

Defining the assignment

A research-by-design approach to teaching architectural conservation

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Introduction

Many schools of architecture engage with questions of heritage and conservation in one form or another. This agenda, whether it is explicitly or covertly addressed, has the potential to challenge students and bring about a greater depth of engagement, leading to a greater sensitivity for context, culture and meaning among these potential built environment professionals.¹ As an educational endeavour it relates to a real world context, where cities are developing rapidly while at the same time receiving increased attention as historic urban landscapes through ever more regulated conservation procedures. This leads to a range of conflicts and opportunities due to conservation actions in the built urban development. Students of architecture can contribute to this discussion. Their research-driven design projects can provide new readings of place that propose informed and alternative spatial strategies. These can in turn challenge and inspire urban development stakeholders who are tasked with determining the future directions for urban environments.

This essay discusses built heritage as an integral component of architectural education, and aims to outline the specific academic and research context of the Heritage and Cultural Landscapes Studio² (H+CL Studio) and *Re-centring Tshwane Lab*.³ The latter brought together post-graduate architectural students and international heritage professionals to develop specific local heritage and urban transformation proposals for the city.

Academic context

The Department of Architecture presents courses in three related disciplines: Architecture, Landscape Architecture and Interior Architecture. Each of these requires its own set of skills, as each fulfils a unique role in the professional practice environment. At Honours level the design studio for the three disciplines is shared. Consequently, students often operate in cross-disciplinary design teams when investigating briefs,

Left: Detail sketch. Old Government Printing Works. (Jacques Jordaan)

¹ Also see Swart, 2015; Bakker & Le Roux, 2002.

² H+CL Studio refers to the 7 week design studio conducted in the second quarter of the 2014 academic year as part of the Honours degree at the Department of Architecture at the University of Pretoria.

³ *Re-centring Tshwane Lab* refers to the one week masterclass in the final stages of the H+CL Studio (see note 2, above) in which Dutch conservation experts interacted with a selected group of students.



conducting analyses and developing intervention proposals. A field-specific design tutor guides each of the disciplines, but crossover collaborations are encouraged. This has been found to enhance the quality of student work produced by the individual disciplines. The combined efforts lead to a diversification of scales of investigation and a more comprehensive contribution to research and strategic discussions.

Post-graduate teaching is further structured along the three research fields of the department: *Environment Potential*, which focuses on ecological aspects, *Human Settlements and Urbanism*, which has a strong social driver, and *Heritage and Cultural Landscapes (H+CL)*, which addresses architecture as a cultural construct and design as a cultural response. As a contemporary understanding of the inherent themes (ecological, social and cultural) might suggest,⁴ these research fields are interdependent, but it is the *H+CL* research field which acted as the strategic vehicle for both the student work and institutional collaboration discussed in this publication.



The research field, Heritage and Cultural Landscapes (H+CL), can be defined as “the diachronic and synchronic understanding and analysis of the ecology of the cultural environment with application in the design of the built environment and protection of cultural significance and conservation”.⁵ Central to the contextual approach of the Department of Architecture is the concept of *cultural landscapes*, which provides a foundation for understanding the complexity of the emergent built environment and the associated meanings that result from everyday engagement with the built fabric.

The Department of Architecture has developed the aforementioned research fields to serve as crosscutting themes linking education and research—students and lecturers engage in both—in a larger endeavour. Academics related to the H+CL research field provide education in the fields of conservation theory (lecture based) and contextual design strategies (studio

Documenting the built environment: students measuring up the ZAR-period Goal in Potchefstroom (top, Johan Swart, 2013) and the TPA Building in Pretoria. (bottom, Marieke Kuipers, 2015)

4 See Fisher & Clarke, 2011.

5 University of Pretoria, 2013.

based), but also engage with students in fieldwork and heritage documentation projects.⁶ Further contributions related to the research field include the interpretation of heritage places,⁷ production of heritage impact assessments and management plans,⁸ the compilation of built environment inventories,⁹ and the production of publications about South African architectural heritage. The *Eclectic ZA Wilhelmiens* project, as a staff-driven research endeavour, provides the theme and background for the H+CL Studio and *Re-centring Tshwane Lab* discussed in this article.

