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‘Storying Architecture’ Pilot Study; Trial and Tribulation.

Detailing the Methodology, Implementation, and Initial Findings of a Postponed Research Project in Bali, Indonesia.

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Abstract

This study develops upon the author’s previous paper, ‘Diversifying Epistemological Narratives in Design Discourse; Proposed Storying Methods on Place, People, and Affordances in Bali’, published in the European Society for Engineering Education (SEFI) Conference Proceedings, 2019- noted in the References section. ‘Diversifying Epistemological Narratives’ suggests that, by sharing stories together within designerly conversations, native craftspeople and architectural students could be exposed to new ancestral origins, values, and ways of knowing. These could be interpreted and integrated into the architecture of a live project, designed and built between the two stakeholder groups, in a bid to support sustainable native futures and diversify Eurocentric design education.

This paper discusses the methodology for Storying Architecture and details the tribulations of its first trial in Bali, Indonesia, including the interpretation of three emerging architectural patterns from Story ‘A’, as told by Storyteller ‘A’. Storyteller ‘A’ is one of five community members who participated in the first trial of Storying Architecture in Bali, which began the co-design process of a Learning Centre with international architecture students. Storying Architecture, as termed by the author, takes precedents from Indigenous Research and Indigenous Design Futures methodologies. Such methodologies practice indigenous stories and storytelling for educational purpose, and develop meaning and relations with new people in new spaces by acknowledging what is ‘not anymore’ and re-learning how to imagine a future that is ‘not yet’ (Archibald, 2008; Kovach, 2010; Schultz, 2018; Tuck, 2009; Davis, 2016). In doing so, such stories can provide both the impetus and the tools to move towards viable native futures (Lee, 2019; San Pedro & Windchief, 2019). This is a native paradigm of Tony Fry’s ‘sustainment’, or ‘futuring’ (2008), succinctly described by Tristan Schultz (2018).

As a research method, Storying Architecture attempts to recognise, comprehend, and interpret current and emerging architectural patterns that are hidden within each story told by a community member. These patterns are an expression of local architectural knowledge in relation to a community’s ancestry and changing local ecology- in which a community’s changing ecosystem provides context for architectural design, and architectural design provides sustainment within a community’s changing ecosystem (Alexander, 1977; 1979; Willis, 2006; Mignolo, 2011; Schultz, 2018; Escobar, 2018). Emerging architectural patterns are symptoms of adaptations and changes occurring within a community’s ecosystem, and act as warning signs for future changes (Hiltunen 2010; Holopainen & Toivonen, 2012). Members of a community can explore these emerging patterns and use them to prototype possible future architectures that benefit their community as a whole.

Over multiple phases of storying, community members have the opportunity to visualise and test a variety of emerging architectural patterns and find the ones most likely to improve their native quality of life in the future. By using playful triggers- tangible objects, art, and other mediums- the storyteller and listener, who is also the researcher, can then combine these emerging architectural patterns into a multi-modal prototype, that express their current and future desires for improving native quality of life through architecture (see Figure 1).

Each narrative study would consist of a small group of indigenous community members, the storytellers, who each hold a diverse stake in the future development of their community through architecture (Flowers et al, 2005).

