

Finding Relevance in the Overlooked

A Case Study into the Value Assessment of Younger Obsolete Buildings

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Abstract

This paper examines how value is identified and interpreted in existing buildings, particularly those considered worthless by formal preservation standards. The research critically examines the inherent values of Nauticon, a 1990s office building in Copenhagen, Denmark, currently at risk of demolition. While older historical buildings are recognized for their cultural significance, more recent buildings are often overlooked. This paper calls for reimagining these formally less valuable buildings as important assets for sustainable development and diverse architectural responses. The paper draws on a graduate course at The Royal Danish Academy, as a case study to analyze approaches for engaging with late twentieth-century building. The theoretical framework encompasses circular sustainability, adaptive reuse, and tectonics. Through these topics the paper address climate science and ecological implications, cultural and material significance, and the necessity of deep understanding of construction to identify building values and propose thoughtful interventions. Over twelve weeks, thirty-one graduate architecture students conducted analyses and proposed design solutions, challenging dominant value narratives and proposing alternative futures. Findings reveal that existing value frameworks insufficiently accommodate young historic buildings like Nauticon nor address sustainable and ethical imperatives. The study advocates for new value systems emphasizing continuous circular adaptation strategies, and ecological responsibility when engaging with overlooked everyday architecture.

Keywords: Value Assessment, Building Adaptation, Obsolescence

Introduction

The construction industry's substantial CO₂ emissions and ecosystem impact demand new strategies for managing our collective built heritage. Preserving buildings not formally designated as heritage-worthy yet constructed from valuable materials, has become increasingly urgent in addressing climate challenges (IPCC 2020). But extensive interventions risk generating waste and consuming new materials without a prior understanding of a building's tectonic and cultural requirements. Employing ecological thinking encompassing climate and culture (CINARK 2025) the students conducted value assessments and investigated a broad range of strategies, highlighting that being present and getting in-depth understanding of the building's inherent potential and limitations, impacts the relation to the building and the priorities. While searching for future possibilities in the structure the students uncovered in three main strategic tracks, pointing at various possible

architectural responses, when adapting recent built heritage for continued life and new purposes. Through this case-based investigation focusing on the typology of industrialized everyday construction from the 1990s, this paper challenges conventional Danish value assessment by investigating a more holistic view of younger historical building stock—particularly buildings considered worthless by formal preservation standards—calling for a rethinking of current value assessment frameworks.



Fig 1. Left: Nauticon seen from Copenhagen Canal (Martin Toft Burchardi Bendtsen, 2024). Right: Spatial identity of Nauticon (Line Kjær Frederiksen, 2024)

Research Questions

The aim of the study is understanding new parameters and methodologies of value assessment that include current notions of sustainable and ecological significance. The students' interaction with the actual physical building and understanding of contemporary architectural challenges serve as a case for investigating and assessing value assessments approaches in this paper. The research question therefore is as follows: How can we develop value assessment approaches for younger historical buildings that: (1) respond to present-day architectural and ecological challenges, (2) provide insights for adaptive and circular interventions, and (3) increase relevance of buildings currently perceived as being less valuable?

Temporal scope

Since the late 1950s and the emergence of the industrialized post-war construction industry, Denmark has experienced a general increase in built square meters. This means that a vast amount of material, spatial and architectural resources can be found in buildings from this period of industrialization. These buildings are, to a large degree, not accounted for in existing Danish value assessment methodologies, which primarily address the cultural significance of historical architecture. In this context younger historical buildings are defined as industrialized buildings from 1950-2000.

Theoretical Position

For developing a theoretic position that includes new parameters to value assessment of these younger buildings, three theoretical fields are synthesized: *circular sustainability*, *adaptive reuse*, and *tectonics*. Connecting these areas clarifies knowledge gaps and broadens value understanding, targeting obsolete, demolition-threatened buildings while creating

awareness of anonymous everyday architecture.

With climate science as foundation, *circular sustainability theory* focuses on resources and ecology to minimize environmental impacts from the construction industry. The European Environment Agency emphasizes that prioritizing building reuse addresses both virgin material use, energy consumption, waste generation, and land take (EEA 2024). Compared to demolition and new construction, strategic reuse requires fewer resources and embodies more sustainable approaches (Eberhardt et al. 2022). And by incorporating buildings' material metabolism into design approaches, it opens a broader spectrum of ecological strategies for architectural interventions (CINARK 2015). «Given the magnitude of our troubles—the degree of brokenness we confront—there are no solutions, no easy repairs. At best, we can opportunistically and optimistically adapt.» (Moe, Friedmann 2024).

