Reading the Vernacular Interior: A Pattern Language for Reuse

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Abstract

Historic interiors are unique repositories of memory, yet conventional reuse practices often fail to grasp their cultural complexity, prioritising formal interventions over lived experience. Dominant strategy-based frameworks for reuse struggle to capture the incremental, user-led adaptations that define these lived interiors. This paper addresses these limitations through a case study of the community-led revival of Harat al-Aqr, Oman. Methodologically, it reframes Alexander et al.'s (1977) pattern language as an interpretive lens for analysing the incremental evolution and embedded cultural intelligence of lived interiors. The research synthesises subjective narrative writing with analytical patterns, revealing that the significance of such spaces lies in their 'livedness' and the interconnected network of user-led spatial practices that exist within them. The patterns identified, such as Living Roof, Expanded Dwelling, and Mutual Dependencies, are presented as a way to capture and embody this user agency and cultural logic tangibly. The paper thus concludes by advocating a new approach to interior reuse, especially in environments that have undergone incremental changes or vernacular adaptations. It proposes a shift from imposing preconceived strategies to first interpreting the logic of existing use patterns, thereby offering a more responsive approach to engaging with historic interiors as living environments.

Keywords: lived interiors, incremental reuse, pattern language, vernacular architecture, user agency

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Introduction

Historic interiors, as the layer of architecture most intimately experienced by the user, hold unique potential as repositories of memory, shaped by the collective authorship of designers, makers, and (generations of) users (Bachelard, 1958/1994; Pallasmaa, 1996; Rice, 2007). Unlike the often formal, top-down process of architecture, the making of an interior is typically an organic, informal evolution. However, the temporality and subsequent fragility of interiors mean that restoration practices seldom grasp the cultural complexity embedded in them, resulting in a loss of meanings, memories, and associations (Smith, 2006). Although the making of interiors is a gradual and collaborative process, interior reuse often prioritises designer-focused approaches over intuitive use patterns and accumulated memories that are central to an interior's layered significance.

This challenge is compounded by dominant frameworks that foster strategy-based approaches (Alkemade et al., 2021; Brooker & Stone, 2004, 2018; Cramer & Breitling, 2007; De Caigny et al., 2023; Jäger, 2010; Plevoets & Van Cleempoel, 2019) that, while valuable, tend to prioritise the designer's perspective. Such frameworks often struggle to capture the incremental, often user-led adaptations that constitute an interior's ongoing life, focusing on formal interventions rather than lived experiences. Consequently, the cultural and intangible dimensions inherent in interiors remain underrepresented in existing scholarship and practice. This limitation ultimately hinders our ability to understand these spaces, interpret their full value, and realise their potential for sensitive and meaningful intervention. Addressing this underrepresentation requires a conceptual shift toward what this paper terms the *lived interior*. This concept is synthesised from several theoretical streams, drawing from the phenomenology of architectural experience, which prioritises the embodied and sensory dimensions of space (Bachelard, 1958/1994; Pallasmaa, 1996, 2009), and from theories that recognise the built environment as a product of ongoing, incremental change shaped by user action (Brand, 1994; Smith, 2006) as well as the cultural experience value embedded within (Klingenberg, 2012).

The term *lived interior* stems from Henri Lefebvre's (1974/1991) conceptualisation of space as a social product in *The Production of Space*. It draws directly from the third element of his spatial triad: 'representational space' (lived space). Unlike the 'conceived space' of planners, Lefebvre (1974/1991) positions lived space as the complex terrain of inhabitants, overlaid with symbolism and

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non-verbal traditions. This framework implies a shift in perspective from the objectivity of space's physical form to the subjective, contradictory, and often conflictual processes of spatial production. By transposing this framework to the scale of inhabitation, the *lived interior* is defined by the multiplicity of social meanings produced through daily practice and use. In line with Lefebvre's (1974/1991) description of representational space, lived interiors serve as an active tool for thought and action, enabling inhabitants to assert control over their built environment. It is therefore understood as a dynamic repository of memory, practice, and material culture, continuously shaped by user agency and its sociopolitical underpinnings.

To explore these challenges, this paper proposes an alternative methodology to examine the community-led reuse of historic interiors in Harat-al-Aqr, meaning Neighbourhood of Al-Aqr, Nizwa, Oman. Harat-al-Aqr offers an example of (interior) reuse where expanded notions of interiority, blurred indoor-outdoor boundaries, and interdependent social relationships emerge. Analysing such fluid spatial conditions requires a methodological shift—from documenting static forms to reading emergent relationships and problem-solving processes. Accordingly, this research adapts Alexander et al.'s (1977) pattern language as a framework for analysis rather than design. By reframing the pattern language as an interpretive lens, the study systematically decodes the incremental evolution and embedded cultural intelligence of lived interiors.

The resulting patterns serve not as prescriptive solutions but instead provide a structured format for articulating the tacit spatial intelligence generated by user agency and deep-seated cultural norms. By grounding these observations in historical and sociocultural drivers, the analysis reveals that vernacular interventions are the outcome of nuanced, intentional spatial practices. This approach aims to render the informal logic of community-led reuse legible, offering a reproducible methodology to capture the soft values of 'lived' heritage. It thus proposes a new, richer way of reading and documenting heritage sites that is transferable across diverse architectural contexts. This methodological exploration is part of a broader doctoral research project investigating novel ways of engaging with the adaptive reuse of lived interiors.

