

Reflection Paper

- [Aspect 1 the relationship between research and design.](#)

My research focused on Common Reeds and the methods to technically apply reeds in facade design. Out of fascination, I wish to use this somehow archaic or commoner's material in transforming the iconic modern tax administrative building, De Knip, into collective dwellings. The design motivation is to rekindle our innate, physical sensitivity to our environment, which has slowly eroded in industrialisation and mass-standardisation. With archaic, atypical or non-canonical approaches, I would like to challenge the conceived idea of comfort and home.

The research gave me a clear understanding of the possibilities and limitations of reeds, which is essential in guiding the subsequent design. Through case studies of realised projects that applied reeds in various ways, I learnt about the versatility of reeds, which widens the possibilities of reed integration in the design. It also provided a clear list of dos and don'ts when designing with reeds. The list includes guidance on fire safety and maintenance issues which are reed's biggest challenge. This understanding informed the design with the boundaries of how far we can push the usage of reeds to be still relevant and practical.

- [Aspect 2 the relationship between your graduation \(project\) topic, the studio topic \(if applicable\), your master track \(A,U,BT,LA,MBE\), and your master programme \(MSc AUBS\).](#)

My graduation project is entitled "A-Common Houses". It is a project aimed to rekindle our innate, physical sensitivity to our environment. This statement is to problematise the widespread adoption of generic industrialisation and mass-standardisation. The interventions or approaches can be archaic or non-canonical to challenge the conceived idea of comfort and home. I believe this approach is relevant in the AE studio topic entitled "Second Life", a decision to transform De Knip from an office block into housing, which involves evidential changes on the entire spatial quality that the building is to portray.

From this AE Graduation project, I learn how comprehensive understandings of technology and practicality inform design decisions. The focus of the studio is on research by design. I found this trajectory helpful to base our design on sharp research methodology and in turn the research feeds the design. I believe this is also the mastery that is essential to an MSc of Science in AUBS.

- [Aspect 3 Elaboration on research method and approach chosen by the student concerning the graduation studio methodical line of inquiry, reflecting thereby upon the scientific relevance of the work.](#)

The research methods included literature studies and interviews with professional thatcher. The result is a scientific paper that clarifies the performance of reeds, quantified in facts and figures, besides documenting various ways of reed treatment and designs. These approaches are in sync with the studio's emphasis on techniques and engineering solutions to be integrated elegantly into architectural interventions. I believe technicalities are not the confining boundaries of our architectural imagination. Instead, most of the time, these limitations give shape to many innovative solutions and designs.

- Aspect 4 Elaboration on the relationship between the graduation project and the wider social, professional and scientific framework, touching upon the transferability of the project results.

From the research point of view, the development of reed as a façade material not only celebrates the beauty of this vernacular material but also does our part to address the issue of carbon footprint incurred by our building industry. As a carbon sequestering agent, reed beds can store large amounts of CO₂ besides mitigating the erosion of wetlands. This approach is also a direct answer to the Dutch Ministry of Agriculture, Nature and Food Quality calls for the development of high-quality wet crop products (Ministry of Agriculture, Nature and Food Quality, 2021). This development can establish new marketing opportunities to encourage agricultural entrepreneurs to switch to such cultivation to mitigate land subsidence, peat oxidation and greenhouse gas release that is happening drastically in the North and West region due to pastoral agricultural activities.

From the design perspective, this project suggests new housing typologies which have small footprints and atypical configurations. These typologies diverted from the canonical conventions in dwellings to problematise our definition of comfort and house. Each typology has a unique character to trigger users to rethink their innate sensibility to spatial relationships. If this idea can be disseminated, we may be able to promote small living concept to mitigate the tension of housing crisis. Perhaps also, making people to be actively reflecting on the needs and definition on quality living.

- Aspect 5 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.

One of the biggest dilemmas is the amount of reed required in real applications. Understanding that to thatch a square meter of 300mm thick reed thatch, ten bundles of reeds are needed, harvested from about 330m² of reed marshes. This figure also implies that the wetland coverage in the local Dutch context is insufficient to cover the overall building demand. Apart from the supply issue, the cost is also a contributing factor to explain why we still depend on shipments from foreign countries. Until today, some local reeds are harvested manually, implying high labour costs. Therefore, the aim to make this vernacular approach fully circular and local is still a way ahead.

Besides, the idea to integrate these low-tech vernacular materials means that more human labours are involved than mechanised conventions. While we may provide some new work opportunities for society and introduce new disciplines in architecture, the speed and cost issues are still relevant. How can we keep pace with the burgeoning population boom and the rising economic crisis if this model is to be realised or even replicated? If the quality of our environment and living conditions is a priority and this idea can be widely disseminated (quality over quantity), we may find ways to strike a balance. But first of all, to be appreciated by the stakeholders.