

Spirit of Architecture

The Adaptive Reuse of Queira-Deus House in Brazil

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Abstract

Adaptability, the capacity of a building to accommodate changes in time, has emerged as a significant theme in contemporary architectural discourse, encompassing both theoretical and practical facets (Schmidt III, Austin 2016). Literature indicates its social, economic, and environmental benefits by advancing sustainability and addressing climate challenges such as carbon reduction (Mlote et al. 2024). As a growing practice within adaptability, adaptive reuse offers an approach that honors embodied memories and amplifies latent potential, particularly dealing with pre-existing and heritage buildings (Berke, De Monchaux 2023). Framed within the concept of the shearing layers of change or SLC (Duffy 1990; Brand 1994), this study examines the adaptive reuse of the Queira-Deus House, completed in 2007, in Northeast Brazil—part of a 17th-century sugar mill complex—according to two lenses: (1) shearing layers, or the building's physical and spatial presence; and (2) spirit of architecture, its essence (Kahn 1960). Using a comparative method (before-after transformation), data were collected by site visits, an architect's semi-structured interview and access to architectural documentation. Results highlight spirit resonance with time (Leatherbarrow 2021), place (Norberg-Schulz 1976; Pérez-Gómez 2019) and human subjectivities (Hegel 2008; Leitão 2021). The paper concludes by underscoring the importance of including the spirit of architecture in the theme of adaptability for both design and conservational purposes. Ultimately, the originality of this proposition aims to influence practice through a more inclusive theoretical framework grounded in the unmeasurable dimension of architecture for extending the built environment's lifecycle.

Keywords: Adaptive Reuse, Shearing Layers of Change, Spirit of Architecture

Introduction

Adaptability is defined as «the capacity of a building to accommodate effectively the evolving demands of its context, thus maximizing its value through life» (Schmidt III, Austin 2016, 46). In other words, it reveals the competence of a building to respond to changes in the face of a specific stimulus, a central concept in the problematic of obsolescence and demolition. In this sense, adaptability embraces temporality by fostering an understanding of the building as an evolving artifact (Brand 1994).

By facilitating social, economic and environmental benefits, it plays a key role in sustainable

agendas, enabling easier adaptation to the needs of occupants, particularly when considered in the early stages of design (Andrade, Bragança 2019). It also supports climate initiatives by promoting the reduction of carbon emissions in the construction sector—a significant contributor to global warming (Mlote et al. 2024). As a practice within the theme of adaptability, adaptive reuse represents an approach that honors embodied memories and inherited experiences (Berke, De Monchaux 2023). The action of extending the value of structures by accommodating new functions and recycling materials has existed since ancient times, e.g. the reuse of caves (Wong 2016), but has been increasingly present in architectural discourse related to conservation efforts—more recently pursued in more practical and achievable ways (Lanz, Pendlebury 2022). In this sense, the major objective of this paper is to examine the adaptive reuse of the Queira-Deus House in Northeast Brazil. The narrative is framed within the concept of the shearing layers of change (SLC), which encourages the decomposition of buildings in terms of different rates of change, being initially introduced by Duffy (1990), who identified four layers: shell, services, scenery, and sets. It was later expanded and formalized by Brand (1994), who proposed six layers: stuff, space plan, services, skin, structure, and site. More recently, several authors have advanced these perspectives, extending Brand's framework by incorporating additional layers, as seen in the work of Schmidt III and Austin (2016), which include surroundings and social dimensions.

Methods: Shearing Layers and Spirit of Architecture as Lenses of Analysis

The case study examination was carried out by a comparative method (before-after transformation) through two lenses: (1) shearing layers and (2) spirit of architecture. In this approach, shearing layers represent the physical or spatial presence of a building, formed by the previously mentioned layers. While spirit, its essence, is a contribution of this research in advancing the SLC concept. Spirit reveals another dimension of architecture, one that transcends the nature of its matter, and is translated as an eagerness for fulfillment. The philosophical approach conceived by Louis Kahn is adopted here as the main theoretical foundation for exploring the spirit. In *Form and Design*, by arguing that a good building must begin with the unmeasurable, move toward the measurable, and then return to the unmeasurable, Kahn (1960) advocates for the realization of the architectural object's will to be. Thus, Kahn states, «What does the building want to be?». In this sense, he points to a desire for existence or existence-will that precedes physical presence. The psychic spirit would be tied to the impulse of expression, revealing the building's essence captured before the design process (the start), while the spirit of existence would be evoked once the building is complete (the return). Furthermore, Kahn (1960, 65) positions the ability of the architect to manifest the spirit of a building. The main research question was: to what extent did the spirit of architecture impact the building's adaptive reuse - from ruins to the altered house? To address this, the aim of the first lens was to examine the house's physical and spatial transformations. Subsequently, for the second lens, the goal was to explore qualities related to the unmeasurable aura. The comparative method was implemented through a mixed techniques strategy for data collection: 1) a site visit, initially focusing on a phenomenological approach, valuing impartiality, immediate experience, and sensations (Shirazi 2014); 2) a semi-structured interview with the architect; and 3) document analysis of drawings and photographs.

