ZIKRY NASRULLAH

DECAY OF MATERIALS IN ARCHITECTURE

Introduction

Materiality plays a fundamental role in architecture beyond fulfilling structural or environmental requirements; it is intimately associated with perception, memory, and emotion. Through its tactile, visual, and olfactory properties, materiality shapes the sensory and tactile connection between architecture and the community. In particular, natural materials such as timber, mud or thatch carry within them the potential for weathering, wear, and "decay" – qualities that change buildings in temporal and ecological cycles. The term "decay" will be used in this essay to describe the gradual deterioration of a material's functional integrity over time, such as the erosion of mud walls by rain or the softening and rotting of timber through exposure to humidity and environmental conditions. Rather than treating "decay" as a symptom of failure, the essay reframes it as a mode of material engagement that reveals how societies interact with time, "decay", and maintenance. This raises the central research question: How do different societies embrace the "decay" of materials in architecture?

Drawing on theories of material culture and phenomenological perspectives, particularly the writings of Juhani Pallasmaa, the essay conducts a comparative analysis of The Great Mosque of Djenné in Mali, traditional Japanese *minka* houses, and vernacular Malay houses. These three typologies, while geographically and culturally distinct, share a foundational reliance on natural materials and a cyclical relationship with the environment. Through "decay", each building typology participates in a broader ontology of impermanence – responding to seasonal rhythms, ritual re-

newal, and intergenerational repair. However, these relationships also diverge according to how state and institutional policies support or hinder the cultural practices surrounding maintenance.

In contrast, contemporary architecture, characterised by materials like glass, concrete and steel, often resists "decay", favouring ageless perfection an d visual permanence (Pallasmaa 2012: 32). Pallasmaa critiques this condition in *The Eyes of the Skin*, positing that when surfaces are 'sealed' against time, they cease to record life. Hence, this essay questions what is lost when buildings no longer age – when the walls no longer stain, the wood no longer creaks, and the roof no longer requires patching. Can a building that does not weather still hold the imprints of bodies, seasons, and histories?

By reconsidering "decay" as a medium of contact – both ecological and cultural – this study repositions architecture not as a static object, but as a responsive ecology. In line with Heidegger's (1971) concept of dwelling, buildings are read as living structures that are shaped by and shape in return, the more-than-human forces that act upon them. As such, this essay examines the factors that facilitate the connection between materials and their community by analysing these key dimensions: 1) material maintenance as a cultural and communal act; 2) architecture as a living archive of time, labour, and memory; and lastly, 3) the socio-political frictions between local inhabitants, state policies and international conservation agendas.

Through these points, "decay" is not evidence of neglect, but reveals a strong sense of material culture and connection between architecture and the community. Therefore, with growing attempts at methods of conservation and in certain areas, an already lost heritage of these displaced spirits, there is a growing need for us to understand the importance of embracing this "decay". Ultimately, this essay argues that in embracing the decay of materials, communities do not merely preserve buildings but rather, they preserve their ways of being in the world.

Material Maintenance as a Cultural Act. Labour as Ritual and Identity Formation.

Transforming practical reinforcement into communal celebration

Situated at the heart of Djenné, in Mali, the Great Mosque is a symbol that synthesises Indigenous West African building traditions of incorporating earthen mounds with the Islamic beliefs of the community (Apotsos 2011). Figure 1 presents a map of Djenné in 2006 by the University of Cape Town that captures the spatial layout of the buildings, streets, and agricultural areas in Djenné. The Great Mosque, coloured in purple, is geographically located in the central region of Djenné and is easily accessible from the northwestern and northeastern ends. Its distinct orientation reflects Islamic prayer spaces with the *qibla* direction (Apotsos 2011).

In comparison to surrounding buildings, the Great Mosque is monumental in scale, measuring approximately 90 by 80 metres. However, as the mud walls erode during the rainy season and the mosque gets rebuilt during the annual replastering event known as *Crepissage*, its precise footprint fluctuates from

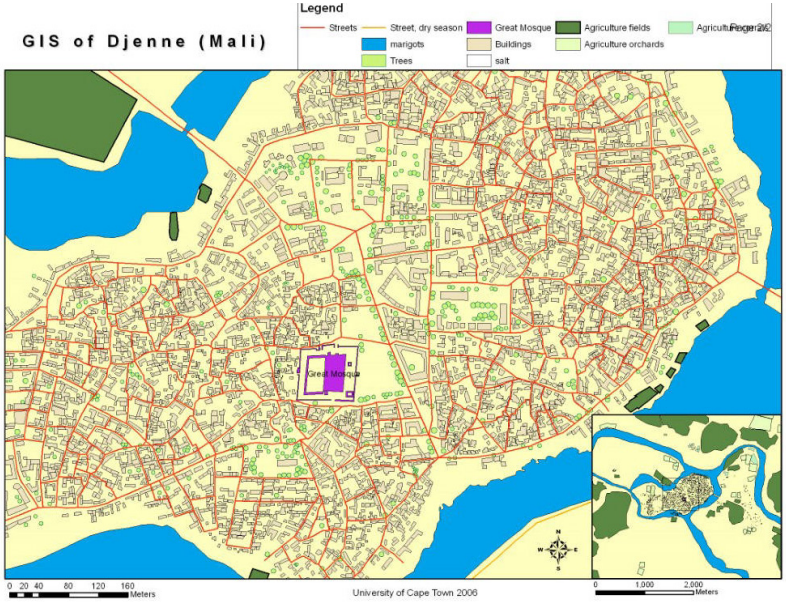


FIGURE 1
Geographic Information Systems (GIS) Map of Djenné.
Source: Zamani Project, 2006

year to year (Yeung 2019). As documented by Chesi (2019) in *Vernacular Architecture – Atlas for Living Throughout the World*, Djenné receives approximately 180 mm of rain during the rainy season, while remaining dry for the rest of the year. In response, the walls are constructed at a thickness between 20 to 40 cm to mitigate this erosion whilst thermally regulating the spaces between the fluctuating temperatures (Siriman & Wang 2021). Additionally, owing to its central geographical location and prominent size relative to neighbouring houses, the Great Mosque also serves as a focal point for civic and political life, connecting people from all walks of life (Bourgeois 1987).

