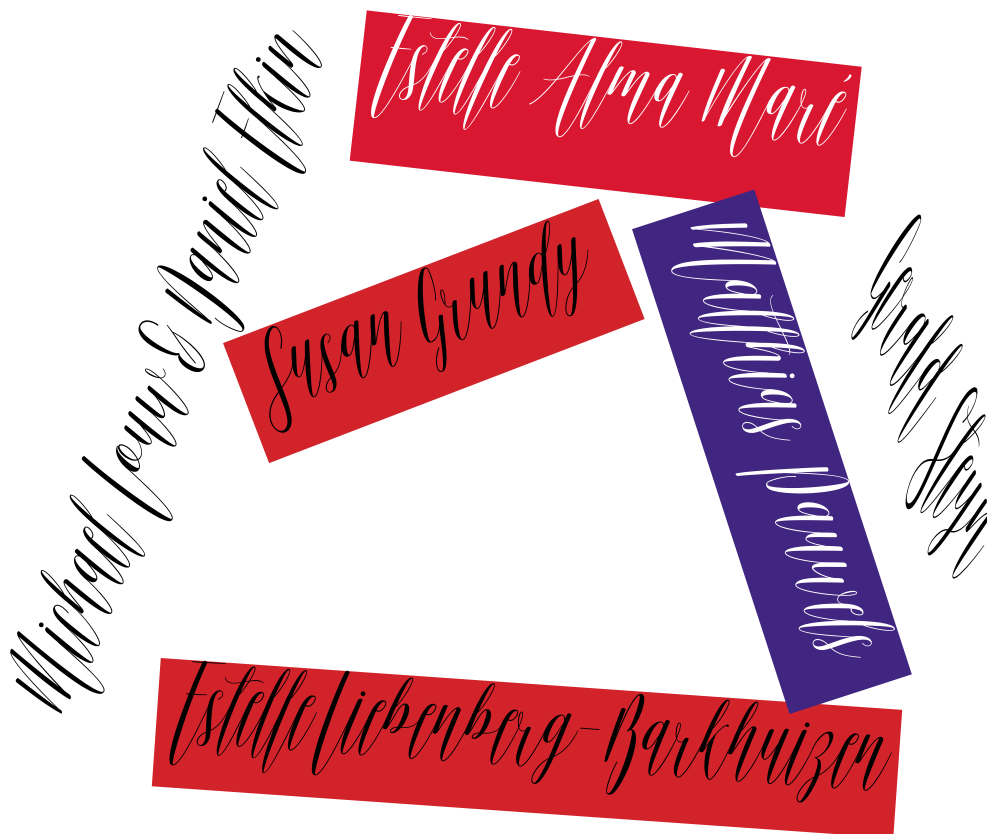


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# Tectonic agency in Africa: Reinvigorating collective making through repair

## Michael Louw

University of Cape Town

Email: Michael.Louw@uct.ac.za

## Daniel Elkin

Hong Kong Polytechnic University

Email: Daniel.K.Elkin@polyu.edu.hk

This paper explores the African concepts of *ubuntu* and *ukama* in relation to *sympoiēsis*, or collective making. Traditional practices like *litema* and the re-claying of the Great Mosque of Djenné demonstrate the complex relatedness between people, and between people and the environment, and highlight the tectonic tensions between the social and the material. An overview of the Hikma Religious and Secular Complex in Niger shows how some of these tensions can be addressed through socio-environmentally conscious material selection and how this can enable collective modes of making. It is argued that tectonic agency and the strengthening of tectonic networks can contribute towards the reinvigoration of collective making through repair.

**Keywords:** Djenné, Hikma, *litema*, *ubuntu*, *ukama*

### **Mafapha a Tectonic Afrika: Ntlatfatsa ea ho etsa ‘moho ka ho lokisa**

Pampiri ena e hlahloba likhopolo tsa Mafrika tsa botho le kamano mabapi le tloaelo ea ho etsa lintho ‘moho. Mekhoa ea bochaba joalo ka *litema* le ho lila bocha ha Mosque o Moholo oa Djenné li bonts’a kamano e tebileng lipakeng tsa motho le tikelohlo, hape li totobatsa likhohlano lipakeng tsa *tectonic*, sechaba le Tse ba potileng. Kakaretso ea Hikma ea Bolumeli le ea Sechaba Complex e Niger e bonts’a hore na tse ling tsa likhohlano tse na li ka sebetsoa joang ka khetho ea lisebelisoa tse hlokomelang tikelohlo le hore na sena se ka thusa mekhona e fapaneng ea ho etsa lintho joang. Ho boleloa hore mafapha a *tectonic* le ntlatfatsa ea marang-rang, li ka kopana ‘me tsa thusana ho ntlatfatsa lihlahisoa ‘moho ka ho lokisa.

