P4 reflection

The relationship between research and design

Striking works of Archigram, Superstudio or Unit 10 (the Bartlett) explore radical, utopian solutions for the future. Their role is not to convey feasible solutions but to push boundaries of the discipline, to showcase a dream. Similarly, Mady by Schiphol\textsuperscript{TM}, becomes a spatial outcome of research on pollution related to airports and a narrated idyllic “what if” type of story.

The project asks about manufacturing potentials of Schiphol Airport in relation to future waste management. While the question seems technical, it attempts to critique the current neoliberal production processes pushed away from areas of demand and assigned to marginalised factory workers. For this reason, the problematique branches out from the issue of sustainability towards economical and sociological questions. This approach is reflected in the design of different parts of the building; the central part attempts to turn two chemical processes (the approach of carbon sequestration described by Ph. D. Stuart L. Licht and a theoretic process of diamond production) into an architectural space. The surrounding functions are a jewellery factory and an airport lounge; their intertwined design relates to questioning of geographical separation of production and consumption – and hence sites of pollution production.
The relationship between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS).

For me architecture is partially an outcome of the society and context it is situated in. For this reason, a deep understanding of the circumstances under which a particular architecture is produced, seems crucial. This understanding is also encouraged by the Chair of Complex Projects, who encourage students ‘to gather, organize, and question the complex forces that ultimately manifest themselves into our built environment’. (CP Syllabus, 2018) While such approach calls for pushing the inner-disciplinary boundaries, it seems to be adequate for changing roles of architects. ‘Our profession needs to cultivate a strong, critical and analytical approach to the design process. The contemporary architect today must learn to see the world through many lenses: as a planner, organiser, politician, economist, philosopher, strategist, humanitarian, and visionary.’ (CP Syllabus 2018) Whilst the future roles still vary, the studio choice has allowed me to pursue a project which I hope conveys socio-political values, remaining an important form of academic activism.

Elaboration on research method and approach chosen by the student in relation to the graduation studio methodical line of inquiry, reflecting thereby upon the scientific relevance of the work.

Typological study remains the main epistemology of the Chair of Complex Projects. The Chair, while allowing freedom of topic and strategy choice, asks for incorporating a typological study into research. It is understandable considering the studio’s close relationship with KAAN Architecten whose methodology strongly draws from a relatively conservative method of typological and morphological studies in search for an “ideal”. “Claus and Kaan produce buildings in which an ideal standard is always at least visible in the background. It is an architecture in which arbitrariness is kept in check as much as possible without lapsing into schematism”.

In my case this approach resulted in merging of several typologies: a recycling centre (industrial), jewellery-production halls (semi-industrial) and an airport lounge (public). Building an interesting tension between particular functions without causing a conflict in their operating, became a design research on its own. While it seems like each of the elements draws deeply from its native typology, the composition of the three becomes a unique and challenging composition.

Elaboration on the relationship between the graduation project and the wider social, professional and scientific framework, touching upon the transferability of the project results.
While I do not suggest the building resulting from the research should ever be built, it spatializes an important relationship between global warming and built environment. Data shows (Hammond, G. P., Jones, C. I. (2008). Embodied energy and carbon in construction materials. *Proceedings of the Institution of Civil Engineers - Energy, 161*(2), 87-98. https://doi.org/10.1680/ener.2008.161.2.87) that architecture understood as a set of structures and material assembly in space significantly contributes to rising levels of carbon dioxide in the atmosphere. Furthermore, an obsolete building becomes an added volume to a landfill as many building materials are not recyclable – e.g. due to glue content which emits toxic fumes when burnt. All these contributions consequently cause deterioration of the planet eventually leading to weather anomalies, rise of sea levels, extinction of species, food shortages and many other issues which will directly affect humankind.

While architecture as a discipline is not to be blamed for energy-intensive or carbon emitting practices, the current building codes and standards are. Dealing with commercial architectural practices and contractors in Europe has struck me as of very limited efforts and possibilities to tackle carbon footprint of buildings. Even programmes like LEED and BREEAM seem to tackle the problem very superficially – removing aspects of good design from their discourse and replacing these with numerous gimmicks for 'sustainability'. Both have been heavily criticised by younger generation of designers as nearly cynical – calling for bike storages in areas with no safe bike lanes, ignoring qualities of internal partitions, serving only large contractors more than the society overall. My attempts to investigate the certification rules have also proved that the scheme is costly and obscure – requiring expensive trainings or external consultancy. After some time, I understood that a large number of architects disassociate themselves with possibility to act against climate change be it following the certifications or ignoring the topic at all. While Made by Schiphol™ does not aim to deliver a viable solution to the problem, it attempts to bring this association to light.

Discuss the ethical issues and dilemmas you may have encountered in (i) doing the research, (ii, if applicable) elaborating the design and (iii) potential applications of the results in practice.

Perhaps, ethics remain the biggest issue of this project. If the negative impact of fossil fuels can be transformed into a valuable product, why would their use stop? In particular, what if one organisation is in charge of management of consumption, recycling and redistribution? With this question in mind, I have soon realised that this model could not exist under the current conditions of neoliberal economy. Even assuming a decreasing value of luxury goods with a rapidly growing supply (diamond jewellery), the production process could be easily altered and encourage further combustion of jet fuels.

It is also possible that the structure’s carbon footprint could exceed its purifying capacities (with carbon footprint of the steel used for the main structure amounting to 55.145 tonnes of CO2 – calculation based on Hammond, G. P., & Jones, C. I. (2008). Embodied energy and carbon in construction materials. *Proceedings of the Institution of Civil Engineers - Energy, 161*(2), 87-98. https://doi.org/10.1680/ener.2008.161.2.87). Still, is it possible that the building could qualify to LEED or BREEAM certifications because of the negative carbon footprint of timber used for the construction?

In conclusion, the project consciously remains an academic critique, a design research into sustainable certifications, relationships of architecture and air-pollution and ethical production environments. A graduation project is a good chance to critically look into a future path, without getting stuck in practicalities of budgets and legislations. Without seeking to solve all the ethical dilemmas of sustainable marketing, the project highlights them and reacts to them. It offers a somewhat idealistic outlook on modern-day design practices.