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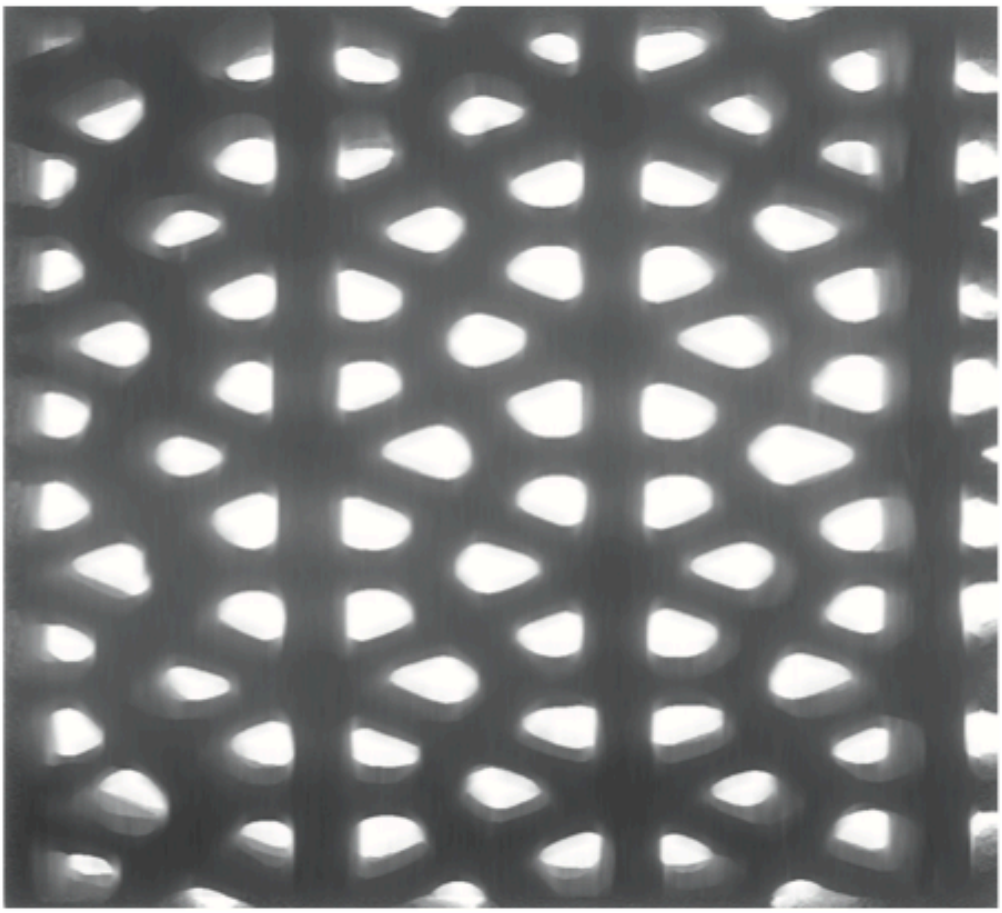

CRAFT. OBJECT. PEOPLE

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Research articles on the theme Craft, People, Object

An architecture of care and allure: reading the arts and crafts in Rodmarton Manor and Tsoga Environmental Resource Centre

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This paper presents Rodmarton Manor, designed and built by Ernest Barnsley in the early 1900s, as unexpectedly similar to Anna Cowen and Collis and Associates' Tsoga Environmental Resource Centre c2004 in Philippi township, Cape Town. The conceit of treating Rodmarton as a contemporary South African building type – a didactic skills training community centre – establishes some provocations in relation to the ethos of some key architectural practices at the Cape and in South Africa at large. The contention is made that the values of contemporary architectural production, whether knowingly or not, is a reiteration of the values of the Arts and Crafts movement. The paper argues that the key Arts and Crafts concerns for moral values of honesty, truth and simplicity and an overall drive toward sustainability finds remarkable synergy with the global emergence of an "architecture of care" and that a re-reading and reappraisal of the Arts and Crafts is therefore a necessarily important undertaking. The paper concludes with a reassessment of Rodmarton and Tsoga through an interpretative reading of Graham Harman's "The Third Table." The argument is made that when Arts and Crafts objects are faithfully maximised then their manifestation of the qualities of honesty, truth and simplicity paradoxically allow them an alluring excess beyond the curtailment ordinarily promoted through the moral rectitude of sustainability and an architecture of care.
Key words: Arts and Crafts architecture, an architecture of care, Rodmarton Manor, Tsoga Environmental Resource Centre, Graham Harman

'n Argitektuur van en allure: 'n interpretasie van die kunste en handewerk in Rodmarton Manor en Tsoga Environmental Resource Centre
Hierdie artikel presenteer *Rodmarton Manor*, wat ontwerp en gebou is deur Ernest Barnsley in die vroeë 1900's as onverwags soortgelyk aan Anna Cowen en Collis and Associates se Tsoga Environmental Resource Centre c2004 in die Philippi dorpsgebied, Kaapstad. Die verbeelding om *Rodmarton* as 'n kontemporêre Suid-Afrikaanse geboutipe te behandel – 'n didaktiese gemeenskapssentrum vir vaardigheids-opleiding – skep sommige provokasies in verhouding tot die etos van party belangrike argitekspraktyke in die Kaap en Suid-Afrika as geheel. Die bewering word gemaak dat die waardes van kontemporêre argitektoniese produksie, wetende of nie, 'n herhaling is van die waardes van die *Arts and Crafts* beweging. Die artikel beredeneer dat die belangrike *Arts and Crafts* oorwegings vir morele waardes van eerlikheid, waarheid and eenvoud, asook 'n omvattende veldtog na volhoubaarheid vind merkwaardige sinergie met die globale verskyning van 'n "argitektuur van sorg" en dat 'n her-lesing en herwaardering van die *Arts and Crafts* daarvolgens 'n noodsaaklike en belangrike onderneming is. Die artikel sluit met 'n herwaardering van *Rodmarton* en *Tsoga* deur 'n interpretatiewe lesing van Graham Harman se "The Third Table". Daar word aangevoer dat wanneer *Arts and Crafts* voorwerpe getrou gemaksimeer word, hulle manifestasie van die kwaliteite van eerlikheid, waarheid en eenvoud hulle paradoksaal 'n aanloklike oordadigheid toelaat verby die begrensing wat normaalweg bevorder word deur die morele korrektheid van volhoubaarheid en 'n argitektuur van sorg.
Sleutelwoorde: *Arts and Crafts* argitektuur, 'n argitektuur van sorg, Rodmarton Manor, Tsoga Environmental Resource Centre, Graham Harman

This paper starts with a provocation about a contemporary community centre in the paired illustration below (figures 1 and 2). It is a skills-based training centre building on local craft of the area. One that is driven through the ethos of sustainability, of using locally sourced materials, and building off a local vernacular in terms of form and local buildings skills. Of a centre that puts people first as a bulwark against the ravages of globalisation. Of

Figure 1
Tsoga Environmental Resource Centre, 2004
(source: courtesy of Collis & Associates).

Figure 2
Rodmarton Manor, 1931
(source: courtesy of Country Life Picture Library).

a deliberately hand-made building that maximises the expressive qualities of the tectonic as opposed to the abstract, concealed or spatial.

The description above fits the Tsoga Environmental Resource Centre in Philippi, Cape Town realised in 2004 under the guidance of a consortium of architects and engineers ranging from ARG, Anna Cowen and Vernon Collis and a local community of clients, builders and contractors (figure 1). But it also fits Rodmarton Manor, designed by Ernest Barnsley and built from 1909 until 1929, arguably one of the last Arts and Crafts grand country houses built in the Cotswolds, England (figure 2). Strange as it seems to find these two buildings side-by-side as equivalents, I will use these two projects to establish my key observation, namely, that the Arts and Crafts movement is exemplary of many, if not all, of the aspects of a socially conscious architecture that is finding its global dominance through the broadest issues of sustainability understood here as an architecture of care. Both examples also carry an aspect of "allure" within them that is ordinarily too easily squeezed and dried out of architecture of care projects – which can become overdetermined by technocratic energy audits and a pious humility that considers any sign of architecture as an unwanted imposition on "the user" and a wasteful extravagance. The paper concludes with a discussion of the two projects in relation to Graham Harman's idea of allure as presented through his essay "The Third Table" (2012) – an accessible summary of his "object-oriented ontology".

Before expanding on the comparison between Tsoga and Rodmarton it would be helpful to remind ourselves of the underpinning values and ideological framework of the Arts and Crafts movement which can be seen as the founding ethos of much contemporary architectural discourse and practice (Pevsner 1936). These ideas and values were largely articulated and proselytised by A.W.N. Pugin, John Ruskin (particularly in "The Seven Lamps of Architecture" and "On the Nature of Gothic Architecture"), and William Morris's various publications. The many ideas to come out of this discourse – structural and material honesty, simplicity, truth to materials, the value of labour, the vernacular, globalisation and industrialisation, sustainability, efficiency – are all framed with a sense of religious morality that translates through to an architecture of care; many of the key words in the Arts and Crafts are attributes we might normally associate with people and an expectation of their fundamental moral values, namely, honesty, simplicity, truth and caring for others. Complexity is added to these Arts and Crafts precepts as they engage not only the built work but also weave across and bounce between issues related variously to the architect, the client, the builder, the labourer and the user (figure 3). The moral agenda frames

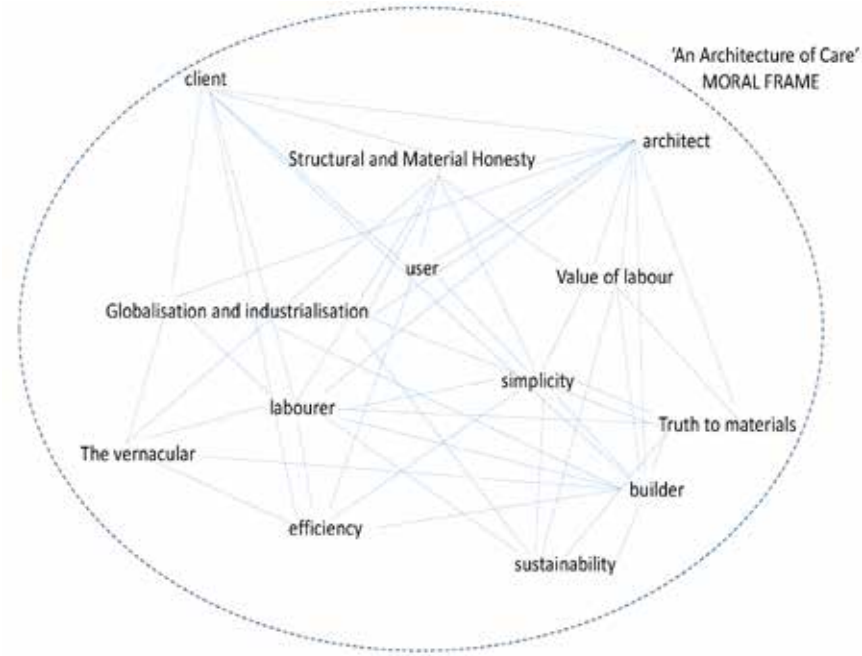

Figure 3
Complex interconnections of an architecture of care (diagram by the author).

not only the object but also the people and processes involved in its production and consumption – but unfortunately the limited space afforded here does not allow extensive disaggregation of these concerns and modalities. Nevertheless, the idea of an architecture of care should be seen here as a shorthand for a moral agenda that holds in one conceptual space the various human actors activated through an architectural project and key Arts and Crafts precepts driving that project.