For the community of Djenné, the *Crepissage* is more than a maintenance task – it is a sacred and celebratory ritual. Considered a "highly blessed act" to maintain a place of worship, the event is eagerly anticipated and widely participated in (Siriman & Wang 2021: 92). Figure 2 depicts the vibrancy of the *Crepissage* in 2019, with more than twenty individuals collaborating to repair a section of the facade. Children transport mud and water using woven baskets balanced on their heads, while adults engage in

the more physically demanding tasks. Some are seen standing on the existing walls and replastering a corner feature, others are stepping on *torons*, protruding palm branches that serve as both absorbing moisture and makeshift ladder rungs. The mud-stained garments and bodies of the participants visibly reflect their full bodily immersion in the process.

The mosque's true beauty lies not only in its architectural form but in its ability to embody what Apotsos (2011: 12) describes as "syncretic origins" through a spirit of social inclusion. From elders to children, every participant can make their mark on the structure. This tactile, communal engagement echoes Pallasmaa's (2012:26) notion that meaningful architecture is "born of the muscular and haptic sense more than the eye," where touch precedes vision in the experience of space.

Beyond its religious significance, the Great Mosque represents a profound interdependence between architecture and community. Its very material, mud, necessitates regular, embodied maintenance, fostering a deeply spiritual relationship between people and place. Such a connection might not have been as profound had the mosque been built with modern materials engineered to resist decay and disconnection. Therefore, the reliance on vulnerable, "decaying" materiality becomes not a limitation, but a vital force that sustains rituals, memory and identity across generations. It is precisely this vulnerability that compels care: the mosque's fragility demands repeated physical acts of repair and renewal; thereby fostering a sense of stewardship, intimacy and shared responsibility among its users.

Embracing the Rotting of Timber in Japanese Minka

Like the Great Mosque of Djenné, traditional Japanese *minka* dwellings reflect a cultural acceptance of material impermanence. Guided by Shinto and Buddhist principles, Japanese communities embrace the slow decay of timber as part of a broader reverence for the natural cycle of growth, degradation and renewal. As Kotrc (2020:25) underscores, "just as life is transient and in constant transformation", so too must architecture embody and accept change. Figure 3, an axonometric drawing by Plésums (1996), illustrates the structural logic of a *minka*. The vertical timber columns rest on foundation stones – an intentional detail designed to prevent direct contact with ground moisture, thereby delaying decay at the timber's base.

One horizontal beam in Figure 3 stands out for its irregular shape. Its contrast with the uniformly milled timbers suggests a symbolic or decorative role – perhaps once a structural column, now recycled into a less load-bearing element. This practice, as Kotrc (2020) notes, is characteristic of *Hinoki Cypress*, a timber prized not only for its strength but also for its aromatic and spiritual qualities. As the timber decays, it is recontextualised: a structural column becomes a beam, its refreshing scent infusing the domestic space and contributing to the *minka*'s unique olfactory atmosphere.

Just like how the village community comes together during the seasonal rice harvest, the repair of the *minka* also becomes a communal act – a spirit of community spirit still observed today (Locher 2010, as cited in Kotrc 2020). Figure 4 depicts the seasonal rethatching of a *minka* roof, which happens "approxi-

mately twenty years per house", which invites the village to work together and complete the rethatching in a single day – just like the replastering of the Great Mosque of Djenné.

Tanggam, Gotong-Royong and the Living Timber of Malay Houses

Traditional Malay houses, found in villages or *kampungs* throughout Southeast Asia, similarly express an architectural philosophy rooted in community, nature and Islamic beliefs. Like the *minka*, these houses are typically built using locally sourced, natural materials, such as timber, thatch, bamboo, and are infused with Islamic values and a cultural ethic of sustainability (Mohd Rashid 2018). Their lifecycles are inherently adaptable, shaped by the seasons of climate, family and environment.

In the past, the maintenance of these houses was led by the *tukang* or local master carpenters. These artisans possessed expert knowledge of *buka pasang* –the process of disassembling and reassembling structures using traditional *tanggam* joinery systems. These joinery techniques, like the *Tsugite* technique in Japanese cultures, omit nails entirely, relying instead on intricate interlocking woodwork passed down across generations as depicted in Figure 5.

Maintenance was not merely the responsibility of skilled craftspeople, however. It was also a communal practice, embedded in the spirit of *gotong royong* – a collective ethic of mutual aid. Whether repairing a roof, replacing floorboards or relocating an entire house to safer ground as depicted in Figure 6, these acts were undertaken collectively albeit not institutionalised into an annual event like Djenné's *Crepissage*, gotong royong represents a living form of cultural continuity. As Pallasmaa (2009, as cited in Mohd Rashid, 2018: 50) suggests, such practices exemplify "collaborative craftsmanship", reinforcing not only the house but also the relational bonds of the community.

The three case studies reveal that the maintenance of architecture extends beyond material stability to encompass memory and the collective labour invested in its upkeep. Decay, in this light, emerges as an invitation not to discard, but to gather, to repair, and to care. These are challenging yet crucial aspects that conservation efforts must capture, albeit most of it has been forgotten in the younger generation (Tajudeen, 2008).

