

Reflection

Explanation (P2 stuff)

What is the relation between your graduation topic your mater track and programme? How do you assess the academic and societal value, scope and implication of your graduation project, including ethical aspects?

In relation to the studio topic “Transient liquidities among the New Silk Road” my graduation topic is highly relevant, since the garment and textile industry, with its territories of production, is one of the main and expanding industries of the Marmara Sea region is part of a significant sector of the global capitalist system of production and trade, ecology, waste and pollution, as well as labor geography of migration movements regulated by borders and migration regimes. In other words, this industry forms a lens under which one can understand and eventually criticize and rethink multidimensional global systems and their interdependencies, which in turn crystalize in an architectural, urban and territorial scale.

On a territorial and urbanistic level, the clothing and textile industry occupies a significant part of our cities and industrial areas and greater territories, as it includes retail, production, logistics, worker settlements and waste systems, being therefore an important agent influencing flows and metabolisms, as well as physical manifestation of the built environment itself.

On an architectural scale, within the field of industrial architecture, the topic encompasses technological, social and finally political and economic aspects of architecture. It discusses essentially architectural questions of programme, transformation and life-span, of assembly methods, structure, fabrication and material, while focused on the socio-political economic aspects inherent of the labor issue. Considering that both industries, as well as the labor force involved are clearly in transition, investigating the specificities of this change, their mutual influence and a possible cross hybridization of those between them contributes to a different understanding of the essentials of architecture and its production.

Finally on a level of building technology, the design that emerges out of the research as a highly experimental character. Being the first proposal for a deployable, tensile, inhabitable bridge it challenges all elements of architecture, wall, floor, roof and so on and so forth since it operates in a completely different logic of a continuous, universal, multi-layered membrane that can fulfil all these requirements simultaneously.

As argued above, the topic with its focus on technology and the labor issue in direct function of migration and production processes relates directly to larger and global socio-political and economic phenomena.

Topic description - How did your research influence your design and how did the design influence your research?

The garment and textile industry is one of the biggest and most labor intensive sectors of the economy of the Istanbul region and part of a global system accounting for a great amount of waste, pollution and undermined labor conditions in terms of wages, informal and precarious employment and worker safety. Within capitalist structures constant off-shoring or geographical shifting of these

problems, which are historically inherent to the sector, has become an established practice. With the growing fast fashion model only amplifying these already existing conditions a transition towards new, technologically advanced, transparent, sustainable production models is necessary. An on-demand production model based on digitalization and automation providing for mass customization of clothing combined with transparency, responsibility and awareness seems to have great potential in combating overproduction and waste and eventually minimizing consumption in total while raising quality, wages, worker safety in a pragmatic and global manner. To ensure a beneficial survival and healthy growth of the sector for the area of Istanbul, an adoption of that model is necessary.

Within this general given framework investigated during the research phase the challenge is to define whether architectural design can intervene in this system, to what extend, at which part and how. By examining historical examples of factory architecture within the theory thesis it became clear that spatial, geographical and finally even architectural considerations do have an impact on the way the industrial production system operates. The extend to which these projects tried to control that system has often been a paternalistic effort, with company town designs regulating all aspects of production and labor, up until the moral of the worker. In this thesis I disagree entirely with this approach. While architecture is indeed interwoven in social political and economical reality an approach aiming at total control of all these aspects is neither possible nor desired in the highly complex contemporary context. Therefore, a part or spectrum or point of intervention must be defined. More recent proposals dealing with the issue of the garment and textile industry often approach the abovementioned problematic conditions from the perspective of the consumer or of the designer, the fashion house. On the contrary, I chose to approach the topic from the angle of labor, production, materiality and assembly, since the current production model is what creates demand and overproduction. Therefore the main question asked is how can factory architecture act as an agent in improving labor conditions and industrial production processes? This question is hard to answer with a theoretical, unbuilt project. But based on the claim that architecture can transform the organization, conditions and practices of the labor force, and answer to the sociopolitics and economics of production and in turn simultaneously these conditions and practices shape architecture in turn the question is inverted: How is architecture transformed by using and reshuffling networks and production processes of the garment industry? What does a hybridization of these production processes and systems uncover about them?

To answer to these questions the proposal utilizes the existing system of production lines distributed in the worker's neighbourhoods. This process uses the city as a machine for the production of architecture or even infrastructure. It addresses all different scales encountered in garment production, from the living room of the home-based workers to the infrastructural scale of industrial production and trade logistics. Garment workers in sewing ateliers and at home assemble a deployable tensile structure in form of a canopy on a system of overhead conveyor belts above street level. This membrane is then used as building structure bridging two workers neighbourhoods and providing space for a factory building and a street market. This amplifies and highlights the manner in which this system operates. It captures the paradoxical nature of garment production, which encompasses advanced textile technology and outdated Fordist production models using machines, assembly line layouts and labor conditions almost unchanged since the mechanization of the industry, while taking over entire city parts transforming neighbourhoods into production lines. Simultaneously, it produces another kind of paradoxical architecture, which challenges its essential elements.