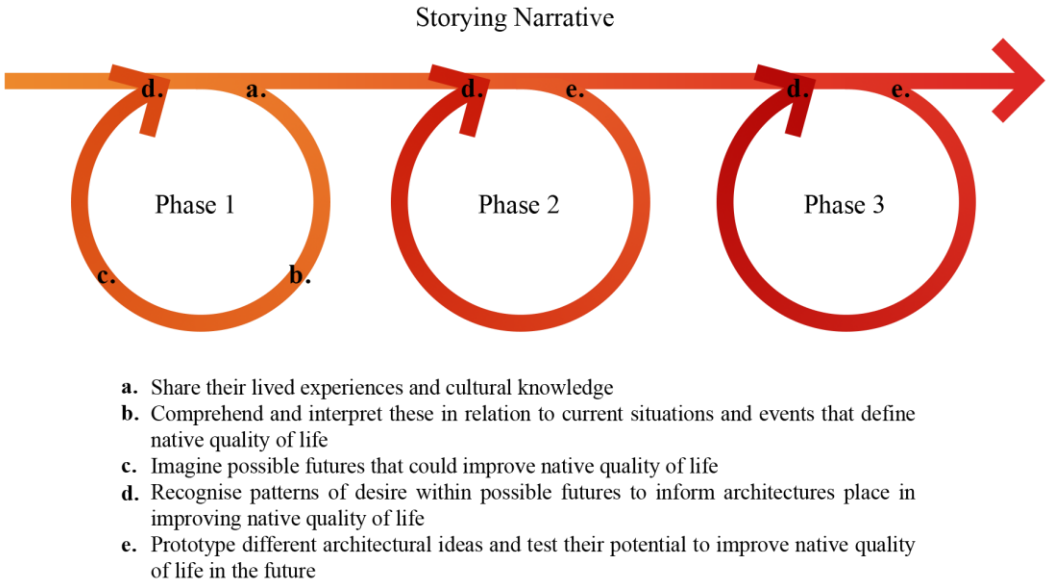


Figure 1: Storying Architecture's Reciprocal and Cyclical Prototyping Narrative

1 Methodology

1.1 Trust Building

The extracts detailed in this paper are a representative sample from Phase 1 of the Storying Architecture pilot study conducted in Bali, November 2019. Phase 1 formulates five initial prototypes of emerging architectural patterns, one with each storyteller- see Figure 2. This is a process of reflexive interpretation between each storyteller and the listener, where the listener interprets the storyteller as the storyteller themselves interprets their own world (Smith & Osborn, 2007). Phase 1 aims to create a foundation of trust between the storytellers and the listener, who each share lived experiences and cultural knowledge through semi-structured interviews. These conversations begin telling stories that adhere to the seven principles of storying- Respect, Responsibility, Reciprocity, Reverence, Holism, Inter-relatedness, and Synergy (Shenton, 2004; San Pedro & Windchief, 2019). The listener must loosely guide each storyteller and begins to instigate architectural discussion to bring forth emerging architectural patterns. This can be achieved using methods similar to photo-voice, cultural probes, user-created personas, and yarning circles, which

continue to teach the storyteller and listener about each other. The listener may have little, to no, knowledge of the storyteller before this process begins, and learns new information from both the storyteller and from their own reflections on the storyteller- and vice versa.

1.2 Architectural Patterns

The term 'architectural pattern' has been taken from the work of Christopher Alexander (1977; 1979), who defines a Pattern Language for architecture as the sum total of building knowledge in an individual or group consciousness. The users of a Pattern Language can visualise and express an infinite combination of architectural patterns, which can then be applied in practice with the aim of creating buildings that feel 'good', 'alive', and improve native quality of life. Unlike Christopher Alexander's work, this study aims to recognise hidden and emerging patterns that may establish a Pattern Language of future architecture, rather than establishing a Pattern Language of the present.

Ideally, the emerging architectural patterns would be compared and contrasted collectively by the storytellers, as the experiential experts, in a form of communal Delphi study (Husserl, 2001; Holopainen & Toivonen, 2012; Kim, et al., 2013; Leeuwen, 2005). This is achieved by using playful triggers- tangible objects, art, and other mediums- to allow the storytellers and listener to prototype the different architectural patterns that come forward (Akama & Ivanka, 2010; Sheehan, 2011; Cabrero et al, 2016, Schultz, 2018). This helps to form a non-bias consensus of the architectural patterns that are most likely to change or emerge in the future, or to most improve native quality of life in the future. Those patterns that are agreed to improve native quality of life form a multi-modal prototype, which is carried forward into the next storying phase (Leeuwen, 2005)- see Figure 2.