**Mantsoe a bohlokoa:** Djenné, Hikma, *litema*, *ubuntu*, *ukama*

## *Litema* as a tectonic tradition of repair

The word tectonic has a layered meaning, and according to Kenneth Frampton and Stanford Anderson, it refers to a way of making that has clearly related aesthetic, artistic and poetic characteristics<sup>1</sup> (Anderson 1980: 83; Frampton 2002: 14). Building on the work of Karl Bötticher and Gottfried Semper, Frampton writes that the tectonic primarily refers to structure and construction, but also to the “potentially poetic manifestation of structure in the original Greek sense of *poiēsis* as an act of making and revealing” (1995: 3; 2002: 92).

As a tectonic tradition of repair, the *Basotho*<sup>2</sup> practice of *litema*<sup>3</sup> in southern Africa is a manifestation of this relationship between construction and *poiēsis*. It is a form of mural wall art applied on the outside of dwellings using engraved patterns, painting, relief mouldings or mosaics made with embedded pebbles. Traditionally practitioners used local materials and pigments, but they must increasingly supplement or replace these with powdered paints mixed with whitewash (Van Wyk 1998: 58). Patterns are replaced, often in a different design, during the dry season to repair surfaces or to celebrate special events like weddings, the birth of a child, or religious happenings (Goitsemodimo 2016: np; Kammeyer 2010: 1). They can serve as an appeal for blessings from the ancestors, which links *litema* across time (Kammeyer 2010: 239; Van Wyk 1998: 58), but also demonstrates the links between people and between people and the environment.

Since *litema* is a domestic application, it is characterised by distributed, individualised expressions, influenced by migration and often by access to suitable materials (Ndandani 2015: 7). Urbanisation-related demographic change often dilutes traditional practices, while the disconnection from material foraging contexts supports different ways of making where industrially produced materials become most expedient for the construction of a dwelling. These shifts have direct implications for repair, and to the reinforcement of group identity and community through making. They highlight how tectonic practices are shaped by changing social, political and environmental circumstances, and how repair and preservation practices are prone to change.



**Figure 1**

***Litema* being applied to a house. The artform can include various techniques, and while the patterns have associations with cultivation, the colours are highly symbolic<sup>4</sup> (photograph by Heinrich Kammeyer 2010, mural artist unknown).**

## ***Ubuntu, ukama and collective making***

As Félix Guattari writes, “It is not only species that are becoming extinct but also the words, phrases and gestures of human solidarity” (Guattari 2000: 44). Heinrich Kammeyer associates *litema* directly with the concept of *ubuntu* or *botho* (2010: 161, 244), and he writes that it responds to the maker’s changing psychological, social, and physical context. In Africa, *ubuntu*, in relation to collective making, can be read as a case of *sympoiēsis*. Difficult to define, *ubuntu* is a sub-Saharan concept often described as “humanism or humaneness” (Mnyaka and Motlhabi 2005: 215).<sup>5</sup> It reflects the concept of collective identity in John Mbiti’s description of its meaning as “I am, because we are; and since we are, therefore I am” (1990: 106). Lesley le Grange (2012b: 332) writes that the morality expressed by *ubuntu* is rooted in community – in contrast to Western individualism. He refutes the criticism that *ubuntu* is species-ist, contending that it forms part of the broader concept of *ukama*, through which its relatedness between people can be extended to include the relatedness between people and the environment.

*Ukama* is a Shona<sup>6</sup> word for “the relatedness of everything” (Swilling 2020: 21). In this sense it does not only apply to humans, but it is regarded as the relatedness to the universe as a whole. In terms of repair, this relatedness is evident in living traditions like *litema* and ritualised events, including the re-claying of the Great Mosque of Djenné in Mali. Although romanticisation of these practices obscures hardships related to deterioration and repair, they can foster a form of social cohesion, often with symbolic or spiritual connections, that is a direct result of their materiality. In relation to *ubuntu* and *ukama*, Le Grange notes how crisis could either lead to the replacement of “outmoded thinking and values” or to their rejuvenation. He sees *ubuntu* as something that can save or restore the values that have been eroded by colonialism, and he argues that modern science and technology are partly to blame for the erosion of *ukama* (Le Grange 2012a: 56, 62; 2012b: 329).