Honesty, simplicity and truth to materials are obvious founding ideas of the Arts and Crafts and translate into a preference for "raw" or natural finishes but also into the expressive use of primary materials and structure as the key architectural move; for the user, the building speaks itself without tricks and displays itself and its labour-based assembly unashamedly for examination. But honesty also finds its role in the approach and strategy for design required of architects: its best to engage the builder in making something that can accommodate errors – what Ruskin (1851: 162 and 1854: 4-14) and Owen Jones (1856: 13-17) appreciatively and un-ironically call "savage" – made by hand without mindless disciplinary training but done with the expressive spirit of a self-engaged agency in line with the ideas of the time as Connelly notes (2015) of the "noble savage." Labourers are valued for their learnt skills but also their inherent humanity and ability to craft and to upcycle matter into building, no matter how imprecise. Ruskin's juxtaposing illustrations capture this perfectly (figure 4) with an overly disciplined skill exhibited on the left and a liberated artisan working their own life-force into the stone on the right.

Similarly, the vernacular traditions of an area or region are valorised not only because they provide a stockpile of skills and know-how, but also because they can short-circuit inefficient and energy-wasting importation of machine made pre-fabricated building materials by using building materials found on site – although economies of scale brought through industrialisation do add complexity to that reading. Nevertheless, money and skills circulate locally rather than being floated off-shore to distant lands whilst the labour-intensive work draws the community

into the building project. Perhaps more importantly, the wrestling of material from the site into a well-fashioned building, echoes the work to be done in wresting the lost rough souls of globalising and industrialising England of the Arts and Crafts time into a more wholesome – not too refined, but not too rugged and rude – moral order. Indeed, the literal "upliftment" of local building materials and local people into a higher plane through labour echoes the conflicted "upliftment" impulses of clients and architects alike within the ethos of an architecture of care and the forays of colonialists and missionaries keen on "civilizing natives," – we should not forget Ruskin's rousing call to Oxford colonialists to transform distant nations from "savageness to manhood" (Said 1993: 125). This is a problematic and conflicted aspect of "aid" and "development" – "the expert" helping "the native" attain a higher level of civilization – that still plays itself out in architectural mission projects today (Berlanda 2012) notwithstanding the fact that architecture has, as an essential aspect, the ambition to improve an existing condition and is by its very nature "developmental".

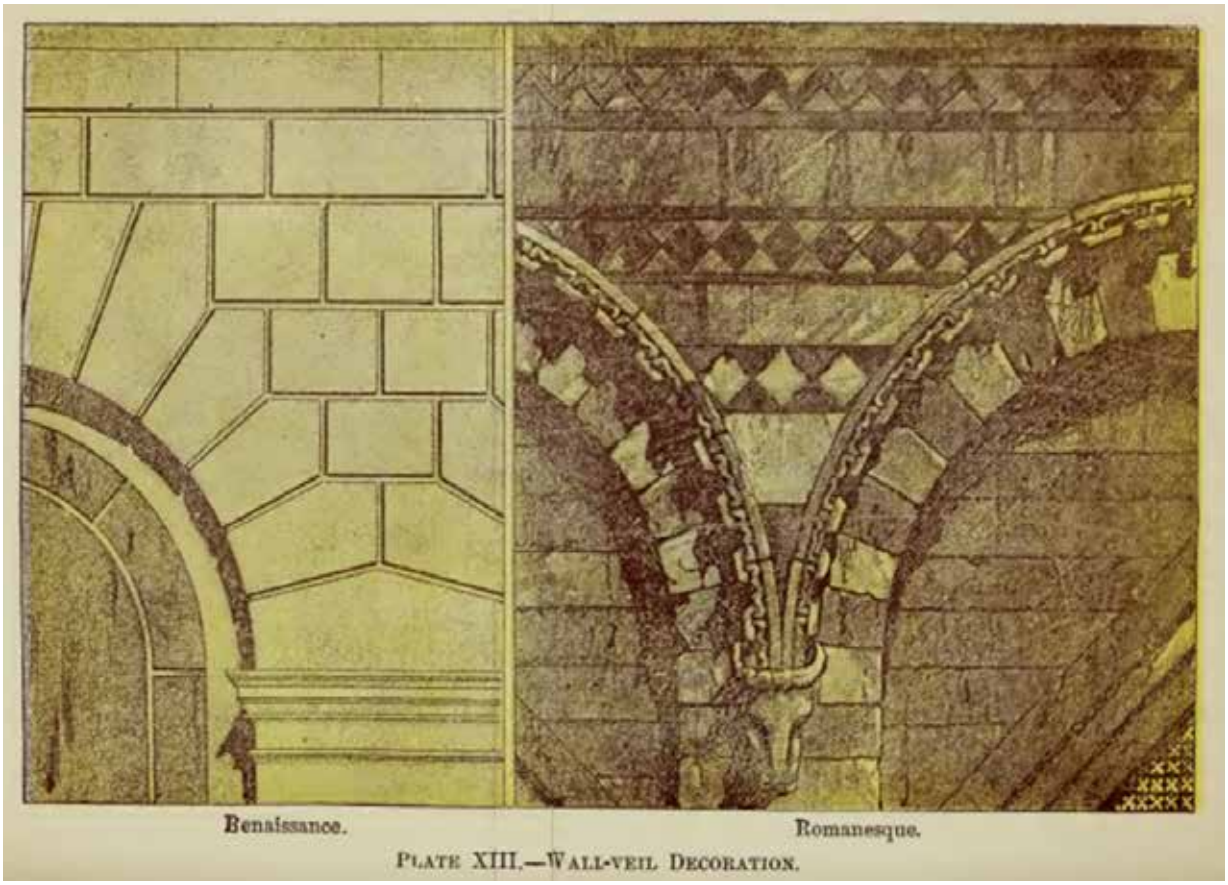

Figure 4
Disciplined (left) and "savage" workmanship (right), (source: John Ruskin, The Stones of Venice).

Finally, whilst it is tempting to overplay Morris's (1910-1915: 279) "hatred of modern civilisation" with its cheap products, polluting machines and alienated labour, it is clear that the oft-quoted "dark satanic mills" points to a major concern for the state of the environment in relation to rampant industrialisation that some researchers (Macdonald 2012, and Day 2005) have begun to connect antecedent Arts and Crafts discourse as foundations of current concerns for sustainability. In many ways, then, as the above paragraphs have shown, Arts and Crafts discourse speaks our current language of care and concern.

Figure 5
The drawing room as community centre, Rodmarton Manor
(source: courtesy of Country Life Picture Library).

Rodmarton Manor encapsulates all of these ideas. Ernest Barnsley was commissioned to design a large country house for the Biddulphs who had a strong interest in the Arts and Crafts and the "upliftment" of the local community (Biddulph 1996: 6) through their craft-skilling workshops – canework, woodwork, embroidery, and needlework – and theatre productions in the more public areas of the house (figure 5). Indeed, the family intentionally limited themselves to the smaller wing of the house and styled the rest as a community centre. In line with Arts and Crafts ideals, Barnsley, along with some 30 men (Biddulph 1996: 6), was able to produce an extensive "hand-made" building over 20 years. Not only was the local short-end gable and stonework vernacular and roof-tile work deployed in the design but timber on the estate was harvested, such that, typical of the Arts and Crafts, the oak beams and trusses find their expression in the interior of the house. And as a south-facing single-loaded corridor building, Rodmarton re-iterates the passive energy design strategies of the Arts and Crafts movement (Hawkes 2012: 154-188). The Builder journal described the many-gabled building as resembling "an upturned and magnified saw" (Biddulph 1996: 7) which unintentionally links to an ethical conundrum presented by Barnsley's insistence that the wood be all hand-cut in a back-breaking saw-pit (figure 6) – despite the existence of mobile steam saw-mills at that stage – and points to how Morris' (1910-15: 164-191) "joy in labour" can be a punitive consequence of dogma. Certainly not all Arts and Crafts proponents were dogmatic in the anti-machine rhetoric, with William Lethaby taking the strongest line against this limitation. As Walter Sparrow (1909: 36) wrote at the time, "We do not wish to return to the ancient sawpit and its manual drudgery, but surely, we do wish to keep those friendly human qualities that clever hands put with ease into useful things".

Figure 6
Luke Clennell, *The Saw Pit*, n.d. (Wikimedia Commons).

Despite the difficult ambivalence to machine production and industrialisation, it is fairly commonly held knowledge that the Arts and Crafts Movement, through Hermann Muthesius' study and publication on *The English House*, provided the foundations for much of the Modern Movement in architecture, with the idea of "care" perhaps being lost in translation with the devastation of the world wars, the rise of an uncaring expert-led technocratic and machine-based efficiency and universalist functionalist thinking unmoored from locale (Umbach 2005: 114-140). It is not surprising then, to nevertheless find the ethos of the Arts and Crafts as an underlying condition in architectural production in South Africa – indeed, as a residue in all Modernist architecture. But perhaps more so in South Africa, particularly in light of the troubled relationship South African architects have had with designing and making within a conflicted socio-political milieu (Chipkin 1994: 18-19) where the enduring ethos of an architecture of care floated to the surface in the troubled waters of apartheid violence and spatiality. If the rest of the world is waking up to the idea of an architecture of care then it is instructive to understand that architects in South Africa have been forced to confront this concern for years – without necessarily being compelled to act on it. In particular, the proliferation of "community centres" provided architects in the time of apartheid an ethically loaded vehicle through which to engage in acts of restitution and amelioration of the injustices of apartheid.

