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Cultural resilience and the Smart and Sustainable City

Exploring changing concepts on built heritage and urban redevelopment

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Abstract

Purpose – The purpose of this paper is to explore the conceptualisation of the Smart Sustainable City (SSC) with new concepts of resilience thinking in relation to urgent societal challenges facing the built environment. The paper aims to identify novel methodologies for smart reuse of heritage sites with a pluralist past as integral to inclusive urban development.

Design/methodology/approach – SSC concepts in the global literature are studied to define a new reference framework for integrated urban planning strategies in which cultural resilience and co-creation matter. This framework, augmented by UNESCO's holistic recommendation on the Historic Urban Landscape (HUL), was tested in two investigative projects: the historic centre of South Africa's capital Tshwane and the proximate former Westfort leprosy colony.

Findings – The research confirms that SSC concepts need enlargement to become more inclusive in acknowledging "cultural diversity" of communities and engaging "chrono-diversity" of extant fabric. A paradigm shift in the discourse on integrated urban (re)development and adaptive reuse of built heritage is identified, influenced by resilience and sustainability thinking. Both projects show that different architectural intervention strategies are required to modulate built fabric and its emergent qualities and to unlock embedded cultural energy.

Originality/value – Together with a critical review of SSC concepts and the HUL in relation to urban (re) development, this paper provides innovative methodologies on creative adaptation of urban heritage, reconciling "hard" and "soft" issues, tested in the highly resilient systems of Tshwane.

Keywords Cultural resilience, Embodied cultural energy, Sustainability, Inclusive urban development, Adaptive reuse, Tshwane/Pretoria

Paper type Research paper

1. Introduction

Geographical location and historic origins make every attempt at creating sustainable cities unique and complex. Endeavours to adapt to climate change and globalisation place enormous pressure on city centres and neighbourhoods. City centres struggle to remain accessible, liveable and sustainable and become smart at the same time. Resilience-thinking-based perspectives coupled with an awareness of cultural historical values offer assistance even where values are contested because of divergent associations with a pluralist past.

The conditions for urban (re)development and sustaining built fabric as an embodiment of cultural energy in the Global South are fundamentally different from situations elsewhere. This is particularly so in post-Apartheid South Africa, a country that proclaims itself as Rainbow Nation; a pluralist society. Two investigative student projects were undertaken in collaboration with local government in South Africa's capital, Tshwane, as

part of a longer collaborative South African-Dutch inner city regeneration programme
(Corten, 2015). The aim is exploring emergent opportunities for smart reuse of heritage sites
with a pluralist past.

2. The "Smart Sustainable City" and cultural resilience

A clear and widely accepted definition of a Smart Sustainable City (SSC) is hard to find in
the subject literature and the central role of culture as contributor to urban resilience is often
overseen. Giffinger and Pichler-Milanovic (2007) state that SSC is commonly applied in areas
like industry, levels of education, civic participation and the management of technical
infrastructure. Almost as postscript come the various "soft factors", expanded on as "Smart
Living", which includes culture, health, safety, housing, tourism, etc.

Höjer and Wangel (2015) define SSC as applying to a "city that meets the needs of its
present inhabitants – without compromising the ability for other people or future
generations to meet their needs, and thus does not exceed local or planetary environmental
limitations, and where this is supported by ICT [Information and Communication
Technology]". They present "smart" as a tool, "sustainable" as a target and "city" as the
urban area where tool and target are implemented, with a focus on its citizens and their
energy-use within certain administrative borders.

As Chourabi *et al.* (2012) find, the use of the term "smart" ranges from descriptions of levels of
integration of ICT systems into the built fabric of a city in aid of management of flows (people,
traffic and goods) to the level of the education of the citizens of a settlement. In the latter case, the
rule-of-thumb applied is that the higher the levels of education are, the "smarter" a city is. Their
framework for characterizing smart city interventions includes "people and communities" as one
of eight main components. They state that participation, partnership, quality of life and
accessibility for people and communities are essential in "smart cities". "Accessibility" should not
be equated only to ease of movement or transport, but extended to spatial justice: "the fair and
equitable distribution in space of socially valued resources" (Soja, 2009).