To illustrate this argument, the paper is structured in two parts. First, an immersive narrative provides an experiential reading of Harat-al-Aqr. This focus on process and lived experience informs the methodological approach to documentation. Drawing on Jane Rendell's (2010) concept of site-writing, this section is written in

a highly personal tone, embracing subjectivity and positionality, and positing the researcher's embodied experience as a critical analytical tool. In doing so, the researcher's own interiority is taken into account as a contribution to the site's spatial production. Such an approach aligns with the theoretical framework of the *lived interior* by acknowledging that sensory, atmospheric, and social qualities are best understood through internal encounter rather than detached observation. Consequently, the study is grounded in primary, qualitative fieldwork conducted in Harat-al-Aqr, which includes phenomenological observation, photographic documentation, and informal conversations with residents.

The subsequent analysis then distils this empirical data using the adapted pattern language framework. By synthesising narrative writing with analytical diagrams, the research captures the informality, creative dynamism, and incremental nature of vernacular interventions, shifting focus from preconceived strategies to the logic embedded in existing spatial practices. Ultimately, this study argues for reevaluating historic interiors not as static artefacts, but as lived environments shaped by user intelligence, offering a more responsive and culturally grounded approach to their reuse.

Harat-al-Aqr's evolution from an active, historically significant neighbourhood in the pre-oil era of Oman to one on the brink of urban decay, resulting from mass migrations and neglect, has already been explored by scholars such as Bandyopadhyay (2004, 2005, 2006) and Benkari (2017, 2019, 2021). In recent years, the neighbourhood has also garnered increasing attention from local news outlets for its transformation from a deteriorating, neglected area into a thriving, community-led revival initiative. However, the neighbourhood's lore and what makes it a truly distinctive and complex cosmos of spatial, urban, and societal evolving relationships can hardly be conveyed in objective descriptions. Just as the neighbourhood developed, at its very heart, around the subjective, humane aspects and relationships, both in its past and in its revival, so too must its story be told. Thus, the next section adopts a narrative essay format, recounting the author's experience of the site during fieldwork conducted in July 2024. The emotive descriptions, personal reflections, and interior monologue re-enact the distinct experience of being physically present in the harat, offering another way to explore the site and the author's interiority.

A Day in Harat-al-Aqr: Narrative Essay

Preface

This narrative offers a reflective journey through the historical core of the Ad-Dakhiliyah region of Oman, translating to 'the interior.' While the region comprises several cities, its historical heart is centred on the town of Nizwa, specifically in the quarter known as Harat-al-Aqr. While the initial focus of this case-study analysis was on specific instances of interior reuse, it soon became apparent that the relationship between interior spaces and the broader urban fabric could not be disentangled. The region's climate has shaped an architectural style characterised by narrow streets whose shade shelters passers-by, courtyards that maximise ventilation within homes, and clusters of homes with thick earthen walls that optimise thermal massing for comfort. These courtyards often extend beyond a private home's gates, serving as a foyer or shared space among neighbours before entering the home. Varying from house to house, neighbourhood to neighbourhood, and even by the time of day, these semi-public courtyards serve as gathering spaces for men, women, and children. Together, the earthen clusters, narrow alleys, and enclosed private and semi-public courtyards form a single unit of undiscernible interior and exterior spaces. The very essence of these interiors—whether former libraries, *sablahs* [traditional communal gathering space], or homes—cannot be understood in isolation.

Only through a deep cultural understanding of the city's formation and its people can one appreciate that this process of reuse is more than a romantic revival of the past—it is what preserved the city from urban decay and recovered it from mass displacement. While the reuse of individual interiors may initially appear to be a nostalgic attempt to preserve history, upon closer examination, it becomes clear that most of these buildings adopt an interior-based strategy that addresses challenges on an urban scale.

The arrival

The journey of the historical core of Nizwa begins at a set of majestic doors, marking the beginning of the ancient Al-Aqr wall. Amid the scorching desert heat, the walls close in, casting large shadows along the pathway to relieve the traveller. Their enormity and venerability draw you into an agglomeration of earthen buildings—or so they appear to be. The signs outside tell tales of the 1,200-year-old wall and its three reconstructions since. Cafés and bakeries emerge on both sides, most of them no more than 2–3 years old. Most remain uninhabited on a summer afternoon, thirsting for the occasional visitor. Two layers co-exist, intertwined in their daily lives.

The wall and its people

The local community lays roots for the first and more permanent layer, with their lives embedded in more traditional, conservative ways of living. Closely knit together, they meet and greet one another as the narrow alleys make confrontations inevitable. While most local women remain behind closed doors and maintain a more conservative lifestyle, their imprints are evident throughout the city in handwoven carpets, placemats, wall hangings, and more, adorning nearly all public spaces within the historic city walls. Their homes are woven into the city fabric; some simply restored over thousands of years, some rebuilt, some left to decay. There are also the local children, mostly little boys running errands, headed toward the *souk* [traditional marketplace].