These observations are true of post-apartheid Tsoga Environmental Resource Centre in Philippi township in Cape Town. Built to house the Tsoga recycling and environmental empowerment group, the City of Cape Town, as building custodians and part-funders, hired a consortium of architects to design the precinct with Anna Cowen and Vernon Collis being the main designers of the building itself. The project went on to win Bronze at the prestigious Holcim Foundation African and the Middle East regional sustainability award in 2005. The publication (Schalcher 2008) arising out of this award and my subsequent interview with Vernon Collis establish Tsoga as an exemplar of Arts and Crafts ideals remade in Cape Town a few years ago – with obvious local contextual nuances that will be described further below.

Figure 7
Tsoga, double-volume "spine", 2004 (source: courtesy of Collis & Associates).

Tsoga was imagined and built to house a range of activities that included a small meeting hall, some workshops for skills development and training (similar to Rodmarton Manor), a recycling and sorting yard, a vegetable garden to promote self-sustainability, offices, and ancillary spaces all held together by a generous double-volume multi-use "spine" that forms the entrance signifier on Oliver Tambo square (figure 1). True to Arts and Crafts ideas of locally sourced building materials, the building is largely made of reclaimed brick from the area worked by unskilled local women and thereby deliberately keeping money and resources locally circulating. It also presents a striking floor mosaic made of discarded granite counter tops – rather than a homogenous "machined" surface – where the greatest skill needed was to ensure the pieces were levelled but where there was no pattern or design prescribed. Similarly, the reclaimed reinforcing bar balustrades and burglar guards are made in an ad-hoc randomised manner, whilst the *latte* screens present wavering lines as a direct manifestation of nature into the building. Collis, as an engineer/architect with a profound sense of building materials like the Arts and Crafts architects, ensured that the building details were simple, could be handled by mediocre skill levels and which at most needed a power drill (Schalcher 2008: 46) which allowed more local people to be co-opted into the building process. As a strategy the "errors" of brickwork were happily left as evidence of a human hand at work – as a clear alignment with Ruskin's idea of celebrating pride and individuality in craftsmanship. Similarly, the site was left open and on display during the building process to demystify architecture and making and encourage local residents to continue with their own building projects. The decision to leave the walls un-plastered was a deliberate one not just to allow the evidence of the human hand at work or to reduce costs but also to allow a greater ease of recycling of the bricks in their current form once the building reached the end of its lifecycle. Again, in line with Arts and Crafts ideals the building is didactic in its structural logic with brick piers aligning with a bowed arch roof truss which forms the main architectural expression of the project while passive heating and cooling strategies are maximised through the central spine and its vented double-layer roof space.

Figure 8
Tsoga, gum-pole truss and reed ceiling, 2004 (source: courtesy of Collis & Associates).

The use of reeds as a ceiling hanging below the expressive gum-pole roof trusses (figure 7) presents perhaps the most controversial claim for the building that is nevertheless in alignment with Arts and Crafts ideals. As a set of forms and spaces the building cannot really make claim to any prefacing vernacular architecture, or to be more clear, of any prefacing *traditional* vernacular architecture. While unfinished brick and gum-pole timber sections are common or everyday building materials, there is little to claim in the building as being of an "African" vernacular except perhaps the reed ceiling. This seems to suggest the building has some defining characteristics of Critical Regionalism (Frampton 2007) – an essential abstracting and reinvention of traditional vernacular elements to establish an iconic moment in the design. At the phenomenological level the building interior does feel or present itself – through its literally earthy material palette – in line with the interior experience of more traditional vernacular architecture from Southern Africa. The promotional literature from the Holcim Foundation is a bit more blunt: "The architecture is rustic and African and speaks to the people" (Schalcher 2008: 48) which is an obviously problematic claim. I would, nevertheless, like to return to the gum-pole truss and reed ceiling towards the end of this paper as I believe it does carry an allure worth expounding on (no matter its genealogy).

Unfortunately, like many municipal buildings in the impoverished areas of Cape Town, Tsoga has been vacant and underutilised for a number of years (Sitas 2015). The planted roof over the offices edging the street have since become obsolete. The imagined role – the urban master-plan – that Tsoga would play in the regeneration of the area as a verdant centre of trees and farming has not happened. And yet, like many Arts and Crafts buildings that used simple or natural and low-maintenance materials, the building stands in excellent condition awaiting a new life should the local community and the City of Cape Town administrators find alignment again.

What does this foray into bringing these two worlds – the bucolic Cotswolds of privilege of the Arts and Crafts at the behest of Lord Biddulph and the bleak and bare-knuckled world of an impoverished Cape Town township – mean for an understanding of architecture through "Craft. Object.People"? Primarily, it should be clear that Arts and Crafts discourse, whether knowingly or not, animates much of today's architectural production that can be grouped under the idea of an architecture of care. Consequently, the founding ideas and ethos of the Arts and Crafts deserve deeper scrutiny, a revisionist engagement. This is obviously potentially problematic on two counts, firstly, it seems irreverent in a time of decoloniality to return to a discourse and ideology originating in the age of Empire from the heartland of paternalistic Englishness. As a retort, it could be argued in line with Pragmatism philosophy that all ideas are useful – or not – no matter what the pedigree. Moreover, the second critique in some way undermines the first, namely that the hesitation the Arts and Crafts demonstrated at the end of Empire and edge of modernity demonstrated an awareness of care that could be instructive in our context; that at the height of the Empire this aspect of "Englishness" did not put efficiency and profit first but instead focused that care on people. However, if the Arts and Crafts, notwithstanding revisionist readings of it (Crook 2009), did not manage to convincingly approach our mechanised modern world without regressing to a stage-set simpler version of itself, the trap would be to, in our own hesitation, regress as luddites to a simpler time of "African Architecture" as a withdrawal from the world. If Morris (1910-15: 279) said: "Apart from the desire to produce beautiful things, the leading passion of my life has been and is hatred of modern civilization," perhaps we can be wiser, more pragmatic, and embrace our modern civilisation more actively with "vernacular" skills that skirt adroitly across digging up earth and the digital world of kickstarter fundraising, of *latte* and lasercut ligaments, across funding for face-brick from Facebook. The lesson to learn in a hesitation to embrace the Arts and Crafts as a founding source for an architecture of care is surely to be more dynamic and less dogmatic in our approach to technology than those who initiated the discourse and ideas more than a hundred years ago.

In our renewed enthusiasm for an architecture of care, it should also be remembered that Arts and Crafts ideology brought craft and people together through a love of people and of *objects* – something that is lost – or even negated – in the increasing traction of an architecture of care. It would be helpful to hold our attention more closely to the importance of objects which are in danger of disappearing in the face of a moral curtailment of excess that can emerge as a new dogma from an architecture of care. In fact, I would go so far as to argue that when the moral frame of the Arts and Crafts is loosened and the precepts of simplicity, honesty and truth to materials is applied to architectural objects themselves – rather than a reflection of the moral rectitude of the architect, client, labourer, energy efficiency or the moral disciplining of matter into a condition of piety and purity – then those objects necessarily become excessive, by being potentially unexhausted when presented simply and directly. Such objects become alluring as they shimmer between wrestled and formed matter and unmade eternal earth. To further explain this, it is instructive to engage Graham Harman's object-oriented ontology, and in particular his essay 'The Third Table' as a challenge to remain focused on objects, especially in an architecture of care. In the essay Harman (2012: 10) clarifies what he calls '"real objects" by way of reinterpreting British astrophysicist Arthur Eddington's famous "two writing tables" – the table of everyday use for humans and the scientific table that disappears into its component parts of atoms and energy – and making a case for "the third table" which is perhaps closer aligned to the arts.

> Our third table emerges as something distinct from its own components and also *withdraws* behind all its external effects. Our table is an intermediate being found neither in subatomic physics nor in human psychology, but in a permanent autonomous zone where objects are simply themselves.

Without also allowing objects to simply be themselves, an architecture of care that crunches numbers through energy audits lands back in the technocratic trap that modernism built off Arts and Crafts ideology – this time, though, focused on energy efficiency as opposed to *existenzminimum* or structural efficiencies. Similarly, an architecture that focuses only on its users finds all its matter not to matter, too much. In my mind, both Rodmarton and Tsoga find that expression of the "third table" through Arts and Crafts principles of truth to material, simplicity and honesty – of raw objects without artifice being themselves and *thereby more than themselves* – much like the intrusion of the granite monolith into pre-human Africa in Kubrick's *2001 Space Odyssey*. Harman (2012: 12) argues:

> We cannot be downward scientific reducers, nor can we be upward humanistic reducers. We can only be hunters of objects, and must even be non-lethal hunters, since objects can never be caught. The world is filled primarily not with electrons or human praxis, but with ghostly objects withdrawing from all human and inhuman access, accessible only by allusion and seducing us by means of allure.

Figure 9
Roof-truss and corridor, Rodmarton Manor (source: courtesy of Country Life Picture Library).

In Rodmarton this is particularly true in the massive timber trusses exposed and raw and ready to become another entity – and to reveal its other conditions, its ghostly strangeness (figure 8). Similarly, the Tsoga gum-pole truss and reed ceiling (figure 7) conveys a multiplicity of strange qualities and conditions that activate the matter as object and not as a readily dismissed type or known entity as "truss and ceiling." In both projects the architecture of care contain strong elements of "objects of allure" which would seem to be the point of architecture, found somewhere in the third space between its scientific and humanistic demands. Given this brief injection of Harman's object-oriented ontology, it would seem prescient then within the global rise of an architecture of care, to return to the origins of Arts and Crafts discourse and establish from it again the joy of making – making *objects* – not just for the labourer and craftsman but for the architect herself, and more pointedly, for the object itself; to seek out the allure of objects within the architecture of care; to become hunters of objects conjured through the design process and to momentarily grasp them when they present their conditions of allure.

Notes

1 This appeared to find traction with Cameron Sinclair and Kate Stohr (eds), *Design like you give a Damn* and culminating in Alejandro Aravena's "Reporting from the Front" theme for the 15th Venice Biennale Architecture Exhibition in 2016. It should be noted that many architects ranging from Laurie Baker in India to John Turner in Peru, Hasan Fathy in Egypt and Rodney Harber in South Africa have been at the vanguard of this approach to architecture since the 1950s and 1960s.

2 In the broadest sense the Arts and Crafts Movement aimed to change society through an ideological framework, but more critically, and notwithstanding its contradictory impulses, it did so through paternalism that aimed to restore a hierarchical feudal order and at the same time "uplift" the lower classes through the self-edification of artistic output, see Standish Meacham, *Regaining Paradise: Englishness and the Early Garden City Movement* and Jeffrey Petts, "Good Work and Aesthetic Education: William Morris, the Arts and Crafts Movement, and Beyond".

3 The word is used advisedly, as the promotion of art came to take the place of an increasing loss of religious belief at the time, see Mary Ann Stankiewicz, "From the Aesthetic Movement to the Arts and Crafts Movement", and Woodson-Boulton, "'Industry without Art Is Brutality': Aesthetic Ideology and Social Practice in Victorian Art Museums". Morris captures it perfectly in the preface to Ruskin's *On the Nature of Gothic* by promoting "the hallowing of labour by art is the one aim for us at the present day."