As the main Heritage and Cultural Landscapes research project of the Department, completed in 2014 and spearheaded by Prof. Karel Bakker, Nicholas Clarke and Prof. Roger Fisher, this project, which aimed to re-appraise the contribution of Dutch born and raised architects to South Africa during the latter part of the nineteenth century, culminated in the publication of a book entitled *Eclectic ZA Wilhelmiens: a shared Dutch built heritage in South Africa*.¹⁰ The project was financially supported by the Royal Netherlands Embassy in Pretoria as part of its Shared Cultural Heritage Programme.

In 2014, for the second year running, the sites of investigation chosen for the H+CL Studio were directly or indirectly aligned to the *Eclectic ZA Wilhelmiens* project. The decision was made to limit the investigations to the historic city centre of Pretoria, where three sites were chosen for the potentially large contribution they could make to the future development of the historic core of the city: the Old Government Printing Works, the Old Synagogue and Church Square. The chosen sites all relate to current real-world development questions. Their selection aligned with the Department's aims of investigating relevant projects within the immediate spatial context of the University.

6 See Fisher & Le Roux, 1988.

7 See, for instance, Fisher & Clarke, 2007.

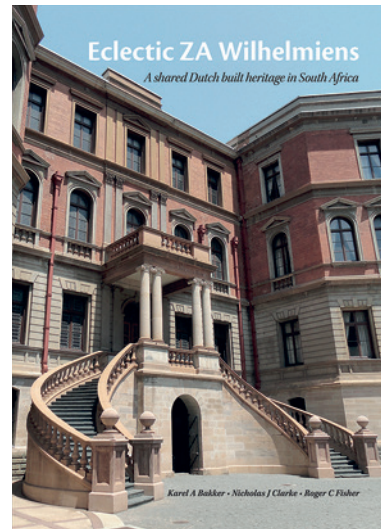
8 See Bakker & Van der Waal, 2000.

9 See Le Roux & Botes, 1990, 1991 and 1993; as well as www.artefacts.co.za.

10 Bakker, Clarke & Fisher 2014.



Plekke en Geboue van Pretoria published in three volumes between 1990 and 1993, remains the most comprehensive survey of Tshwane's built heritage.



The *Eclectic ZA Wilhelmiens* book project opened up new research avenues and has been the basis for teaching design in the H+CL module for four years.



Learning from the experts. Studio engagement is not a one-way system but relies on listening and debate among equals. (Johan Swart)

The H+CL Studio and *Re-centring Tshwane Lab*

The aim of the H+CL Studio is to foster coherent design strategies, at urban and architectural scales, when working in and around heritage and cultural landscapes.¹¹ This requires not only an understanding of the physical, but also engagement with the intangible. The subject matter is intended to equip students with the tools to act within a contextual framework, working with communities to produce schemes that function from urban to detail level. These projects are expected to engage with the regeneration and rejuvenation of particular precincts to ensure the success of public spaces that draw human activities in and accommodate basic human needs. Recording of the status quo is important, and therefore student work is included as part of a larger South African Built Environment archive located at the Department of Architecture.

Three focuses have been developed to accommodate the divergences in scale of the three architectural disciplines. For architecture students the focus lies on place, architecture and urban precincts; for landscape architecture students on regional ecological connectivity, urban green structure, movement spaces, public green spaces and significant gardens. Interior architecture students are encouraged to investigate narrative architecture/space and to develop product-scale solutions that either engage with existing fabric or provide temporary and adaptable infill.

All three of the sites chosen for investigation are poised for change. The Old Government Printing Works has become redundant due to the construction of a new facility to serve the Government Printers. Church Square, the heart of the city, has been heavily impacted on through the introduction of the Tshwane Rapid Transit bus system that cuts across it from north to south. The Old Synagogue, historically a highly significant structure, has been awaiting appropriate re-use for about 30 years. All three of these sites are located within walking distance from each other, and their re-integration into the larger social

fabric of the city could contribute greatly to the quality of the urban environment in the city centre. Incidentally, the three sites allowed for investigation on all scales required for the education of the three architectural disciplines involved in the H+CL Studio.