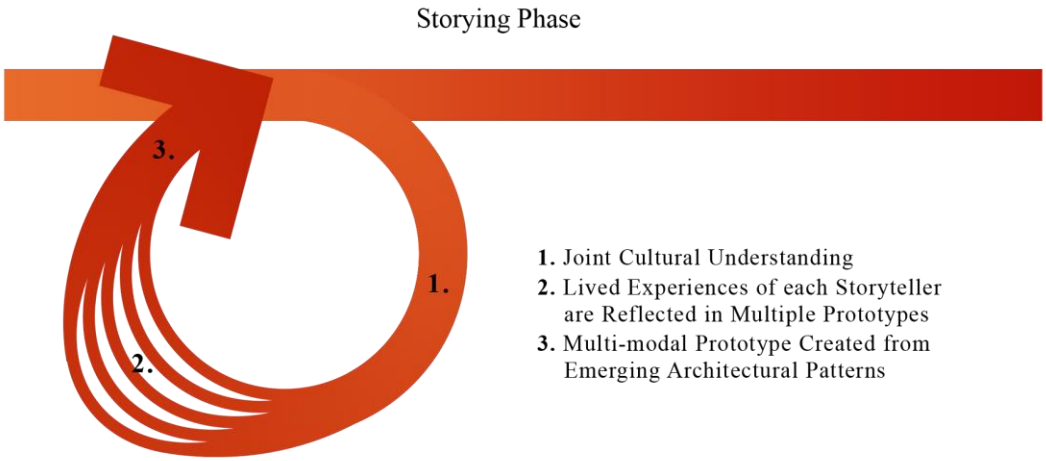


Figure 2: Multi-modal Prototype creation within each Storying Phase

1.3 Conflict Resolution

Each proceeding phase begins by geographically placing the individual storyteller within a fictional version of their communal world containing this multi-modal prototype. Each phase then ends with a communal reflection on the prototype's impact on this fictional world. This group process does not focus on reporting each individual interpretation, as they are not readily separable from the interpretations that occur as a

community (Sim & Waterfield, 2019), but focuses instead on conflict resolution. Where conflicting patterns are interpreted between individuals, it is necessary to mediate a change in dialogue through which a solution can be found. Multi-modal prototypes can be used as mediating objects between storytellers, through which this process of dialogic change can take place (Miall, 2004; Akama and Ivanka, 2010; Schultz, 2018). Over multiple phases, it is hoped that this process will develop a prototype design that is representative of communal desires for improving their native quality of life, and move towards viable native futures. Examples from Phase 1 are shown in Section 2, taken from Story 'A', by Storyteller 'A'.

1.4 Storytellers in Context

Storyteller 'A' is a young Javanese woman who has settled in Bali. At the time of data collection, she held a leadership role within a Balinese community development organisation, which planned to run and administrate the Learning Centre after construction. For ethical purposes, all other personal details of Storyteller 'A' are anonymised. The other storyteller's, who do not appear in this paper, are all of Indonesian descent and include; an ex-employee of the community development organisation, the architect of an affiliated organisation, the community leader of a partnered NGO organisation, and the founder of an architecture collective. The Learning Centre was planned as an educational space to be used by the local Community Development organisation, for the purpose of teaching entrepreneurial skills to Balinese youth between the ages of 12-25. These skills classes aim to encourage youth to stay in rural areas and establish occupations in 'sustainable tourism', in the hope of stemming mass urbanisation and 'unsustainable tourism' that is eroding local Balinese culture and causing major economic issues in rural regions (Yu, 2015). The design and construction of the Learning Centre was intended to be facilitated by an Irish Social Enterprise, co-founded by myself.

