

Towards a resilient Capital

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Introduction

As the City of Tshwane's short yet intriguing history evolves, its heritage reflects the public contestation of history that comes with each significant socio-political change. Consequently, the built environment is frequently adapted in order to reject past ideologies or reflect new ones. Given this context, the relevance of 'museumifying' or preserving the built environment in a fixed state for the sake of commemorating an intangible memory of the past, would fail to address its worth in terms of the present society with its new needs and values. This brings forward the challenging perspective that history is not always what present society might desire; past actions dictate the emergence of history over time and this becomes a part of the collective 'sense of place' or DNA of a city. Erasing historical structures will not change history nor will it automatically 'fix' the problems of the present. Instead, it may lead to a decrease in diversity and creativity in going forward.¹ The extant fabric should rather be seen as providing opportunity to build the resilience of the Capital through building on its existing capital, historical assets included.

Capital ambitions

The built heritage of the City of Tshwane reflects its past and present role as the capital of South Africa, and helps to predict its future. Interrogating these issues from the perspective of repurposing heritage buildings, a process through which new meaning can be ascribed, may contribute to 're-centring' energy, activity and investment in the historic centre of the capital. This possibility emerges as a need and an opportunity to reposition stories about the collective past, so as to provide a basis for creating new stories going forward. Among such potential new stories, the City of Tshwane Metropolitan Municipality has developed the Vision 2055 to re-create itself as "resilient, liveable and inclusive."² It could be argued that Tshwane is already a resilient city. Despite high unemployment levels and increasing urban poverty,³ the city maintains its physical or structural resilience. The same cannot always be said for its intangible or social resilience. Recent studies suggest that the citizens of Gauteng are increasingly dissatisfied with government, and "alienation, distance from government, 'phobias' – all are reaching very scary levels."⁴ In the context of urban resilience then, what aspects of the city should be resilient and at the expense of whom? Furthermore, can the built heritage in South Africa's capital play a role in developing the general resilience of the city to become inclusive and liveable, given the current socio-political context? The challenge lies in acknowledging that, against all tendencies, the greatest opportunity can be

Left: The city centre seen from Wonderboompoort. (JMK)

¹ Gunderson *et al.*, 2002: 16.

² City of Tshwane, 2013.

³ City of Tshwane, 2013.

⁴ Gauteng City-Region Observatory, 2013: 123.

found hidden in the intangible. Furthermore, weaknesses, vulnerabilities and threats must be seen not as barriers, but as offering potential for redevelopment.

Resilience embodies the drive of a system to persist, which means that at times it stays the same while at other times parts of the system may need to change or even collapse to achieve it.⁵ It is as much about 'keeping a good thing going' as it is about adapting to something new or different when the existing system becomes dysfunctional. Resilience in an urban system is not static; it increases or decreases as relationships between elements in the city system change. It is also not possible to predict the exact resilience of a city by merely studying its component parts, since across the city and beyond, the relationships between these parts are constantly adapting and changing.⁶ Therefore, in the quest for achieving resilience, two things become clear. Firstly, making a city resilient for current conditions does not make it resilient into the future; therefore cities should be designed to adapt to changing conditions, giving 'room' for resilience to emerge. In Tshwane's complex urban fabric, adaptation to changing conditions is already occurring. Adaptation and change that builds on existing resources holds greater potential than new interventions that ignore the existing, linking to the notion that conservation work has to be conceived as 'management of change'.⁷ Secondly, resilience thinking functions as a metaphorical lens through which city development can be studied on an ongoing basis.

Resilience thinking in the urban environment is approached from two dominant perspectives: systemic and normative. These are not exclusive, but while there is a degree of overlap, their objectives differ. The systemic resilience perspective relies on developing an understanding of the urban system in order to understand the structural patterns that give rise to its resilience over time.⁸ This perspective sees resilience as a neutral property

arising from systemic relationships that may be deemed positive or negative only in relation to whether the system is seen as functional or dysfunctional. Understanding which aspects of an urban system are showing higher or lower levels of resilience can inform considered options for interventions. The normative resilience perspective engages resilience as a metaphor or symbol for an ideal form of development based on certain collective values,⁹ and is useful as a means of achieving consensus during collaborations between different professions. It promotes resilience 'as a good thing' without framing it with the question 'the resilience of what to what', nor extensively investigating the systemic properties that give rise to resilience.