Architecture as a Living Archive

In all three case studies, the material decay is not merely a passive process of architectural deterioration but an active inscription of time, memory and cultural continuity. Decay becomes a form of record-keeping – a layered archive of environmental patterns, bodily labour and generational stewardship. Rather than diminishing the architectural form, the maintenance inscribes the building with imprints of those who have shaped, inhabited and cared for it.

The Great Mosque of Djenné. Ritual Decay as Generational Archive

In Djenné, the seasonal rains erode the adobe walls of the Great Mosque, causing them to thin and wear with every passing year. This environmental decay,

far from indicating architectural failure, activates a communal ritual of renewal known as the *Crepissage de la Grande Mosquée* –an annual event where the community gathers to reapply layers of adobe plaster. In this cyclical renewal of material by human hands, the mosque transcends its role as a static monument and becomes a living archive– one in which decay, repair and renewal are interwoven in an ongoing narrative of cultural resilience.

The mosque can be understood as an architectural palimpsest; with each new layer of replastering, it carries the residue of past interactions while becoming a new iteration of itself. As illustrated in Figure 7, the darker patches of freshly applied mud visibly contrast with the older surfaces, materialising the stratigraphy of care across time. Far more than maintenance, the act of replastering represents the locals' collective authorship. For instance, this tradition reflects the Indigenous craftsmanship passed down through generations of *Bari* –master masons of Djenné (Marchand 2013). Trained from childhood through embodied apprenticeship, these artisans carry a lineage of expertise traceable to the 15th century. Their work is not recorded in written manuals but in the memory of hands, in the repetition of gestures and in the mud itself. Thus, the mosque is more than a religious edifice; it is a repository of embodied knowledge –a structure whose surface bears the marks of cultural continuity.



FIGURE 2
Annual reinforcement of the Great Mosque, known as the *Crepissage*. Source: Yeung, 2019.

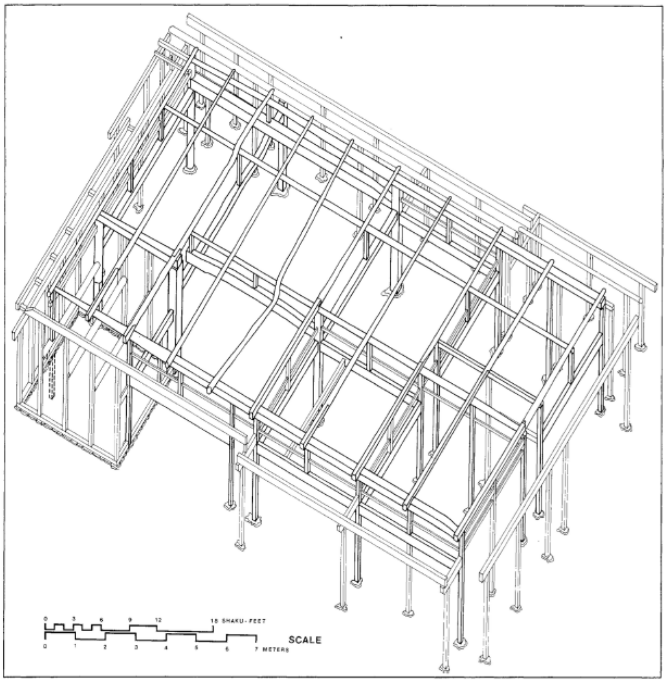


FIGURE 3
Basic framework of a traditional *minka*.
Source: Plésums, 1996.



FIGURE 4
Communal rethatching of a *minka* roof.
Source: Kotrc, 2020.

The *Minka*: Transience as Material Philosophy

Traditional Japanese *minka* also function as living archives, shaped by cycles of impermanence and transformation. Rooted in the aesthetics of *mujo* (impermanence) and wabi-sabi (beauty in imperfection in Japanese culture), *minka* architecture embraces the gradual deterioration of natural materials as a philosophical and sensory encounter with time.

For example, tatami mats wear thin, shoji paper screens yellow and tear, and timber beams darken and crack over time. Rather than flaws to be corrected, they are records of a life lived within the architecture. The weathering of materials becomes a haptic archive, where memory is stored in texture, scent and silence. The patina on timber is not polished away but honoured – tracing the imprint of climate, labour and ritual. In the *minka*, preservation is not about freezing a moment in time, but sustaining a dialogue with change. The house does not resist decay; it responds to it, integrating cycles of repair as part of its longevity. Crucially, these practices are both poetic and communal; replacing thatched roofs "once every 20 years or so" is less an aesthetic gesture of wabi-sabi than a response to the limits of natural fibres, the availability of labour and the productivity of the village economy. In this sense, the embrace of decay is shaped by both cultural ideals and functional-economic-technological motivations, mediated by the collective rhythms of repair. However, a critical account must therefore attend to how material longevity, maintenance cycles and regulatory regimes operate alongside the phenomenological dignity of ageing. Likewise, do conservation practices today acknowledge ageing not as a decline, but as deepening of architectural history? Too often, the impulse to sanitise and renew what appears 'old' reflects a broader discomfort with imperfection – an urge to make everything appear brand-new.

Traditional Malay Houses: Architecture as Communal Archive

Similar to the *minka*, Malay houses embody a responsive relationship between architecture, ecology and community. Exposed to Southeast Asia's humid tropical climate, these houses naturally weather and warp over time. Yet this vulnerability is not a design flaw; it is a form of attunement to the environment – a recognition that buildings, like the bodies that inhabit them, must adapt and regenerate. Rather than resisting decay, the Malay house incorporates it into a cycle of continuous renewal. Floorboards soften, thatch loosens, and timber joints creak – not as signs of decline, but prompts for communal action. Repairs are often carried out through gotong royong, drawing families and neighbours together in acts of collective care – just like the *Crepissage*.