Since the collection of this data occurred, the Learning Centre project has been placed on hold. This is partly due to the nature of working with NGO organisations in a volatile geo-politic situation, who have struggled to maintain resources such as staff, regional offices, and customers during changing social and economic climates. This has caused issues of re-location, changes in building site, closure of youth education programmes, and limited local community members to administrate the Learning Centre. This has also impacted the data collection process, which was indefinitely suspended part way through the pilot trial of Storying Architecture, meaning that Phase 1 was not fully completed.

1.5 Trial in Practice

The data that has been collected and analysed will still be shared, in all transparency, as each story represents a piece of the storytellers identity that is a legitimate source of knowledge production (San Pedro & Windchief, 2019; Smith, 2003). In doing so, I treat the storyteller as the experiential expert (Husserl, 2001), and give preference to their direct extracts and interpretation of their own world over my own. Each storyteller was asked, through semi-structured interviews and cultural probes, to explain their reasons for engaging in the Learning Centre project, and to speculate on the vocational, cultural, societal, and place bound implications of the proposed Learning Centre. Each participant in the study was also asked to photograph tools or other items which they used in their daily craft, and to plot where they learnt this knowledge using a Polarity Map.

The data was analysed using an Interpretative Phenomenological approach, in which the transcripts were coded multiple times to capture, understand, and do justice to the meanings of the storytellers. Throughout

this coding, categories of motivation were interpreted by myself; Personal (Familial and Individual), Communal (Societal, Cultural, and Religious), Vocational (Educational and Occupational), Geographical (Location and Place Bound), and Architectural (Affordances Offered, Spatial Use, Design and Craft Influences). In future data collection trials, my interpretations of the data will also be subjected to a critique by peer review, participant verification, and analysed by external voices who have experience similar situations.

Section 2 narrates extracts of Story 'A' in which the storyteller interprets their own world, followed by my analysis and interpretation of their interpretation. This double hermeneutic approach outlines potential emerging architectural patterns for the planned Learning Centre in relation to its impact on native quality of life. In this process, the listener must analyse any assumptions made by the storyteller, assessing their accuracy, and comparing them to other primary and secondary data. However, the storyteller's own experience and interpretations take precedent in bringing forth emerging architectural patterns. Unless significant data is found to the contrary, these emerging patterns could be considered by the community as part of a multi-modal prototype.

2 Data Analysis- Extracts from Story 'A'

Story 'A' was told during a traditional Balinese lunch served in the office of Storyteller 'A' and lasted 32 minutes and 25 seconds. Each of the following three sub-sections begins with extracts containing quotes grouped together in themes denoted by each sub-section. Each quote is labelled in chronological order as they appear in the original story, as quotes on similar themes do not always appear together. This labelling serves to preserve the meaning of the storyteller and provide transparency for the reader. A label appears as (P1:S1), where 'P' represents a paragraph, and 'S' represents the sentence number within that paragraph. This is followed by an analysis of each extract, and an interpretation in relation to the Learning Centres requirements. This analysis draws from the quoted text, literary citations, and my own personal knowledge of the storyteller and their community, which was gained over a two-year period of discussions and visits between myself, the participating storytellers, and other community members in Bali.

2.1 Peer-to-Peer Engagement on Cultural Taboos and Stigma

"Yeah, so the reason that I also like Bali is because, with all these modernisations, and people coming from everywhere, they still stick to their culture- that's what I like… and the freedom, I think, it is different than any other cities in Indonesia… (P4:S1) That is why I love the Local Women's Centre especially, and then when I visited again a couple of days ago, she wanted to build a Men's Centre. And it is like, 'Okay, now you are also aware that it is not just about feminist issues, but right now men also have some issues' (P7:S1). But, the thing is, the people in West Bali, let's say, they are villagers. They have a different mindset than the people who already live in the city. So, sometimes, it is hard to develop them, to ask them to move forward with us. But, if there is change coming to them, we need to work hard to show them that it is okay, that it can be for their own good. So, I think, with the Learning Centre, the community there would benefit from it a lot, but there is going to be a challenge to ask them to join us (P21:S1)."