The Adaptive Reuse of the Queira-Deus House in between Shearing Layers and Spirit of Architecture

The Queira-Deus House was designed by A&R Architects in 2002, with construction completed in 2007. It is located in the city of São Lourenço, Northeast Brazil, a region near the Equator line, characterized by a tropical climate and surrounded by the Atlantic Forest area. The house is the result of the adaptive reuse of the ruins of a house from a historic colonial sugar mill complex of the 17th century, where a handful of buildings are still preserved¹.

The landscape is composed of a gently undulating land, with an artificial lake nearby. The house is situated on an elevated mound, which provides expansive views and allows control and management of the territory—its surroundings and site layers. Originally owned by a Portuguese family, the house was abandoned, and the passage of time was evident in its ruins. Its skin and structure layers were built with limestone masonry and solid ceramic bricks.

One of the descendants decided to restore the house for contemporary use, maintaining its residential function. The intention was not to create a home for long stay, but rather a weekend getaway. The design concept was to connect the old and the new as a cubist collage, where unity arises from the synthesis of opposites. The analysis of the set of architectural objects, including the old chimney, revealed a series of sightlines and axes of symmetry, which became the guiding principle of the design (by reinforcing or counterposing them) (Andrade et al. 2015)—Fig. 1 illustrates the initial situation on the left, characterized by the absence of a roof, deteriorated walls, no enclosures and no traces of the services layer; and the altered house with the image on the right.



Fig. 1. Shearing layers transformation (left, Paulo Raposo, 2002; right, Fernando Moreira, 2020)

Through the shearing layers lens², the structure and part of the skin layer from the ruin were maintained, both the walls and foundation – with a few alterations and additions for restoration purposes (e.g. the existing floor was covered with ceramic tiles). The roof was rebuilt in ceramic tile, featuring a wooden skeleton, typical of this region in Brazil; while the new pavilion roof is a flat reinforced concrete slab.

The interior space was altered because the original floor plan was likely highly compartmentalized, another common feature of the period in which it was built. Therefore, the space plan layer was transformed, opening the interior space to create a living room, a bedroom, an office, and a bathroom. In addition, a rectilinear pavilion was added as an extension, featuring a terrace and irregular yellow prisms that housed a kitchen and bathroom—Fig. 2. The new spatial configuration enhances the connection of the house

with the geographical setting, the site. Services and stuff, layers that no longer existed, were created—according to Brand (1994), stuff, services and space plan layers are the most susceptible to change. Hydraulic and electrical installations were built into the walls, with a few exposed sockets and light pendants featuring exposed bulbs. New furniture is generally flexible and movable. The living room's furniture consists of just three essential components: a plywood cabinet, a long table, and wooden benches. All were specifically designed for the house, forming an integral part of the overall design. Seeking to reinforce the atmosphere of simplicity and rusticity, the architects opted not to use coverings. Shifting to spirit of architecture lens, three major interconnected unmeasurable qualities of the ruins' spirit of existence were fundamental for shaping the spirit of the adapted house - the unmeasurable aura in the sense of a space good to live in (Kahn 1960): incorporating time,

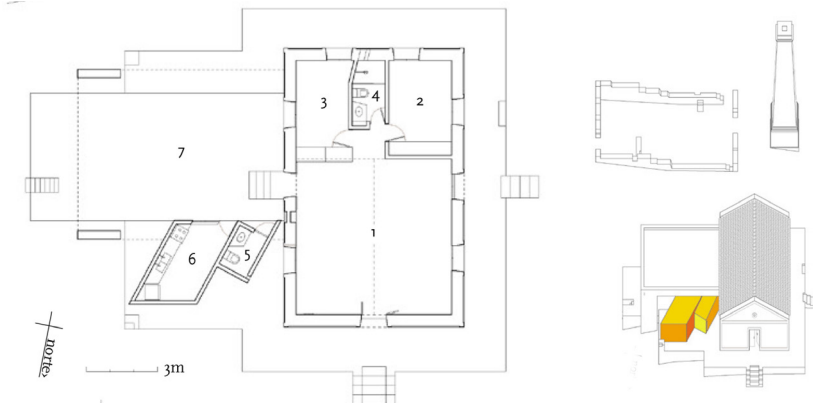


Fig. 2. The space plan layer (Paulo Raposo, 2015)

the connection with place and the stimulus for people's interaction. These unmeasurable qualities oriented the conceptual idea of the reuse, a synthetic architecture between the old and the new articulated as a poetics of difference. First, the spirit calls on incorporating time, interpreting the old by exposing historical value. According to Leatherbarrow (2021, 3), «time is the dimension in which buildings actually come to life», being crucial for providing significance. The architects aimed to increase the useful life of the building through a conscious engagement with the past (Wong 2016). The new pavilion sits four steps below the old house and one can contemplate not only nature, but also the old physical aspects of the house, such as its base and original foundations, demonstrating the new structure's respect for the past—made of concrete and local ceramic bricks, fabricated inside the state. The new façade, skin layer, conveys a sense of wholeness, coexisting serenely with the old - almost to the point of being inseparable from the natural character of the building (Moreira, Henriques 2025). The relationship between the house and the chimney, as an architectural unity, is restored through the carefully positioned openings—Fig. 3. They form a sequential axis of elements that frame the connection in time between the old and the new: the exterior site, then the chimney, the house, and finally the pavilion. Second, the spirit calls for connecting the house with its surroundings and site by capturing the place's genius loci, not only geographically, but also metaphysically (Pérez-Gómez 2019),