Nestled between the homes of the local community are tourist cafés and inns. This addition, which appears to be a more temporal layer, hosts visitors from other parts of Oman and foreign tourists. Their masses differ along the seasons, peaking during the pleasant winter months. Like the local dwellings, some of these inns are hosted in centuries-old homes, while the cafés and bakeries are either housed within renovated structures that preserve the city's heritage or hover as new lightweight additions to the otherwise ancient host of buildings. On a summer afternoon, most of these cafés and inns sit empty, longing for sporadic customers. Yet, on a weekend evening, those same alleys sprout to life. Visitors, locals, and tourists inhabit every little café, filling the summer air with the scent of freshly ground beans and sweet treats.

The city fabric

As you meander through the labyrinthine streets, the buildings part momentarily for the occasional vehicle. A cheery *Assalamualaikum* [peace be upon you] greets you from the locals. The architecture of the historic city places you within arm's reach of all, negating any social conventions related to private spheres, making the visitor one with the residents.

The architecture is a symphony of enclosure and release. Overhead fairy lights, cast shadows, and overhanging elements create moments of intimate compression, only to open up into spacious courtyards or bustling squares. In certain instances, you are all that exists between two facades facing each other. No two doorways open facing each other—a rule well-established among the residents when building their homes. Consequently, each alley becomes an extension to whichever home's elaborate wooden front door opens up to it.

In other instances, you stroll along the city wall, overlooking courtyards and date farms stretching out on either side. The notions of private and

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public, interior and exterior, become a blur. Yet, somehow, you are not quite the unwelcome intruder. The stream of cafés and inns, however uninhabited they may be for half the year, facilitates the benefit of doubt for every visitor. You could be an inn guest, a café visitor, an investor looking to restore the decaying ruins, or a photographer documenting the heart of Nizwa. Whatever your reason, the temporal layers of the city—with its insertions for tourists—allow you a front-row seat to the historical city's residents' lives.

The focal point

Of the many cafés, inns, and other commercial and public spaces scattered throughout the community within the historical wall is the Anat Café. Unlike others, this café begins at a modest shop window and a couple of tables and chairs decked outside, almost accidentally. A young boy, no more than 16–18 years old, gestures towards directional signs that read "Take-away here. Seating this way." A 70 metre path snakes through a cluster of new and old weathered buildings, dialoguing in the same architectural language before ascending a stone staircase. This leads to a lofty perch atop the city wall, where the main part of the café continues.

The café has many beginnings, one climax, and many ends. An alternative journey to the café can begin upon entering the city gates, ascending what appears to be a residential staircase to reach the top of the city wall, and walking through an outdoor art gallery etched into the niches of the wall's walkway. The walkway overlooks semi-public courtyards with blurring boundaries and ongoing construction on one side, and dense, towering date palm farms on the other. Looking around, you are not quite sure if what you gaze upon is meant to be privy to you in a community whose values are so heavily rooted in concepts of privacy. The journey to the Anat Café is a culmination of Nizwa's budding identity. Its being is deeply rooted in community and togetherness, and yet its survival relies on the influx of visitors. Every alley at every turn hosts an inn or a café. One could wonder whether a library or community centre would be a welcome respite, something for those with long-laid roots who called this place their own.

The beacon

Built as a continuation of two historical wall remains, the Anat café becomes one with the city wall, as if carved from it. Atop the sea of earth hovers a uniform glass structure—foreign and alienated. Upon entering the café, you are met with an instant coolness on a hot summer afternoon. Over you, a network of AC shafts painted the same colour as the earthen walls blows cool air all day, all summer, all year. Beneath you, the marbled floors retain this internal

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temperature, offering solace from the harsh heat moments ago. The smell of freshly ground beans, infused with local produce—roses, pomegranates, and the like—fills the indoor air. All around, the uniform earth plaster cracked just a little, a testament to their rawness and vulnerability. Almost identical to the remaining structure, the two historical walls step back behind a barista counter made from nearby mountain rocks and marble. Weathering plaster and arched niches recessed into the walls indicate the walls' age. There is a uniformity to the place in its material and colour palette, and in the way the steel-and-glass grid casts a shadow on the marble floors. The sky lingers overhead beyond the glass roof. On the south, a large glass window peeks onto the dense date farms and their swaying fronds. Occasionally, you catch a glimpse of café guests approaching and leaving, and of passers-by. There are little local trinkets, artworks, and pottery throughout the café. Muffled voices and hushed conversations hang in the air, drowning the constant buzz of electricity within this contemporary cocoon of clay and glass.

In conversation with the owner, when asked about the architectural team in charge of a project so balanced and nuanced, he boasts, "It's the Anat team! Everything is locally done and sourced." He names a few neighbouring towns from which the furniture and other materials were gathered, using colloquial terms with no plausible translations to describe certain features. His friends, regulars of the café, lean into the conversation, nodding knowingly. They speak of materials, terms, and techniques that have been second nature to them since childhood, relying almost entirely on vernacular knowledge that has now been merged with mainstream construction techniques.