Quote P4:S1 expresses the freedom that Storyteller 'A' feels within the changing urban fabric of Denpasar, Bali's capital city, which has seen its popular culture and education drastically shaped by capitalist

modernity (Jensen & Suryani, 1992; Lansing, 1995; Hobart et al., 1996; Pringle, 2004; Yu, 2015). Such a transformation causes problems of population resettlement in both urban and rural areas, that threatens to erode centuries-old cultural traditions (Terminski, 2015; Yu, 2015). However, the storyteller recognises that Bali is, as Hobart et al. (1996, p.226) described, "a society that is continually seeking its own identity within changing frames of reference", whose people still manage to preserve their cultural beliefs and values through music, dance, rituals, and religious practices (Yu, 2015). This expresses personal, communal, and geographical motivations for the Learning Centre to question and reflexively adapt values of Balinese tradition and modernity.

Quote P7:S1 discusses the subversion of traditional Balinese culture and society, which has be described as a patriarchal system that traditionally relegates men into positions of power and women into positions of subservience to men (Yu, 2015). The leader of the Women's Centre, described in this quotation, is depicted as an individual who strives to create mutual support within a community through the sharing of experiences, peer-to-peer support, and self-empowerment (Yu, 2015). This sharing process is informed by Balinese sociocultural value, rather than western modernity, and expresses strong communal motivations for the Learning Centre to be a space of experience sharing- where community members can question and reflexively adapt to traditional taboos and issues of modernity.

Within quote P21:S1, the storyteller comments on the social, financial, and educational pressures of villagers to compete with other villagers/ villages with other villages, which has impacted rural communities' abilities to maintain social cohesion and identity amidst quickly changing social values (Parker, 2011; Yu, 2015). This contrasts with urban and tourism areas, such as Denpasar and Ubud, where mass development has enticed Balinese youth to migrate for work and education, boosting economic and academic growth (Parker, 2011; Terminski, 2015). This describes cultural influences, based on tradition vs modernisation, for the Learning Centre to invest in rural areas and help heal social, financial, and educational wounds. This is based on the storyteller's positive opinion of urban Bali, and their desire to bring rural areas 'forward' with urban areas.

The storyteller comments often on various power dynamics within current Balinese society, some of which stem from the discord between Balinese tradition and imposed Western modernity. These power dynamics include social, financial, and educational divides between rural/urban, youth/non-youth, Balinese/non-Balinese and male/female. The storyteller suggests that a space for peer-to-peer engagement and reflexive questioning of these taboo and stigmatised dynamics will lessen the divide between geographical, age, national, and gender demographics.

Emerging architectural patterns interpreted from this extract may include, but are not limited or bound to:

- Being large enough to hold a small group of people, i.e. 5 persons, but not too large as to hold more than a classroom full, i.e. 20 persons- for privacy when discussing personal issues.
- Being an open plan space with multiple entries and exits to allow freedom of movement throughout the building's fabric- for security and wellbeing.
- Having tools for self-reflection through Balinese socio-cultural means i.e. meditation space with correct resources and orientation, etc., and adopted means i.e. selected western academic teachings with applicable resources- for sharing experiences and understanding the self in relation to the wider world.

- Having a community hall and means of summoning the community together (such as kulkul drum) to communicate on important issues such as social, financial, and educational matters- for maintaining social cohesion and identity without conflict.