A more socially nuanced perspective on sustainable development, such as Amartya Sen's
focus on human capacities (Sen, 1999) and Human Development thinking (Jahan, 2016) may
well be more appropriate when theorising the "smart and sustainable city". Batar and Chandra
(2017) take an even more social perspective in their analysis of the dense Indian cities with
high rates of urban poor. They conceptualise SSC's as consisting of four infrastructural pillars:
institutional, economic, physical and social. Employment and quality of life are added as other
relevant elements in their model. Their observations as well as their plea for inclusive urban
planning are also relevant in South Africa. Promoting inclusive and pro-poor urban planning
is greatly needed to provide access to jobs, shelter, services and infrastructure, while also
considering heritage conservation and environmental preservation as collective interests.

Similar observations apply to the concept of "sustainable city" and its diverse
interpretations. This resonates with the 15 holistic principles for "Green Urbanism",
advocating for a "better land-use planning to reduce the impact of urban areas on
agricultural land and landscape; to increasing urban resilience by transforming city districts
into more compact communities and designing flexible typologies for inner-city living and
working and addresses heritages'; and underlining that it is 'incumbent on city councils to
protect the city by developing a master plan that balances heritage with conservation and
development" (Lehmann, 2010). Joss (2015) however notes that the original sustainable city
emphasis on urban ecology and public engagement has now been succeeded by "more
technology-focussed, business-oriented and management-driven approaches to the
sustainable city in many more recent concepts and initiatives".

The reuse of extant fabric, either *in situ* or through processes of recycling, is a
fundamental strategy for establishing a more sustainable city development trajectory.
A US-based Life Cycle Assessment concluded that as much as 80 years of operations are

required before new-build overcomes construction-related climate impacts, and that, for residential buildings, rehabilitation creates 50 per cent more and better-paying jobs than new construction (PGL, 2011). Such findings should receive more attention, globally, and could stimulate new strategies for smart and sustainable city development.

The "UNESCO Global Report on Culture for Sustainable Cities" concludes that: "[t]he "smart" word is unreliable and in danger of over-use. Becoming smarter means different things for different cities, but there can be no smart city without smart citizens" (Landry, 2016). Therefore, a precondition for creating "smart" cities is that they are co-created inclusively by citizens over time. Accessibility also mandates a broad social access to heritage, especially built heritage, as valued resource. Accessibility to heritage is thus essential for participation and partnership in cities – a perspective that resonates with the European Framework on the Value of Cultural Heritage for Society (Council of Europe, 2005).

Resilience thinking provides a valuable approach for the interrogation of the dynamics and development of complex social-ecological systems in the SSC. Initially, resilience thinking was directed towards people and nature as interdependent systems, but it can, in our view, also be adopted to analyse human interactions in the built environment. Following Folke *et al.* (2010), adaptability is part of resilience and it "represents the capacity to adjust responses to changing external drivers and internal processes and thereby allow for development along the current trajectory", while transformability is the "capacity to create new stability domains for development, a new stability landscape, and cross thresholds into a new development trajectory". When applied in the built environment and its heritage, this approach can enable a better understanding of the complexities and challenges that come along with the culturally driven concept of "adaptive reuse" as a deliberate strategy to reconcile architectural conservation with newly designed interventions in socially valorised buildings or areas earmarked for another life cycle of usage.

"Urban resilience" can act as a frame of reference in which co-creation is an important means to promote holistic thinking and meta-governance orientation across different departments of cities (Calvocoressi, 2014). Such governance implies a holistic approach that positions sustainable planning as an urban collaboration aiming at "harmonising the often-conflicting aims and expectations of the various stakeholders" (Labadi and Logan, 2016). The UNESCO Recommendation on the Historic Urban Landscape (HUL) of 2011 advocates an integrated urban governance dynamic that facilitates intercultural dialogue. It presents a first international response aiming at reconciling "hard" and "soft" urban issues through sustainable planning and design interventions. Maintaining social and ecological diversity is a major target of the HUL, which aims to promote "intangible heritage, cultural diversity, socio-economic and environmental factors along with local community values" (UNESCO, 2011). These considerations go beyond merely economic values (Jigyasu, 2015), by also addressing the resilience of cultural systems. This "cultural resilience" represents the interdependency of matter and meaning in the built environment.