Urban resilience thinking includes normative perspectives, but the focus lies on building a holistic systemic understanding in order to best inform development strategies. Thinking resiliently about development creates the opportunity to not only build the capacity of cities to mitigate disasters, but also to help by adapting existing environments towards healthy and thriving social-ecological systems. Adaptation is an especially powerful aspect of resilience thinking.¹⁰ In the Tshwane urban environment, the massive transformation required to achieve an inclusive and liveable city calls for a reappraisal of social and ecological systems, to see how they can function more resiliently and adapt to reflect a higher level of integrity. Constant adaptation works across scales and levels; it includes site, urban and landscape infrastructures, building typologies, materials, colours, and 'belonging', each with its own cyclic and sustainable timeframe.¹¹ It is from this holistic perspective that heritage, a sometimes politically contested aspect of the South African urban environment, can provide clues for building a resilient future capital that includes hearts and minds and physical structures too. This is because heritage addresses deeper layers of understanding place through time, and holds an empowering capacity to reconcile that which is regarded as problematic.

5 Holling 1973; Walker *et al.*, 2004; Folke *et al.*, 2010; Elmqvist *et al.*, 2014.

6 Walker & Salt, 2006: 11.

7 Bandarin & Van Oers, 2012: 66; Teutonico & Matero, 2003.

8 Resilience Alliance, 2010; Walker & Salt, 2012.

9 Brand & Jax, 2007: 9; Pickett *et al.*, 2013: 16.

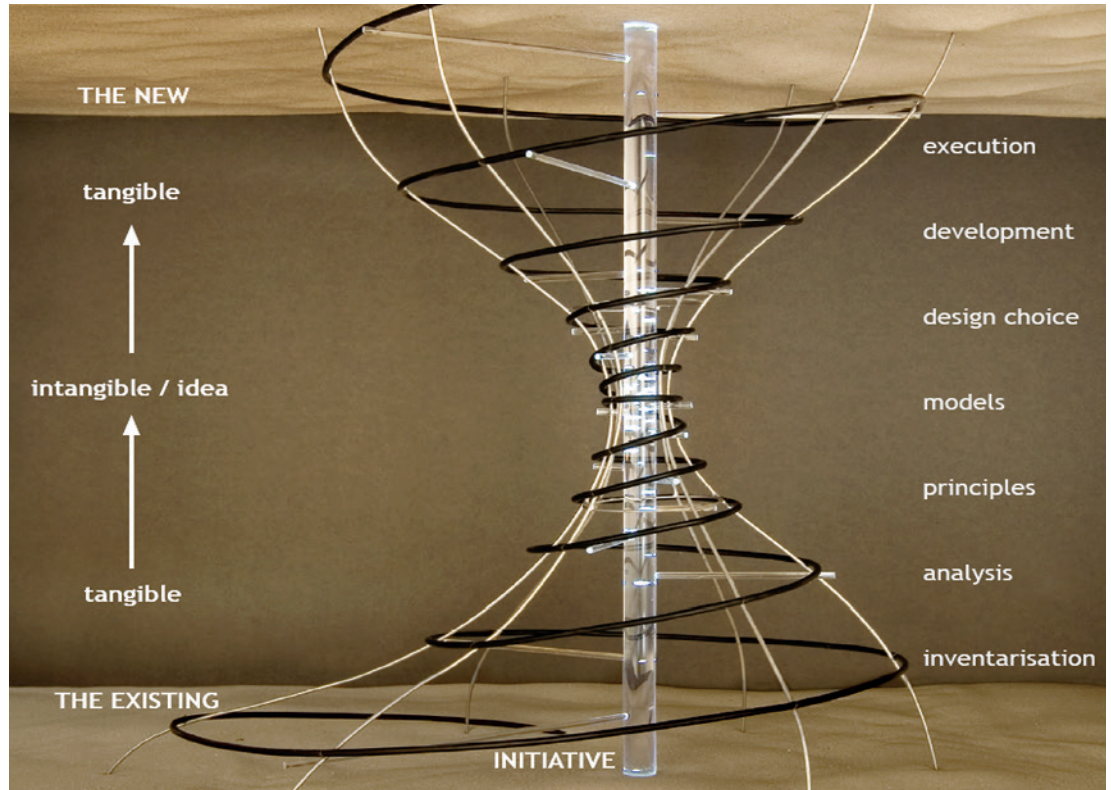
10 Peres & du Plessis, 2013; Walker & Salt, 2012.