Continuing in the tradition of the Department,

“... [s]tudents are required to strategise around the problematics of a specific location. Thereafter they are set the task of generating development strategies that react as nested systems with loose enough fit to adapt over time as new eventualities emerge, but with enough rigour to energise them for long term impact.”¹²

The *Re-centring Tshwane Lab* was arranged for August 2014 as part of the H+CL Studio. Selected projects were iterated under the guidance of visiting Dutch experts, Prof. Marieke Kuipers of the Cultural Heritage Agency of the Netherlands, and Job Roos, principal at Braaksma & Roos Architects of The Hague. The Lab entailed an iterative process, revisiting design strategies already developed in the preceding academic quarter. This required students to be flexible and self-critical, and culminated in a presentation of the potentials of the chosen sites to policy-makers and site custodians. Prof. Kuipers and architect Roos brought international experience with regards to architectural design and value and impact assessment. In one short week the 14 selected projects were re-evaluated, challenging students to engage with a fresh perspective regarding the designs they had developed. This was by no means an easy task, and the results presented to policy makers and site custodians were a consequence of this radical intervention and fast-paced iteration. In order to contextualise these results, discussed in a later chapter titled *Lessons Learnt from the Re-centring Tshwane Lab*, it is important to clarify the educational agenda and academic themes that are inherent to the student brief developed for the H+CL Studio.

¹¹ University of Pretoria, 2013.

¹² Fisher & Clarke, 2011: 19.

Fundamentals

The Honours studios at the Department focus on site-specific real-world problems. These need to meet the criteria of being able to accommodate the breadth of scale required for the different disciplines.

At the same time,

“... [s]tudents are led to realise that no single solution exists to the multi-faceted problems designers are confronted with in the real world. Engagement means allowing for emergence. No intervention is too small, but it can easily be too large. The critical intervention requires the necessary minimum even though this may seem simple.”¹³

The studios attempt to engage with the heritage discipline from an international perspective, seeking international best practice in a multi-disciplinary approach. To this aim students are presented with case studies and critically engage with international guides and charters through peer-to-peer colloquia. Students are encouraged to apply the lessons learnt from these doctrinal texts in the iterative process of design development.

“Design responses are seen as part of built environment ecologies that are emergent, which are not only delivering product but is plugging into and optimising processes.”¹⁴ A relatively recent introduction is the theme of resilience which, as an urban quality, can be described as “the capacity of a city to adapt to change, brought about by slow pressures or rapid-pulse disturbances.”¹⁵ For the purposes of the Honours studios, resilience is understood to be found in the interaction of socio-cultural conditions, which include economic systems. The built environment acts as facilitator, where emergent qualities of a site are related to the latent (intangible) qualities of place.

In the H+CL Studio specifically, resilience is translated to include architectural tolerance for change. The concept *tolerance for change* provides an instrument that allows for debate and scenario testing, and for investigating the resilience of both fabric and meaning in order to retain their intrinsic qualities in the face of proposed change. Students are, for instance, encouraged to develop scenarios illustrating a range of fabric interventions in response to a specific need. An example of such an instance is the range of interventions possible when planning to alter valuable facades. Once the possibilities have been defined they can be tested against pre-defined significances and the aesthetics of both the extant and historic state of the façade concerned.

All of the above forms part of a value-based approach that requires ‘deep study’ of the historic, the current, and projections into the future. A distilled abstract textual position statement encompassing the uncovered richness of the site (a statement of significance) forms the baseline against which interventions are evaluated in a continued iteration. No matter how valuable a conceptual idea is deemed to be, if it is found to negatively affect the richness of a place it needs to be reassessed, if not discarded. This approach includes the intangible values of the place.

