REFLECTION PAPER

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Aspect 1:
the relationship between research and design

With research and design both encompassing two whole successive semesters each, understanding the relationship between them proved crucial to the formulation of the P4 proposal. As part of my academic experience, this was the very first time that I have been allocated one full academic year for an architecture project, meaning that not only was I given more time to design a building at all scales and all aspects of it, but I was also given a significant amount of time for research (thus more preparation time for the tehnical project itself). The unicity of such an opportunity to engage in more thorough research proved to be a major factor in how the project eventually evolved into its P4 state.

Generally, as my university projects typically encompassed one semester at best, the research part was rather a consequence of design. Design came first and research (albeit quite limited in scope given the allocated time) was a method of verifying it. In the case of this year, however, with it being a graduation project, the enlarged scope of the project (designing a massive building in the form of a European Parliament in Berlin) necessitated a larger span of time dedicated to research, hence why the graduation course is thus designed.

What this meant for my thesis process was that I actually had the opportunity to sistematically dissect what an architectural project is and how it should be approached. Aided by the Complex Projects research structure of program, site, and client analysis, I was able to take my time with each in order to understand what each meant for the project as well as what data to extract from them in order to formulate the P2 design brief. The design brief is the element that bridges research and design.

Once the design phase commenced, unlike most of my university projects where design started weeks into the course, not almost 6 months, the direction the project was supposed to take was clear thanks to the design brief specifications. The "how" was very much still something to be decided, but the "what" and "why" were firmly underlined in the design brief that was essentially proof of my understanding of what a parliament building is and how to design it. As the design phase dealt with the "how" of the project, the second semester can best be summarized as a collection of micro decisions. From the structural grid size to the positioning of the cores, from the seating arrangement for the chambers to the façade materiality and proportion, countless design decisions had to be taken in order to materialize the ambitions and concepts underlined in the design brief.

Due to how the course was structured, I believe the design proposal greatly benefitted from such an extended time dedicated to pure project research. On a final note, undertaking research and design in a successive manner highlighted not only how the latter is significantly enhanced by the former, but also a key difference between them that I believe brings out the essence of this field: research progressed linearly quite smoothly (one finding led to another which ultimately lead to the P2 design brief), while design progressed in a rather "start and stop" way. For instance, after countless massing iterations, a volume was chosen, but when applying tangible factors such as program relations, entrance points etc. to the abstract volume, the chosen massing iteration was no longer viable. Thus the process had to restart.

Aspect 2:
the relationship between the graduation topic and studio topic

The graduation topic directly derives from the imposed studio topic that of "Bodies & Buildings in Berlin". To be more precise, for the 2022/23 graduation topic, the studio Complex Projects selected the whole city of Berlin, Germany as the context in which the architectural experimentation of the relationship between bodies and buildings is meant to be undertaken. The studio chose to frame the building as not just an architectural endeavour, but also more like a form of product design, its specificities being direct consequences of the requirements of its urban context, programmatic needs and ultimately the client's vision and ambitions. As such, the design of a building is drawn accordingly to the many requirements derived from the body.

In order to undertake this academic research into the field of architecture, the studio proposes 9 different typologies of buildings, among which was the parliament one (meaning any type of building designed to house administrative, legislative and/or decision-making institutions), the typology I have chosen for my graduation project.

Considering the studio topic, as well as the current cultural context of our information dominated society, the aim of my graduation project is to explore how a parliament building would look like in the given contemporary context.

Aspect 3:
research method and approach chosen by the student in relation to the graduation studio

The research method undertaken for the graduation project is one heavily dictated by the structure of the studio's course. The studio divided each semester into 5 week spans of time, each culminating with a presentation of the progress. In the first semester, the 5 weeks tackled research for program, site, and client (research that led to the formulation of a design brief as part of the P2 evaluation). As for the second semester, the academic work delves into concept, design, and materialization (leading to a comprehensive architectural proposal for P4).

Regarding the method imposed by the studio, I considered it to be well-thought out as it provided me with a structured way in which I was supposed to progress from initial ideas to methodical analysis of program and site and finally to building concept and its physical implications. Not only did this enable me to build up my graduation project in a organized and rational manner, but it also taught me how architectural projects themselves should be structured, something which should greatly aid my transition from the academical environment to the professional one.

To explain how the research method evolved throughout the year, firstly, I had to choose the type of building I wanted to design and to come up with a quick initial analysis of program, site, and client.

Moving into the program part, this part of the research entailed a great deal of case studies as the aim of it was to understand how a parliament building functions, what its spaces are and how they relate to one another. Ultimately, by analyzing established parliament building precedents, I was able to generate a benchmark for its programmatic needs. Next, the site research meant finding a suitable area according to the program, as well as extracting as much information of the given area through map making, with the aim of underlining design parameters. Finally, client analysis meant trying to look at the building from the user's perspective, as well as the perpsective of its stakeholders. In other words, this part of research was an attempt of understanding how the image as well as functionality of a parliament derive from its relationship to the client.