11 Brand, 1994.

Resilience in heritage

When considering how to enhance the resilience of an urban environment, a good method to start with is to analyse its tangible heritage fabric and its essential qualities through investigating its intangible social history. This calls for an elaboration of the urban morphology derived from particular worldviews that include architectural and memorial values.

Heritage fabric and urban form (whether deteriorated or conserved), by virtue of its persistence, provides essential clues for understanding the broader system and the social and environmental perturbations that have affected it over time. Tracking its persistence gives clues as to why, how and where to adapt.



A model explaining an inclusive architectural process of design through discovery. (Job Roos)



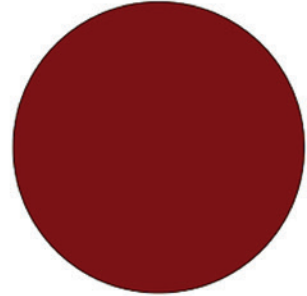
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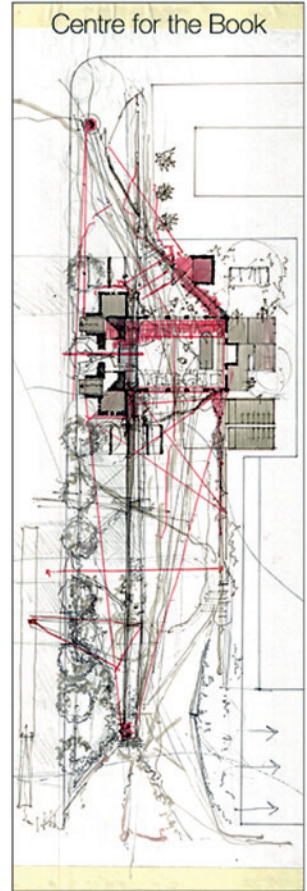
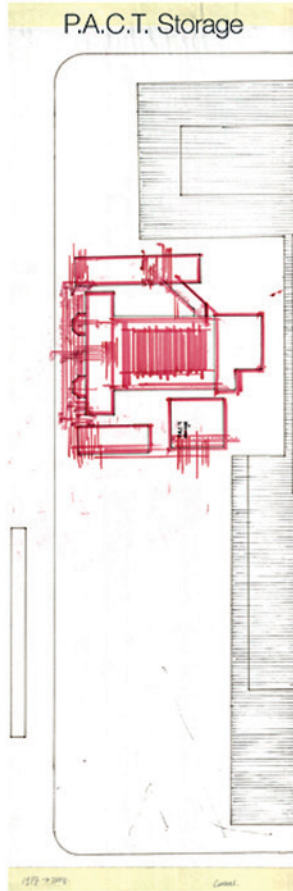
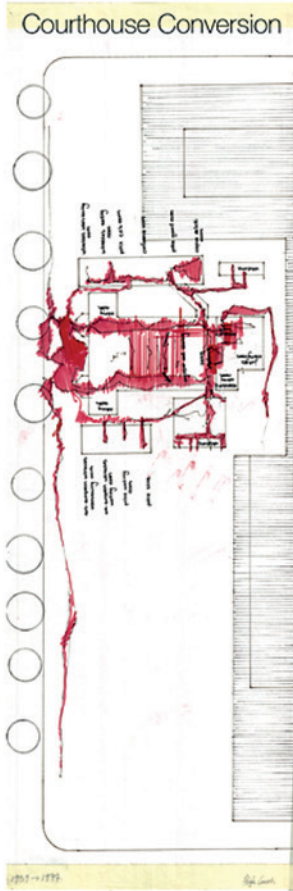
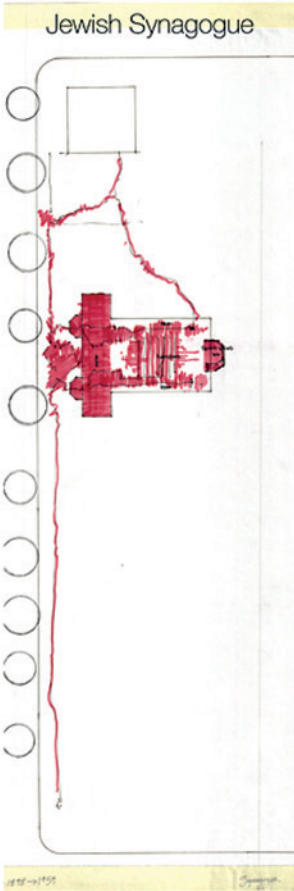
1958