During the 2014 academic year, the H+CL Studio focussed on the potential role heritage residue can play in service of social aims. The studio had three interdependent themes: (1) the social role of heritage; (2) heritage ownership; and (3) investigating and exploiting tolerance for change. Social relevance was deliberately chosen in response to a perceived social need. Pretoria, as the heart of Tshwane, the Capital of the Republic, is a place of rich meaning, much of which is unknown and often unrelated to the majority of its citizenry. The potential exists for heritage structures to contribute to social endeavours, at the same time establishing new meaning. This is why students were tasked to investigate how to unlock the meaning and value

¹³ Fisher & Clarke, 2011: 21.

¹⁴ Fisher & Clarke, 2011: 20.

¹⁵ Barker, du Plessis & Peres, 2015: 40.



Sketch with proposed intervention. Old Government Printing Works. (Arthur Lehloeny)

of heritage places and make them accessible and valuable to all citizens. The second theme, that of ownership, is linked to the first with the assumption that inclusive development and healthy communities are not achieved by architecture alone. Successful interventions are created by developing strategies that consider ownership and management of spaces, and by proposing interventions that address the complicated network of stakeholders surrounding urban heritage places. Lastly, the fact that all of this will undoubtedly imply changes to fabric, necessitates an understanding of the tolerance for change of sites and buildings, an understanding that requires detailed architectural and historic investigation.

Throughout the investigation and design processes students were led to make decisions based in an informed position regarding that which is inherent in the tangible and intangible values of site and surrounds. Heritage fabric, the tangible, was presented as the vessel of intangible meaning. This meaning has value and requires curation in order to ensure that the value is not squandered or lost. It needs to be investigated and described if it is to form the basis for a design investigation. Students were required to develop a statement of significance (a succinct text describing the values unearthed) as the springboard of the design intervention.

The H+CL approach requires that the design process and product be clearly elaborated in the theoretical essay (as part of the studio-aligned Research Field Studies course). The relationship of new to old is deemed critical to the success of the intervention, and the distinction between *restoration* (returning something to its original state or condition) and *adaptive reuse* (adapting old structures for purposes other than those for which it was initially intended) is critical. Students are encouraged to develop solutions that focus on appropriate form and space, reference legal heritage frameworks, and respond to cultural landscape interpretations. In addition, they are encouraged to apply the knowledge of the other departmental research fields (Environment Potential and Human Settlements and Urbanism).

The H+CL Studio Brief

The expectations of the H+CL Studio are quite taxing. For many students the studio presents a steep learning curve, challenging them through not only the engagement with the real world, but also in the complexity of the possible roles that the (interior-/ landscape-) architect can take in practice. On top of this, students are required to devise their own brief with programme. Experience has shown that setting such high expectations can lead to a level of frustration among those students who struggle to come to grips with this new challenge. Yet it always proves to be a rewarding experience, no matter what the quality of the designed product turns out to be, if students are willing to engage. In such a taxing environment it is important to set boundary conditions and define the outcomes.

For the 2014 H+CL Studio, students were required to:

- a. Read, understand and analyse selected Heritage Charters.
- b. Map the tangible and intangible history of a precinct.
- c. Draw general and architectural conclusions from these.
- d. Investigate and analyse the project context (in all its forms).
- e. Draw general and architectural conclusions from these analyses.

- f. Compose a statement of heritage significance.
- g. Compose a statement of architectural intention.
- h. Derive appropriate functional, spatial, architectural and conceptual responses to the statement of heritage significance.
- i. Design an architectural, landscape or interior response.
- j. Present the response to express all of the above concerns in a clear and legible manner.

Evaluation criteria were set as well, for which the main aspects were defined as:

- a. Concept (based on cultural significance and mapping).
- b. Design principles stimulating public interest in cultural activities and heritage.
- c. Integration of design considerations at different scales and varied levels of detail.
- d. Adaptability (concerning events and flexibility) to different seasons and day/night activities.
- e. Convincing presentation and clarity of communication.¹⁶