The value systems and ethical considerations that underpin the making and repair of buildings are often politically complex, and contribute to social, economic, and environmental imbalances. Modern manufacturing processes and technologies reveal themselves as *challenging* nature, not as *poiēsis*, the creative rather than extractive act of bringing something into being represented in a pre-globalization framework (Heidegger 1977: 14). Donna Haraway warns against a “comic faith in technofixes” for the problems of the Anthropocene,<sup>7</sup> but she recognises that “it remains important to embrace situated technical projects and their people” (2016: 3). She sees making as a collective act that occurs through the involvement of people and nature, and contrasts *poiēsis* with *sympoiēsis* or “making with”, which she regards as an appropriate description for “complex, dynamic, responsive, situated, historical systems” (Haraway 2016: 58).

Due to relocation, material scarcity and other factors, historical systems and practices are in many instances not tenable any longer, but the essence of the spirit in which they were practiced may continue. As Martin Heidegger argues, to save something does not mean “only to seize hold of a thing threatened by ruin in order to secure it in its former continuance”, but rather to “fetch something home into its essence” (Heidegger and Krell 2011: 233). As Guattari also notes, ecosophy (like *ubuntu* and *ukama*) is not about returning to past ways of being, but about a different mode of modernity which will be “a question of literally reconstructing the modalities of ‘group-being’” (Guattari 2000: 34). Culture is not singular anymore (Bhabha 2004: 52), and people’s identities have become increasingly fluid with the added possibility of carrying multiple identities at any given time. These are not only defined by being part of a



place-specific community but can also be based on mutual interests or values (Noble 2014: 111; Schwab 2017: 82).

Le Grange notes that *ukama* refers to people's relatedness to the complex and changing biophysical world, but that it also means oneness with past, present and future generations (2012a: 62; 2012b: 332). As a communicative device, *litema*'s appeals to the ancestors and its recognition of the arrival of new generations are still prevalent, but its symbolic relationship to nature is changing. Gary van Wyk observes that in the early 1900s "a wide inventory of named designs – mostly referring to plants – was in use. Few Basotho women know or use these today". He goes on to say that the social roles in Basotho culture and its architecture have changed too, partly due to historic dispossession, but that "Many residual traces of these symbolic connections between Creation, women, and the mud house persist today" (1998: 58).

*Ukama* seems to predate both Arne Naess's concept of deep ecology, and the commonly held contemporary definition of sustainable development described in *Our Common Future*<sup>8</sup> as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".<sup>9</sup> Le Grange (2012a: 57; 2012b: 334) describes *ubuntu* as an ecosophy that relates to Guattari's three ecologies of the self, the social, and nature (Guattari 2000). He notes how Africa's challenges interrelate and that Guattari's concept of *transversality* could imply that "Healing in one ecological register will therefore effect healing in other ecological dimensions" (Le Grange 2012b: 334). Regarded through this lens, repair practice for the self and for one's community could promote environmental healing and vice versa. By extending Haraway's notion of "polytemporal, polyspatial knottings" (2016: 60) into the built environment, we regard *sympoiētically* produced buildings as ecological assemblages that challenge spatial and temporal boundedness through socio-environmental repair.

### **Ritual, repair, and tectonic tensions in Djenné**

*Litema* is an example of individual communicative expression which reinforces an individual's sense of community (*ubuntu*) and their relatedness to material and space (*ukama*). In comparison to the distributed domestic practice of *litema*, the annual re-claying celebration of the Great Mosque in Djenné is a centralised undertaking rooted in its context, which ties the community of the town together in a particular time and place. The collective practice of repair is enacted through the annual performative ritual, and it exemplifies *sympoiēsis* through repair. A mosque was first built in its current location in the thirteenth century, but the current structure, which is arguably the largest extant adobe building in the world was built in 1907 (Chabbi-Chemrouk 2007: 2; Marchand 2015: 5). It is reported that local masons did the building work under their leader Ismaila Traoré with the assistance of conscripted labourers, but the French administration is widely credited with the design, engineering and supervision of the rebuilding of the mosque.<sup>10</sup> Jean-Louis Bourgeois, however, has a different view and argues that the current structure was designed, engineered and built by local masons, and that "the monument is basically African" (Bourgeois 1987: 58).