3. Urban redevelopment in South Africa

The development of South African cities, like many others in the world, was moulded on the twentieth century functionalist industrial city model. However, their current form is also marked by Apartheid segregation policies, resulting in a persistent urban segregation model, described sussinctly by Chipkin (2008). This unjust social and racially segregated spatial system has proven to be resilient and denies general social accessibility, thereby encumbering the transition of South African cities from the historic "industrial city" into post-industrial "smart" cities. Identity and "sense of place" are important "soft" aspects of sustainability (Nasser, 2003) and viable urban systems (Peres and Du Plessis, 2014a). They can also harbour negative associations with, for instance, suppression and exclusion. Bakker (2007) concluded that the post-Apartheid period has not yet "[…] resulted in a co-constructed vision of how to

identify, access, share, understand, interpret and present historical meaning that is resident in the various heritage places around the country". As Ashworth *et al.* (2007) argue, the new South Africa should pluralise the past to accommodate minorities and reframe Apartheid era heritage as a reflection and expression of the Rainbow Nation. This calls for a co-creation that spans time.

Yet, can co-creation by citizens be successfully established in a country where a large portion of the population has historically been excluded from any form of built environment agency? Various authors, including Du Plessis (2011), have argued that European-based sustainability models cannot be applied directly in non-European cities. The same goes for European urban heritage conservation and reuse strategies and "smart city" thinking, both heavily influenced by the strategic role Florida (2002) postulated for the highly educated, smart "creative class" in urban life and city renewal. This is evidenced by overt gentrification and the indicators used to define "smartness": the level of qualification of citizens linked to their affinity for lifelong learning, and their innovative entrepreneurship spirit. The endeavours of these "global citizens" are supported by local and (inter-) national accessibility, well developed infrastructure and cultural facilities (ICT) and touristic attractiveness (Giffinger and Pichler-Milanovic, 2007). However, Florida (2017) now warns against creating mono-cultural gentrified cities where segregation is deepening and inequality is increasing, calling this "the central crisis of our times". South African cities are undergoing similar processes (De Beer, 2014), but counter currents are emerging, such as the ReClaim Cape Town movement (Deklerk, 2017).

South Africa has now entered a "post-post-apartheid" era where divergent interpretations of history and meaning form a divisive force (Shepherd and Ernsten, 2017). Modulating urban built heritage is now more than ever hampered by the un-"smart"-ness of related mental-social associations, or meanings. Henderson (2001) presents four strategies that offer post-colonial societies the means for dealing with buildings associated with a contested past: renaming, neglecting, removing and using, but in South Africa renaming does not go far enough to re-code associations (Ashworth *et al.*, 2007). Usage/reuse offers a viable and potentially sustainable option for the broad social subsuming of a built heritage of a contested past for which, in our experience, re-programming of use is often required.

Two architectural design-based investigative student projects were undertaken as means for detecting potentials for re-coding meaning through use: the Re-centring Tshwane Laboratory and Studio Westfort. The 2014 Re-centring Tshwane Laboratory investigated three prominent and significant late-nineteenth century sites – Church Square, the Old Government Printing Works and the Old Synagogue in the historic core of the city – for their potential for adaptive reuse (Clarke and Kuipers, 2015). Studio Westfort focussed on an informal settlement that has grown in a century-old former leprosy colony, originally constructed 10 km westwards of the historic city centre. These investigations aimed at understanding ways in which heritage structures with a pluralist past could contribute to adapting or transforming built-environment SES's.

4. Tshwane and its pluralist legacy
The identity of Tshwane's ever-expanding urban area is the result of an intertwinement of natural and cultural elements. These generate the unique positive and negative senses of place of this city, the administrative capital of South Africa. Tshwane was founded as Pretoria, the capital of the independent South African Republic. The city grew from a mid-nineteenth century "kerkplaats", or church place. Today this square is an important and monumental public space and also serves as transportation hub. Nineteenth and early twentieth century buildings and a memorial define the expression of the square. Its continuing dense history of use, punctuated by momentous public events, has generated diverse, sometimes divisive connotations. Many of these are linked with the exclusionary

political and cultural ambitions of past regimes, which exercised discriminatory and oppressive racially based segregationist policies. These culminated in the 1970s–1980s High Apartheid and its "Monumental Nationalist" skyscrapers (Clarke and Fisher, 2014) that still dominate Tshwane's skyline.