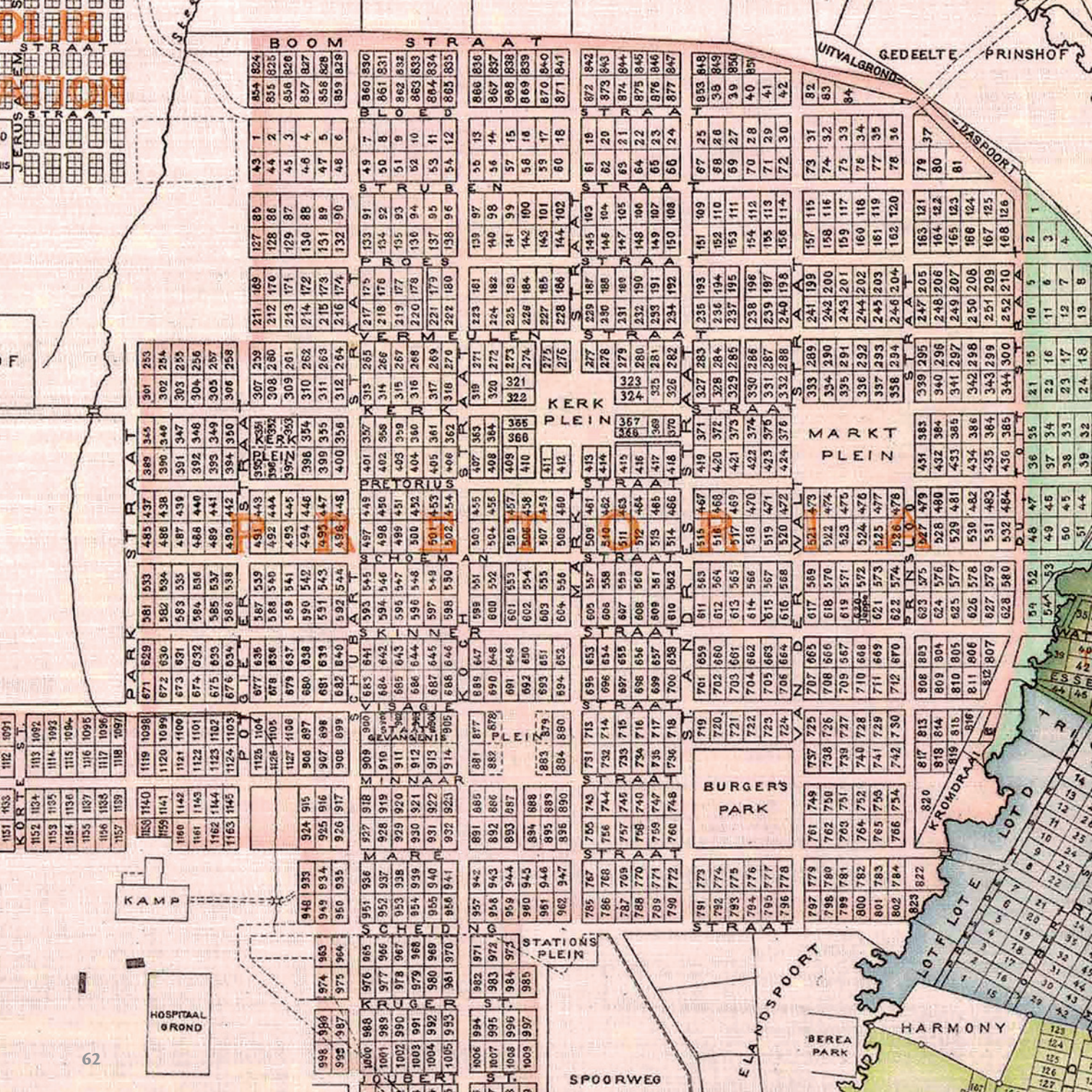
Conclusion

The above-mentioned principles and requirements informed student investigations that eventually led to a variety of design outcomes, all contributing to the discussion about the future of the inner city and its valuable heritage places. The lessons learnt from this exercise have been distilled and critically presented in a separate chapter of this publication. It is hoped that these lessons can inform the re-visioning of the city's heritage resources, present the richness encountered, and provide a framework for intervention which acknowledges the value and potentials of the highly significant sites studied.

¹⁶ Department of Architecture, 2014: 3.

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KAMP

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