This necessitates managing architectural heritage by recognizing broad value beyond conventional assessments. Drawing on conservation fields that preserves the past, contemporary *adaptive reuse theory* respectfully relates to the existing, focusing on reusing for the future (Plevoets, Van Cleempoel 2019). This field provides insights for architectural dialogue with history, cultural meaning, and existing fabric identity (Stone 2020). Obsolete buildings and its materials have always been reused throughout history, driven by time and cultural needs, carrying layers of memory (Wong, 2017). «Over time, even with regular maintenance, building structures and systems become antiquated and are no longer able to serve the needs and standards of current society. This type of obsolescence is part of a natural cycle in the life of a building. Adaptive reuse in the form of upgrades and renovations can stay this obsolescence, albeit not indefinitely» (Wong 2023, 15). A challenge of adaptive reuse lies in investigating and unlocking a structure's inherent potential through preparatory investigations and developing appropriate strategies for continued or new use (Cramer, Breiting 2007). *Tectonic theory* serves as a discourse for understanding architectural meaning embedded in construction, materials and techniques (Foged, Frier Hvejsel, 2018). Perspectives on existing buildings encompasses not only concrete built objects—the practical and tangible—but also cultural understanding and symbolism—an interpretation of both historical and experiential dimensions (Frascati 1981). How buildings are constructed and tectonically understood directly informs interventions and alterations, «providing awareness of issues, so design decisions may be taken from less emotive and more conscious viewpoints» (Strike 1994, 1). Just as historical layers hold significance for cultural anchoring, understanding technical layers is crucial for adapting existing fabric. As Stewart Brand observed: «Interiors are flighty [...] Site is eternal [...] Structure persists and dominates [...] Skin is mutable» (Brand 1994). Attentiveness to different permanence levels and material properties within building layers can help shift priorities regarding what is most important and feasible to address, aiding identification of critical areas and establishing existing building value.

In Denmark, SAVE (Survey of Architectural Values in the Environment) provides a formalized method, derived from a preservation agenda, for assessing heritage value, prioritizing cultural history and architectural style through municipal registrations (Stenak ed. 2011, 33). While effective for mapping architectural and stylistic values, it assesses only building exteriors and urban environments, and only recently included buildings until the 1970s (Kramhøft et al. 2025, 3-4). SAVE assessments can be legally binding when incorporated into local plans and urban development frameworks. Life Cycle Assessments

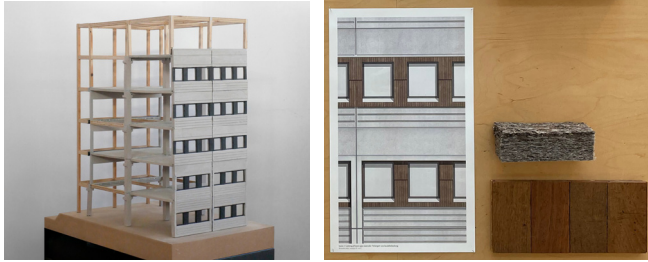


Fig 2. Left: Model of existing structure and added wooden construction (M. B. Sørensen, S. Bajda, 2024). Right: Facade and material studies (A. S. Bang, K. E. Ditlev, T. J. Rasmussen, 2024)

(LCA) were introduced in Danish building regulations in January 2023 with greenhouse gas emission thresholds for new construction (Ministry of Social Affairs & Housing, 2024), creating awareness of material use but imposing no regulatory requirements for existing building interventions. No frameworks in the Danish construction industry specifically address value assessment of younger historical and industrialized existing buildings, such as Nauticon.

Research Design and Methodology

The data for this study is comprised of student work from the *Research and Innovation Course* at The Royal Danish Academy under the master's program Settlement, Ecology & Tectonics (SET) and research unit CINARK - Center for Industrialised Architecture. This 10-week course connects practice, teaching, and research, identifying real-world problems and challenging the construction industry status quo. In 11 groups (A-K) of 3-4 persons, students investigated Nauticon with the purpose of developing strategies for value assessment and adaptation encompassing climate considerations (materials, CO₂), tectonic aspects (construction, materiality), and cultural dimensions (aesthetics, narrative). Students submitted work in three phases: 1) value assessment, 2) selected area processing, and 3) detailing and final production. Finally, all projects were compiled in a joint publication (CINARK 2025). Authoring the course assignment, presenting engagement approaches, and systematically categorizing and analyzing students' work was integral to acquiring proper data for the case study of this paper. Questionnaires provided deeper insight into underlying thought processes, exploring the significance of physical presence in the building for determining values, approaches, and attitudes toward interventions.

