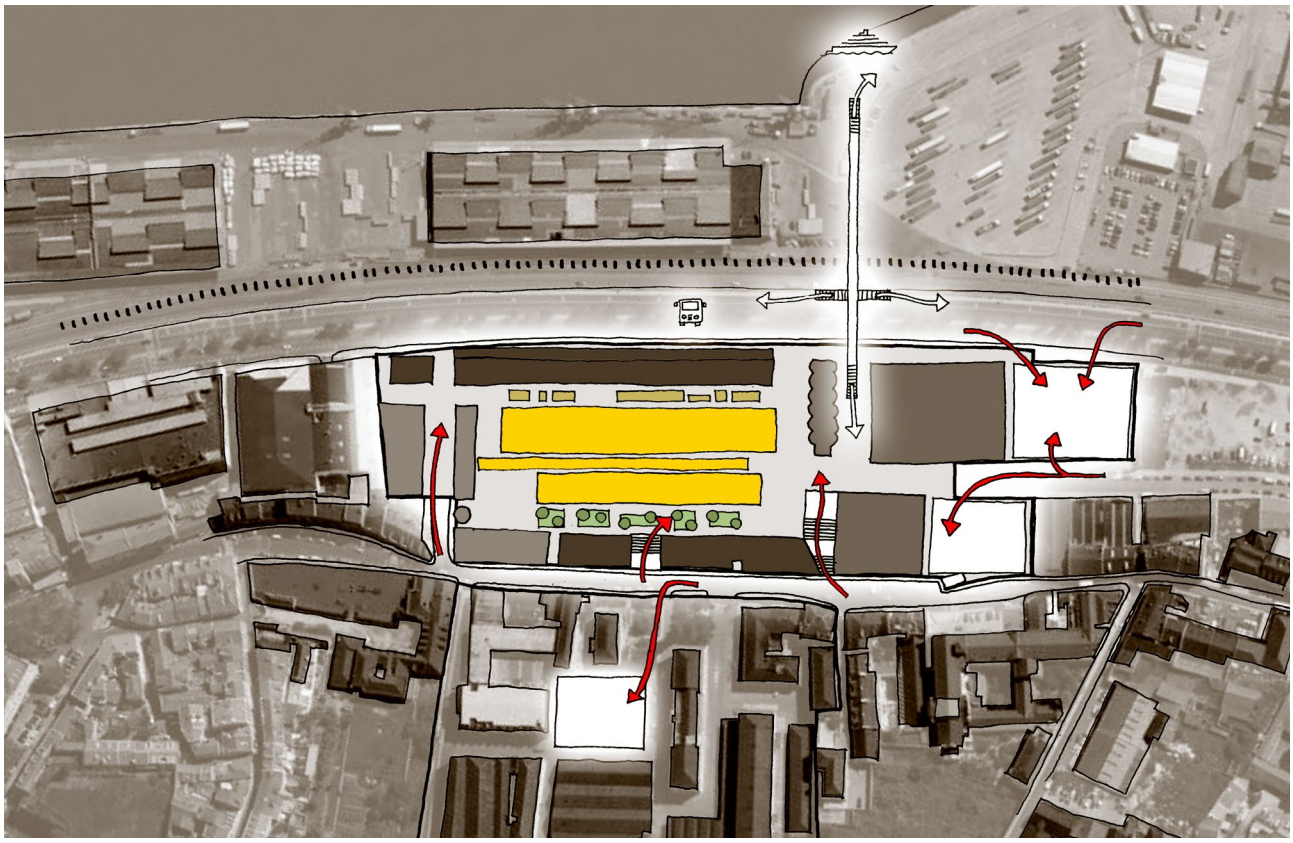
4. THE RELATIONSHIP BETWEEN THE THEME OF THE GRADUATION LAB AND THE SUBJECT CHOSEN BY THE STUDENT WITHIN THIS FRAMEWORK.

As will become clear, many buildings from the industrial era are in the 'wrong' place. A lot of these buildings are vacant right now. From Heritage & Architecture students it is expected to find new sustainable uses for such areas. The MMC is one of those areas: the termination of the industrial production raised the problem of finding new sustainable uses for it. Based on the analysis I formulated an as general and widely applicable research question as possible: how can the spatial character of industrial heritage be translated into spatial design that facilitates future use of the site and buildings? Some characteristics which are probably general for industrial heritage are the oversize of space and the precense of old machinery. But what makes the MMC unique in comparison with other industrial heritage (in Portugal) are the layering of structures, machinery from different time periods and different finishes. These characteristics create building component with mutual spatial diversity (picture 7). Because this is what makes the MMC unique, I used it as starting point for my design.

I found out that formulating a general research question is hardly possible within Heritage & Architecture: the projects simply differ to much from each other. Like the MMC, all industrial heritage have their own historical stories and unique characteristics (tabula plena). In other studios, which start with a tubala rasa, it is possible to formulate a more general research question.



8. Positioning of the University of Architecture in the central ensemble, constituted by the bakery, cookie factory and milling (own image)



9. Positioning of the University of Architecture on the MMC will contribute to the infrastructure of Beato and connect it with the city centre (own image)

5. THE RELATIONSHIP BETWEEN THE PROJECT AND THE WIDER SOCIAL CONTEXT.

The strong population growth of the sixties has led to large urban extensions. This is the reason why many industrial sites nowadays have become part of the urban fabric. Therefore, many buildings from the industrial era are in the 'wrong' place. A lot of these buildings are vacant right now. This phenomenon also applies to the MMC: due to the urban extensions and harbour development the MMC has become an isolated area. These developments cover a period of more than hundred years. Interfering in these rigid structures, like roads, reclaimed land and harbour activity, is almost impossible in a subtle manner.

The MMC contributed to the surroundings. During the Ultramar War it was very active in the support of the families of the soldiers. For example, a supermarket opened its doors in 1974.[7] The decline of the MMC caused a void in Beato: social functions and the employment disappeared. This is probably the reason why many people have left Beato and a lot of buildings are vacant. During the site visit the surroundings felt empty and meaningless, which is probably the consequence of the decrease of population in Beato. This is in contrast with the site itself: one can still experience the industrial atmosphere and military history (character). In conclusion, the MMC symbolizes development and could be seen as generator of Beato.

During the analysis phase, we did research to the demographics of Beato. Besides a lot of vacant buildings and decrease of population, is 26% of the population in Beato 65 years or older, the level of high educated people significantly lower than in the whole of Lisbon and the unemployment rate higher than the unemployment rate in Lisbon. For the redesign of the MMC I've chosen for a function which again contributes to the surroundings, namely a University of Architecture (picture 8). The university will attract young people to Beato and improve the level of education. The population growth will gradually solve the problem of vacancy as well. The development of the MMC will also contribute to the infrastructure of Beato and connect the site with the city centre (picture 9).

Personally I find it hard to design on an urban scale level: it's too big and not explicit enough. Therefore, I've tried to boost the surroundings by choosing a specific function: the university must act as generator of Beato. In other words, I've approached the assignment from the smaller scale: spreading the qualities of the MMC throughout the surroundings. I might have to take a more daring attitude regarding the urban scale in a subsequent project.

7. Texts exhibited at Manutenção Militar Complex by Lisbon Municipality.