[ephemeral roots]

Continuity of Use and Components in Public Building Design

Ayris Findik
Faculty of Architecture & the Built Environment, Delft University of Technology

In a world defined by constant flux and rapid societal change, architecture faces the urgent need to confront its environmental impact. The construction industry accounts for 37% of global CO^2 emissions, placing serious responsibility on architects to adopt environmentally conscious and future-oriented practices. In response, many strategies such as material passports, circularity, and building lifespan planning have emerged within Western architectural discourse. While these offer promising frameworks, they often fall short in addressing the full complexity of long-term continuity, adaptability, and unpredictability in a building's life. Despite increasing awareness, contemporary buildings continue to show declining physical, social, and functional lifespans — raising critical questions about their relevance and usability in an uncertain future.

In response to this challenge, my graduation project rethinks the concept of permanence in architecture through the lens of adaptability, material cycles, and cultural continuity. Developed within the Architecture (A) track of the MSc Architecture, Urbanism and Building Sciences (AUBS) programme, the project proposes a timber-based public building located in Kemerburgaz Kent Ormanı — an urban forest in Istanbul — that evolves over time physically, programmatically, and socially. This project aligns with the architecture track's focus on material-driven, sustainable, and contextually sensitive design, while also addressing broader programme values of critical inquiry and multidisciplinary engagement. The building is not a static object but a system that anticipates its own change.

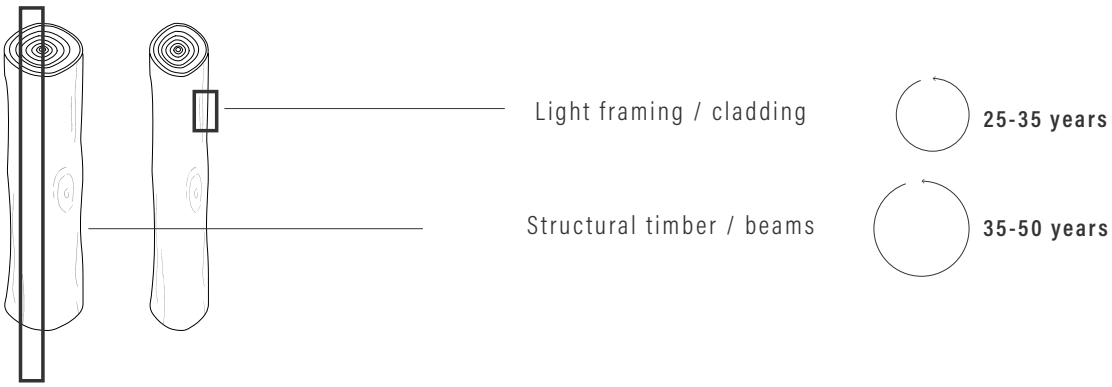
The primary function of the building is a digital archive — a cultural infrastructure dedicated to preserving and expanding global collective memory. Its purpose is to collect, display, and share digital and intangible heritage, while symbolizing the continuity of cultural knowledge. The archive does not only preserve data, but also manifests how architecture itself can act as a vessel of long-term continuity. My design approach began with the natural life cycle of timber — a material that is inherently impermanent but can, with maintenance and care, theoretically last forever. By planning for uncertainty from the beginning, the building components are designed to be reversible and scalable, allowing for reduction, expansion, or relocation as functions evolve over time.

My research informed the design through a layered analytical methodology that examined how and why buildings persist over time. I developed an Evaluation Axis, composed of a Permanence Matrix (based on Katrina Touw's theory of contemporary permanence) and a cultural value assessment tool inspired by Pereira Roders. I positioned four case studies within this framework — Ise Shrine, Matrix One, Tamedia Building, and the Cardboard Cathedral — each representing different relationships to adaptability strategies such as disassembly, modularity, longevity, and material documentation. These theoretical tools helped identify not just how buildings endure physically, but why they remain meaningful and worth maintaining.

As the design developed, it began to raise new research questions. While circular building strategies and adaptability dimensions (from authors like Askar and Schmidt) offer useful frameworks, I discovered that true continuity also depends on social and cultural motivation. A building will only be maintained if people find value in doing so. This shifted my focus from performance strategies to also include material symbolism, architectural rituals, and shared identity. Thus, the design integrates cultural references from Turkish traditional architecture — such as timber craftsmanship, roof shingles, and spatial hierarchies — grounding the building in societal memory while also supporting flexible and reversible use.

The value of my way of working lies in the synthesis between strategic foresight and material pragmatism. I used a backcasting approach, imagining a future in which the building has been adapted and re-used over decades, then tracing backwards to determine how design decisions today can enable that scenario. Each structural component is designed for refitability — the ability to be upgraded over time, for example through technologies like acetylation. The building's four-part column typology reflects a response to the physical constraints of local pine trees, allowing thinner and shorter trees to be used responsibly. Even the smallest pieces of timber — from trunk to skin — are allocated roles in the building's structure, façade, or shingles. Processes such as Shou Sugi Ban (charred wood) are employed to enhance durability using low-tech but effective methods, continuing the tradition of material enhancement through craft.

Local trees
Own drawing.



Growth cycle
Own drawing.

Academically, the project proposes a new lens on permanence that expands existing circular design discourse to include cultural and spatial continuity. It critiques current material strategies for failing to account for human-scale rituals and emotional value, and it proposes a design logic that is both systematic and symbolic. Societally, the project promotes a model for sustainable timber construction in Turkey, encouraging the use of local species and supporting future innovations in wood treatment and joinery. Ethically, it promotes a design culture of care and responsibility, where buildings are not built to last forever as fixed monuments, but to continue through adaptation, memory, and maintenance.

The transferability of this project lies both in its design methodology and in its structural logic. The Evaluation Matrix can be used to assess or guide other building projects aiming for longevity through change. The modular timber frame system — based on dry joints and repeated truss strategies — can be scaled, relocated, or adapted to different programs and contexts. The foundation uses screw piles for reversibility, ensuring that even the connection to the ground is non-destructive. Although screw piles are typically more expensive up front compared to standard concrete foundations and might be more challenging to justify to contractors unfamiliar with them, their long-term environmental and economic benefits are significant. They allow for full reversibility, eliminate the carbon footprint of concrete, and enable future reuse or relocation without costly demolition or site damage. This gives the building multiple potential afterlives: it can remain, transform, move, or be repurposed entirely — all while leaving minimal trace on the land.