Private capital had already slowly been abandoning the city centre in favour of suburban nodes by the time Apartheid spatial legislation was repealed in the early 1990s. Government soon followed. Post-Apartheid sprawl created vast new mono-functional suburban neighbourhoods that have continued to reinforce pre-Apartheid spatial divides and inequality (Harrison *et al.*, 2014; GPGDP, 2015). The revoking of Apartheid spatial policies was a "pulse-disturbance" type of "disaster" for the system of segregation (Peres and Du Plessis, 2013). However, the persistence of spatial segregation 25 years post-Apartheid, shows that this disruptive social spatial system remains highly resilient and in need of transformation.

4.1 The re-centring Tshwane laboratory

City centres typically contain high concentrations of heritage places. The historic core of Tshwane is no exception, but it lacks spatial justice (Mbokhodo, 2015) and "is permanently contested. A battle [rages] between local authorities, private developers, slum landlords, civic organisations, resident groups, landless groups, informal traders, drug pushers and drug users all wanting to appropriate inner-city space for their own purposes" (De Beer, 2008).

Recent inner-city private investment in Tshwane has focussed predominantly on converting disused office spaces into strictly controlled low-income residential rental units. Recent government redevelopment projects have failed to address public space in ways that engender participation or place making. Even though many extant buildings in Tshwane still carry memories of an oppressive past, they potentially have the capacity for rehabilitation in the minds of citizens by means of thoughtful re-programming and re-telling of their "building-biographies". In short, there is a great need for recognition of the pluralist legacy of what was "Pretoria" and reconnecting it with what is now "Tshwane". The renaming of the city was just a first step in a long process towards developing an inclusive urban environment as vessel for a place-anchored cultural resilience.

The Re-centring Laboratory investigated three sites (Plate 1), integral to the DNA of the city. Following the HUL approach, function-oriented strategies of adaptive reuse were explored. Resilience thinking extended the theoretical basis for students explorations of the tolerance for change of the exisiting from both heritage and design perspectives. The Laboratory showed that each site holds potential for fostering economic development and social cohesion by accommodating new (semi-) public functions, though each requires a different approach:

- Evolutionary adaptation: the Old Government Printing Works are an elegant hybrid structure with spacious well-lit interiors. Its historical passive ventilation system can

Source: All by authors, except the Old Synagogue: Pieter Mathews

be adapted and incorporated into contemporary strategies for energy reduction and the embodied cultural energy represented by the building can be unlocked to engender social cohesion in various ways by means of well-considered architectural interventions. The building holds great potential for accommodating a mix of cultural, civic and commercial activities.

- Careful transformation: Church Square has a strong spatial structure, defined by a combination of institutional buildings and public green space, which embody exclusionary mental-social associations. A transformation is required that exceeds the boundaries of its systems of association. The open nature of the heart of the square is an important public place and meeting point, as is the visual axis between its most prominent late-nineteenth century buildings. Redesign as a responsive landscape can transform these systems of association and enhance the public dignity of the square. Multiple uses of the public space can contribute to this transformative ambition.

- Nurturing: the Old Synagogue, despite having been fenced off for decades, retains invaluable significance relevant to the post-Apartheid paradigm. Its multivocality as a place with a pluralist past has latent potential as a place for healing, if re-programmed for public-civic uses that nurture the narrative of its pluralist history. This includes associations with Pretoria's Jewish community (commemorative), the struggle against Apartheid (interpretative), the principles of democracy (active engagement through community) and reconciliation (dialogue, education).

4.2 The challenge of Westfort Village
Westfort Village (Plate 2) was constructed as a leprosy colony from the late 1890s onwards. The institution's strict social hierarchical character was given form by a system of rectangular courtyards around which much of the patient housing was located. After its closure in 1997, the institution became a refuge for an economically marginalised community, providing very basic accommodation in close proximity of the city. Today the village presents an image of randomness, lacking in spatial relationships and structure.

Source: Authors

Plate 2.
Appropriated heritage:
former leprosy
patients' rooms of the
Westfort Institution
today house a vibrant
community

Closer inspection, however, reveals a rich socio-spatial syntax that can serve to generate a salubrious environment if brought into dialogue with cultural and geomorphic informants.