How do you assess the value of the transferability of your project results?

Since the project is rather a thought experiment that takes architectural form the project result should be evaluated in terms of transferability within this scope. The project essentially suggests a logic, which could be applied in a different site, for another industry, at another scale. It would be intriguing to see the result of this, which I assume would be totally different in form, materiality, structure, spatial organization.

Choice of method

The main methods and techniques utilized in the thesis, are critical mapping, field research, analytical and interpretative drawing, physical and digital models and reflection on existing literature and design in form of the written theory paper.

The initial mapping done collectively helped forming a big picture of different problematics affecting the region, uncovering systems and mechanisms involved and their effects and interpreting them critically using geographical and architectural tools meaning cartography, diagrammatic or syncretical and elaborative or analytical drawing. During this process different particularities of the area and their encompassing aspects were explored opening up a range of possible design and research topics and thus led to finding a precise thesis topic. Precisely, while mapping borders and migration I came across the domain of migrant labor markets and their control mechanisms in direct relation to migration regimes and economic agreements and soon started investigating the garment and textile industry, a global system of production and trade relying heavily on migrant labor.

The field research first and most importantly formed a reality check, substantial for forming any design intention. Secondly, was informative, as I had the chance to visit many different production sites and examine how they operate and how they relate to the urban fabric and thus was able to understand factors forming the existing labor geography within the city and the current production systems.

Subsequently, analytical but simultaneously interpretative drawings produced after the field research covering the aspects of locations, systems, materials and tectonics related to the examined topic provided findings to be developed in the design phase.

The theory paper, resulting from the seminar, was a means to approach the topic from another angle. There I examined historical examples of factory architecture under the lens of their relation to the ever-persistent labor issue. I argued for the interdependency of architecture and labor and discussed theoretical possibilities to reimagine this relation.

The Modi Operandi workshop, in which abstract models were produced on basis of the already constructed drawings. There, I intended to get a step closer towards translating research into architectural form and construction. I approached the different models related to site and ground, architectural form and program, by employing hybrid forms of textile and architectural structures in different ways.

After the conceptual basis and research questions were defined and an initial translation into architectural structure and assembly method was conducted, using the methodology defined by the studio, as described above, it became evident that a development of a structural system, informed by parameters set by the assembly, was necessary. This led to a series of physical and digital models operating on two scales, the scale of membrane components and the scale of membrane form.

How do you assess the value of your way of working (approach, methods, methodology)? Did the approach work? How do you reflect on feedback given by your mentors? How have you translated the feedback into your work? How have you learned from your work?

During this process there has been two main disagreements with my mentors. The first one was the fact that proposal consisted of an inhabitable bridge, which my mentors considered to be too challenging and too far reaching and warned me multiple times that other design aspects would be underdeveloped due to this fact. While this is certainly the case, I nevertheless insisted on the bridge as I considered it to be important in the context of the topic, concept, chosen site and utilized structure. A factory in-between, a factory in the street operates like a spider net, which is a bridging tensile surface by default. The second point of disagreement was the use of models or drawings as a method of designing. My mentors were mostly asking for architectural drawings, while I kept prioritizing models. I continued insisting on that because I believed that to understand design and draw membrane structures three-dimensional testing and representation is essential. It is no coincidence that such designs, for example buildings by Frei Otto, were developed and communicated mostly through physical modelling. Even today with digital design tools three-dimensional modelling following physical modelling is necessary for this kind of structures and geometries. Retrospectively I believe that the mistake I made, was attempting to reach a high level of complexity directly from the start, without having the tools neither the knowledge nor the skill to do so. This led to a lot of fruitless efforts. If I would redo the project or another project of this kind I would opt for starting as simple as possible and gradually adding complexity. The second aspect that I miscalculated was spending too much time on labor-intensive physical models at the scale of the membrane components that I only arrived at the building scale form studies and integration of other architectural considerations too late. I got over-consumed at engineering aspects of the project, which were outside my field of expertise and therefore not solved adequately, while undermining other aspects of the project, as my mentors had foreseen. Essentially, this kind of structural prototyping I attempted could be a thesis on its own, that would require closer cooperation with an expert. Nevertheless, I did acquire a lot of knowledge on fields I had never explored before and I learned a lot about how to organize and plan a project fitting design process, how to approach and how to not approach a project of this type, which will be definitely valuable in my future work.

Final part of graduation – P5 preparation

In preparation for P5 I would like to further improve and properly communicate design and technological aspects, both in form of physical models (site and/or fragment) and architectural drawings. Additionally, I consider it necessary to refine the assembly process and the effect it has on the urban fabric in terms of detail and communication with architectural and diagrammatic drawings. One week for improvements, two weeks for models and one week for diagrammatic drawings and presentation preparation sounds reasonable.