4 At a more theoretical level, the general twinning of morality and ideology is a Marxist principle, see for example Michael Rosen, "The Marxist critique of morality and the theory of ideology", which is made more explicit as a Christian ethos in the Arts and Crafts, see Roger Homan, *The Art of the Sublime: Principles of Christian Art and Architecture*, p. 88.

5 John Ruskin, *The Stones of Venice*, 162, where he states: "You can teach a man to draw a straight line and to cut one; to strike a curved line, and to carve it; and to copy and carve any number of given lines or forms, with admirable speed and perfect precision; and you find his work perfect of its kind: but if you ask him to think about any of those forms, to consider if he cannot find any better in his own head, he stops; his execution becomes hesitating; he thinks, and ten to one he thinks wrong, ten to one he makes a mistake in the first touch he gives to his work as a thinking being. But you have made a man of him for all that. He was only a machine before, an animated tool." Also see Cornelis J. Baljon "Interpreting Ruskin: The Argument of the *Seven Lamps of Architecture and the Stones of Venice*."

6 Francis Kere's projects in Burkino Faso are exemplary of this see, Diebedo Francis Kere, 'School in Gando, Burkina Faso.'

7 For specifically architectural approaches to this in South Africa see John Comaroff and Jean Comaroff, *Of Revelation and Revolution: The Dialectics of Modernity on a South African Frontier*, pp. 297-301.

8 William Blake, "Jerusalem" 1808, Preface to *Milton a Poem.*

9 Simon Biddulph, notes "Both clients and architects envisaged a major building scheme as a way to support and revive craft skills and provide employment in the area."

10 Jane Ridley (2004:35) notes in *The Architect and His Wife: A Life of Edwin Lutyens* "Only by spending long back-breaking, arm-wrenching hours, coated in sweat and sawdust, in a sawpit pushing a two-man saw, could a man learn how to saw one-inch planks from oak timber…"

11 William Lethaby was the most outspoken Arts and Crafts ideologue who took a realist approach to machine production, see for example William Lethaby, *Art and Labour*.

12 A more cynical and less generous reading is that these projects allow the exorcism of white guilt by reactivating the moral rectitude of the Arts and Crafts movement.

13 Interview, Cape Town (28 July 2017).

14 "Vernacular architecture" is a contested term, see for example, Robert Brown and Daniel Maudlin, "Concepts of Vernacular Architecture" and Simon Richards, "'Vernacular' accommodations".

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From design studies to resilient craft practice in the digital age

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Design has been defined as "courses of action aimed at changing existing situations into preferred ones". Acknowledging the relationship between design and craft, we use this affirmative definition as motivation for a qualitative systematic literature review on craft and design in the digital age. This enquiry is framed by the need to establish and synthesise existing academic discourse in the field as a baseline for further research in mitigation of the challenges faced by South African craft practitioners operating in globalised digital economies. Following a search in academic databases, using the keywords "design studies" and "craft" and "digital" a two stage screening process was used to select the literature for inclusion in this review. Only academic articles published between 2007 and 2017 that refer to at least two subjects out of: design studies, craft practice and making in the digital era were included. A meta-ethnography method was used as a qualitative synthesis technique (Dixon-Woods et al. 2006) in which themes found in the literature are mapped in order to foreground relationships. Maps or cartographies are appropriate in nomadic theory, which according to Braidotti (2011) underpins the globalised digital age and seeks affirmative creative alternatives. The findings are presented as a narrative and recommendations are made as catalysts for further research.
Key words: craft, design, digital

Van ontwerpstudies tot aanpasbare handwerkpraktyk in die digitale era
Ontwerp word gedefinieer as "optredes wat daarop gemik is om bestaande situasies in gewenste situasies te verander". Met erkenning van die verwantskap tussen ontwerp en handwerk, gebruik ons hierdie bevestigende definisie as 'n motivering vir 'n kwalitatiewe sistematiese literatuuroorsig van handwerk en ontwerp in die digitale era. Hierdie ondersoek is ontwerp as gevolg van die behoefte om die bestaande akademiese diskoers op hierdie gebied te vestig en te sintetiseer as grondlyn vir verdere navorsing om die uitdagings te temper wat in geglobaliseerde digitale ekonomieë deur Suid-Afrikaanse handwerkpraktisyns ervaar word. 'n Soektog met die sleutelwoorde "ontwerp studies" en "handwerk" en "digitaal" is in akademiese databasisse uitgevoer, waarna 'n keuringsproses in twee stadiums gebruik is om literatuur vir insluiting by hierdie oorsig te kies. Slegs volledige akademiese artikels wat tussen 2007 en 2017 gepubliseer is, en wat na ten minste twee onderwerpe uit: ontwerp studies, die beoefening en maak van handwerk en die digitale era verwys is ingesluit. 'n Meta-etnografiese metode is as 'n kwalitatiewe sintesetegniek (Dixon-Woods et al. 2006) gebruik waarin temas wat in die literatuur gevind is, gekarteer is om verwantskappe na vore te bring. Kaarte of kartografie is toepaslik in nomadiese teorie, wat volgens Braidotti (2011) die grondslag van die geglobaliseerde digitale era is en bevestigende skeppende alternatiewe vereis. Die bevindings word as 'n narratief aangebied en aanbevelings word as katalisators vir verdere navorsing daargestel.
Sleutelwoorde: handwerk, ontwerp, digitaal

The need to establish existing academic discourse as a baseline for further research has framed this enquiry in the fields of craft and design. In South African craft, research undertaken by Stevens (2007) proposes a model for successful South African craft enterprises and identifies threats and challenges faced by this sector. One of the limitations of this research points to responses to the fast paced change of globalised economies in the digital age. This context has prompted the question guiding this review: What is the progress of research in the field of craft and design in globalised economies facilitated by digital technology? This literature review is therefore limited to accessible, English language academic literature published since 2007.

An initial online search was done using academic databases available through the university library which included Ebsco host, Woldcat and Google Scholar using the keywords "design studies" and "craft" and "digital" to include only English language, accessible full texts published since 2007. Additional searches were conducted using the Mendeley, Researchgate as well as the Academia.edu online platforms. A preliminary review of titles was done to eliminate articles not in the field of design studies or craft. The resultant list was then inserted into a spreadsheet. This spreadsheet was used to sort the articles for inclusion according to date of publication, title, keywords, methodology employed and relevance of the abstract. The remaining full texts were read and screened for inclusion or exclusion. For the purpose of this review, acedemic literature refers to published conference proceedings, journal articles, and chapters in edited books, three Masters dissertations (Connor 2008; Pfeiffer 2009; Norton 2014) were also considered. For inclusion, articles had to refer to at least two of the three subjects in question, namely design studies, craft and digital technology. Using a bibliographic snowballing technique additional articles were found from references in the articles under review, these were included only if they met the pre-defined search and inclusion criteria.

Forty nine articles were selected using the described inclusion criteria and were subsequently reviewed; of these, five articles refer to design and craft, nine to design and digital technology, twenty six to craft and digital technology and the remaining nine refer to craft, design and digital technology. All of the articles describe qualitative research. Design has always been closely associated with technology, the increased interest evidenced by the number of articles dedicated to craft and digital technology is significant of the impact of these technologies in this field.

In this section we have described the use of a spreadsheet as a tool to sort the articles for review and to establish the need for research in this field. In the following section we discuss the use of mapping methods as data analysis tools, and then offer a brief description of nomadic theory in support of the use of mapping techniques to analyse data in the digital age.

Becoming resilient

A meta-ethnography method was used as described by Dixon-Woods et al (2006) to qualitatively synthesise the selected articles. The full articles were read and reread and the emerging themes were highlighted and assigned descriptive (open) codes. In the next stage, the data and codes were revisited and grouped according to broad themes or (axial) codes. These themes were mapped in order to foreground patterns and relationships. Mapping methods are used in design studies as data analysis tools. By creating visual diagrams one is able to make connections, which may not be immediately evident in audio or textual data (Curedale 2013; Fendler 2013). Mapping is also central to nomadic thought where process is foregrounded in relation to concept.

According to Braidotti (2011) nomadic theory is premised by a process ontology and mobility of thought necessary to confront the constant change synonymous with the digital age. Nomadic theory is underpinned by the philosophy of Deleuze and Guattari (1987). In A Thousand Plateaus, the image of a rhizome is used to describe multiplicities, which connected to other multiplicities make up plateaus. Rhizomes have certain characteristics which can help us to describe digital contexts: a rhizome is made up of diverse parts, any point on a rhizome can be connected to any other, it is made up of dimensions or directions in motion, if broken a rhizome will grow again from another point, it is unbound and outward growing so it is best represented by a map and it is not governed by a structural model, therefore there is no predefined pattern. The ability of a rhizome to recover after a setback speaks to resilience. In this paper we consider this notion of resilience in mitigation of the challenges faced by South African craft enterprises operating in globalized digitally mediated economies.

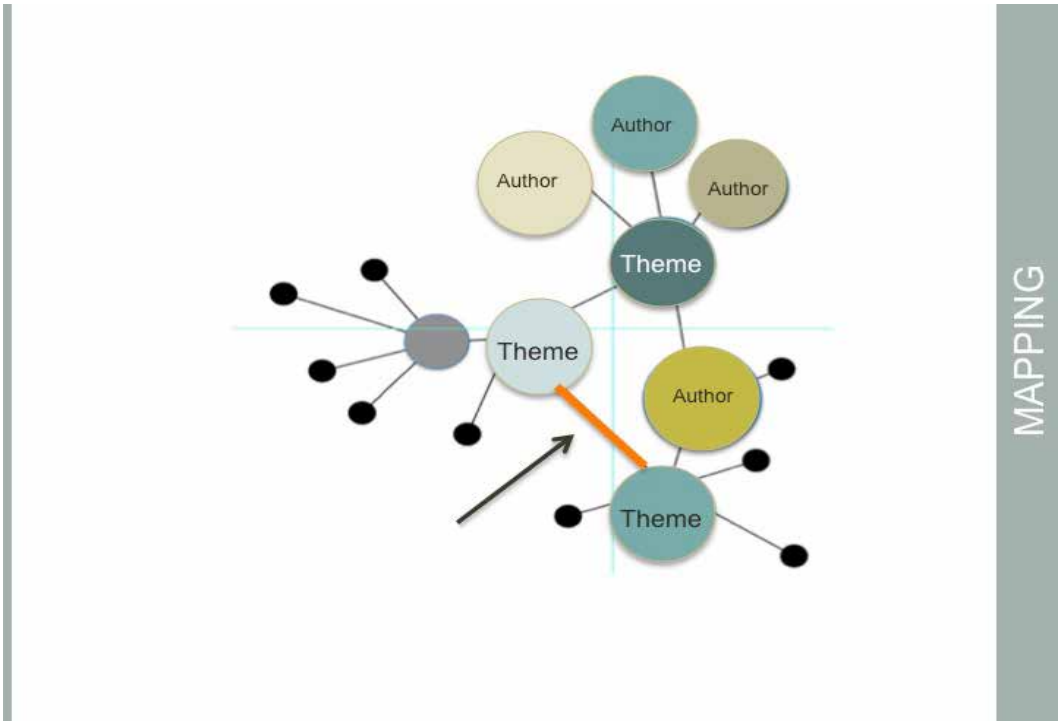

Figure 1
Mapping in order to foreground connections (graphic by the authors).