Figure 2

The Great Mosque of Djenné in its context

(photograph by Ralf Steinberger, 2009, retrieved from the public domain [https://commons.wikimedia.org/wiki/File:The\\_Great\\_Mosque\\_of\\_Djenn%C3%A9\\_in\\_Mali\\_is\\_the\\_largest\\_mud\\_brick\\_building\\_in\\_the\\_world.\\_\(32931594225\).jpg](https://commons.wikimedia.org/wiki/File:The_Great_Mosque_of_Djenn%C3%A9_in_Mali_is_the_largest_mud_brick_building_in_the_world._(32931594225).jpg) cc-by-2.0).

Despite these differing positions about its origins, the building is integral to the community of Djenné, as both tangible and intangible heritage. Trevor Marchand explains that “the mosque and its spectacular annual re-claying ceremony feed social and political imaginings of pre-colonial roots, authenticity, and sustained tradition” (2015: 5). Naïma Chabbi-Chemrouk describes the re-claying as “a necessary ritual” (2007: 8) that takes place every year under the supervision of the *barey ton* which is an association of local masons, similar to a guild, that can be described as a local tectonic network. The annual re-claying repairs damage inflicted during the preceding year, and this process is clearly embedded in its socio-environmental context. The mosque is constructed with *banco*, the local word for the mud used for building, and some of its most striking features are the ornamental *toron* that protrude from the façade (Marchand 2009: 10). *Toron* serve as permanent scaffolding to enable repair and, notably, local availability of palm trunks required to construct them is dwindling. According to Chabbi-Chemrouk, Djenné is adapted to the life of the Bani river whose cycles allow for fishing, the planting of rice, grazing, and the preparation of *banco* during different times of the year (2007: 2). This might conjure an idealised vision of relatedness, but the reality is that the life of the Bani is also adversely influenced by human actions.<sup>11</sup>

UNESCO designated the Great Mosque, along with the old town nearby, as a World Heritage Site in 1988 and the Mali Ministry of Culture established a Cultural Mission in the town to preserve and support its heritage. The Dutch government funded a seven-year long project for the conservation and rehabilitation of buildings in Djenné in 1995, including role players from Mali and the Netherlands. This ended in 2002, and in 2004 local residents established a committee to arrange a *Festival du Djennéry* for 2005 to promote the town as a tourist destination. They decided well in advance to set a date for the re-claying in February to capitalise on Mali’s fairly short tourism season, despite the fact that the re-claying traditionally always took place during the dry season in March or April on a date set, usually at short notice, by the chief of the *barey ton* and town elders.

This decision caused tension between the committee and the elders who previously chose an auspicious date. During the same year, representatives from the Aga Khan Trust for Culture (AKTC) visited Djenné, and a team from the AKTC returned again in 2006 based on prior agreements with stakeholders to collaborate on the restoration of the mosque. During a survey of the mosque, inspectors made a small hole in the roof which caused a riot in the town. Soldiers and police were deployed to quell the disturbance, which unfortunately resulted in one death. The Cultural Mission was accused of undemocratic decision-making and poor consultation. Among possible reasons for the riot, one concern raised was that heritage projects are perceived to benefit the elite, and the exclusion of local youth from the poorer parts of town caused animosity. This conflict between agents is, however, not purely local, but instead “a web of tension is spun at local, national, and international levels” (Marchand 2015: 11).

The AKTC eventually returned in 2009 to commence restoration of the mosque, which was a collaboration between foreign experts, local masons, and local labourers. They began by removing the 600mm-deep accumulation of mud on the roof to assess the integrity of the substructure made from timber and palm tree trunks. There was a re-claying event in June, but heavy rain collapsed one of the mosque’s towers in November of that year, injuring four masons. This led to a thorough inspection that prompted larger-scale repairs, requiring removal of most of the outer layers of accumulated mud on the walls. The reconstruction revived the use of *djenné-feréy* (local cylindrical mud bricks that are pre-stressed by hand and that were used almost exclusively in Djenné until the 1930s) instead of *tubaabu-feréy* (known as “white man’s bricks”, which are made in rectangular moulds for faster construction). Some local masons are of the opinion that the *djenné-feréy* are more resilient, but that if a structure built with them becomes unstable it cannot be repaired (Marchand 2009: 41). Despite this, the decision was positively received by the community. Cancellation of the re-claying in 2010 and 2011, combined with the strict maintenance regulations issued by the AKTC raised concerns about the extent of foreign influence. These were partly dispelled when the re-claying was reinstated in 2012. Since then, wider political instability has led to a reduction in tourism and visitors by foreigners, which has effectively returned agent control over the mosque, with associated responsibilities and challenges, to the local community.