1977



2014



Searching for the story of place. Explorative diagrams investigating the various 'lives' of the Old Synagogue throughout history. (Inandi Janse van Rensburg and Craig Mitchell)

The story of place

Understanding the above-mentioned system begins with the story of place. Every place has a story relating to its origins, life and functions, providing clues for future development. Dey suggests that, "all places are formed in the past. All ideas for building projects are in the future. Unless we can marry past and future, everything we do will always be, at least in part, 'out-of-place'".¹² Design strategies that amplify local processes, characteristics and 'natural dynamics' are therefore more responsive to the inherent tendencies and potentials of a site.¹³

To determine the story of place of a building or precinct, its physical integrity, materials and technology have to be assessed.¹⁴ Equally important is constructing a biography of the site which explores the ways and feelings of users at different times of day or seasons. The main question would be: what would the site say if it could speak? The outcomes may give some clues that, when well understood, aid to inform a design project that has been generated from a keen appreciation of the physical integrity, biography and essence of the site.¹⁵ They can also enhance the physical resilience of the built fabric while initiating an understanding of the social context at which time these structures emerged and evolved. The heritage story of a place exposes how a site has been sheltered from, or subjected to, social and environmental change over time. This forms a good basis for understanding the systemic resilience of the site in relation to its past patterns and key changes.

Developing this appreciation of the story of place allows for a more resilient engagement with it. This is achieved by recognising which physical or biographical aspects of the site demonstrate stronger resilience over time than others, and why this is so. Social aspects may maintain the resilience of the physical fabric when material structures are weak. Inversely,

resilient materials can often withstand high levels of impact from social networks or environmental disasters. Interventions should recognise these invisible pressures in order to shift the system toward social change, economic development or sustainable targets where necessary. This change is realised by physically adapting aspects of the physical heritage fabric to unlock value for the current users in ways that build on existing resources. From a normative perspective, heritage resilience calls for built fabric to remain relevant for today's needs while still reflecting the qualities of the past. Interventions must be based on the sensitive physical adaptation of structures that leaves enough room for future adaptation to new changes in society, technology and culture, while also building appreciation of the values inherent in these structures in the minds of today's users.

Urban resilience derives from building on established city patterns that maintain capacity for long-term adaptation¹⁶ through diversity, modularity and redundancy. In this regard the role of heritage in building the resilience of a city is threefold. Firstly, it provides clues about the existing urban systems and patterns from which we can learn. Secondly, it offers a point for transformative adaptation that not only unlocks value in the physical artefact, but in hearts and minds as well. And lastly, heritage structures provide an opportunity to build diversity, modularity and redundancy into the built fabric and urban uses, thereby ensuring the capacity of the city to evolve and thrive in going forward. In other words, by investing in the essential qualities of heritage and harnessing its potential, the success of the redevelopment of cities today increases. Tackling heritage values and qualities in accordance with economic, emotional, experiential and political values urges towards an integral value-assessment important for truly sustainable development.¹⁷

¹² Dey, 2000: 134.