In craft theory, Sennet (2008) refers to humankind's tendency towards doing a job well for its own sake, this ability enables the craftsperson to reach high levels of skill and accomplishment by repeatedly doing something over a period of time. Similarly in design studies, Simon (1996) defines design as "courses of action aimed at changing existing situations into preferred ones". In both instances there is an intrinsic motivation towards improvement, an attitude of not giving up in which a degree of resilience is implied. Nomadic theory offers a non-hierarchical ontological lens, which supports this motivation as it seeks affirmative creative alternatives (Braidotti 2011). This potential is expressed as a state of "becoming", in this instance we refer to becoming resilient, as a quality needed for South African craft practitioners to be sustainable in globalized digital economies.

Craft 3.0

The South African 2017 *Draft White paper on Arts Culture and Heritage*, albeit in draft format, still refers to the creative sector as traditional and contemporary art, craft art, functional wares and souvenirs (DAC 2017). For the purpose of this paper we use the categories proposed by Ferrara (2011). Although Ferrara's categories include all the aforementioned ones, they shift away from old binaries of craft versus art and craft versus design to include the varied hybrids which now form part of this creative sector:

Do it yourself (DIY) craft includes not only recreational craft and craft carried out at home to earn income, but also craft that makes use of recycled and repurposed materials. This could also be the hacking of materials and technologies in order to produce and make new artefacts. An approach of "mend and make do" is often accompanied by a resistance to consumerism and its associated environmental degradation (Carr and Gibson 2016).

Technological craft includes all forms of traditional crafts and can be material or process driven. These crafts require the skill obtained by repetitive actions over a period of time (Sennet 2008) and usually involve experimentation and a degree of risk (Pye 1968).

Electronic craft or digital craft is associated with the democratisation of design and includes all forms of digital technologies. These range from online platforms for the sharing of skills and techniques to digital printing processess and rapid manufacturing (Pfeiffer 2009; Gershenfeld 2012; Chen et al. 2015). The maker movement, is also represented in this category as an interdisciplinary field (Richardson 2016).

Digital effects and affects

The mass production of consumer goods in the mid 20th century saw the role of the designer surpasing that of the craftsperson for the manufacturing of functional objects. The conceptualisation or design and the production of the artefact were separated in order for products to be manufactured cheaply and in large quantities for mass consumption (Sennett 2008; Cardoso 2009). Tasks of the mind (design) were thus separated from tasks of the hand or body (production), into a disembodied state synonymous with industrialization. Cardoso (2009) attributes this to the Western, humanist tradition of elevating mind over matter, in this setting, it has been argued that this separation led to a conceptual "othering" of craft with craft considered as "lesser than" (Bean & Rosner 2012) or "in opposition to" design and manufacturing (Carr and Gibson 2016).

In a digitally mediated context authors are reconsidering this relationship and argue that craft and design are being brought into closer proximity and that the boundaries between these disciplines have blurred. Craft and design are now considered as ovelapping practices (Cardoso 2009; Shiner 2012; Kettley 2016) and in this new paradigm it is proposed that design could even be viewed as a form of craft (Bean and Rosner 2012). Unlike in previous craft movements, technology, including digital production, is no longer seen in opposition to craft and artisanal industry. Today more pragmatic approaches are favoured in which designs can be executed in alternative ways. Ferrara (2011) considers this as an imperative if craft practitioners are to survive in globalised economies.

Bonnardel and Zenasni (2010) found that digital technologies support all stages of the iterative design process and therefore can enhance this process. Whereas these technologies were only accessible to a select group of design professionals, they are now freely available and open source software and digital platforms have played a role in democratising design. Open design refers to the design of software and products collectively by sharing information openly online. These co-created designs are aimed at solving complex problems for various applications including design for communities in need, developing advanced solutions not possible without multidisciplinary collaboration and for the sharing of files for localised production. Closely aligned to this phenomenon is the maker movement in which technological artefacts are made or improved using post-production components as a sustainable practice (Ferrara 2011).

The impact of digital technologies on production methods have not gone unnoticed by design educators and carricula are being adapted to suit. The Future Craft programme introduced at MIT addresses sustainability in product design using digital tools and processes to address public design, local design within communities, personal wearable technologies and product ethnographies (Bonnani, Parkes & Ishii 2008). At the University of Brighton the peviously distinct disciplines of craft and design have been merged in a post-disciplinary design and craft

curriculum which uses design thinking as a base for experimentation in shared collabrorative processes (Kermik 2012).

Whilst these articles present the benefits of digital technologies in the fields of craft and design, in contrast, Lindtner, S. Bardzell and J. Bardzell (2016) caution against "technosolutionism" whereby Western technology is condsidered as the solution for all difficult social problems. They consider this a form of colonialism, instead they propose considering (digital) making as a "global assemblage" which according to Deleuze and Guattari implies "heterogeneity, contingency, instability, partiality and situatedness". They argue for local approaches which are both technically relevant yet human centred (Lindtner et al 2016). One example of this approach is found in the work of Rosner and Ryokai (2008). By embedding technology into hand knitted articles they are able to capture information about process and embed narratives that strengthen the emotional connection with the handmade object without changing the look and feel of the knitted artefact. The result is a blurring of boundaries between the knitted object, embedded digital information, and the knitters' intentions (2009). This emotional connection associated with handcrafted artefacts is also acknowledged by other authours (Treadaway 2007; Sennett 2009; Brattich 2010; Zoran 2013; Townsend & Niedderer 2016).

Digital technologies have supported a crafts revival as a response to mass production, mass consumption, environmental concerns as well as the economic downturn of 2008. The internet has enabled online virtual spaces where craft enthusiasts can meet, share practice, access information, and materials and gain access to marketing platforms for finished items to be sold online (Connor 2008; Hackney 2013; Luckman 2013; Norton 2014). Brattich (2010) discusses the role of craft in developing values through practices by refering to the connections made and opportunites for mentorship that occur within communities.

Online communities provide fertile ground for craft based activism and political engagement with social and environmental concerns expressed online through blogging and craft related websites (Connor 2008; Hackney 2013). This resurged tendency towards activism has emerged as anti-capitalism and anti-authoritatian craftivism and includes practices of resourcefulness, local knowledge and non-hierarchical organisational forms (Bratich 2010). The value of craft lies in its ability to affect. This can be viewed as an alternative to capital as a maker of value. This alternative value can be found through participation and bottom up approaches such as the gift economy, small scale production, circulation and cooperation. These practices can pave the way for new economic models (Brattich 2010; Von Busch 2010). Designers are no longer the only ones designing and users are no longer just consumers but productive "prosumers".

Virtual guilds

Online marketing sites such as Etsy have provided alternative economic models (Luckman 2013; Norton 2014). Etsy is an online community with no gatekeeping except access to a computer and the digital literacy to be able to upload images of products (Luckman 2013). On these platforms authenticity is forefronted as crafts practitioners set up their own page and online personal profile. The stories around the product can now be told and there is a transparency surrounding the product, the materials used and the labour practices involved to get the artefact to market. The original artefact has become a desireable aesthetic, previously disparaged women's craft practices have once again gained credibility and popularity. Virtual communities emerge as empowering spaces which challenge previous gender based clasifications of craft as inferior to other creative outlets or merely as a hobby outside of commercial economies. Consumers of these products also feel that they have contributed in some way to a more ethical

way of consuming by purchasing directly from the producer and being able to make informed decisions regarding their purchases. Norton (2014) explores notions of authenticity associated with the "handmade" as it carries with it values based on skill and the time invested to execute each artefact.

Craft has traditionally been taught through doing and the apprentice learnt from a master through observation and making over a period of time. As craft practitioners are moving out of rural environments into cities, and many craft practitioners work independently, Bonanni and Parkes (2010) describe these online communities as virtual guilds. This recalls the apprenticeship model, but now the learning takes place online, facilitated by open access platforms. Craft practitioners meet in online communities where peer to peer exchanges take place. In these often gendered spaces crafters swap information and knowledge but they also swap stories and the online craft community also becomes a support mechanism.

The feeling of wellbeing and connectedness which comes from community is well known and authors describe this emotional aspect in their research (Bean and Rosner 2012; Zoran 2013; Norton 2014; Townsend & Niedderer 2016). Whether craft is seen to embody history, culture and memory through traces of location, time and place, or it is a means to express the pleasure of making and happiness in our daily work there is an intimate connection with the material artefact.

Authenticity

Authenticity as rooted in ideological values. What may be authentic to one group may not be considered so by another. In online craft communities, authenticity lies not only in craft as an activity but also in craft as a way of life. Notions of authenticity attributed to the qualities of handmade craft become less clear when digital manufaturing processes are employed. It is no longer obvious how something has been made and what it has been made from (Woolley & Niedderer 2016). Loh, Burry and Wagenfeld (2016) suggest that with digital manufacturing, "the authenticity of craft lies within the deeper structure of the practice: a workflow developed over a period of time". With continued repetition, the tools, materials and technique used become a unique "repertoire" which in itself is authentic. Here we see a shift of focus from concept to process.

As craft practice becomes more collaborative and participatory, Kettley (2016) presents three frameworks for authenticy in contemporary craft practice that can respond to these collaborative, digitally mediated practices. Based on a relational ontology rather than the traditional notions of tacit "Romantic" and explicit "Enlightenment" views of authenticity, these frameworks take into account individual, societal and ecological authenticity in a non hierarchical relational ontology.

Craft culture and heritage

Continuity of skill is often connected to intangible cultural heritage and can be viewed as vulnerable in a globalised world. Threats include access to funds for operational costs, access to markets and a lack of recognition. Niedderer and Townsend (2015) question the importance of the survival of a craft if it is no longer practical or appropriate? In mitigation of challenges faced by craft practitioners in globalised economies, Niedderer and Townsend (2015) call for resilient approaches, meaning that craft has to adapt.