Crucially, Malay houses are designed to evolve. Their *buka pasang* construction, enabled by *tanggam* joinery systems that require no nails, allows for modular disassembly and expansion. These modifications –whether to accommodate growing families or shifting landscapes – are often guided by oral traditions rather than formal architectural plans. The house, therefore, becomes a flexible instrument of knowledge transmission. As Bourdieu (1977) might argue, its form emerges not from abstract logic, but from *habitus* –the embodied practices of everyday life. Yet to describe Malay houses solely through *habitus* risks

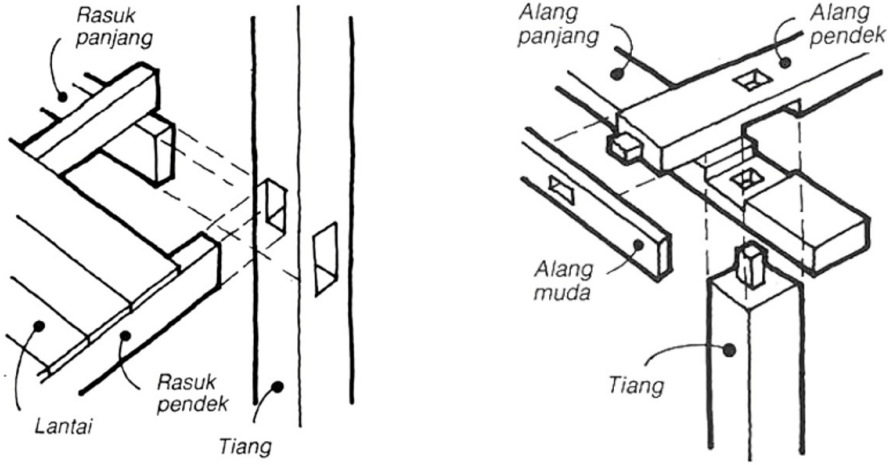


FIGURE 5
Tanggam joinery connection on the timber pillars employed by the *tukang*.
Source: Lim, 1987.





FIGURE 6
Gotong-royong of villagers in Malaysia to relocate a house.
Source: Mohd Rashid, 2018.

obscuring other forces that shape their adaptability. For instance, technological determinism would frame their modularity as a pragmatic response to material constraints, tropical climate and the availability of carpentry techniques. Holding these perspectives together reveals that adaptation is simultaneously cultural, embodied and technological –a negotiation between inherited practices and environmental demands.

Likewise, Indigenous scholarship has long emphasised this relational understanding of architecture. Figure 8 illustrates how the modular expansion of Malay houses, encompassing components like the *rumah ibu* (core), *serambi* (verandah), *dapur* (kitchen) and *selang* (corridor), allows for housing up to twelve family units, reflecting the perennial family values in a Malay household (Mohd Rashid 2018). This spatial adaptability encodes not just architectural technique, but social philosophy around the primacy of kinship and continuity of intergenerational care. Additionally, recent Southeast Asian literature further stresses how oral traditions, collective labour (*gotong royong*) and spiritual beliefs underpin the house's capacity to evolve without losing continuity (Mohamad 2025; Mohd Rashid 2018; Tajudeen 2008). The house itself becomes a teacher – instructing not through language, but through form, habit, and gesture. If its walls could talk, the Malay house would reveal that its architecture is not simply preserved – it is lived, evolved and remembered. In this way, the Malay house teaches that preservation is not static maintenance but the reproduction of living traditions across generations.

Across the three case studies, these buildings are not static relics fixed in time, but dynamic assemblages that continuously record the passage of time, seasons and labour of successive generations. Whether it is the *Bari* masons of Djenné, carpenters of Japan or the *tukang* and families of the Malay world, each intervention – each plastered wall, each joined beam – is an act of transmission. Thus, what does it mean to preserve? In these structures, the built form itself becomes a palimpsest of human and environmental engagement: a composite of materials from various times and contributors who honour its ageing by letting the materials breathe, erode and live. Yet this embrace of decay is not without a cost; it also entails constant maintenance, economic sacrifice and exposure to climatic risks. Seen in this light, what might appear as cultural preference is also a resilient negotiation with necessity, revealing how communities turn structural vulnerabilities into enduring traditions.

Conflicting Conservation Agendas

Conflicting Ideals between UNESCO and Locals in Djenné

In 1988, the Great Mosque and the Old Town of Djenné were jointly designated as a UNESCO World Heritage Site. While this recognition elevated the town's global cultural status, it also imposed significant constraints. Diakite, a site manager at the mosque, noted ongoing tensions as Djenné faces rapid urbanisation, with a population growth rate of 4.9 % (UNESCO, n.d.). He highlighted issues such as the preference among wealthier families for concrete banco and cement structures over traditional mud-



FIGURE 7
Contrasting mud layers during the annual *Crepissage*.
Source: FUGA, n.d.

brick, and a younger generation growing increasingly detached from heritage values (UNESCO n.d.; Joy 2016). In response, efforts to safeguard the town's Outstanding Universal Value (OUV) led to restrictive conservation policies aimed at preserving architectural authenticity.

These preservation policies, however, limit the ability of residents to modernise their homes to maintain pure architectural and historical authenticity. Although many locals take pride in Djenné's heritage and have preserved their facades, regulations also restrict interior modifications (Apotsos 2011). This makes integrating contemporary amenities challenging, fostering a sense that residents are being curated for heritage tourism, rather than supported in their everyday needs (Harvard n.d.). In such cases, the authenticity of a space becomes questionable when external preservation agendas compromise the liveability of local communities.