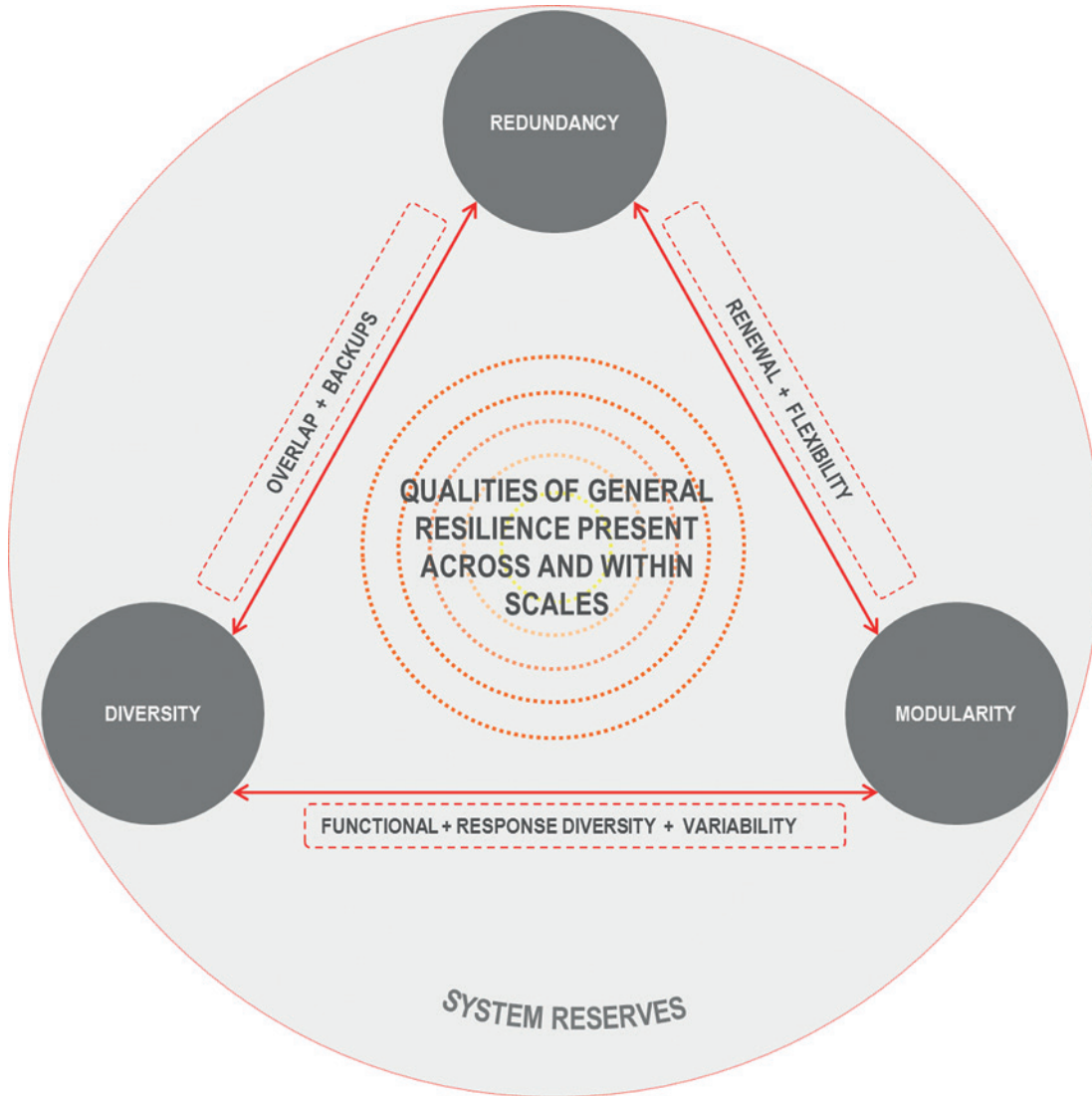
¹³ Gunderson *et al.*, 2002: 245.

¹⁴ Kuipers, 2010: 32–66.

¹⁵ Dey, 2000: 134.

¹⁶ Walker & Salt, 2006; Salat, 2011.

¹⁷ Roos, 2011.