The relatedness between people on a local level is well-established, but the relatedness of people across borders is a more complex issue in terms of repair. While there may have been some co-production involved in the various phases mentioned above, the mosque seems to reveal different attitudes towards permanence and transience. In relation to the restoration, the master mason Konbaba Tennepo remarks that “If you ask us, we would say that they did it in a European way. It’s no longer the African way” (Tennepo in Marchand 2013). It would be tempting to read the AKTC’s involvement as being representative of a Northern way of making with its aims of long-term durability and permanence, and to contrast this with Southern notions of transience and regular renewal. But as Sunanda Sanyal argues, the “cultural identities of sub-Saharan Africa have been especially vulnerable to this tyranny of polarities” (2014: 95). Binaries often collapse, and whether the AKTC’s approach or its contributors were Northern or Southern or neither is open for debate, while local ways of making have always been prone to outside exchanges, even prior to colonisation (Marchand 2009: 11; 2013). Both the global South and the global North are prone to cultural ambiguities. Marchand argues that tradition is dynamic and subject to constant change, and he describes how the local masons’ practice is a constant dialogue between “so-called traditional black-African knowledge (*bey-bibi*), Islamic knowledge (*bey-koray*), technical know-how, and basic engineering principles” (2009: 8, 25, 26). He goes on to say that “Though Djenné’s architecture has, for the most part, remained

remarkably consistent over the past century or longer (arguably the result, at least partially, of the hegemony of colonial and post-colonial nation-state discourses on heritage and authenticity), the building tradition has by no means been static” (2009: 223).

The very material that the mosque and other buildings in Djenné are made from is changing. Marchand writes that “The laterite excavated near town tends to contain a high content of refuse, and this makes its way rather directly into bricks and gets churned up in the mortar. Shards of glass, rusting tin cans, plastics, packaging, rags, cigarette cartons, dried animal dung, discarded batteries, bones, and even old bicycle chains are encased daily in Djenné’s new walls” (2009: 177). In other instances, natural materials are augmented by industrially produced ones to improve their performance. Some of the mud walls in Djenné are treated with Cypermethrin close to ground level to repel termites, and the clay foundations are being replaced with stone and concrete (Marchand 2009: 35, 44). The re-claying also changes the form of buildings over time, which means that the buildings are continually in flux. Mark Rakatansky cites Jacques Lacan, saying “The object is encountered and is structured along the path of repetition – to find the object again, to repeat the object. Except, it never is the same object which the subject encounters. In other words, he never ceases generating substitutive objects” (Lacan in Rakatansky 1996: 37).



**Figure 3, left**

**Community members carrying *banco* to the mosque for the re-claying ceremony (photograph by MINUSMA/Sophie Ravier, 2015, retrieved from the public domain <https://www.flickr.com/photos/minusma/17610694336/in/album-72157652390121018/> CC BY-NC-SA 2.0).**

**Figure 4, right**

**Masons re-claying the walls of the mosque using the protruding *toron* as scaffolding (photograph by MINUSMA/Sophie Ravier, 2015, retrieved from the public domain <https://www.flickr.com/photos/minusma/17449181748/in/album-72157652390121018/> CC BY-NC-SA 2.0).**

It is uncertain whether the mosque would have collapsed due to the build-up of mud on the roof and the layers of mud on the walls which have become poorer due to the speed of annual re-claying. The mosque has been well-documented through drawing, photography and more recently, three-dimensional scanning.<sup>12</sup> This raises the question of how a potential collapse would be perceived in the global North and the global South, and to what extent its tangible and

intangible heritage is valued by different groups. Does its importance lie in its form, materiality, program, or the traditions and rituals of its making and re-making? As Marchand says, “it needs to be respectfully acknowledged that as long as there is a resident community with the skilled know-how to make and remake, modify, and maintain the structure and the available materials and conditions to do so, Djenné’s Great Mosque will surely endure” (2015: 14).