A key example of this tension was the 2006 intervention by the Aga Khan Trust for Culture (AKTC), a Geneva-based organisation which undertook struc-

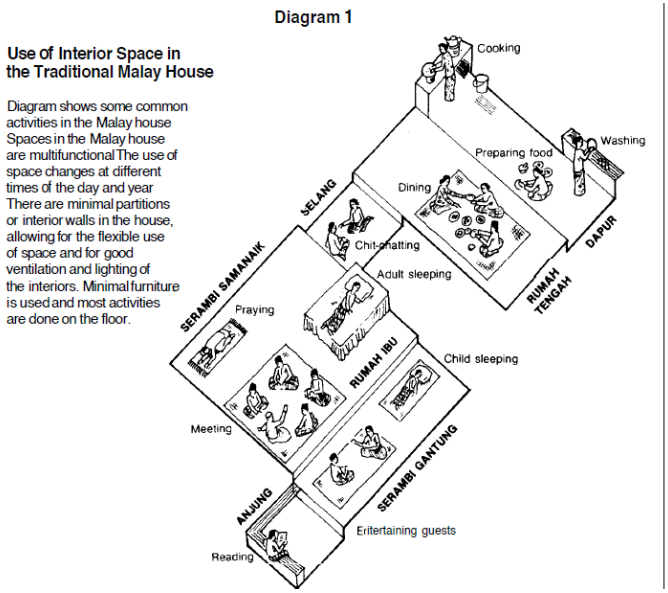


FIGURE 8
Typical layout of a traditional Malay house.
Source: Lim, n.d.

tural restoration of the Great Mosque – a similar issue faced during the preservation of the Borobudur in Yogyakarta. Years of replastering had inadvertently thickened the walls, causing stress to the original wooden superstructure. Through AKTC's actions addressing structural concerns, they suspended the *Crepissage* for three years – interrupting a vital civic and spiritual ritual (ibid). The *Crepissage* is more than maintenance; it is a festival of renewal, bringing the community together in collective labour and generating income through tourism. Smith (2015) has critiqued such interventions as expressions of "Authorised Heritage Discourse" (AHD), where global institutions define what is worth preserving, often sidelining local agencies. In Djenné, decisions were made by external bodies without embedded, long-term community engagement, such as the standardisation of tourist calendars to drive income (Joy 2016). Similar to the steel reinforcements of the Borobudur temple in Yogyakarta during the 1970s, these conservation efforts were primarily driven by the imperative to maintain the architectural form for heritage

tourism, often at the expense of authenticity (Darmawan 2023).

Yet there is a counterpoint worth noting: if the mosque's structural integrity had continued to degrade, the ritual itself would eventually have been imperilled. In this sense, structural repair is not inherently opposed to cultural practice but can be understood as its necessary precondition. The real tension, therefore, lies not in the act of repair, but in how it was executed – without adequate consultation, sensitivity to ritual timing or meaningful community involvement. This case foregrounds a recurring dilemma in global heritage management: when the goal of safeguarding architecture overrides the needs of those who utilise and inhabit it. For conservation to be meaningful, it must go beyond the physical preservation of inert objects to include the preservation of rituals, labour and lived traditions with place.

Commodification of a Traditional Japanese *Minka*

Unlike the contested conservation of Djenné, traditional Japanese *minka* have long existed under rigid structural regulations, both historical and contemporary. During the Edo period, national authorities (*bakufu*) enforced class-based restrictions on materials and techniques: straight-grained hinoki cypress, for instance, was prohibited for use by commoners (Wendelken-Mortensen 1994). Even structural dimensions, such as the beam span (*harima*) were dictated by social status (ibid).

Paradoxically, while these buildings reflected hierarchical constraints, Buddhist and Shinto beliefs framed all materials as impermanent – suggesting that even the most refined timber would "decay" in time (McKinney 2025). This duality generated a vernacular architecture where egalitarian philosophies coexisted with codified class systems, such as the thatching events and building rituals of placing foundation stones, known as *ishiba*, which ultimately fostered collective identity. In the post-war period, interest in the *minka* surged following visits by Western architects such as Bruno Taut. In response, the Japanese government passed the Law for the Protection of Cultural Properties (1950), classifying *minka* under Tangible Folk Cultural Properties. This was followed by a survey programme in the 1960s, aiming to preserve ten *minka* houses per prefecture (Wendelken-Mortensen 1994).

Yet conflicting mandates emerged. The Ministry of Education promoted restoration, contradicting the new regulations imposed by the Ministry of Construction, which prioritised public safety and rapid development. The regulations by the latter called for the demolition of these traditional structures to make way for more urban development (Wendelken-Mortensen 1994). This conflict led to the demolition of many *minkas*, particularly when inheritance taxes forced families to subdivide or sell properties. When preservation becomes a financial burden, is it still a form of care? Who then takes ownership of the architecture, if the owner is unable to afford the cost of repair and preservation?

Additionally, institutional restoration efforts often diverged from traditional carpentry techniques.

In preservation zones such as Tsumago[1], government advisors prescribed *hinoki* timber in areas like ground sills (*dodai*) and bathtubs[2] to "ensure their longevity and enhance their [houses] quality"[3] –ignoring master carpenters' warnings that such wood would decay quickly in damp conditions (Wendelken-Mortensen 1994: 202). As predicted, several restored houses required repair within a decade. These interventions, though intended to preserve, inadvertently undermined the expertise of *tōryō* (master carpenters) and disrupted the sacred nature of their work (ibid).