Fig. 3. Spirit and time (Fernando Moreira, 2020)



Fig. 4. Spirit and place (Fernando Moreira, 2020)

protecting humans in a peaceful space (Norberg-Schulz 1976). Upon arriving at the site, one's first view is of the restored old house. But as one moves around the surroundings, the pavilion gradually becomes apparent. The new pavilion plays an important role in crystallizing the unmeasurable condition of the reuse. It was built perpendicular to the old house, serving as an extension that linked the original artifact to the outdoor environment. This pavilion is open on its sides and its function is similar to the canopy of a large tree, where a person can sit comfortably, protected from the sun and enjoying the breeze.

The multisensory experience of connecting with the site and surrounding layers, points to an architecture that is not restricted to the eye, but invites the entire body to perceive, touch, hear, and move (Moreira, Henriques 2025). Upon reaching the edge of the terrace, the slab above is no longer visible, and the view is completely dominated by the landscape—Fig. 4. Reaching the edge of the terrace, a staircase, carved into the platform on which it stands, allows access to the land again. Here, the observer can contemplate the contemporary additions made to the ancient landscape, for on the other side of the house's exterior, primacy lies halfway between the present and the future.

Third, the spirit calls for stimulating people's subjectivities through processes of interaction, appropriation, and reinterpretation, while simultaneously ensuring its capacity to remain socially relevant, symbolically resonant, and functionally useful over time. In his dualistic discourse, Hegel (2008) posits that it is in architecture that the spirit attains concrete knowledge, thereby transcending the subject's unconsciousness, and first finds matter, an outer manifestation of the human bond. This helps visualize architecture as a human foundation—that relates to human spirits whose primary requirement appears to be subjective claims (Leitão 2021).

Located in a rural area, the ruins evoked an energy of being reimagined as a protected space, where one can find peace on earth, celebrating life and its needs in connection with heaven, the gods, and the soil (Heidegger 1971). The design reaffirms the potential of architecture to create places that enable a dialogue with the totality of the senses, establishing atmospheres of contemplation, welcome and introspection—Fig. 5.

The case study of the Queira-Deus complex reveals how adaptive reuse can transcend simple material preservation asserting itself as a sensitive practice of reconnection with the spirit. The intervention extended the useful life of the ruins, intertwining past, present and future by building an atmospheric field in which the human experience is central (Moreira, Henriques 2025).

Conclusions

Adaptability, the ability of a building to accommodate changing demands over time

(Schmidt III, Austin 2016), can bring social, economic and environmental benefits, which are relevant in the context of climate change. As a practice within adaptability, adaptive reuse emphasizes the act of extending the value of existing buildings by relating the old and the new (Wong 2016) honouring embodied memories (Berke, De Monchaux 2023).

Framed by the concept of the shearing layers of change or SLC (Duffy 1990; Brand 1994; Schmidt III, Austin 2016), this paper examined the adaptive reuse of the Queira-Deus House in Northeast Brazil according to two lenses (1) shearing layers, the building's physical and spatial presence; and (2) spirit of architecture, its essence (Kahn 1960).

Results showed resonances between the spirit of the altered house and reimagining the unmeasurable qualities of the spirit of the ruins, by incorporating time (Leatherbarrow 2021); connecting with place (Norberg-Schulz 1976; Pérez-Gómez 2019); and inciting human subjectivities (Hegel 2008; Leitão 2021).

Based on the main research question this paper sought to answer, it is possible to argue



Fig. 5. Spirit and people (Fernando Moreira, 2020)

that the spirit of architecture was a significant motif of the Queira-Deus adaptive reuse, impacting the transformation of its physical materiality and spatial configuration by conducting key design decisions. In this sense, this research underscores the importance of considering the spirit of architecture into contemporary debates on adaptability, proposing an original theoretical framework that offers a more holistic approach to adaptive reuse projects grounded in the unmeasurable dimension of architecture for extending the built environment's lifecycle.

This preliminary case study helped hypothesize that the spirit of architecture guides how shearing layers accommodate change and endure over time, unifying the physical and spatial presence with particular contexts and users. Future research is underway including incorporating new case studies³.

Notes

1. The mills are one of the strongest symbols of the sugarcane cycle, which dominated the Brazilian colonial economy until the 18th century.

2. The social and surrounding layers were not the main focus of this analysis.
3. The authors acknowledge FACEPE for the financial support of this research.

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