The café's visitors often nod and engage in conversation with the owner and other groups, apparently acquaintances. With a bit of knowledge about the city's culture and demography, the visitor profiles become evident. Groups of women and families are almost always tourists from far and wide cities. Young men aged 25–30 hang out in groups, hailing from the historical city, neighbouring cities, and other remote parts of Oman. The women in their families lead conservative lives, adhering to age-old traditions where men and women seldom occupy the same space. And then there are the Western tourists—rare in summer and plentiful in winter—standing out from the swarm of traditional *dishdashas* [traditional white robes worn by men predominantly in the Arab cultures] and *abayas* [traditional robes worn by women predominantly in the Muslim community]. These communities coexist, evidently standing out from one another yet belonging to a public space created precisely for such instances.

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A narrow staircase ascends to the rooftop seating. Throughout the café ensemble, you are a paradox. While walking toward the café from the outside, you are comforted by a sense of interiority by the city walls and the earthen masses around. Together, they direct the first café-shop window or the final beacon in sight. Inside the café, you are made to look outward at the sky, date palms, and life around you. At the rooftop, you look downward through the glass roof into the café life and outward into the historical city life. Perhaps it's a technique—a culmination of the city's overall experience: Inside-outside, native-foreign, guest-intruder, all at once.

The old, the new, and the imposters

Dispersed around the city are countless local inns, hosting regional and foreign tourists. While they seem to be exact replicas of each other at first glance—historical homes repurposed for hospitality—a closer inspection reveals two categories. The first is combining multiple homes to host one function (inn/café/grocery store) with minimal structural modifications. Characterised by small rooms, floor-level beds, and niches built into thick earthen walls for storage, these repurposed inns musealise an ancient, humbler manner of living.

Upon recognising the success of these inns, a second instance of inns emerged. Dilapidated structures beyond help were demolished, and the former houses were rebuilt by the residents in cinder blocks and plastered with earth or the traditional *sarooj* [a traditional plaster mix of clay, lime, and sand]. While the overall building footprint was maintained, the rooms were made larger and fewer in each house, furnished with a haphazard array of local materials—wooden chests that were traditionally for storage now became low tables, date-palm leaves meant to be floor coverings and mats, now served as wall hangings and ceiling decor, and AC units were hidden inside elaborately patterned cases.

The bird's eye view

Across this city, homes, cafés, and inns unite in a common practice. No matter what happens on the streets below, nearly every accessible rooftop doubles as a communal eating or gathering area, mostly with floor-level seating. Whether cocooned amid decaying buildings or elevated above most of the city, this simple act of eating together seated on the floor echoes a long-standing tradition that has endured through changing times. Even as houses grow larger and cities expand, the essence of the community remains. Just as in the past, the most intimate forms of communication and living happen at floor level, with people gathered around large shared plates, an ode to their heritage. Scattered cushions and carpets on the rooftops

nod back to times when a home's roof was its beating heart, offering sweet respite on summer nights. This custom speaks to the city's united spirit, whether in a café, an inn, or a home.

The secret force behind this enduring unity, however, lies in the way this quarter has been forged and reforged for and by the local community. Every addition arose from a genuine need. The first inn appeared when the population dwindled and urban decay set in. The first café emerged to serve the inn's guests. The endless sea of stone and clay buildings stands as a testament to the residents' devotion to their historic city. The community itself leads most new restorations, reconstructions, and additions. Because of this, despite the visible layers that never quite blend seamlessly, the urban fabric woven by the residents holds strong. Different eras coexist, preserving the city's essence and reflecting the life within its homes—an embodiment of community values and familial practices.

Extracting Spatial Patterns in Harat-al-Aqr

The above narrative serves as the experiential foundation for the analysis that follows in this section. It captures the phenomenological qualities and lived realities of Harat-al-Aqr that objective descriptions can often miss. It is from this immersive reading of the site that the core cultural tensions and underlying social logics first emerge. Building on those immersive insights, this section now distils these observations into a systematic framework using an adapted form of Alexander et al.'s (1977) pattern language. As established in the introduction, this study employs patterns as an interpretive lens for analysis. The value of this approach lies in its capacity to capture the user agency, cultural specificity, and dynamic processes inherent in the *harat*'s lived interiors. While Alexander et al.'s (1977) patterns offer design solutions for a general set of problems, this research argues that design should be context-specific and responsive to existing behavioural and usage patterns, as demonstrated in Harat-al-Aqr.

The case study inspires a new methodology for documenting reuse projects, especially those led by community action, that go beyond traditional design methods and capture the 'soft values' embedded in the built environment. The three patterns presented here are not prescriptive design principles, but illustrative case studies that demonstrate the type of tacit knowledge that can be articulated by studying the relationship between user behaviour and the built environment in reuse contexts. Their purpose is to illustrate how this interpretive approach can distil complex, real-world interactions into legible patterns.