This disconnect also emerged in temple conservation. During the Hōryū-ji restoration, steel reinforcements were imposed despite opposition from Nishioka Tsunekazu, a respected tōryō. The metal compromised the wooden frame's flexibility, revealing "severe warping and cracking" and interfering with traditional dismantling techniques (Wendelken-Mortensen 1994). Moreover, the rotting timber was stabilised using resin injections – methods that distorted the material integrity of the original structure, solely to "make an ′authentic′ Edo period house" (Wendelken-Mortensen: 200). In attempting to 'fix' the past, institutions risked erasing the very qualities that gave the structure its authenticity – its material integrity, historical process, and lived temporal character. In addition to viewing these to be sloppy representations of their work, the master carpenters also questioned the quality of restoration as these eventually became converted into museums to drive heritage tourism.

The Harsh Reality of Maintaining Traditional Malay Houses

In contrast to Djenné and Japan, traditional Malay houses have struggled with long-term preservation amidst rapid urbanisation in the Southeast Asian regions and limited state support. Historically, maintenance was led by the locals themselves, guided by the communal ethic of *gotong-royong*. Timber reinforcements, roof patching and spatial extensions were managed collectively, relying on the joinery systems known as *tanggam*, which eased the process of assembly and disassembly.

Yet despite their cultural richness, traditional Malay houses, typically found in kampung, received little institutional support. Malaysia's Antiquities Act (1976) focused on colonial monuments, and it was not until the National Heritage Act (2005) that vernacular dwellings were formally recognised, almost 50 years after the Japanese government implemented their regulations to preserve Japanese *minkas*. By then, urbanisation had already shifted local as-

1 Tsurnago, located in Nagano Prefecture, is part of the preserved Edo-period post town Tsumago-juku, designated as an Important Preservation District for Groups of Traditional Buildings in Japan.

2 Dodai refers to the horizontal ground sills in timber construction, while bathtubs (likely battens or joinery components) were introduced as part of mid-20th-century preservation specifications.

3 These prescriptions were based on Ministry of Construction directives promoting hinoki cypress as a "superior" timber for preservation projects during the 1960s–70s.

pirations and sentiments towards concrete housing blocks, perceived as safe and more modern.

The shift away from staying and regularly maintaining the traditional *kampung* houses has arguably been influenced by the history of Southeast Asia. Unlike Djenné and Japan, the legacy of colonialism in Southeast Asia played a major role in shaping post-independence governments' development agendas, which often prioritised modernisation, urbanisation and economic growth over the preservation of vernacular architectural traditions. As a result, traditional forms such as the Malay houses were increasingly associated with backwardness, poverty or pre-modern life, where it should have been a core narrative in the Southeast Asian identity (Muzaini 2013).

While traditional Malay *kampung* houses still exist in Southeast Asia today, many locals struggle to maintain or restore their timber homes as organisations refuse to fund buildings that were built "without structural considerations or analysis" (Alsheikh Mahmoud et al. 2024: 12). Today, Indonesia continues to omit traditional *kampung* houses from their national building codes, whereas these houses in Malaysia receive minimal technical guidance despite the National Antiquities Act of 1976 and the National Heritage Act 2005 that recognise these as vernacular buildings worth conserving (Mohd Rashid 2018). While NGOs like Badan Warisan Malaysia have led restoration efforts, such as for Rumah Penghulu Abu Seman, these are isolated cases, often reliant on private funding from Yayasan Sime Darby and Ekuiti Nasional.

Unlike traditional Japanese *minka* houses, which benefit from national subsidies and heritage zoning, Malay houses rely on informal knowledge and fading intergenerational transmission, as their national governments continue to prioritise rapid urbanisation, tapping into "tourism and leisure as an important motivator" since the 1980s (Tajudeen: 7). Their decline underscores a broader issue: in the race for economic growth, forms of cultural knowledge risk being abandoned. Today, the large disconnect between the younger generation with these vernacular forms and the constant struggle for conservationists today reveal the gradually diminishing heritage. To bridge this gap, revised government guidelines should not "limit the ways how inhabitants [locals] are managing their building tradition", coupled with increased financial support, are some ways moving forward (Ng 2022).

In summary, while all three traditions engage with decay, their relationship with state institutions differs starkly. Ultimately, the question of authority regarding maintaining these buildings remains unclear till today. Djenné struggles with externally imposed heritage values; Japan negotiates tensions between preservation and innovation; and Southeast Asia contends with neglect. If decay is a record of time, then the politics of maintenance is a mirror of cultural values. What we choose to preserve – and how – reveals just as much about our future as it does about our past.

Contemporary Reinterpretations of Decay

The architectural cultures of Djenné, the Japanese *minka* and Southeast Asian *kampung* houses reveal how decay is anticipated, ritualised and sustained through cycles of collective labour. In each case, the fragility of materials is not resisted but embraced, inscribing buildings as living archives of communal life.

Contemporary architecture, however, engages with decay differently. In contexts where demolition and replacement often prevail, architects such as Lacaton & Vassal have pioneered strategies that reinterpret material ageing and structural decline as opportunities for transformation. Their approach offers a compelling counterpoint to the Indigenous and vernacular practices – while decay in Djenné or *kampung* houses culminates in renewal through repetition, in Lacaton & Vassal's work, it is reconfigured as continuity through adaptive reuse.

The renovation of the *Tour Bois-le-Prêtre* in Paris (2011) exemplifies this reorientation. Originally a deteriorating post-war housing block, its decay was embraced through a strategy of addition, rather than replacement by demolition. Lightweight winter gardens and balconies were attached to the existing structure, expanding apartments while simultaneously allowing for seasonal adaptation and user customisation, as depicted in Figure 9. As Colombo and Saitto observed, this methodology was "centred on an advanced study of the peculiarities of each estate and on a close dialogue with the residents" (2020: 66). Anne Lacaton herself described this as "a persistent paying of attention to all that exists, to what's already there, to all those things that develop at times, even without an architect" – a similar approach by the different case studies where the sensitivity of existing knowledge and stories are prioritised (Ibid.: 66).

