Reflection
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Architectural Engineering

Project approach
At the beginning of the graduation, students were asked to develop a research question and graduation project from a personal technical fascination. I found it really hard to come up with such a fascination that would lead to defining my subject. Luckily, there were also some possible locations given in the studio. Each provided location had its own problems and demands. Instead of choosing a technical fascination first, I started with problems I wanted to solve in my project which were all relevant at the Sloterdijk district location. By transforming a vacant office building into a more energy efficient and attractive building with new functions, my project could be a part of the solution for multiple problems. It would be a part of the transition of Sloterdijk from a monofunctional office district to mixed-use and vibrant urban part of Amsterdam. The problem of vacant office buildings nationwide, so my project could be a showcase for the possibility of transforming these office buildings into apartment buildings. In Amsterdam there’s a high demand for affordable housing. Also, buildings in the future need to be more energy efficient in order to decrease their environmental footprint and meet future building regulations.

For me, having problems to solve was a more natural motive and approach for starting a research and design project. It certainly has placed my project firmly in a wider social context at scale of the city of Amsterdam, the country of the Netherlands and the world. This approach is slightly different than the studio instructed, but in the end it resulted in a research question which fitted the studio very well. For all the problems I stated, both technical and more social, I started with the technical concept of an energy producing rooftop greenhouse as a lead towards solving all the problems.

The process of defining the project goals, research question and scope proved to be really difficult and long lasting. Especially in the early months, the work I did for the project consisted of finding out what I should and shouldn’t do. Thereby I experienced the well-known trap of wanting to do everything. Only at the end of the research phase, when the writing of the technical research paper was urgent, I could grasp what I had been doing for months and what its result could be. Afterwards, I think that when I had my goals much more clearly defined, I would be able to produce a more in depth research paper.

Research results
At the start of my research I expected to find quantitative results that could substantiate and lead design decisions for the subsequent design for the Telespy building. However, I didn’t make clear what kind of quantitative results I wanted at the start, and I didn’t specify or plan this part of my research clear enough to be able to work on it. During the research, it became clear that the highly evidence driven design path I was striving for doesn’t exist, as it almost never exists for architectural design questions. Yes, calculations can be made on numerous aspects of a design in terms of energy consumption and production, life cycle analysis and profitability. But during my research and design it proved to be impossible to conduct these calculations in way that they could help and substantiate my design process. There was a lack of knowledge of calculation methods and available input data for the calculations in the early stages of design process.
Also, from the case studies, it became clear that an important part of the value of a rooftop greenhouse is unquantifiable. The value for local communities, the contribution to the local economy, but also their unique marketing values are some of these aspects, which are - sometimes literally- out of the equation of calculations. It is exactly the role of the architect to take into account all other aspects of the design brief, some hard to define, some brought into the equation by the architect itself. This insight only came to me around the end of the first semester. It freed me of some frustrations over the lack of quantitative evidence and gave me more confidence in the value of my project.

Therefore in the design phase, I shifted my attention from finding evidence to designing a great place to be in. Still, a lot of problems had to be solved, but they were more in the range of architectural problems, which I found more comfortable to address.

**Research vs design**

Generally I like building designs with a clear concept that leads design decisions of every scale. In this studio, it seems obvious that such a leading concept would arise from the technical fascination and research. This wasn’t a requisite for me upfront. At the end of the design research I drew conclusions to establish some kind of separation in the climate system of the apartments and the rooftop greenhouse, in order to be able to use the functions independently. This conclusion made it hard to find a leading technical concept for both functions and its architectural elaboration.

The result of the technical research didn’t influence the design up to every scale and aspect of the design. I don’t think this is a real problem, but it could simplify the whole design process. It meant I had to analyse the assignment much more to find leads and concepts for my design. The fact that I had an existing building to deal with, meant I couldn’t just impose my own super concept on the location. Of course, every location and project brief has its specific features, but I found my building already has a very pronounced form, especially the façade, with its relief. This lead to my conclusion my design shouldn’t be another strong or outspoken form, which would result in the old and the new parts of the building battling for attention. Instead I chose for designing the additions towards a new building as a whole. My interventions and additions would contribute to the whole instead of creating its own identity.

This attitude to the design brief meant my design process was to large extent one of testing and adapting the design, rather than building an all influencing and determining narrative. The additions and interventions were modest and sometimes subtle. This design approach leaves the result of the design also more vulnerable for personal taste and preferences.

Although, I didn’t have a technically driven main concept, my personal style of design incorporates thinking in details and technical solutions, which fits the methodology of the Architectural Engineering studio.

Alongside the graduation project, I was also in the process of finding my position in the debate on what the role of technology should have in both the architectural process and built form. It was one of the reasons for choosing the AE studio. It was also the subject of my position paper I wrote during the MSc 3 semester. During my graduation I touched upon both sides of the spectrum between the pure evidence driving engineering approach of designing and the more phenomenological personal experience approach. Both sides have influenced my current design and my position in architecture. However I still cannot answer the question what the role of technology should be, other than ‘it depends’.