Ever-expanding sub-urban Tshwane is erasing the spatial divides that once separated the formerly racially designated western suburbs of the city. What once was an isolated village is now an island in a sea of urban sprawl. Westfort Village is now in the crosshairs, but it remains unclear what the future holds. Various reuses, a casino, hotel and shopping mall, have been proposed (Saccaggi and Delport, 2015), but current planning schemes show low-density housing spilling into the territory of the former institution. Remnant areas are zoned as "special", a ubiquitous term that allows for uses ranging from high density housing to offices and other institutional functions. Curiously this plan also proposes green spaces outside Westfort Village, ignoring its extant green structure. It also attempts to stitch Westfort to the larger urban fabric through new roads-infrastructure and by focusing only on individual buildings, taking no cognisance of the spatial praxis of the former leprosy asylum. It ignores the already present community and the meanings that residents ascribe to their environment.

The leprosy colony has a significant history and heritage. Fortunately, the buildings of Westfort Village are less vulnerable than they seem at first glance. Sensitive mapping of tangible and intangible aspects of the heritage on a rich variety of observation-levels from landscape to fabric, former and current-use, revealed a spatial organisation with potential for addressing current societal relevance and demands (Kuipers, 2015). Through mapping and local engagement, the place-bound potentials, notably the possibilities offered by the strong mental-social systems and cultural energy present in the resident community, were discovered. These can be related to development strategies on a larger urban scale and adopting intelligent low-tech approaches to infrastructure and services challenges.

Data-finding, selection, reduction and interpretation underscored the values and discords present in the village and assisted in distilling possible frictions and dilemmas. These in turn became informants for transformation frameworks for the future of the village. One of the key emergent values, which at the same time presented a dilemma, was the physical and mental isolation of the village. This isolation had allowed for the emergence of a strong sense of community, rooted in the built fabric, superseding negative mental-social associations with its history. This generated a paradox: the need to open up the village to the larger city while guarding the quality of isolation.

Through a research-by-design process, diversity, modularity and redundancy were discovered in abundance. Strategies were developed to bolster and modulate the resilient qualities of the place. The following three approaches to extant systems proved valuable in specific instances:

- modulating extant built fabric evolution offers new use, for instance by linking this opportunity-starved community with a larger educational institution;

- buffering the physical space structure as well as the associated fragile spatial qualities against the fast approaching urban sprawl. The internal social and spatial systems do not contain enough bounce-back resilience for their survival, unless clear, yet permeable, physical boundaries are created; and

- Transformation of subsystems, enticing resilient qualities of extant social structures to grow.

These approaches capitalise on embodied cultural energy to generate different perspectives on how to apply adaptive re-use to existing built urban fabric. The Westfort project also shows that dealing with people and community requires addressing their stories and the histories of their physical environments, even when such histories and associated residues are contested (colonial) or not very substantial, and when the needs for future redevelopment are urgent. From the perspective of urban planners, Westfort Village is a "wicked" problem because of the

ways in which associations, history and cultural values stand in inherent contradiction with its physical reality. However, when seeing these paradoxes as presenting richness and diversity, it becomes clear that a vast new area of the city – the urban sprawl around Westfort – could be enriched both culturally and socially if approached inclusively. This calls for non-linear and non-reductionist thinking through which multiple value-based perspectives inform community-based planning and design processes.

5. The potential of reprogramming

By virtue of their persistence, heritage fabric and urban form provide essential clues for understanding the broader system of social and environmental perturbations that have affected it over time. The current transition of heritage directed strategies from merely physical conservation to creative built-fabric adaptation indicates a paradigm shift for the role of heritage in urban development. It also calls for socially responsive governance. Heritage is not only the remains of the past; it conveys values and meanings that form part of our cultural identity (Van Hees *et al.*, 2014), characterising our cities and their rich variety of cultures and identities. Listening to the narratives and associated "meanings of place" helps qualify, characterise, understand and value human aspects of cities. It alerts us to what people care about and where they sense they belong. The complexity of real understanding, as well as the involvement of "unexpected" cultural energy, demands unorthodox design strategies.

Our investigations have shown that sustainable redevelopment requires an integrated community-driven place making approach with the allowance of continuous change. Connections to topical themes such as hardiness, climate change, public space, sustainability, green planning, etc. emerged as essential considerations for successful interventions.

The results of the Re-centring Laboratory all aspired to enrich the city with public places that support people's livelihoods, let them create identities and mould their futures. Cultural practices often used for "place-making" in urban renewal projects – art, theatre, etc. – were proposed to engender a sense of place and community. The Re-centring architectural proposals aimed at collapsing pre-extant dysfunctional but resilient social systems of meaning (associations with oppression, segregation and, since the transition to democracy, abandonment) through adapting built fabric for new use and consequently engendering new meaning.