### **Tectonic networks, architectural discourse, and agency**

Repair phenomena comparisons between *litema* and re-claying of Djenné’s Great Mosque have implications for how we construct *tectonic networks* and agencies within them into architectural discourse. To construct these premises, we must examine some values architecture may hold, the implications they have for scarcity conflicts, and the privilege of different agencies within them. The premises we discuss are *tectonic legibility* and *preservation*, as a discursive construction around built objects with political consequences for people who consume them. Here one can differentiate between preservation as a way of keeping something in good repair by “fixing” it in its current state, an applied definition that has faced criticism,<sup>13</sup> and repair as a more dynamic practice of keeping something in good repair while accepting changing conditions and manifestations. We argue that *litema* and the re-claying of the mosque are both examples of the latter. With *litema*, patterns are changed regularly, and the constituting material is also fluid depending on the context of a given dwelling. With the re-claying ceremony of the mosque, subtle changes to its form are caused by the annual build-up of material, while its constituting material also changes due to pollution and environmental factors. Both of these are different to the *restoration* of the mosque where the AKTC’s intervention to return the mosque to its “original” state caused a sudden change in its appearance that is not a static or dynamic form of *preservation*. This return to an idealised object caused many of the tensions described previously. “The search for such an ideal identity, that obscure object of desire – that desire, in Freud’s words, ‘to convince oneself that it is still there’ – never results in the ideal object” (Rakatansky 1996: 37). The idealised object, attempted through restoration or as a static form of preservation, does not sufficiently engage with local socio-political contexts and tectonic practices, and Rakatansky goes on to criticise the fetishisation of materials and details instead of celebrating the “social artifice of material construction” (1996: 43).

We develop tectonic network from “construction technology network” (CTN) described by John Turner and Robert Fichter (1972). Turner and Fichter describe CTN’s network-character, in which development agents commission design work from many small firms. Turner and Fichter’s attention to CTN’s is prosaic, described and normalized as an organizational structure suited to specific needs. As with other distinctions against *building* or *construction*, *tectonic networks* depend additionally on phenomenological or social characteristics for legibility. A tectonic network requires material or social signals beyond material or economic pragmatism. Pragmatically-made construction decisions like the introduction of exogenous materials or techniques could, hypothetically, threaten a tectonic network’s continuity. We argue this is a common discursive construction in architecture. Further, we contend that preservation actions activate this discourse to either control or *fix* tectonics, as *culture* or *architecture*, or politically engage with agencies within a tectonic network through co-production. As Rakatansky (1996: 42) argues, “there is a difference, a tectonic difference, between an identity *symbolised* through abstract means and an identity whose symbolism is being *enacted* through tectonic means”.



If we review *litema* and the Great Mosque we can see how preservation can activate tectonic continuity either as a normative constraint, or to support constructed politics via co-production. The difference, we argue, emerges in decisions over who must suffer scarcity and whose experience in consumption of an artifact is privileged. Can our appreciation of *litema* and the tectonic network behind it accept scarcity-forced deviations? As above, materials required for *litema*'s historic practice become scarce over space and time. The tectonic network experiencing this scarcity must adapt, and architecture must choose to either control the type's limits, or value the network's agency in affecting repairs time and scarcity necessitate – a type of co-production, a political act. Reviewing the AKTC's restoration, despite its good intentions, we can first see the political failure of the inspection that led to a riot. However, international audiences' withdrawal reveals comparative differences between their experiences of photography or a digital scan of the mosque, versus the *barey tons*'. While builders contend with scarcity that makes preservation more difficult, imagery privileges a temporal state of the artifact for international consumption, omitting builders' experience out of the content of the mosque. In this way, discursive constructions like tectonic legibility and preservation can either provide for or omit allowances for co-productive political acts.

### **Contemporary generators of collective making and repair**

As examples of *ubuntu* and *ukama*, the practice of *litema* and the re-claying of the Great Mosque both exemplify tectonic relatedness, but with shifting encounters between the global and the local. They raise important questions regarding access to decision making, access to resources, and tectonic agency. There is a growing body of work by architects in Africa who mediate encounters between the global and the local as agency contests. These works are often collaborations across borders driven by international networks that link aid organisations, professionals, and academics to local governments, NGOs, and communities. These exchanges can be productive, but it is important to ensure that they are equitable. Siby George writes that “if ethical reasons can be rendered for the flow of development aid from the global north to the south, they seem to be unproblematic and justified without reference to anything else. Certain abstraction is working here about the rational purity of the moral act of assisting the distant poor with no reference whatsoever to political cultural agendas that might underlie such acts” (2015: 159). Aid-based architectural production and repair are often conditional. This can be seen in Djenné and in many new projects in Africa where specific ways of making or repair are often required, partially to conform to the visual-aesthetic expectations of donors and global audiences. Foreign influence is sometimes criticised as being a form of neo-colonialism that is extractive and predominantly for the benefit of foreign contributors, or it can be perceived as such by local communities when materials or techniques are suggested by architects who would not use them in their own countries. However, authors like Andres Lepik believe that a balance can be struck between the global and the local to facilitate a more equitable form of exchange (Lepik in Lepik and Beygo 2016: 16). When exchanges are structured through *sympoiēsis* they may more sustainably benefit local communities in what Haraway refers to as “the porous tissues and open edges of damaged but still ongoing living worlds” (2016: 33).