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The contribution of this paper is therefore twofold. First, it offers a new and reproducible methodology for analysing the built environment that is rooted in spatial habits and patterns of use already present in a place, adapted from Alexander et al.'s (1977) pattern framework. Second, by articulating these findings as patterns, it champions an approach to regeneration that values and builds upon these inherent strengths. Whether using the patterns presented here or discovering new ones through the same methodology, the goal is to foster a more community-oriented practice.

The authors have tested the analytical method in a pedagogical context, revealing insights into cultural dynamics that are otherwise invisible to standard methodologies, such as SWOT analysis, architectural plans, or photographic documentation. This shift in function—from design to interpretation—necessitates a corresponding adaptation of Alexander's well-known *Problem-Context-Solution* structure, as presented in *A Pattern Language* (1977). To serve this analytical function, each pattern is presented in a new, three-part format: it begins with a Cultural Driver (which replaces the Problem by identifying the underlying motivation), is followed by a Descriptive Analysis (which mirrors the Context by detailing the observed response), and concludes with a Derived Principle (which reinterprets the Solution as a transferable insight). The Derived Principle aims not to extract prescriptive design guidelines, but to identify transferable socio-spatial logic. We must acknowledge that while this article provides a foundational insight, the full effectiveness of this framework can only be established through broader application across a larger number of patterns and case studies across different regional contexts. The intention here, therefore, is to demonstrate the value of this approach as an analytical tool that provides the contextual intelligence necessary for any sensitive intervention.

Pattern #1: Living Roofs

The cultural demand in vernacular Omani architecture for a communal, open-air living space within a dense urban fabric elevates the rooftop terrace to function as the primary domestic courtyard.

In much of the Arab world, the ground-floor courtyard has traditionally served as the multi-functional core of domestic life around which other enclosures for sleeping and washing facilities were clustered. In the smaller vernacular dwellings of the Ad Dakhiliyah region of Oman, however, ground-level open space had to be minimised, either to conserve arable land or for defensive clustering, leading to the distinct typology of the 'deconstructed' courtyard. Here, the

primary locus of family activity often shifted upwards to the first-floor terrace (Figure 1).

Figure 1
A diagram visualising the upward extension of interiority in vernacular Omani dwellings, where the first-floor terrace becomes the primary open-air living space (Image by authors, adapted from Bandyopadhyay, 2006)
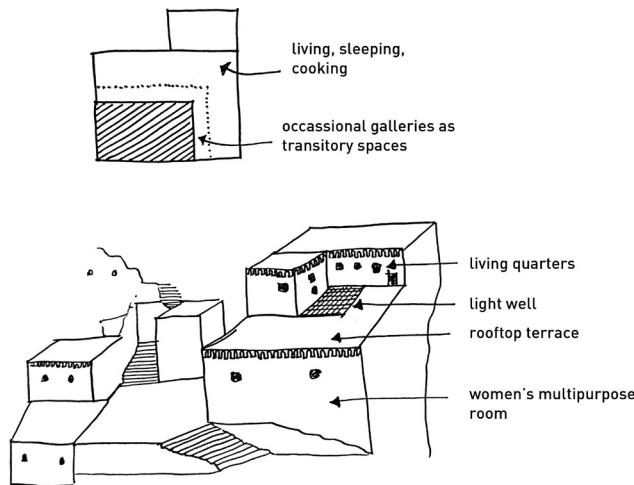
As highlighted by Bandyopadhyay (2004, 2006), this typology emerged as both an architectural response to Omani culture and a practical necessity within the dense fabric. Culturally, this upward shift accommodated the Omani heritage, valuing both the open-air freedom of *bedu* [nomadic] heritage and the functional demands of a *hadr* [settled] life. The elevated terrace also made more sense climatically, where intense heat rendered enclosed interiors or lower levels uncomfortable during the day for much of the year. The rooftop was often used to dry dates harvested from nearby plantations during the day, while in the evenings it became an essential breathing space, facilitating communal gatherings essential to Omani social life, and providing cooler temperatures for sleeping. The roof thus became an active, adaptable extension of the interior—a living roof that replaced the courtyard as the pivotal family space in smaller homes.

This deep-seated use pattern persists even in contemporary adaptations, where buildings reused as inns or cafés frequently claim the rooftops for communal dining and socialising, often with floor-level seating. Although an increasing number of homes now install makeshift coverings over the terrace for privacy from towering tourist inns or cafés, the roof's role as a multipurpose space continues (Figure 2). On the one hand, this practice adds to the blurring boundaries of inside-outside and public-private in the *harat*; on the other hand, it is the simplest, most direct translation of a spatial practice embedded within the Omani society, where core

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domestic activities occur at floor level. In rare cases where the rooftop is left unused due to insufficient stability or privacy requirements, it remains accessible as a vantage point, transforming into an informal balcony overlooking street life.

This phenomenon is reminiscent of the vernacular loggias of Chinchón near Madrid, as described by Rudofsky (1964), which served as theatre boxes during bullfights. Conversations with inn and café owners confirm that their use of the rooftop for floor-level dining is not a formal design strategy, but a direct continuation of a cultural understanding of roofs as places to stop, rest, and gather while overlooking the city below. From a broader, urban perspective, this practice also enhances street safety and comfort. With these rooftops almost always in visual contact with the surrounding public spaces, the principle of Jane Jacobs' (1961) *Eyes on the Street* is naturally activated, positively impacting the pedestrian experience.