Blundel and Smith (2013) note that over extended periods of time, craft practitioners are resourceful and resilient and effect small transformations and innovations in response to changes in material availability or process or technologies, these may not always be noticeable but over time the craft develops and techniques and materials change to suit society. Just as design reflects the times, in this way so does craft.

In South Africa and in South American countries such as Chile, Brazil and Peru governments see craft as an economic and cultural activity, usually handmade using locally available materials and therefore representative of a specific place. This situatedness has lent itself to the craft sector catering for tourist markets. In the context of fast changing globalised economies one could question the sustainability and relevance of these practices aimed at job creation.

In mitigation of dying skills T. Vilbrandt, C. Vilbrandt, G. Pasco, Stamm and A. Pasko (2011) suggest using digital fabrication with open source software to recreate traditional crafts, which can then be displayed as virtual models or used to produce three dimensional physical artefacts on demand. They argue that they are preserving tradition and introducing it to a wider, new audience. This raises questions regarding authenticity and the connection to material and technique and skill traditionally associated with craft (Sennet 2008), yet this technology could be used as an interactive way for the public to engage with historic artefacts and therefore act as a record of past culture and heritage.

Myzelev (2016) considers that once artefacts are represented in the digital media, for example in an onine exhibition such as those curated by museums, their authenticity becomes irrelevant. Once an object is digitised its qualities of physicality are lost but are replaced with an understanding of its production and an ability to disseminate this information. Myzelev (2016) suggests that the change undergone by an object when digitised becomes more important than the object's authentic provenance or original use. Digitally curated exhibits can foreground the hybridity of contemporary craft. In this context curation becomes important and the ability to document the narrative pertaining to the history and changing context of the artefact is foregrounded. These narratives engage users and could foster participation from interersted viewers.

As a response to the threats faced by some craft practitioners, various authors put forward proposals based on collaborative multidisciplinary practices as means to support rural craft practitioners. Padovani and Wittaker (2015) suggest that the maintenance of local knowledge and enhancement of traditional skills can contribute to sustainable business. Through collaboration, the value of social capital and the benefits of using local networks can be benefited from. The typically high end products generated through these collaborations allow the consumer to make choices regarding provenance of the article purchased, in this instance, the narrative supporting the article becomes an important factor. The three following global examples describe successful interventions of this nature:

In India, a network of easily accessible recource centres serve as repositories for physical artefacts as well as digital archives of embroidery and needlecraft; providing an interesting approach to curating archives and preserving and disseminating knowledge. Fashion designers and crafts practitioners access these and connections for collaborations are made through these platforms. Kumar and Dutta (2009) describe a symbiotic relationship in which traditional craft brings originality and authenticity to fashion designers' work, and the designer brings sustainability to the rural craft practitioner.

A project implemented in Western Australia to build capacity in the craft and design sector was based on cluster theory. The project focussed on foundational design skills, processes from concept to production and business skills. Challenges were also identified with regard to craft practitioners accessing capital for growth and the capacity to build networks in order to sustain growth (Lommerse, Eggleston & Brankovic 2011).

Herrera (2016) describes a successful intervention to present local origin to global markets in Brazil where artisanal craft holds strong cultural capital. By keeping to traditional materials, they were able to produce original innovative work, restore identity and maintain cultural tradition whilst embracing technology scripting and digital fabrication methods.

Whilst online platforms offer ease of access to global markets, in rural and underdeveloped communities access to technology and the digital literacies to be able engage on these platforms is still limited (Herrera 2016). In these communities traditional craft forms are still practiced as a means to earn sufficient income to survive. Herrera notes that in Brazil craft offers a means with which to cope with adverse conditions. This holds true in many South African rural communities.

Ethics

An advantage of these collaborations is the continuity of craft skills albeit in new and updated ways. This has shown to be effective in mitigation of changing consumer trends by progressing craft in innovative ways in response to tastes of consumers. The disadvantages of these collaborations lie in the lack of frameworks for co-creation and the long term benefts for producers and designers. Collaborations between differently resourced participants raises questions about intellectial property and ownership of the work both for the maker and the designer. Sometimes these relationships can be "felt to be unstable, precarious, and even exploitive work" (Luckman 2013).

Murray (2010) also raises questions of equity and risk, by exploring the collaborative relationships between designers and craft practitioners a case is made for creative partnerships based on equity. Research undertaken in Istanbul showed craft / design collaboration to be beneficial if based on a blend of practical exchange of knowledge and experience and recources. Kaya and Yagis (2011) recommend obtaining clarity regarding responsibilities for respective scope of work upfront. The authors note that in some instances new ways of communicating design ideas needed to be found and negotiated, thus forming new hybrid craft / design practices. Success therefore relies on negotiation, problem solving skills and respective responsibility for scope of work, leaving no room for marginalisation of either party.

New modes of production also bring into question ethics and empathetic practice in reimagining sustainable post-Fordist, post-consumer economies. In such economies, products are no longer designed as finished articles but are constantly being improved upon and updated with each interverntion or innovation cycle. Products are no longer only made by manufacturers for mass consumption but can be designed and produced to varying degrees by the consumer, in which case the intellectual property is therefore no longer owned by a single entity.

Practice

Authors decribing the role of technology in their own practice, integrate technology to varying degrees. The following examples vary from using technology as an aid to using technology to replace the handmade. In the first instance technology supports the creative process but emphasis

is still placed on the hand crafted aspect of the final product, informing the perceived emotional content of the artefact (Treadaway 2007; Cheatle & Jackson 2015). In the work of Zoran (2013) and Zoran and Buechley (2013) there is a merging of digital fabrication with traditional craft within one artefact, resulting in a hybrid assemblage which acknowledges the passing of time. The merged digital fabrication onto and with traditional objects respects both and the resultant transformed object is loaded with meaning. Devendorf and Ryokai (2015) also consider hybrid (physical / digital fabrication) as a means to consider alternative everyday materials as part of fabrication activity. The last example, hinges around a new aesthetic that emerges from digitally mediated manufacturing which would not otherwise be possible using traditional methods and materials. Digital technology therefore is seen to augment creative possibilities, as there are no moulds, no two objects ever have to be the same (Eden 2012; Harris 2012).

Conclusion

In response to the question posed at the beginning of this article, the discussions predominating in the literature include: the democratisation of craft and design through online communities, the integration of technology with traditional practice, the role of technology in relation to authenticity and innovation, responses to concerns regarding sustainable production of consumer goods, collaborations and the ethical concerns aligned therewith and the theories that underpin these narratives.

Although some communities currently remain outside or on the edge of digitaly mediated technologies, the pace of change and increasing access to digital devices is set to rapidly increase rhizomatically, facilitating access to new economic models and other creative possibilities. Technology as an enabler of access to information and markets and manufacturing has blurred the boundaries between design and craft and offers opportunities for collaborations and connections, localised solutions and more sustainable practices. Ethical concerns emerge regarding authorship and equity in collaborative practices. Alternative economic models are also required; if design is in the public domain, how does income generation take place on a day to day basis?

All of these practices are underpinned by an ontological shift towards process ontologies and rhizomatic structures which express a distancing from the modern capitalist paradigm to more resourceful and resilient alternatives underpinned by ethical practices (Carr & Gibson 2016). In the field of Human Computer Interaction, Wiberg proposes reframing the current material turn so that the emphasis is not on the computer but on the materiality of the interaction. The interaction of designer and computer as material. "The computer is dead. Long live the interaction!" (Wiberg 2016).

Recommendations for further research

Although there are compilations of academic publications in the field of craft (Adamson 2010) and in the field of Design Studies (Clark and Brody 2009, 2013, 2014) this review has focussed on the impact of digital technology in these areas. The progress of the discourse in this field is varied and well represented by authors publishing in Design, Craft and Human Computer Interaction journals.

South Africa has a rich and diverse craft sector, showcased in exhibitions, such as Collective Craft held in Cape Town and Johannesburg, and in well documented publications

(Coetsee 2015) yet none of the literature searches in academic databases resulted in local content. It is our opinion that there is therefore room for academic publication in this field.

Opportunities exist for transdisciplinary collaborations between designers and students of design and craft practitioners as catalists for experimentation with materials, processes and technologies. The literature indicates that frameworks are required for ethical collaborations and empathic research practices, especially between differently resourced participants. Local replication studies could be undertaken based on interventions to support craft enterprises in the form of "virtual guilds", open source marketing platforms and virtual repositories for the preservation of culture and identity. The question of appropriate curation and the authority of large institutions versus bottom up approaches should be raised. More work could be done on alternative sustainable economic models in support of craft practitioners in South Africa. Lastly, there is always scope in the creative industries for disseminating practice-led research initiatives showcasing local new technologies and practice.

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To have a roof over one's head

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The focus of this paper is on three aspects related to the roofs of residential buildings in the Free State. The first is the craft of putting up a roof, the second the typology that results from the crafted roof and the third the memories associated with the typologies. The climate and materials available for roofing in the central part of southern Africa influenced builders in the first instance, which resulted in the particular early typologies of housing. Imported materials opened up other possibilities and craftspeople reacted to that. Later, Postmodernist designers communicated nostalgic identities by referring to the typologies common in the area in an earlier age. The paper investigates the roof as a critical element of shelter in architecture and questions the Modernist axiom that the plan is the generator. It might however not be true in all circumstances and undue focus on the plan is limiting our understanding of the full spectrum of architecture.
Key words: Free State, history of architecture, typology of houses, morphology of houses, plan as generator, roofing materials, identity, residential architecture

Om 'n dak oor jou kop te hê
Die fokus in hierdie artikel is op drie aspekte wat verband hou met dakke van residensiële geboue in die Vrystaat. Eerstens die vaardigheid om 'n dak op te sit, tweedens die tipologie wat uit die vervaardigde dak voortspruit en derdens die herinneringe wat geassosieer word met die tipologieë. Die klimaat en materiale wat beskikbaar is vir dakwerk in die sentrale gedeelte van suidelike Afrika het bouers in die eerste plek beïnvloed wat aanleiding gegee het tot die eiesoortige vroeë tipologieë van wonings. Ingevoerde materiale het ander moontlikhede binne bereik geplaas en vakwerkers het daarop gereageer. Terugskouend kon Postmodernistiese ontwerpers later nostalgiese identiteite kommunikeer deur terug te verwys na tipologieë wat vroeër algemeen was in die gebied. Die artikel ondersoek die dak as 'n kritiese element van skuiling in argitektuur en bevraagteken die Modernistiese aanname dat die plan die bepalende faktor van die ontwerp is. Dit is nie waar onder alle omstandighede nie en onnodige klem op die plan beperk ons begrip van die volle spektrum van ontwerp.
Sleutelwoorde: Vrystaat, geskiedenis van argitektuur, tipologie van huise, morfologie van huise, plan as bepalende faktor, dakmateriale, identiteit, woning-argitektuur

The basic elements of a building can be identified as floor, wall and roof. Of these three, the construction of a simple floor would typically present the least technical problems. Walls, depending on the material used in their construction, might require a basic technique, especially where height becomes an issue or when openings have to be bridged. When considering the construction of a basic roof, the challenges posed by the available materials and the skill of working with it, become considerable. In a self-erected first dwelling, the construction of the roof would be a limiting factor, more so than the floor or the walls. This is particularly true in circumstances where the builder has to operate within a landscape which does not offer much in terms of suitable materials. It is also true where support for the builder from other building specialists and labour is lacking. The central interior of southern Africa – currently more or less the Free State Province of the Republic of South Africa – proved to be exactly such a landscape without notable timber sources or much in terms of infrastructure before the arrival of the railway system in 1890 (Schoeman 1980: 112). The roof would, particularly under strained conditions like these, have determined the extent of the floor-area and, as a consequence, also regulated the walls. The complex relationship between floor, wall and roof is such that the one cannot be

considered without the other if the structure is to be realised. This is at odds with the cliché in Modernist architectural literature that the plan is the generator of the design. There seems to be an argument that the roof (and even the walls in some cases) can be the generator too, even if it is the last to be added to the structure in many cases. This paper will try to make sense of the role that a roof can or cannot play in the design process. It will also put the modernist preoccupation with the plan into perspective.