A contemporary example of this can be found at the Hikma complex in Dandaji, Niger (2018), by Atelier Masōmī and Studio Chahar: Here, a twenty-year old earthen mosque, which used to be maintained collectively by the local community, was in danger of demolition (Beamon 2019: np.). The architects moved to save it and to promote the use of earthen construction for a new mosque adjacent to the old one. The old mosque was restored and adapted into a library by

its original masons, who were exposed to new ways of enhancing its existing earth construction. Builders included additives to improve the durability of the existing adobe walls which is expected to extend the period between required maintenance cycles tenfold.<sup>14</sup> The old mosque's form was preserved and in addition to modifying its material content, it was also supplemented with new steel insertions. This new material was used as a substitute for traditionally used timber which, similar to the timber in Djenné has become increasingly scarce. An annex was added onto its western side and according to Beamon (2019: np) "Although it is made of CEBs [Compressed Earth Bricks], like the other new structures, village masons made sure its domed roof, parapets, and plasterwork appeared identical to those elements on the converted mosque, as if the decades-old building and the addition were built at the same time". The replication of existing form is facilitated by new materials but drawing on the same tectonic networks that were involved with the old mosque's original construction.

The new mosque is less about the preservation of form than it is about the preservation of tectonic practices. According to the architects, the building "re-interprets traditional Hausa mosque organisation with contemporary structural support and detailing".<sup>15</sup> A limited amount of concrete was used, and the bulk of the building is made from CEBs using laterite found on site. The two structures defy binary comparison, and they embody various tectonic tensions, both in relation to each other, and within themselves. However, the project as a whole seems to achieve a balance between form, materials, and tectonic practices. In terms of repair and preservation, the need for change is mostly accepted and actively encouraged. The project overcomes the tendency in many preservation projects to control tectonic practices in the pursuit of authenticity and an idealised object. The architects emphasise the mutual learning the project allowed, an instance where architects' agency as preservation-activists and the agency of a tectonic network met in a co-productive act.<sup>16</sup>



**Figure 5, left**

**Atelier Masōmī and Studio Chahar, Hikma Religious and Secular Complex, Dandaji, Niger, 2018, showing the restored old mosque in the foreground and the new one in the background (photograph by James Wang, 2018).**

**Figure 6, right**

**Atelier Masōmī and Studio Chahar, Hikma Religious and Secular Complex, Dandaji, Niger, 2018, showing the modified earth-plaster façade of the new mosque (photograph by James Wang).**

## The future of the past

In Africa, industrially produced materials within global supply chains and technological networks often co-exist with materials that are locally produced on a smaller scale through social collectives. Industry typically pursues homogeneity and predictable performance requirements, except where planned obsolescence and short-term economic gain are primary motivators. Local producers usually demand a more dynamic mode of repair or fixing where transience, variation, and impermanence are accepted, if not embraced. Tectonic tensions often resolve themselves into a false binary between the global and the local, but the realities of this comparison reveal more consequential differences in repair practices, and the social collectives surrounding them. The global consumption of imagery and its associated expectations often results in a static approach towards preservation that aims to *fix* or concretise form and materiality. However, the repair practices explored in this paper show that form and materiality, while important, are often valued less locally than the socio-political aspects expressed through performative tectonic acts. The Great Mosque represents the tensions between global preservation practices and local performative tectonic practices, but it is a striking example of collective repair.

Numerous architects<sup>17</sup> in Africa are leveraging global and local networks to facilitate more situated forms of collective making and repair. They are taking on the responsibility of making visible the local tribulations of discomfort, scarcity and hardship, but they also recognise local aspirations, knowledge and capabilities. At the same time, it is important to recognise normative impacts of foreign aid, and that the intentions behind aid and the shortcomings of not entirely understanding distant contexts also should be made visible. By working across the spectrum of the global and the local, artificial binaries are destabilising, and examples of more sustainable forms of practice might be found in a scenario that allows for collective ways of making and repair rooted in a more equitable distribution of tectonic agency.

The African concepts of *ubuntu* and *ukama* are embodied in the practice of *litema* and the re-claying of the Great Mosque of Djenné. These are living traditions that exemplify relatedness through the act of repair, but they are not immune to change or to shifting social and environmental landscapes. These practices raise a number of questions regarding the relatedness between different people, and between people and their environment. The Hikma complex demonstrates how tectonic agency can promote socio-environmentally conscious material selection that can re-invigorate relatedness, particularly through the act of repair. It shows how preservation and repair can be an activator of tectonic networks. Where, historically, the social collective enabled material repair, we suggest that material tectonics can be used to reinvigorate the social collective, which in turn can enable material repair once again. Architects can leverage agency privilege to dis-entangle global-local conflict phenomena. Tectonic agency and the reinforcing of tectonic networks can reinvigorate collective making (*sympoiēsis*) through a more critical consideration of making, repair, and re-making (*anapoiēsis*).