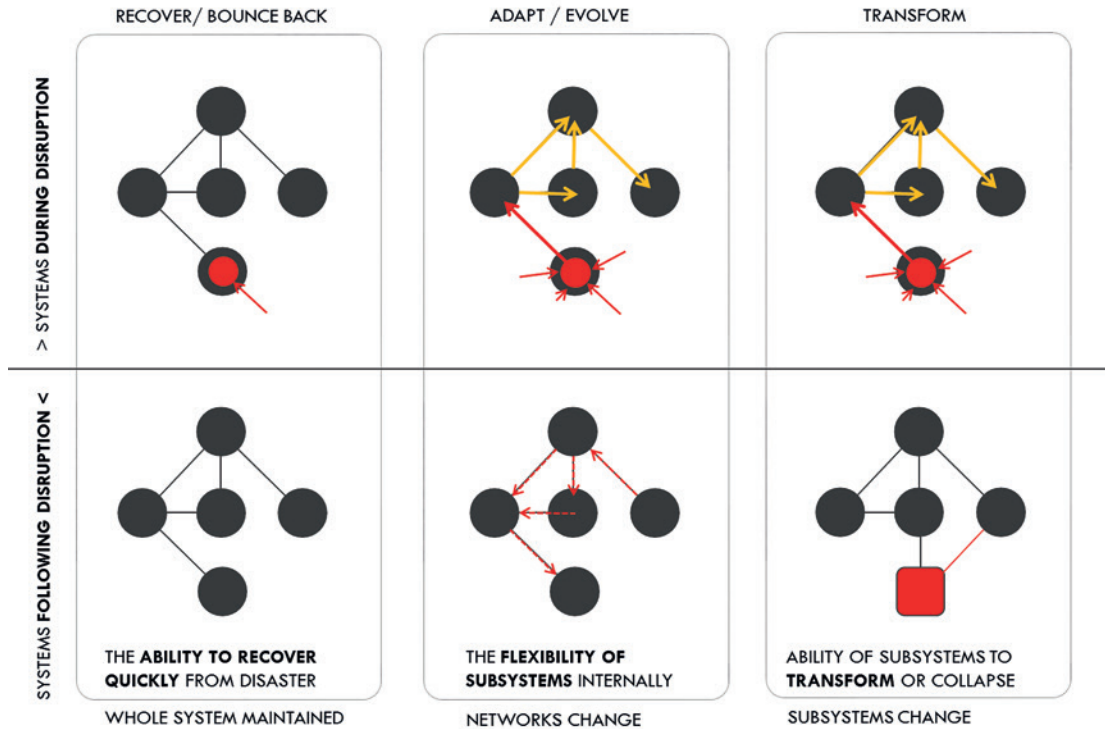


The qualities of general resilience in and the interaction of various building diversity, redundancy & modularity in urban systems. (Edna Peres)

Resilience on three heritage sites

Resilience plays a significant role in the three historic sites investigated by the Honours students during the 2014 Re-centring Tshwane Laboratory. Each site has responded to different disturbances over the last century, and displays different levels of adaptive capacity and resilience. The student projects in turn suggest a new disturbance, but one that acts as a catalyst to unlock the latent potential within the sites. The resultant effect of these acupuncture interventions on the urban scale should not be underestimated in terms of their potential

for creating more liveable space and a stronger urban identity. The design interventions developed by the students present the paradoxical act of conserving while changing at the same time. Engaging heritage suggests the power that its layered past has as a resource to generate the most favourable outcome for the city. This transition from merely physical conservation to creative adaptation suggests a paradigm shift for the role of heritage in urban development.



Bounce back, adapt and transform: three manifestation of resilience in response to disturbances in a system (Edna Peres)

■ Church Square

Use versus symbolism (persistence)

Church Square marks the physical and intangible origin of the city. The axis mundi that forms the centre point and social origin of the city continues to hold value where its use and symbolic meaning is concerned, even though the physical environment has morphed over time. The need to create a physical and spiritual gathering place for farmers in the region during Holy Communion¹⁸ emerged in the form of a large central space; it is the nucleus of what grew to become a town and the capital of the Zuid-Afrikaansche Republiek (ZAR) and later South Africa. At the centre of this square was the church, hence the name Church Square. As part of the local municipality's Vision 2055 inner city transformation plan, Church Square forms a prominent node in a larger Government Boulevard. The square has seen various adaptations in its physical fabric, yet continues to be a site of significance for the city, albeit ambivalent if not contested nowadays. The social values ascribed to this space persist in the form of the statues and symbolism, but they are also present in its functioning as a green space and social condenser for the public. Student design work related to this multi-layered site laden with politically contested history proved to be among the most challenging of the Re-centring Tshwane Lab. While the site's biography has been politically 'rewritten' or rather 'rebuilt' over the decades, in the current redevelopment the students seemed to suggest that too much of the narrative had been omitted in political edits and that this trend might continue. It proved difficult to identify and maintain the spirit of the place, its biography and fabric, with the pressure of redevelopment in mind as well. In a final reading of the projects, the use value or story of the site as a gathering place in the heart of the city (whether as a church, market, square, transport node or tourist attraction) persisted over time. In contrast, its palimpsest (a physical symbol of the contested past) proved to be the most vulnerable component on site. The location of the site and its usefulness as a public space proves to be the most resilient component, persisting despite the current contestation.