From wall, roof, floor and volume to morphology, topology and typology

Norberg-Schulz (1985: 26-29) equates "how it is build" with morphology, "where it is built" in terms of how it is organised with topology and "what is build" with typology in The Concept of Dwelling. He would also use these terms as synonyms for character/identification [morphology], structure/order [topology] and memory/togetherness [typology] (Auret 2015: 129). Different associations are possible with these elements of architectural language in the process of appropriation, of interpreting them. For the sake of this argument, section/elevation, plan and the three dimensional model could also be used. In simplifying these concepts, the section and elevation is a handy expression of morphological concerns and more important, the elevation and section can effectively explain the roof and its structure. The plan is closely associated with the topological organisation of a building or place. Models can instantly communicate typological categories. This is the over-simplified summary that follows:

Morphology	Topology	Typology
Character/identification	Structure/order	Memory/togetherness
Section and/or elevation	Plan	Model
Roof and/or wall	Floor	Volume
How it is built	Where it is built	What is built

The similarity of section and elevation, grouped together both as vertical presentations, fits in with how Norberg-Schulz (1985: 26) describes morphology: "… that built forms are always understood in terms of their being between earth and sky, that is, their standing, rising and opening". From this followed the grouping of roof and wall together. Le Corbusier grouped them elegantly together under the term "surface", which will be discussed in the next paragraph.

The plan as generator

In his seminal 1923 book, *Vers Une Architecture*, Le Corbusier writes very passionately about the "three reminders to architects" and he proposes mass, surface and plan as these reminders. The urge to describe the object of architecture as the result of a triad of factors is clear. Even an idiosyncratic architect like Le Corbusier could not resist doing this. The summary can therefore be expanded as follows:

Surface	Plan	Mass
Morphology	Topology	Typology
Character/identification	Structure/order	Memory/togetherness
Section and/or elevation	Plan	Model
Roof and/or walls	Floor	Volume
How it is built	Where it is built	What is built

Even as Le Corbusier's scheme (1927: 25) tries to describe the architectural object in terms of three terms, his bias towards the plan is obvious. In the translated edition (Towards a New Architecture) he spends nine pages and nine illustrations on "Mass". He focuses mostly

on North-American grain stores and elevators (silos). Then he deals with "Surface" and the writing amounts to very much the same: eight pages which also include nine illustrations. Here he concentrates his examples on the elevation of a Renaissance courtyard and other early Modernist buildings. But it is in the part on "Plan" that matters come to a head. The pages that he dedicates to the discussion on plan are more than the previous two sections combined and amount to twenty pages with sixteen illustrations of ancient temples, Tony Garnier's work and his own designs. Later in the book (1927: 166), he would even write the following:

> Now, the plan is the generator, 'the plan is the determination of everything; it is an austere abstraction, an algebrization, and cold of aspect'. It is a plan of battle. The battle follows and that is the great moment. The battle is composed of the impact of masses in space and the *morale* of the army is the cluster of predetermined ideas and the driving purpose. Without a good plan nothing exists, all is frail and cannot endure, all is poor even under the clutter of the richest decoration. From the very start the plan implies the methods of construction to be used … .

Any such over-emphasis on any one of the three modes of communication is bound to skew an understanding of the whole.

Examples from the Free State Province

Using the record of development of domestic architecture that exists in the Free State Province of South Africa as an example, the interdependence of wall/roof, floor and volume in the realisation of a structure can be illustrated. It can be demonstrated that plan is not always the generator and that commentators on architecture should remind themselves of that. Norberg-Schulz (1985: 29) sensed this when he wrote: "Setting-into-work is a twofold process. First, it means that a mode of dwelling is translated into a typological entity by means of the basic principles of built form [morphology] and organized space [topology], and second, that this type is modified in accordance with the circumstances of the here and now". The types that will be described to indicate how the "circumstances of the here and now" have modified them, are dome constructions; *hartbeeshuise*; cone-on-cylinder houses; linear houses; double bank plans; hipped roofs; screens, *stoeps* and verandahs and flat roofs. To bring the discussion to a close, the Postmodern handling of the image of the roof will be mentioned. The purpose is to point to the balance between the influence of the plan, surface and mass on the design and to tone down the hegemony that Modernism afforded the plan.

Dome construction

Some of the dwellings described and illustrated by James Backhouse, Thomas Baines and others on their travels through the territory can be interpreted as a roof-on-a-floor. It places little emphasis on walls, where the wall and roof is one structural element. Frescura (1998: 3) describes these dwellings as "predominantly dismountable domes covered over with reed mats and animal skins". A dome or half-dome is formed by planting light transportable saplings or laths into the ground to form a more or less circular plan. The saplings are bent over in a network structure, which is then covered with reed matting or animal skins.

There was some early effort to associate the dome form more with Khoikhoi migrant pastoralists and the half-dome or curved mat shelter more with San hunter-gatherers but it proved to be a confusing classification (Frescura 1998: 5).

The plan in this case was the result of the available material and construction method. The light transportable laths dictated a tectonic network rather than stereotonic structure and this could be most effectively expressed in a tensioned dome-like construction. Longer reeds would span greater distances and would result in a larger plan-area or higher head height inside. Descriptions seem to indicate circular plans of 3 to 4 meter in diameter and 1.2 to 1.5 meter in height (Frescura 1998: 5). The plan was much less of a generator in this type of dwelling than the length of the laths and the number of mats available to cover the roof with. It can be understood as a plan-consideration to decide at first between a full or half-dome, or to decide which direction the entrance should face. All other considerations would from then on have focussed on the crafting of the roof: the tensioning of the saplings, span, height and density of the saplings in the network, and the position and overlap of the matting (therefore the term *matjieshuis* from Afrikaans) and animal skins.

Figure 1
Thomas Baines, *Bloemfontein*, 1851, oil on canvas, 75 x 125 cm, Bloemfontein, Oliewenhuis Art Museum (photograph made available by the Museum and used with permission).

Figure 2
Detail (left of lower centre) showing the dome structures covered with mats in Thomas Baines, *Bloemfontein*, 1851, oil on canvas, 75 x 125 cm, Bloemfontein, Oliewenhuis Art Museum (photograph made available by the Museum and used with permission).

Hartbeeshuise

It might be very tempting to support Nienaber's enlightening explanation of the partial Khoi origins of the term *hartbees*, but for this essay there is no point in arguing the subtle differences between the *kapstyl* house, the tent-house or the *hartbeeshuis* (Labuschagne 1998: 40-41). Backhouse described the buildings in 1839 at Beersheba (a mission station near present-day Smithfield) as representing all stages of development of the roof-on-floor type of dwelling: "… the round or oval shaped, those composed of mats, and those which were circular and had upright plastered sides and thatched roofs, were giving way to what were called in this country, Hartebeest houses" (Roodt 1987: 23). The *hartbeeshuis* was in essence a rectangular roof-on-floor type with parallel sides on plan as opposed to the more or less rounded plan of the dome construction or *matjieshuis*. Some of them were also constructed of tensioned saplings, but even so, the *hartbeeshuis* was never considered transportable or even just dismountable. The advantage of this pointed arch construction over the dome construction would have been the greater height to the interior and the option to increase the length of the house, if necessary. The span across the short side seems to be limited to much the same dimensions as the dome constructions in the early depictions that exist, in other words 3 to 4 meter. For the head height inside, it seems to be somewhat higher than the dome construction at 2 to 3 meter. Labuschagne (1998: 25) remarks that "when emigrants relocate themselves they have three sources for their building culture, namely tradition, innovation and borrowing". The *hartbeeshuis* is a good illustration of this. The rectangular plan was a remnant of European tradition whereas the construction method (tensioned network of saplings) contained a good deal of borrowing from the indigenous dome construction. Innovation made it possible for them to accommodate doors and windows in this unlikely context. As was the case with the *matjieshuise*, the plan and its dimensions were limited to a few variations. The time and material available to erect the roof of the house decided the extent of the plan. One of the few planning decisions would have been the position of doors and (if possible) window openings, but the rest of the options were all determined by the construction of the roof.

Cone-on-cylinder houses

The first travellers also described cone-on-cylinder houses (or *rondawels*) and linear houses, a single rectangular room or single row of rooms. These two types can be interpreted as examples of the roof that is lifted onto walls. The *hartbeeshuis* already had some rudimentary walls but the actual lifting of the thatched roof onto walls is seen for the first time in the cylinder-on-cone type house. In the previous examples the roof was in all cases (with or without the walls) the primary structure which was supported directly on the ground (like the *matjieshuise*), not on the walls. The substantial settlement at Thaba N'chu described by Backhouse in 1839 appeared to have consisted mostly of cone-on-cylinder houses: "The houses of the Barolongs are circular with erect mud walls and thatched roofs; they are enclosed with circular fences" (Roodt 1987: 23). The immigrants (Dutch and English) were quick to borrow the cone-on-cylinder form of housing and used it where they settled.

Rapoport (1969: 42) criticised interpretations of the design of houses which only consider a single factor such as the "Physical Deterministic View". Frescura (1998: 2) demonstrated an awareness of this trap when he wrote:

> It would be wrong if a description of the local built environment were to regard rural builders as mere passive agents responding to their physical context in a pragmatic and ad hoc manner. Judging by the quality of their habitat, quite the opposite is, in fact, true and it is evident that, in their provision of

> shelter, they are active manipulators of their surroundings. It is also true, however, that the availability and quality of natural building materials can act as a limiting factor in the creation of an architecture.