With the design brief formulated, research transitioned into design as the aim of the second semester was to translate the parliament requirements from P2 into an

actual architectural proposal solved from the urban scale all the way to the 1:5 technical detail scale. The first part of the design phase was deciding on key architectural elements that shall define the way the building acts. Once the concepts were laid out, massing studies attempted to transition the design brief specifications into tridimensional space with the hopes of finding the best possible solution that respected the program, site, and client ambitions, as well as the architectural concept intentions. Slowly, design moved from the urban scale to the architectural scale, the massing volume starting to take shape through 1:200 floorplan and section drawings. As the graduation project gradually tackled microdecisions (floor-to-ceiling height, structural system, how the façade meets a certain wall at a certain place meaning the wall's thickness has to be of x milimetres etc.), the overall layout of the parliament approached finalization, which led to the technical solution to the building through 1:50, 1:20, 1:5 scale drawings of various key spaces and junction details.

Aspect 4:
relationship between the graduation project and the wider, social, professional and scientific relevance

The graduation work's relevance lies not only in the methods encouraged by the Complex Projects studio but also in its topic. First of all, the research aims to tackle the problem of how architectural design can be undertaken with the tools provided by the digital age. The topic of how data can generate designs is highly relevant in the contemporary academic and professional landscape as our own dependency on digital means is arguably inescapable. This method challenges the more traditionally subjective approach to architectural design where one relies more on overarching ambitious concepts, rather than starting from a fact-based foundation and building up on it with the help of rationally curated sets of data. By aiming to inform the research process and subsequent design decision through datasets (ranging from program specifications to site conditions)

and an overall objective line of reasoning, the research method proposed by the studio strives to improve the precision and quality of choices that are part of the architectural process.

Second of all, the subject of politics and how its institutions are materialized in the architectural form is a matter of utmost importance today. The architecture of parliaments is in need of a re-evaluation, from how it operates internally to how it relates to its exterior environment. By exploring how a parliament building can improve upon its established typology (including a re-evaluation of the debate chamber design and layout), the graduation project aims to offer a contribution to the academic work on which the professional dimension of architecture rests upon.

Aspect 5:
ethical issues and dilemmas you may have encountered during graduation

Given the topic I've elected to dictate the development of my graduation project - designing a European Parliament in the city of Berlin - the first most obvious dilemma is the choice of institution in this city. I am aware, as previously explained as part of my P2 proposal of the controversy surrounding such a choice. On the one hand, choosing Berlin was out of my hands so to say as it was imposed by the studio topic regardless. On the other hand, while perhaps not the wisest of choices, designing a European Parliament in Berlin was most of all a decision taken with the sole purpose of academic exploration. Justifying why such an institution, of enormous size given its program, could be moved to Berlin and where and how to place it exactly in the urban fabric of the city is what I considered a more than engaging hypothetical exercise, one quite suited for an academic environment such as the one nourished by TU Delft's Faculty of Architecture and the Built Environment. But at first it was a dilemma nonetheless.

While the previously mentioned dilemma was

more of a philosophical nature, the following is much more tangible. Sustainability, circularity, and recyclement among others are some of the concepts that the faculty tries to promote as part of maintaining the students' overall awareness about the impact of architecture on the environment, something which is intened to translate into the professional environment. With that in mind, I believe there is always a tension between coming up with a visually and functionally dazzling project (one meant to fully showcase a student's plastic and technical skills) and coming up with a proposal that abides to the context of climate change and other such environmental calamities caused by man. While my project proposal does take into account design factors such as circularity and limited carbon footprint, I must admit that I am not fully conviced by it. To be more precise, I am convinced by the principle behind it, but seeing as how I did not use any methods of quantifiying the exact environmental impact my building proposal would have, I am not convinced by the practicality of it.

This is where my dilemma lies: how sure can we be that the environmentally-motivated design restrictions we add to our process are actually beneficial and make our proposals more "environmentally friendly"? This is by now means a criticism directed towards the Complex Projects studio, but more of a general architecture curriculum problem. At university, we are kept being told about sustainability but we are not taught how to quantify the impact of our methods, ultimately leaving a huge question mark over the validity of such an approach in the first place. I do believe that architects should be aware of how their discipline impacts the environment and I do believe that sustainability should be a crucial part of their academical education. It is, after all, another design parameter that we must learn to master. What I am skeptical about and hence my dilemma is the method in which we are encouraged to be sustainable. I believe that we should be more literate regarding this, ultimately making sustainability an architectural course in and of itself just like the history and theory of our field is. If the curriculum where to be modified

so as to actually teach the science behind the methods we should employ to enhance our buildings' sustainability, then I believe that "sustainability", "circularity", "environmental friendly" would no longer be mere taglines pasted onto our projects as hypotheticals, but actual quantifiable aspects of our design. If were are tought about the abstract ideas of the philosophy behind architecture, why shouldn't we be taught exactly how a building impacts its environment and exactly how to design it in such a way that is sustainable.