Figure 2
The Living Roof pattern embodied in a contemporary reuse project (Photographs by Anat Cafe)

Therefore, the Living Roof pattern establishes a core principle: rooftops and terraces should be interpreted not as secondary spaces but as primary, open-air living rooms. This challenges the conventional hierarchy of domestic space by demonstrating a culturally specific and climate-responsive adaptation that extends interiority upwards.

However, applying this pattern requires a deep understanding of the context that generated it—namely, a hot-arid climate, high urban density, and a cultural need for both sheltered and open-air environments. While the specific form may not be transferable to, for instance, colder climates with pitched roofs, the underlying principle of valuing user-led appropriation over rigid functional definitions holds broader significance. This is particularly relevant today, as even in Western contexts, conventional notions of indoor-outdoor and public-private space are increasingly blurred, making way for more hybrid and dynamic uses of space.

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Pattern #2: Expanded Dwelling

The belief that 'home' is defined by social relationships, not by architectural boundaries, allows for the organic merging and linking of dwellings to meet evolving needs.

Unlike the conventional Western understanding of built space, where rooms and buildings are clearly defined, functionally fixed, and private boundaries are distinctly maintained, a more fluid approach shapes Harat al-Aqr's architecture. The residents of Harat al-Aqr perceive buildings not as rigidly assigned but as flexible providers of space—spaces that can be expanded, merged, or repurposed as needed. This fluid approach to spatial appropriation is made possible by strong communal bonds, the relatively modest scale of the neighbourhood, primarily private land ownership, and interfamily ties that extend back several generations (Bandyopadhyay, 2005; Benkari, 2019).

Adjacent homes are typically owned by extended family members or individuals well-known within the community. This familiarity makes it easier to expand or combine buildings where necessary to serve new functions, especially since individual dwellings are often too small to host public functions on their own. In such cases where adjacent homes are available for repurposing into a commercial or public function, they are often merged through new internal circulation between formerly separate dwellings (Figure 3).

Figure 3
Visualising the Expanded Dwelling pattern, where the conceptual merging of two homes (left) creates a cohesive new interior, connected with overhead palm fronds (right) (Image by authors; photograph by Nizwa Antique Inn from Booking.com)
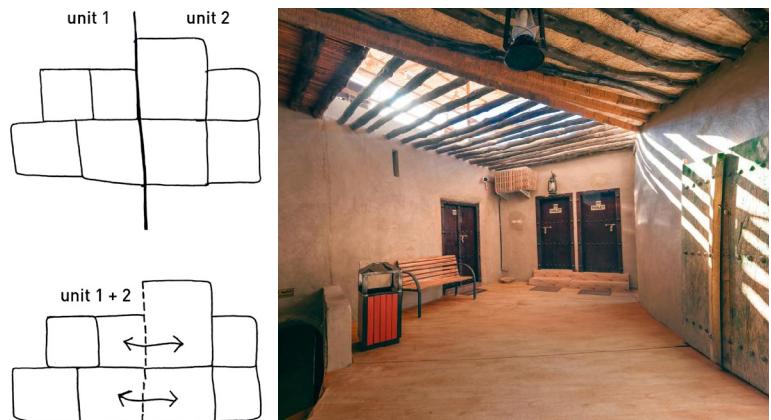
However, expansion sometimes encounters physical or social resistance due to the constraints of the surrounding context. In some cases, adjacent buildings remain inhabited as homes and cannot accommodate new functions. In other instances, neighbouring buildings are too deteriorated to be restored, and demolition and reconstruction prove costly. Expansion is also

challenging when ownership is unclear or when buildings fall under government jurisdiction.
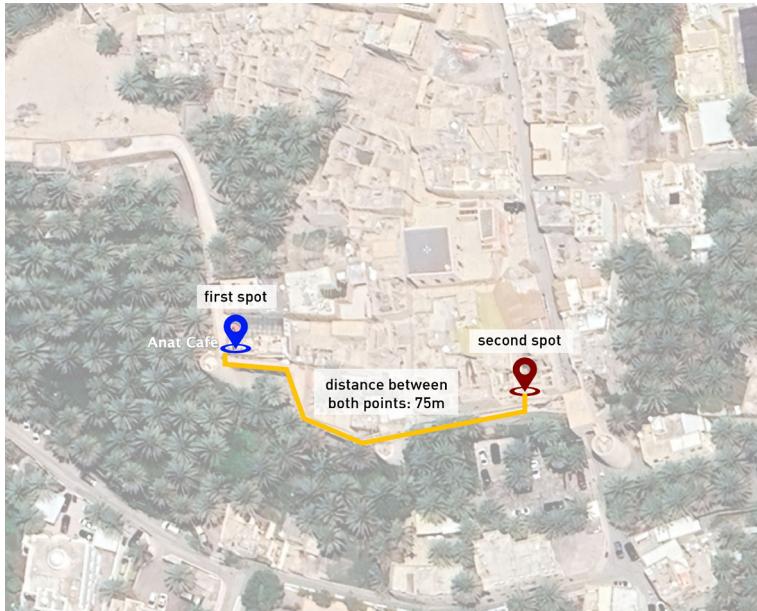
Figure 4
Distance between two sections of the same café (Image by authors over Google Earth image)