2.2 Local Leadership for Contextual Knowledge Sharing

"Maybe you need to find a place where the Learning Centre is close to nature, right? So you can also have the tracking and camping and stuff like that. Because, what I believe is that humans just connect with nature, and the more you play in nature the more you get experiences, the more you get lessons, the more you get anything- basically nature is the best tool of all time (P12:S2). Especially if it is very sustainable, so they can experience it themselves and if they can have full appreciation of the nature so that they can take care of it (P14:S1) And maybe we give them some training. Let's say we can give a programme to the farmers- right now most of the farmers are using pesticide and we actually have some of our partners that are willing to go back to an organic way and they can come to the Learning Centre and share how he is doing it to the other farmers. It could also benefit the local community, in terms of financial things, so if they can also work at the Learning Centre and are participating in our trips or our programmes, let's say we are going to have facilitators from Balinese people, that could give them benefits too (P16:S1). I think you need Balinese people at least to be their leader so that they can also share the knowledge and everything… and, somehow, I think they are going to listen more to local people instead of outside people (P18:S1)."

In quote P12:S2, the storyteller outlines their personal connection to the Indonesian, and more specifically Balinese, values of harmonisation between individual, nature and community (Yu, 2015). This harmonisation is part of the Tri Hita Karana philosophy, in which God, Human and Nature coexist in peaceful harmony and can be seen as a product of Hindu, Buddhist, and ancient Malayo-Polynesian beliefs found in Balinese religion (Peters & Wardana, 2013; Lansing, 1995). The storyteller depicts cultural and personal motivations through a vocational lens, suggesting that nature be used as a tool to add greater benefit to community members and international visitors to the Learning Centre space.

Quote P14:S1 depicts a self-sustaining cycle influenced by the Balinese beliefs of harmonisation with nature- where communities take care of their immediate environment which, in turn, takes care of them. This describes the ontological loop of design, where communities practice the design of themselves (Willis, 2006; Escobar, 2018). This expresses culturally driven motivations for the Learning Centre to be a vehicle for communal self-design- an example of which is provided by the storyteller in quote P16:S1.

Storyteller 'A' describes an example of communal self-design within quote P16:S1 (see also P14:S1) through agriculture, the historical industry of Bali. However, since the 1940's, tourism and its related industries have displaced agriculture as Bali's leading sector, Balinese farmers have been encouraged to relocate to less populated islands, and the continued use of traditional farming techniques, with no machines or pesticides, has all but disappeared (Picard, 1997; Yu, 2015). This has had serious impacts on the Balinese social and cultural system in rural areas as communities catered to visiting tourists over agricultural land (Romanos & Dudley Jenkins, 2013). The storyteller draws upon communal, traditional, and vocational motivations to suggest how the Learning Centre space could be used by local farmers to re-educate each other in traditional and organic agricultural methods- a method of social and cultural transformation.

Quote P18:S1 leads on from quote P16:S1, to narrate a situation in which Balinese leaders have, and can continue to, intervene in local social and cultural systems by developing creative practices in their line of work or developing creative spaces for community transformation (Yu, 2015). This depicts cultural, communal, and vocational motivations for Balinese leaders to organise and administrate the activities of the Learning Centre space.

The storyteller comments on the self-sustainability of Balinese social and cultural systems, emphasising the need for peer-to-peer, Balinese-led, education that encourages creative practices for transformation. The impact of Western Modernity is an underlying topic within the storyteller's narrative, providing commentary on the impacts of unsustainable tourism. The storyteller suggests the Learning Centre could provide a creative space for communities to engage in communal self-design.

Emerging architectural patterns interpreted from this extract may include, but are not limited or bound to:

- Providing physical connections to nature by being situated in or close to it- to signify social and cultural meaning, and form an educational and touristic space for visiting guests.
- Being next to arable land and have accessible agricultural tools, which can be used to teach sustainable agriculture techniques- an act of self-design, in which the community learns and practices self-sustaining principles.
- Having resources and tools to become a creative space within a field of industry, i.e. textiles and sewing tools, etc.- as a means of social and economic transformation.

2.3 Creating New Opportunities for Youth in Rural Areas

"Our organisation wants to be one of the solutions for mass tourism and stop the youth coming to the city (P5:S1). Maybe they can also learn how to build another design, learn how to design a sustainable building or something (P17:S1). What I am thinking about is that it will actually benefit the young people who are involved in this Learning Centre building, because it will also help them get a job, give them something to do, give them financial help (P19:S1)."