The building of investigation, Nauticon, is a well-preserved 25,000 m² postmodernist building from 1990, with load-bearing concrete facade, free floor plans, and a conceptual division of glazed front and closed backside. It represents a period when digital development and aesthetic ideals differed significantly from today, built during Copenhagen's early economic boom. Having housed prominent companies and authorities, the building now stands abandoned facing possible demolition—not due to deterioration, but rental difficulties by owner Danica Real Estate. The company, owned by Danica Pension Fund which manages pension customer investments, has investigated various strategies including energy renovation and transformation, but encountered economically non-feasible barriers. A strategy was developed for recirculating interior materials, surfaces, and fittings

at demolition. Supplementary research data includes insights from Danica Real Estate's Deputy Director through ongoing dialogue, presentations, and interviews. The architectural office Henning Larsen, serving as development consultant, contributed practice-based data on transformative interventions.

Analysis of Value Assessment Approaches

Initial attitudes formed by being present. With the investigation of values in existing buildings as foundation for adaptation strategies, *the first phase* on initial value assessments was critical. Students had access to Nauticon throughout the course, allowing exploration of various methods of understanding values and potentials. Physical presence enabled sensory understanding of materiality and spatiality, and curiosity-driven spatial exploration. Several student groups established workstations inside the building, developing interpretations through sustained presence. Group A noted in the questionnaire that “at first sight the building seemed very unsightly,” but “experiencing the building firsthand, there was time to see its potentials, which influenced the perception of Nauticon positively.” Group C described a relationship developing over time, where complexities—both potentials and barriers—emerged through familiarity. Most groups based value assessments on existing methods but adjusted or supplemented them with an ‘ecology-based’ approach tailored to the building. There was a strong tendency to move beyond the SAVE method’s ‘exterior-only’ approach toward strategies emphasizing material reuse potential, and experiential and functional qualities. Group K’s project, *Columns in Friction*, added interior parameters mirroring existing exterior ones, arguing that assessing the building’s inside is equally important for understanding construction and spatial potentials. All 11 groups identified the building’s materials and resources as most valuable—value already invested. The building’s recent construction was collectively cited as sufficient reason for preservation and reuse, aligning with climate science’s emphasis on these resources’ crucial role in green transition. All value assessments included ethical and ecological reflections on the necessity of using what already exists, challenging dominant narratives by arguing that current tools lack necessary parameters.

Intervention strategies and circular design responses. In *the second phase*, value assessments served as a collective basis for hands-on explorations of construction techniques, layers, and material properties. Several groups consciously worked with reusing structural elements, identifying the structural core as containing the greatest material value—identified by Stewart Brand as the persisting layer (Brand, 1994). Group H formulated the *Pig Method* for minimizing waste by ensuring every component finds new purpose, like traditional butchery where all parts are used. This approach necessitated seeking and developing new uses for materials traditionally viewed as low value. Group J’s *Transformation of Load-bearing Facades* investigated comprehensive retrofit, introducing reused and biobased materials as thermal insulation while enhancing the aesthetic expression. They also argued that future decades would view and approach this building differently. Group G’s *Reuse-Tectonics* explored more radical circular strategies, deconstructing and circulating concrete columns with new design for disassembly fittings, noting columns as rarely reused structural elements. Some projects explored minimal intervention but across all groups, the second phase demonstrated the necessity of adopting tectonic approaches with insight into

industrialized construction layers and details for proposing relevant answers, perspectives, and solutions for future reuse.

Aesthetic reinterpretation challenging the norm. The final part of the course, *the third phase*, focused on detailing, completion, and broader reflections on proposed solutions. Student projects demonstrated how aesthetic intervention can reiterate the relevance of buildings and their resources. Viewing aesthetic-cultural value and material-resource value as separate perspectives would overlook crucial insights from the studies. Group B's *Climate Friezes* investigated ornamentation as "key to preserve and reinvent buildings" in opposition to modern 'clean' standardized construction by evoking "aesthetic potentials and qualities in otherwise value-abandoned materials". An important aspect was the building's unattractiveness to tenants from the owner's perspective, reflecting inadequate market value for its location. Virtually all groups criticized this market-driven demolition rationale. Students suggested lowered rental ambitions could attract diverse tenants, demonstrating that obsolescence is largely created by owners and societal expectations. Group I stated in the final project presentation that we need to adjust our view on this type of building and "that our expectations should arise from the building's possibilities and that it should never be an option to demolish a young building that is in good physical condition." Rather than imposing predefined programs, the building should determine its optimal use, they argued.