This strategy does not apply to Westfort Village. The strong sense of place and the aims of the community are its biggest assets. These qualities may be perceived as a hindrance by planners when their top-down approaches are stymied by resistance from the already place-rooted inhabitants. Westfort Village has social capital in abundance. This is part of its cultural resilience. In contrast, the city centre of Tshwane presents a strong physical infrastructure and dominant heritage character. The centre, through years of neglect has become devoid of resilient urban life; the little social capital that exists is ineffective in generating long-term vital communities. A sense of belonging must be allowed to root and grow, but current daily use presents too slow a cycle of adaptation for new robust meanings to emerge. Transformation of stubborn use-systems is required. This demands built fabric morphing.

At Westfort Village, student projects sought to transform its isolation from being exclusionary to inclusionary. Their proposals built on the resilience of the social system's emergent qualities through modulating built fabric. Equally important was their concern to include low-tech "nurturing" solutions, such as education facilities, and urban farming.

Addressing vacancy offers opportunity for increasing functional urban diversity – an essential conduit to engendering resilience (Peres and Du Plessis, 2014b). New use should diversify social, spatial and use-environments and can help to overwrite old stories, enriching meanings of place. New functions should be chosen strategically to entice extant systems, which may not be socially sustainable, to grow towards more inclusivity. Vacant buildings therefore present highly valuable civic assets.

6. Conclusions

The disruptive social-spatial systems of Apartheid segregation in Tshwane have generated persistent mental-social associations, which are proving to be highly resilient systems of association. These hinder a "smart and sustainable" urban future for the city's citizens. The project of Westfort Village shows that these associations can potentially be disrupted and transformed, for which adaptive strategies are required. These are specifically evidenced in the Re-centring Laboratory. In both projects, the HUL approach offers an essential mechanism to engender multi-disciplinary community-driven strategies for adaptive reuse. Such interventions must be in line with those physical aspects of a place that ensured its endurance. Dealing with the history of a place is not about the past, but about the future, projected from the present. The existing should take a dominant position in smart strategies. Such an approach stands a good chance to generate unique diverse characteristics of value in a globalised world. History should in our view be recognised as an integral driver for smart and sustainable cities. We therefore propose the addition of "chrono-diversity" of the urban fabric – the co-existence of diverse layers of time in our built environment (Kuipers, 2001) – and heritage as evolved over time in the built environment as an additional aim of the SSC.

However, to achieve positive change, the ideals of result-driven processes – such as sustainability, smart cities and heritage stewardship – require a locally interpreted values-based modulation.

We conclude that further critical reflections, informed by a cultural (historical) perspective, are required on current development strategies to make cities smart and sustainable.

Specific topics have emerged that offer opportunity for further collaborative exploration, including:

- ecosystemic driven perspectives on the built environment that engender growth through adaptive change as alternative to disruptive demolition and new build practices;

- advancing governance that foster cultural resillience, especially in relation to land use, planning and access to heritage;

- the (sometimes) latent, potential role of heritage as a regenerative urban force in culture-conscious urban strategies, specifically relating to community, identity, contestation and appropriation;

- engendering inclusion through generative community-based design processes; and

- material preservation and restoration approaches founded in both skills-based and high-tech technologies.

Awareness of the resilience of socio-cultural associations and the adaptive potentials of reuse of extant buildings has become crucial in achieving SSC's. The future of the sustainable city generally lies in culturally informed, as opposed to architecturally driven adaptation and not in the demolition of extant building stock and urban fabric. Adaptive reuse as strategy remains challenging in the South African context, where the past has bequeathed the present with a contested and burdened heritage. In the case of such stubborn SES's, transformation of subsystems should be stimulated through integrated urban planning. This implies a paradigm shift, calling for a broadening of heritage practices and acknowledging that interventions will not be sustainable without community participation. The challenges faced in addressing socio-cultural legacies associated with built-environment heritages with pluralists pasts predominantly have macro-historic causes. Redressing them requires the modulation of values, stimulated on the micro-individual level through every-day experience. This can modify mental-social relationships.

Heritage thinking itself needs to become an essential informant for the SSC, because it reveals values in the existing on all levels of scale as vehicle for developing an inclusive future and creating new stability.

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