## Notes

1 It is also often used to refer to light skeletal structures as opposed to heavy stereotomic ones.

2 The *Basotho*, or *Sotho*, people are endemic to present-day Lesotho and parts of South Africa, having settled there in approximately the fifth century CE.



- 3 Also spelled and pronounced as *ditema*, it comes from the verb *ho lema*, which means “to cultivate” (Van Wyk, 1998: 58).
- 4 Red symbolizes fertility, white symbolizes purity, and black symbolizes the ancestors (Goitsemodimo, 2016: np).
- 5 This stems from the traditional aphorisms *Umntu ngumuntu ngabantu* in the Nguni languages (Zulu, Xhosa and Ndebele) or *Motho ke motho ka batho babang* in the Sotho-Tswana languages. This broadly means “a person is a person because of other people” (Le Grange, 2012b: 338).
- 6 Shona is a collective name for a group of people mainly resident in Zimbabwe, South Africa, and Mozambique.
- 7 Or what she feels should be termed the Chthulucene.
- 8 Also referred to as “The Brundtland Report.”
- 9 WCED. (1987). *Our Common Future. Report for the The World Commission on Environment and Development (WCED)*. Oxford: Oxford University Press. Pp. 41.
- 10 Trevor Marchand (2015: 6) and Jean-Louis Bourgeois (1987: 57) write that Henry Landor, who witnessed the rebuilding, initially made this statement, which was then promoted by French journalists like Félix Dubois who wrote scathingly about the design (Dubois, 1911: 189), accepted by the local population and historians in Mali, and then promoted further by Northern journalists in the 1970s and 1980s.
- 11 The Bani is prone to pollution and it was further influenced by the construction of the Talo Dam in 2006. It was feared that its construction would negatively influence the environment, traditional agricultural practices, and that it might deplete the seasonal alluvial deposits that are necessary for the production of bricks and plaster in Djenné (Marchand, 2009: 279).
- 12 By the University of Cape Town’s *Zamani Project* (<https://www.zamaniproject.org/site-mali-djenne-great-mosque.html>)
- 13 By authors such as Aldo Rossi in “The architecture of the city” (1982), and Anthony Vidler in “The third typology” (1976). Rafael Moneo in “On typology” (1978) writes how preservation is not about “freezing” an object in a particular state, but that it implies change and transformation.
- 14 Lafarge Holcim. (2018). *Legacy restored: Religious and secular complex*. Retrieved from <https://src.lafargeholcim-foundation.org/flip/A18/Legacy-Restored/>
- 15 Atelier Masōmī. (2019). *Hikma: Religious and secular complex, Dandaji’s Community Centre*. Retrieved from <http://www.ateliermasomi.com/dan-daji-mosque>
- 16 Atelier Masōmī. (2019). *Hikma: Religious and secular complex, Dandaji’s Community Centre*. Retrieved from <http://www.ateliermasomi.com/dan-daji-mosque>
- 17 Francis Kéré, MASS Design Group, and Active Social Architecture among many others.

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Michael Louw is a Senior Lecturer at the University of Cape Town's School of Architecture, Planning and Geomatics where he teaches design, theory, and technology in the postgraduate program. He completed his professional architecture degree at the University of Pretoria, he holds an MPhil degree in Sustainable Development Planning and Management from the University of Stellenbosch, and he completed a PhD in Architecture at the University of Cape Town with the topic "The search for hybrid tectonics in contemporary African architecture: Encounters between the global and the local". His research focuses on architectural technology, adaptive reuse, design-build practice, and contemporary architecture in Africa.

Daniel Elkin is a researcher and designer specializing in spatial agency research and agency driven design. He is Assistant Professor and Deputy Discipline Leader of the Department of Environment of Interior Design at The Hong Kong Polytechnic University. He served as the Cubic Journal Design Making issue editor, as the fabrication supervisor for the School of Design's 2020/21 Venice Biennale contribution and founded the HomeWise Research and Design housing data gathering platform. His recent work studies the unique development conditions of Tai O Village in a spatial agency living lab, for which the research team received a 2021 Smart50 Award.

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