Findings. Although all students initially argued for preservation, their projects' fundamental premises divided into two groups: those opposing the owner's plans, seeking to 'save' Nauticon through comprehensive building adaptations, and those accepting the owner's perspective seeking reuse and circularity potentials off site. These perspectives led to three different tracks: 1) preservation strategies seeking potential and new use without invasive interventions through care and attention, 2) finding new relevance through thoughtful renovation/adaptation strategies, or 3) circular design approaches focusing on reuse of material in the building or in other constructions—a material bank approach.

Implications for Future Practice. The projects demonstrate several implications for architectural practice, education, legislation, and urban development. First, the need for new aesthetic appreciation and ecological approaches to existing structure as the connection between aesthetic/cultural value and material/resource value emerged as central (Kramhöft et al. 2025). Second, they demonstrate the value of physical exploration and site-specific design strategies. Students' physical engagement with Nauticon was crucial for identifying potentials and developing contextually appropriate interventions, suggesting that rapid assessment methods may miss qualities emerging only through sustained engagement. Third, the projects underscore the necessity of viewing buildings as dynamic entities capable of adapting with tending custodianship rather than the idea of never changing static objects (Moe, Friedman 2024). This middle path—adaptation respecting existing qualities—offers nuanced approaches to build heritage (Wong 2023).

Rethinking industry perspectives on less attractive buildings. The students' encountered systemic challenges including premature markets for reclaimed materials with complex logistics. But also building regulation strictness imposing new-construction frameworks on existing buildings, making it difficult to adapt them for new purposes within the legislation. Contrasting industry pragmatism, students expressed genuine puzzlement

over inadequate care for existing buildings and failure to acknowledge their strengths. Dominant economic valuation typically has final say in current practice. However, the student projects suggest the necessity of balancing incentives and factors to challenge this—adjusting economic deductions and taxing based on resource consumption rather than purely market value. Such policy shifts could fundamentally alter calculations which now favour demolition over adaptation. Students also suggested lowered rental income ambitions could attract diverse tenant groups, demonstrating that obsolescence is often owner-created. The findings challenge the construction industry's view of not formally valuable buildings regarding not only program decisions but also our aesthetic perception of younger historic buildings. Students' work suggests that our inability to value and appreciate these buildings stems more from cultural bias and market forces than from any inherent deficiency in the structures themselves. And that new value frameworks with other perspectives could shift priorities.

Discussion

Strengths and limitations of the research approach. Architecture students connected to a program focusing on Ecology and Tectonics could be biased in engaging with these concerns. This possible bias can have influenced value perceptions and decisions underlying final proposals. Nauticon is a real-world project where the owner, managing substantial client funds, must align decisions with market realities. The building struggles to attract tenants and is operationally demanding—genuine problems even for continued office use. Importantly, creating relevance remains a highly effective preservation strategy, regardless of intervention scale. The open task format yielded diverse approaches and results, though the course timeframe could not address all aspects of Nauticon's and its owner's reality. The academic setting provided freedom to imagine alternatives unconstrained by immediate market forces, building legislation, development politics, and industry conventions. These conditions were not limiting factors or primary focus. Instead, the projects offer solutions and perspectives that could, wholly or partially, inspire or integrate into practice, supplementing conventional industry approaches to obsolete buildings.

Conclusion

The findings reveal that existing value frameworks insufficiently accommodate young historic buildings such as Nauticon, nor adequately address sustainable and ethical imperatives in present-day architectural reality. This study therefore advocates for shifting from formal style-historical assessments to value systems emphasizing continuous adaptation while embracing new aesthetics and ecological responsibility. Values must be sought not only in older historically significant buildings but in all buildings, including the overlooked everyday architecture that may not appear beautiful or useful at first glance, yet harbours significant potentials and qualities that emerge through familiarity. Over time, such less valuable buildings may prove to have decisive cultural and architectural-historical significance. Therefore, this paper calls for reimagining these formally less valuable buildings as important assets, positioning them as invaluable resources for architectural development and for innovative and diverse architectural responses that can recreate relevance for buildings currently dismissed as obsolete. The case of Nauticon demonstrates that value is not inherent but constructed through our frameworks of assessment and that by adapting

those frameworks, we can unlock the potential in overlooked buildings throughout our cities, transforming them from liabilities into opportunities for more sustainable building development.

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