Similarly, their work on the *Cité du Grand Parc* in Bordeaux (2016) and the *Palais de Tokyo* in Paris (2012) demonstrates an ethic of minimal intervention and unfinished materiality. Rather than imposing new forms, the architects valorise the existing structures, leaving visible traces of prior use and layering additional spaces that accommodate evolving domestic cultures. Löschke posits that these buildings "subscribe to low-tech, minimal intervention tactics along with the utilisation of everyday construction elements" (2015: 2). This strategy therefore acknowledges decay not as a flaw but as a condition to be extended and reinterpreted.

In comparison to the Djenné Mosque, where erosion necessitates annual communal replastering, the parallel lies in the recognition that buildings survive through maintenance rather than resistance to impermanence. Yet where Djenné transforms decay into ritual solidarity, Lacaton & Vassal translate it into an ethic of adaptability grounded in user agency. Just like how all three case studies, where each community responds to the effects of decay through perishable materials and collective rituals, Lacaton & Vassal reimagine it through permanence adapted for change. Together, these examples suggest that decay persists in contemporary architecture, though in a transformed guise – shifting from the cyclical renewals of mud, timber and bamboo to the adaptive reuse of concrete, glass and steel.

Conclusions

This essay does not seek to romanticise architectural decay, nor does it advocate for preserving dilapidated or unkempt buildings for their own sake. Rather, it aims to foreground material decay as a fundamental, temporal dimension of architecture – one that escapes the control or prediction of the architect.

"Decay" is not a defect to be designed out, but an inevitable process that occurs through exposure, use, and time. And crucially, it is this process of material erosion that elicits dynamic, adaptive responses from communities. Over time, such responses often evolve into rituals of renewal, embedded within cultural identity and collective memory.

Yet when we turn our gaze toward contemporary architecture, a discomforting gap emerges. Modern buildings of steel, glass, and concrete rarely evoke the same sense of intimacy or belonging. Could it be that materials engineered to resist age, time, and weather also resist human connection? The buildings explored in this essay are distinguished less by their natural materials than by their capacity to act as living archives, continually reshaped through impermanence, collective labour, seasonal rhythms, and generational knowledge. Whether it is the mud walls of Djenné, the fragrant timber beams of a Japanese *minka*, or the modular additions to a Malay *kampung* house, each embodies a reciprocal relationship between architecture and its stewards – creating an environment where the architecture and community can "inseparably belong" (Pallasmaa 2012: 25).

By contrast, much of contemporary architecture is designed to evade "decay" – to remain pristine, untouched and self-contained. But architects such as Lacaton & Vassal suggest that even within the permanence of concrete and steel, decay can be reimagined. Their adaptive reuse projects, from the *Tour Bois-le-Prêtre* to the *Cité du Grand Parc*, retain and extend ageing structures rather than erase them, layering new additions that accommodate temporality, user adaptation, and social continuity. In doing so, they



FIGURE 9
Before and after of *Tour Bois le Prêtre*, Paris.
Source: Philippe Ruault, 2011.

echo vernacular practices not by replicating rituals of repair, but by reframing decay as a resource for transformation – an open condition that sustains life across generations.

Taken together, both the vernacular and contemporary examples reveal that the true resilience of architecture may not lie in resisting decay, but in how meaning is continually restored through the hands, rituals and lives of its stewards. Notably, Frank Lloyd Wright reveals the importance of treating architecture as a living entity (Wright 1954, as cited in Pallasmaa 2012: 72). Wright ultimately believes that it is the sensitivity in the design, be it through the choice of material, explorative forms or concepts, that a "reciprocal relationship [between architecture and the community] is inevitable" and will emerge over time. Whether through the cyclical plastering of Djenné, the seasonal adjustments of the *minka*, the incremental expansions of the *kampung*, or the evolutionary transformations of Lacaton & Vassal, architecture finds its endurance not in permanence but in reciprocity – in the ongoing relationship between buildings and those who inhabit them.

§

References

Alsheikh Mahmoud, S., Hashim, H. B., Shamsudin, M. F., & Alsheikh Mahmoud, H. (2024). Effective preservation of traditional malay houses: A review of current practices and challenges. *Sustainability, 16*(11), 4773. https://doi.org/10.3390/su16114773

Apotsos, M. (2011). Holy Ground: Mud, Materiality and Meaning in the Djenné Mosque. *Rutgers Art Review, 27*, 2–16. https://rar.rutgers.edu/wp-content/uploads/2017/06/Volume-27.pdf

Bourgeois, J.-L. (1987). The History of the Great Mosques of Djenné. *African Arts, 20*(3), 54. https://doi.org/10.2307/3336477

Colombo, C. F., & Saitto, V. (2020). Inhabited Images: Drawing a New Life for Housing Complexes. *EGE-Expresión Gráfica En La Edificación, 13*, 64. https://doi.org/10.4995/ege.2020.14614

Darmawan, F. (2022). Konservasi vs pariwisata massal: Konflik kebijakan dan tantanganborobudur sebagai warisan budaya dunia unesco. *Jurnal Vokasi Indonesia, 10*(1), 22. https://doi.org/10.7454/jvi.v10i1.1175

FUGA. (n.d.). *Le crépissage annuel de la mosquée de Djenné. La Plateforme de La Culture de Mali*; Ministère de la Culture au Mali. https://fuga.gouv.ml/patrimoine/2873/

Gert, C. (2019). Building with Clay in the Sahel Region. In C. Schittich (Ed.), *Vernacular Architecture: Atlas for Living Throughout the World* (pp. 304–314). Birkhäuser.