¹⁸ Holm, 1998.

Church Square is more than just a forecourt to important institutional buildings. It has become the city's vibrant, diverse, place for meeting. (Nicholas Clarke)







■ The Old Synagogue

Appearance versus stories (transformation)

The Old Synagogue embodies resilience in the form of its potential to not only transform its function significantly, but also in its power to transform the socio-political environment in South Africa. In its physical state, the site initially functioned as a synagogue. After it lost its use as a synagogue, it was converted to be reused as courtroom for the infamous Treason Trial, Rivonia Treason Trial and the Steve Biko inquest. This site therefore represents both tangible and intangible transformation. The tangible resilience is manifested in the robustness of the physical fabric. The intangible transformation entails the effect that decisions made therein changed the trajectory of South African history profoundly. In addition, the site holds potential for enhancing further transformation, if the current structure were to be adapted to accommodate a new function that can raise awareness for moving toward the principles of democracy that form the basis of the national constitution. Thereby the role of this building in the journey to democracy would be celebrated.

The research by design projects of the students revealed great sensitivity toward the latent power of the site. Sensitive and intelligent research into the complex biography of the place puts forward a narrative for the Synagogue heritage site which is full of contradictions. It is simultaneously iconic yet abandoned, robust yet vulnerable, valuable yet contested. There is a contradiction in the site's disconnection from the city (and its neglect toward the point of dereliction) while it provides, at the same time, a beautiful, nostalgic atmosphere. Although the site holds rich physical and intangible heritage, it is poorly utilised and requires custodianship. The best ideas for redevelopment by the students transcend the level of intervening inside the building by tapping into the urban structure in order to reconnect an interesting urban and social network with the City of Tshwane. While the value of the fabric of the building is addressed, the contribution of these projects was the interesting balance between repair–upgrade of the building and reformation, in which reformation takes place mostly at the urban level. The schemes take the synagogue out of its isolation, allowing it to carry its complex and contested history by creating new open perspectives for city development and public engagement. They thereby transform not only the urban realm, but also the conversation around democracy in South Africa.

The architecturally insignificant ancillary structures that surround the Old Synagogue, such as these holding rooms built to the north of the main building when it was in use as Court House, are an integral part in the story of the place. (Marieke Kuipers)



■ The Old Government Printing Works

Enhancing adaptive capacity (evolution)

As a typical part of the legacy of the industrialisation that took place in the early years of Tshwane's history, under the curatorship of Dutch-born architects for the ZAR government of the late 1880s, the Government Printing Works (GPW) became a site that recorded the history, identity and policies that underpinned the nation for well over a century. The original program of the site has remained roughly the same for decades, but as new technologies evolved, it has become obsolete and will now enter a new era of use. The physical structure is easily adaptable and its position in the city lends itself to a more public function that subverts the 'private' governmental control that this site has embodied for decades. By also facilitating functions related to daily or mundane rituals of life, the suggested options for reuse can provide the opportunity for new values and meanings to be ascribed to the building. In this sense, new functions within this building can enhance the adaptive capacity of the site to evolve and to ripple beyond into the broader area.