Figure 5
Visitors are guided through active neighbourhoods by signage, semi-covered walkways, strategically placed furniture, and interiorised streets while going from one point of the cafe to another (Photographs by authors)

In these instances, commercial-public operations adopt decentralised layouts, with cafés and inns extending across the street or expanding to the nearest feasible location (Figure 4). These non-adjacent buildings are linked through external circulation and place-making strategies, such as strategically placed furniture, semi-covered walkways, or signage that guides movement through the urban fabric, navigating visitors through active residential neighbourhoods. Along the way, visitors encounter scattered shoes at doorsteps, flowerpots placed by

residents to delineate sections of the street, or glimpses of everyday life through open doors (Figure 5).

Thus, once purely public streets become layered, semi-public extensions of domestic and commercial activities. The streets belong as much to the businesses that have expanded into them as to the residents who shape their surroundings through subtle, lived-in interventions (Figure 6). This act of life spilling outward and blurring boundaries, however, does not appear to be the result of a single, intentional master plan, as residents and entrepreneurs leading the revival were likely focused on curating the moments of encounter at the thresholds of their own establishments or homes. Yet, because the community is so attuned to one another, the cumulative effect of these individual decisions creates the impression of a uniform pattern of expanded dwelling.

use spills into neighbouring structures and adjacent streets

city fabric becomes an extension of interior activities
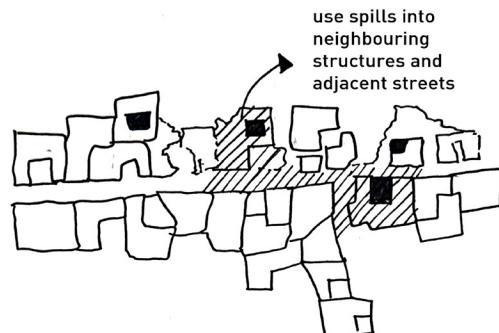
Figure 6
The city fabric becomes an extension of interior activity, illustrating how the Expanded Dwelling pattern claims and connects non-adjacent spaces (Images by authors)
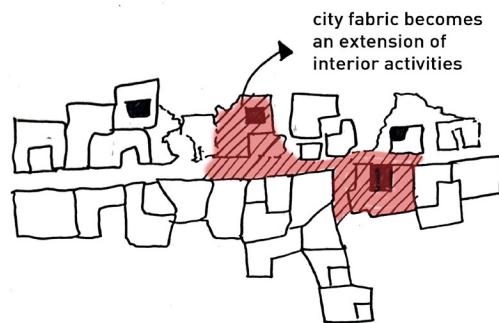
This approach to expansion is not a new design strategy but an organic extension of long-standing domestic practices. It is common for families in rural or peri-urban Oman to expand across adjacent homes or even across the street, treating multiple structures as extensions of a single living space (Benkari, 2017). Since contemporary reuse projects of the Harat are community-led, these same spatial habits

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and traditions of adaptive living are carried over to the commercial and public functions being integrated into the city fabric.

Therefore, the Expanded Dwelling pattern establishes that where strong community ties exist, the built environment can be treated as a fluid, adaptable resource, allowing for the organic merging and linking of structures. This process fosters a dynamic interplay between domestic and public functions, transforming circulation zones into inhabited spaces and extending interiority into the public realm. The blurring of these boundaries reinforces a sense of shared ownership and provides a powerful socio-spatial strategy that can be adapted for other contexts, particularly peri-urban areas with a vulnerable historical fabric, where strong social networks and familial ties can be leveraged to revitalise built heritage.

Pattern #3: Mutual Dependencies

The drive to reconcile the preservation of cultural authenticity with the pursuit of economic viability fosters a mutual dependency between ruin and restoration, as well as between residents and tourists in Harat-al-Aqr.

Harat-al-Aqr's contemporary identity is shaped by a network of mutual dependencies between the old and the new, the public and the private, and traditional life and staged authenticity. This mutual existence and reliance on opposing forces ensure that the *harat* is neither a preserved ruin nor an over-commercialised heritage site, but a lived-in space where past and present actively sustain one another.

Two key interdependent relationships are observable. First is the interplay between the *harat*'s decaying historical structures and the newly restored or reconstructed buildings. On the one hand, the ruins, with their weathered facades and partial collapse, reinforce the neighbourhood's historical atmosphere and provide an authentic backdrop that initially drew interest from tourists, researchers, and local visitors. However, it is the second layer of restored and newly adapted buildings that host public functions (inns, cafés, shops) that provide the necessary amenities and gathering places, ensuring a continuous influx of people. This activity, in turn, prevents the ruins from becoming forgotten relics, integrating them into a living narrative that can be experienced and, ideally, preserved.