Harvard. (n.d.). *Mosque of Djenné. Whose Culture? | The Curation and Management of World Heritage*; Department of History of Art and Architecture.

Retrieved 19 June 2025, from https://whoseculture.hsites.harvard.edu/?destination=mosque-djenne&cb=1519745642

Heidegger, M. (1971). Building, Dwelling, Thinking (A. Hofstadter, Trans.). In *Poetry, Language, Thought.* Harper Colophon Books.

Joy, C. (2016). *The politics of heritage management in Mali: From UNESCO to Djenne.* Routledge.

Kotrc, B. (2020). *Minka Reloaded – Re-use Concepts for Traditional Japanese Residential Houses since 1868.* https://doi.org/10.34726/HSS.2020.56236

Lim, J. Y. (n.d.). *The traditional Malay house* (Part II: Indigenous and Traditional Knowledge and Practices). https://www.doc-developpement-durable.org/file/Construction-Maisons_et_routes/MaisonsEnBambous/Malay_house.pdf

Lim, J. Y. (1987). *The Malay House: Rediscovering Malaysia's Indigenous Shelter System.* Institut Masyarakat Pulau Pinang.

Löschke, S. K. (2016). *Materiality and Architecture.* Routledge.

Marchand, T. (Director). (2013). Masons of Djenné -Trading Secrets (Vol. 2) [Interview]. *Smithsonian's National Museum of Natural History.* https://www.youtube.com/watch?v=bZBliVV6210

McKinney, K. S. (2025). *Intersections in Timber, Technology and Cultural Typologies: Finding the Balance Within Architecture* [Master of Science in Architecture, Virginia Polytechnic Institute and State University]. https://hdl.handle.net/10919/132473

Mohamad, J. (2025). *An Authenticity-Oriented Framework for the Conservation of Kelantan Traditional Malay Houses* (KTMH-AoCF) [Doctor of Philosophy, University of Sheffield]. https://etheses.whiterose.ac.uk/id/eprint/36620/

Mohd Rashid, A. (2018). *Disassembly and Assembly in the Malay Building Culture* [PhD Thesis, University of Sheffield]. http://etheses.whiterose.ac.uk/22827/

Muzaini, H. (2013). Heritage Landscapes and Nation-Building in Singapore. In *Changing Landscapes of Singapore: Old Tensions, New Discoveries.* NUS Press.

Ng, K.-K. (2022). Adaptation and hybridisation of the built vernacular heritage: A lesson from kampung morten, melaka malaysia. https://doi.org/10.13140/RG.2.2.23505.81769

Pallasmaa, J. (1996). *The Eyes of the Skin: Architecture and the Senses.* John Wiley & Sons.

Plēsums, G. (1996). The Tectonic Framework of Minka: Meaning Through Intensification in the Japanese Folkhouse. *1996 ACSA European Conference Copenhagen,* 269–274.

Siriman, D., & Wang, Y. (2021). The Survival of Earthen Architecture in Malian Sahel, Case Study: The Historic City of Djenné . *Current Urban Studies, 09*(01), 83–106. https://doi.org/10.4236/cus.2021.91006

Smith, L. (2015). Intangible Heritage: A challenge to the authorised heritage discourse? *Revista d'Etnologia de Catalunya, 40,* 133–142. https://www.raco.cat/index.php/RevistaEtnologia/article/download/293392/381920

Tajudeen, I. bin. (2008). *Recuperating ruins, re-inscribing identity: Royal citadels and state mosques in re- 'heritagization' projects in Melaka, Palembang and Makassar.* 1–14. http://www.inter-

national.icomos.org/quebec2008/cd/toindex/80_pdf/80-1X7o-143.pdf

UNESCO. (n.d.). Old Towns of Djenné (Mali). *UNESCO Urban Heritage Atlas: Cultural Mapping of Historic Cities and Settlements.* Retrieved 19 June 2025, from https://whc.unesco.org/en/urban-heritage-atlas/djenne/

Wendelken-Mortensen, C. (1994). *Living with the Past: Preservation and Development in Japanese Architecture and Town Planning* [Thesis, Massachusetts Institute of Technology]. https://dspace.mit.edu/handle/1721.1/12003

Yeung, P. (2019). *The Massive Mosque Built Once a Year.* https://www.bbc.com/travel/article/20190801-the-massive-mosque-built-once-a-year

Zamani Project. (2006). *Site—Djenné Mosque.* University of Cape Town. https://www.zamaniproject.org/site-mali-djenne-great-mosque.html

Figure References

Figure 1: Zamani Project (2006). Geographic Information Systems (GIS) Map of Djenné [Map]. University of Cape Town.

Figure 2: Yeung (2019). Annual Reinforcement of the Great Mosque, known as the Crepissage [Photograph].

Figure 3: Plésums (1996). Basic Framework of a Traditional Minka [Axonometric Drawing].

Figure 4: Kotrc (2020). Communal Rethatching of a Minka Roof [Photograph/Illustration].

Figure 5: Lim (1987). Tanggam joinery connection on the timber pillars employed by the tukang [Photograph/Illustration].

Figure 6: Mohd Rashid (2018). Gotong-royong of villagers in Malaysia to relocate a house [Photograph/Illustration].

Figure 7: FUGA (n.d.). Contrasting mud layers during the annual Crepissage [Photograph].

Figure 8: Lim (n.d.). Typical layout of a traditional Malay house [Drawing/Diagram].

Figure 9: Ruault, P. (2011). Before and after of Tour Bois le Prêtre, Paris [Photograph].