Quote P5:S1 emphasises the importance of the Learning Centre to stem the urbanisation of rural Balinese youth, incentivising them to stay in rural areas for economic benefit. The development of tourism has drained the villages of young people who move to the cities for work, and has forced rural land to be taken away from the people who sustain themselves on it (Yu, 2015; Terminski, 2015). This process further incentivises urbanisation, impacting the economic, cultural, and social systems of rural communities, leaving them vulnerable (Terminski, 2015; Patel, et al., 2017). This suggests strong cultural, communal, and vocational motivations for rural Balinese youth to learn from the design and construction of the Learning Centre, providing economic prospects in rural areas whilst strengthening their cultural social systems.

In quote P17:S1, the storyteller expresses the concept of 'knowing by doing', where knowledge is shared through the practical act of doing, and is expressed as a practiced and exercised skill that is developed over time (Fry, 1994; Heidegger, 1962). The storyteller suggests that, by designing and building the Learning Centre, local community members will gain knowledge and skills to build similar, socially sustainable buildings. This shows communal and vocational motivations to educate community members and grow a stronger and more sustainable local community.

Quote P19:S1 continues to develop upon quote P17:S1, describing how the new knowledge and skills learnt by constructing the Learning Centre could translate into economical opportunities for young people in the rural areas of Bali. This shows communal and vocational motivations for local community members to engage with the Learning Centre before, during, and after construction.

The storyteller emphasises strong economic motivations for youth involvement in the Learning Centre construction. The reasoning behind these economic motivations stem from ongoing power dynamics within Balinese cultural and social systems, between traditional heritage/western modernity, rural/urban, youth/non-youth. The storyteller suggests that the educational impact of the Learning Centre design and construction may contribute to new economic opportunities for youth in rural areas.

Emerging architectural patterns interpreted from this extract may include, but are not limited or bound to:

- Having rural youth as members of the construction team- creates employment opportunities for rural youth during the construction process.
- Using sustainable construction techniques, i.e. use local materials such as pine and bamboo, etc. that are easily transferable to other building projects- providing a new construction model that can be copied and implemented in other sustainable buildings.
- Demonstrating sustainable construction principles in the finished building i.e. using tectonic architecture etc., and have the space, resources, and tools to host classes and workshops that teach these construction principles- to increase skilled local craftsmen who can boost the economy through future builds.

3 Concluding Statements

Storyteller 'A' narrates the first emerging architectural patterns, as interpreted by the author, within the pilot study of Storying Architecture- see Section 2. These interpretations depict emerging architectural patterns that aim to improve native quality of life by:

- Providing open plan spaces with freedom of movement between multiple places of reflection; reflection as a larger community on societal and economic issues including taboos and conflicts, reflection as smaller groups in guided discussions and activities on personal issues, or self-reflective activities as individuals such as meditation.
- Being close to, or within, natural surroundings that are maintained by the community- whether this is for agricultural/vocational reasons or spiritual reasons- in a process of self-sustainment.
- Providing space, resources, and tools for both academic and practical education in the community, on a variety of skills that could transform local societies and economies, i.e. sustainable agriculture, sustainable building construction, industry specific skills such as textiles manufacturing, or managing tourism trips and programs for visitors.

Whilst Storying Architecture attempts to encourage diversity within architectural conversation, the author recognises the heavy biases placed upon his own interpretations of the story due to the incomplete trial- see Section 1.4. Future studies of Storying Architecture will endeavour to place a stronger emphasis on storyteller led interpretations through visual and tactile means, as outlined in Sections 1.2, 1.3, and 1.5. These future studies will also endeavour to include emergency measures in case of changes in local geo-political, social, or economic situations, such as; virtual or remote data collection methods, means to

sustainably postponed projects until a later time of completion, or support structures in place to see projects through to some level of completion in a specified timeframe.

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