Second, the *harat*'s social fabric relies on a similar interdependence between permanent residents and temporary visitors. The influx of visitors, initially drawn by romantic notions of the architectural fabric and ruins, has not only encouraged existing residents to reinvest in

their built environment but has also brought back residents who had otherwise abandoned the quarter for newer parts of Nizwa. Residents have, as a result, restored homes, created new shared spaces, and redefined passageways that had otherwise succumbed to urban decay (Benkari, 2021). Their ongoing inhabitation includes daily interactions within their social spheres in these shared spaces, trips to nearby shops or the *souk*, and daily mosque visits.

Figure 7
Diagrams illustrating the Mutual Dependencies pattern. The cycle shows how residents, visitors, and the built fabric mutually support one another (Images by authors)

In addition to local Omanis, a visible layer of residents now includes expatriate workers employed locally, inhabiting minimally adapted older homes. Their daily interactions in native languages, including Bengali, Hindi, and Urdu, echo across passageways, adding another dimension to the existing social sphere. This vibrant, multi-layered

inhabitation enhances the immersive experience sought by visitors, who do not merely encounter a staged past but become part of a place still shaped by everyday routines, cultural practices, and social interactions. Each layer sustains the other.

Therefore, Harat-al-Aqr demonstrates that the resilience and character of adaptively reused historic environments can hinge on a collaborative interdependence between elements (Figure 7). Rather than pursuing extremes of preservation or erasure, a more successful strategy appears to be fostering mutual reliance between seemingly opposing forces (such as old-new fabric, public-private realms, permanent–temporary social layers). This mutual reliance can work on different levels; for example, the authenticity inherent in a historical context and its embedded community attracts the interest and economic activity necessary for its maintenance and upkeep. This increased interest generates new functions and brings new actors who contribute essential energy and resources to the system. In parallel, an active community sustains the authenticity that visitors seek.

Figure 8
Photo illustrating the Mutual Dependencies pattern, where social exchange between locals and visitors is set against a landscape of coexisting ruin and restoration (Photograph by authors)

Achieving this delicate equilibrium, however, requires a degree of permeability and proximity between opposing forces, allowing interactions where, for instance, new architectural elements accentuate the aged character of the historic fabric, external appreciation encourages residents to reinvest in and perpetuate their own traditions, and the experience of public spaces is interiorised when private spheres spill into them (Figure 8).

Although these qualities have emerged organically in the *harat*, these principles of managing interdependence through permeability and co-existence could be consciously designed and implemented in other planned reuse projects, potentially overcoming resistance by creating truly lived-in, layered environments.

Reinterpreting Interior Reuse Through Vernacular Patterns

The patterns derived from Harat-al-Aqr illustrate how dynamic, user-led spatial practices can generate resilient and culturally resonant interiors. While emerging from a specific Omani context, these patterns offer broader insights. They demonstrate how: (i) interiority can extend beyond conventional boundaries; (ii) user agency actively shapes lived space through incremental change; (iii) a dynamic balance between preservation, adaptation, community life, and economic viability can sustain historic environments.

These patterns, while distinct, do not operate in isolation; they form an interconnected network that defines the resilience of Harat-al-Aqr. The Living Roofs provide the essential social spaces that reinforce the fluid perception of home described in Expanded Dwelling. In turn, both of these patterns are sustained by the delicate balance of Mutual Dependencies between residents and visitors. It is this web of relationships—the way the patterns reinforce and enable one another—that truly constitutes the living heritage of the quarter.

The significance of this study is therefore threefold. Conceptually, it argues that the value of historic interiors lies not in their status as static artefacts, but in their role as living environments that embody the collective intelligence of their users. This focus on 'livedness' fosters a more nuanced understanding of the interior, demonstrating how its qualities can extend beyond physical walls and into the shared social and spatial fabric of a community. In terms of practice, it proposes a reuse approach that shifts from imposing preconceived strategies to first interpreting and then amplifying the successful patterns of use and social relationships already present in a place. Finally, methodologically, it demonstrates a new application for Alexander et al.'s (1977) pattern language that challenges the limitations of rigid, strategy-based analysis, which often struggles to capture the fluid, process-oriented nature of vernacular adaptation where user practices are paramount. By reframing the patterns as an interpretive tool, it foregrounds the generative rules and cultural drivers underlying vernacular adaptation, thereby decentering the traditional 'expert' and making the tacit logic of such spaces legible.

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Contemporary architectural discourse increasingly seeks sustainable, low-tech, and culturally sensitive solutions by looking towards vernacular traditions; this was exemplified by the Slovenian Pavilion at the Venice Biennale in 2023, which focused on themes of ecology and learning from inexpensive, intuitive adaptations in the built environment (Zeitoun, 2023). In light of this increasing interest in holistic approaches to architecture and reuse, understanding how vernacular traditions adapt and integrate contemporary needs, as exemplified in Harat-al-Aqr, is crucial.

The pattern language framework, as proposed in this paper, could offer a valuable tool for this retreat to user-centric, pragmatic architectural solutions. This, in turn, would also enable a richer, more inclusive understanding of interior reuse that acknowledges diverse (hi)stories, actors, processes, and potential futures.

Acknowledgements

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