Reflection
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Research Paper (copied directly from introduction)
This research questions how the value chain of geobased materials can be restored through a social-ecological-technological system framework analysis, enhancing the regional landscape, and built environment. Firstly, the work draws back on historical qualitative social, ecological and technological values incorporated in three different time-space categories. Secondly, the barriers to implementation in the current building practice will be identified. Thirdly, a bold vision is prototyped on how a modified value chain of geobased building materials could spatially be translated into a regional architecture. The hypothesis is that the unfired earth faces an image problem due to the absence of coherent value chains and the misalignment of supply and demand. Reorganising this value chain with fewer links and greater transparency is of societal relevance and could provide a viable and sustainable solution to these challenges. In academic terms, an overview of the entire chain of earth building materials, from sustainable excavation to implementation is the research gap.

Reflection on the Research and Design Trajectory
This research offers conclusions regarding potential catalysts for the implementation of earthen construction materials. However, the scope of the study was such that it lacks the depth required to uncover the fundamental barriers to implementation. A more targeted and focused investigation to f.e. implementation in material sourcing, building projects planning or legislation would be necessary to reveal these in greater detail.

Nevertheless, the study has exposed several critical issues, such as the construction sector's current inability to integrate mostly Dutch river clay into its material cycles. It also recommends a shift in architectural practice: working with locally available clay resources and, as a result, embracing less prescriptive demands—such as strict colour consistency—in the specification of clay products like bricks.

The research process and its aftermath sparked a personal fascination with the broader field of brick production. I visited several brick factories—Wienerberger, Rijswaard, and Vogelensangh—to gain insights into their raw commodities, processes, and production scales. I also explored current architectural trends, including the reintroduction of self-supporting brick cavity walls as developed by Office Winhov or BLAF Architecten. My work may be viewed as a response to the initial findings of the 'Future Ruins' project by Lieve Nijs (BLAF Architecten, BE). Nijs critiques the growing complexity of contemporary brick façades, where multiple technical layers (insulation, airtightness, thermal bridging, anchors, flashing, membranes) have resulted in systems prone to failure. BLAF proposes a new construction model: a stacked, self-supporting brick façade combined with a timber structural core, in which both elements are thermally and structurally independent. Their concept of the 'Future Ruin' externalises complexity, making load paths legible and enabling dry construction of the internal frame beneath a pre-installed roof.

My own design-research may be interpreted as a thought experiment and a mineral-based alternative to the 'Future Ruin'. It proposes a hybrid system: a self-supporting outer façade of fired clay brick — durable, weather-resistant, and designed for longevity — combined with inner leaves constructed from unfired clay bricks. This is an approach based on material tectonics, in which each material is deployed according to its intrinsic properties. The outer brick shell offers weather protection, structural robustness, and permanence, and is suitable for slender elements such as piers and openings. The inner layer, composed of unfired clay bricks, is temporally adaptive and affords various building-physics advantages, including moisture regulation, sound absorption, and thermal mass. This material strategy has become the niche of my architectural proposition; a grounded, weighty structure well-suited to its role as a ceremonial space for farewells.

This investigation clearly situates itself at the intersection of architecture and engineering, aligning with both the academic research trajectory and studio ambitions. Moreover, the project contributes to current discourse on

building with soft, lime-based mortars, which improve the demountability of masonry systems and enhance material circularity. The research also offers practical design strategies for working with clay bricks—such as incorporating substantial plinths and projecting roofs to mitigate moisture-related deterioration.

The design is anchored in the specific site of the Heilige Driehoek, a location marked by its proximity to depleting clay pits. The broader research framework also explores the idea of establishing an Institute for Geobased Materials and identifying ambassadors capable of disseminating associated knowledge. While these remain important conceptual elements, the design itself places primary emphasis on architectural realisation of the research principles. In hindsight, research to self-supporting brick walls and to alternative of the future ruin would have been of more value to the project. But without the current research, my interest might not have been sparked to eventually touch upon these subjects.

In the final seven weeks, the project will focus on communicating the advantages of this construction approach. It is essential to demonstrate that building with clay bricks—particularly unfired ones—is not a secondary or inferior option, but a method of significant architectural value.

Two reflective questions guide the final phase of the design-research process:

- Given the considerable mass of the building, do the material's physical and long-term durability advantages outweigh its environmental impact?
- Can this new wall assembly strategy be applied beyond ceremonial or spatially generous utilitarian buildings?