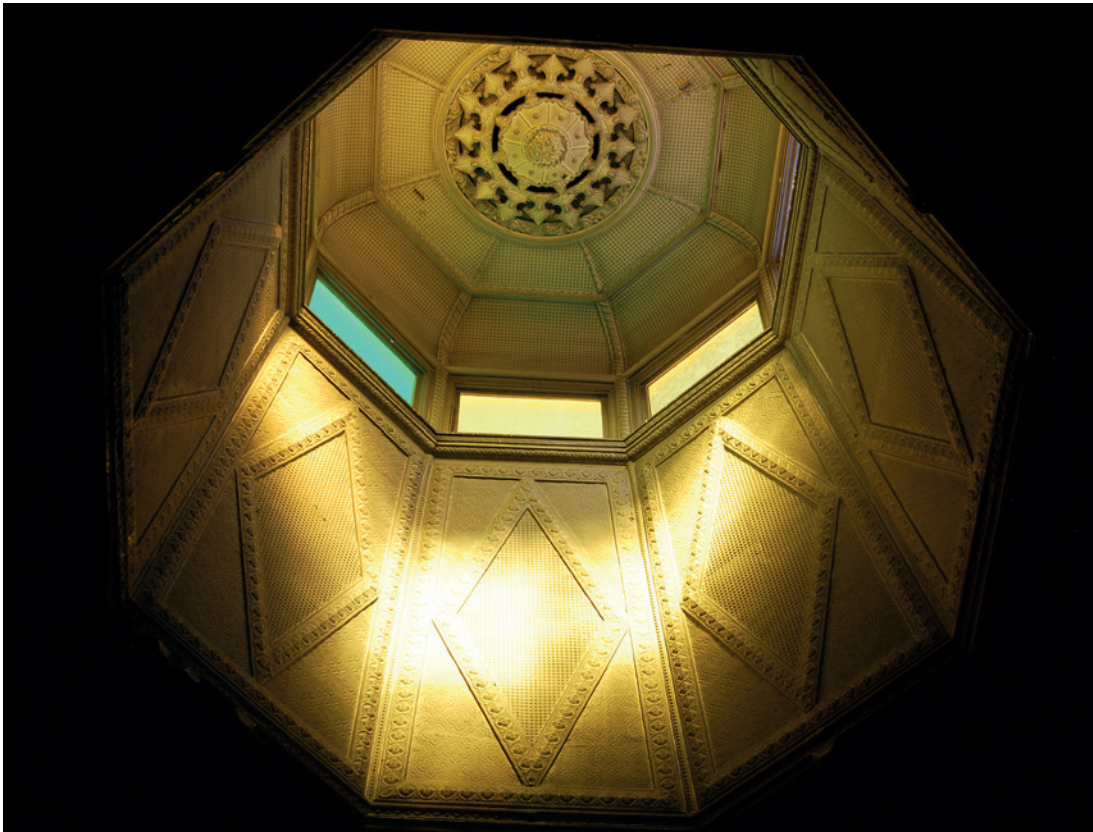
The relatively small building on the corner of the urban block is overshadowed by recent and senseless development of the urban tissue. The GPW has a different relationship to the urban fabric than the iconic Synagogue in that it sits on the street edge enhancing the perimeter boundary, while the landmark Synagogue sits within the site set back from the street. The student plans consequently show us that the resilience potential for re-development on this site will come from sensitively repurposing the interior spaces of the GPW and its outdoor courtyard, while drawing pedestrian energy in from the street. The GPW can become a place to go and meet, a place with great intangible value. The challenge is to repurpose this corner stand in the north-west quadrant of the city with vibrant functions that can reinvigorate activity. Apart from designing with the understanding of the urban block, the student plans illustrate the normative position that the re-use of the old printing works for 'ordinary' functions in the city is 'a good thing'. By enhancing 'ordinary' city life, the vulnerable heritage (under pressure by recent inner city development) is taken seriously, but giving it new life and new purpose for a new generation and society will allow the site to evolve in future. Reinterpreting the historical use of this industrial architecture provides a human story from which to engage the site that digs deep into the soul.

One of the main halls of the Old Government Printing Works: redundancy with a high level of flexibility lead can lead to resilience through renewal. (Marieke Kuipers)

Conclusion

Heritage is not something apart or different. As with any built environment resource, it holds potential, and as one that has stood the test of time now for decades, it holds valuable lessons for resilience. Heritage should be treated as an important cornerstone for the resilient redevelopment of our cities. The Re-centring Tshwane Lab student projects show that heritage resources in Tshwane can provide clues for developing in alternative and resilient ways—firstly, by understanding that the physical structure of a place can hold use value that persists beyond the political symbolic significance; and secondly, that

connecting a heritage building to its broader urban context can provide opportunities to transform the physical as well as the social environment, by opening the conversation about the importance of democracy and democratic spaces in South Africa. Last but not least, that in changing the use of government buildings with a specific identity, and tapping into the everyday needs of the greater city community as well, the long-term resilience of a site can be ensured, as it gains new relevance through building a new identity for Tshwane and its users.



The skylight of the Old Synagogue. (Marieke Kuipers)

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