The limiting factor of the "availability and quality of natural building materials" is most restrictive when faced with the construction of the roof. Whether constructing a *rondawel* or a linear house, the same problem had to be addressed with the available material. The roof construction had to cover from wall to wall. In the case of a cone-on-cylinder the plan was circular and in the case of the linear houses the same section was extruded onto a rectangular plan. The material available allowed a span of 5 m in exceptional cases, but usually less. Whether it was across the diameter (for the *rondawel*) or the short distance of the rectangle (for the linear house), in both instances the roof was the generator of the plan.

Linear houses

A linear house consisted of a single room, or a row of single rooms. The roof construction was an uncomplicated section that spanned from exterior wall to exterior wall. Roofs were usually gabled and thatched. Among the early examples of linear houses in the Free State, only Goedetrouw had a corrugated iron roof. Labuschagne (1998: 44) remarks on the simplicity of the arrangement: "Plan-form predicts roof-shape in vernacular architecture. The simpler the plan, the more straightforward the roof". This essay aims to argue the verso: the more restricted the roof is in terms of materials, craftsmanship and available construction time, the more straightforward the plan will be to make even a simple roof possible. Not roof follows plan, but plan follows roof. Of the early linear houses that were documented, the span remains remarkably limited between 3 and 5.2 meter. Without the support of skilled craftspersons or imported material, 5.2 meter was the full extent of any ambitious roof on the isolated Free State landscape. The one early example where the full 5.2 meter span was managed was in the house of the French missionary Pellissier at Bethulie, constructed in 1835. Pellissier could rely on the assistance of the mission station community and he had supporters in the Cape and even Paris.

Hexrivier, Reddersburg	1820	3.7 m	(Walton 1955: 15)
Bethlehem Star, Fouriesburg	c. 1830	3.2 m	(Du Preez 2012: 26)
Klippaatsdrift, Rouxville	1835	3.0 m	(Walton 1955: 17)
Pellissier Residence, Bethulie	1835	5.2 m	(Roodt 1987: plate 1)
Wolwefontein, Kroonstad	c. 1844	4.0 m	(Roodt 1987: plate 3)
Hefersdal, Gumtree	c. 1850	3.0 m	(Walton 1955: 21)
Vincennes, Zastron	1850	4.8 m	(Walton 1955: 23)
Modderfontein (phase 1), Fouriesburg	1854	4.8 m	(Du Preez 2012: 63)
Killarney (phase 1), Fouriesburg	c. 1870	4.0 m	(Du Preez 2012: 58)
Present Poort (phase 1), Fouriesburg	c. 1870	5.2 m	(Du Preez 2012: 71)
Lusthof (phase 1), Fouriesburg	c. 1875	3.8 m	(Du Preez 2012: 42)
Tierhoek (phase 1), Fouriesburg	1876	5.2 m	(Du Preez 2012: 80)
Goedetrouw (phase 1), Fouriesburg	c. 1880	4.0 m	(Du Preez 2012: 53)

This table illustrates the lack of experimentation that can be associated with this typology before 1880. Not even the parliament building of the *Oranje Vrijstaat* Republic (the First *Raadsaal* with a span of 4.8 meter) could manage anything better by 1849 when it was built. The materials and skills available to put up a roof was the ultimate limiting factor of these linear designs. The roof section was the generator of the plan.

Double bank plan

At first the linear organisation of a single row of rooms were more common, but the double bank plan soon replaced the linear house as the popular type in the Free State due to the advantage it offered of more space. The first few double bank configurations were simple extensions of the well-known gabled roof with attic. The extension was to the one side of the house, with the roof now over the width of two rooms. It had the advantage that the attic became more spacious. The earliest examples of the double bank plan were covered with thatch. With the arrival of corrugated iron roof sheets, the thatch roofs were replaced with metal sheeting. Corrugated iron made a lower roof angle possible and required much less maintenance. Corrugated iron was available in the Cape and Port Elizabeth in 1847, by 1849 in Pietermaritzburg and in Durban 1850 (Kearney 1973: 70; Roodt 1987: 14). In the Free State it became generally available between 1850 and 1870, and the emergence of the new universal sheeting material usually meant the earliest possible substitution for local materials with the products of Birmingham (Roodt 1987: 29).

A very early example of the double bank plan is Reverend Archbell's house of 1835 at Thaba N'chu. This is well before any similar houses were built. It is an example that makes it clear that typological development is not linear or tied to a chronological sequence. Rather, it is linked to the ability to muster support and supplies from communities outside the isolated landscape. The Wesleyan missionaries had such a link to the Cape and London.

Another impressively pragmatic example is House Venter, on Modderfontein near Fouriesburg (Du Preez 2012: 62). This house progressed from flat roof (perhaps an unsuccessful *brakdak*?) over the three roomed phase 1 house, to gabled thatch roof over the extended linear house of phase 2, to a corrugated iron roof at different angles over the double bank plan of phase 3! The different materials used in the different phases are different in figure 4.

Figure 3
Measured plan of the Reverend Archbell's House of 1835. Original house with thick walls to the top with later additions in thinner walls to the bottom (source: Roodt 1987, plate 2).

The noteworthy issue with the double bank plan is that the limitations that the roof section imposed on the plan in the previously discussed typologies are slowly disappearing. With this type, the plan might well be more of a generator, together with the section.

Figure 4
A view from the South-east of House Venter, the first dwelling (1854) on Modderfontein near Fouriesburg (photograph by the author: 1999).

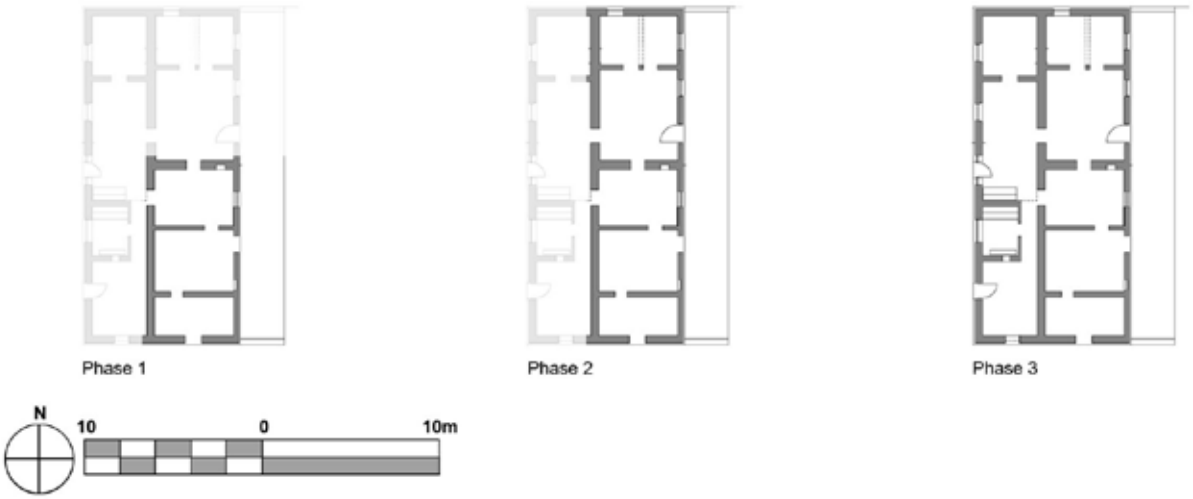

Figure 5
Measured plans of House Venter on Modderfontein near Fouriesburg indicating the original house and the two phases of additions, from linear house to double bank house (plans measured and drawn by the author).

Hipped roofs

Plan-forms evolved into topologies that were more complex than the single or double bank house plans and the roof area increased. It would have been difficult to cover these complex plans with thatch, but the introduction of corrugated iron made this roof type possible. The lower gradient meant lower roof heights and thus less material was required to cover it. Hipped roofs were known in the larger towns before the South African War, but it became widely accepted afterwards. Large parts of the population were isolated before the War but became part of the largest empireof the time thereafter. Gables appeared only for decorative purposes and did not determine the roof structure behind it any more. Ventilators of all sorts and bay windows became the hallmark of these houses. Some form of experimentation with the exotic novelties of the Empire was to be expected. Dunelm near Clarens (with a decorative Tudor Revival gable improvised above the large Gothic bay window, figure 6) was a good illustration of this.

Figure 6
A view from the East of the house on Dunelm near Clarens (photograph by the author: 1999).

Neither the topological plan nor the morphological surface is the generator here. Typology reigns supreme: it is the intricate silhouette of Norberg-Schulz or the mass of Le Corbusier that is determining the design and the craft of putting up the roof has very little influence left. The elevations reveal the often asymmetrical composition as the spectator approaches the house and moves around it. Treasure everywhere! The wide sweep of steps up to the verandah, railings swinging from support to support, the crest, finials, multiple chimneys and deep shadows on the *stoep*.

Screens, *stoeps* and verandahs

Backhouse described "circular fences" at Thaba N'chu (Roodt 1987: 23). At the Basotho Cultural Village between Clarens and Harrismith the exhibition stages a courtyard (*lapa*) in front of the entrances to the houses, marked by fences. Some are reed-and-grass screens (*seotloana*) of up to 2 meter high and some are low walls constructed from earth. Similarly almost all the linear houses had a long narrow paved platform in front of them, a *stoep*. There is no evidence of a thatched covered stoep in this collection, but Radford (1984: 32) illustrates a thatched stoep with Futcher's Hotel (c. 1860) in Bloemfontein and Lewcock (1970: 528) the same with the First

*Raadzaa*l (c. 1860) in Pretoria. Except for being unfashionable later, it might have been also unpractical under the rainfall conditions of the interior of southern Africa.

Whereas the earlier *stoeps* were mostly uncovered, narrow, straight and simple, they started to develop in the decade before the South African War in the larger towns and later also on farms in the countryside. The covered *stoep* or verandah (as it was referred to under British rule) was facilitated by the arrival of corrugated iron. Verandahs could now run in and out of corners, could widen out and retract where nobody would notice them and parts of these could be closed in with glass to form a sun-stoep, sun room, solarium or primitive form of conservatory.

Stoeps (very much like bay windows also) are a thickening of the wall and is as such associated with the morphological and topological concerns. It extends the aspect (view over the landscape) and the threshold, it enhances the performance of the barrier. There might be instances where the *stoep* becomes so wide that it turns into a room itself and lose some of its relation to the wall. But even so, it will still be outside if it is a *stoep* and will still act as a pre-entrance or a post-exit space.

Flat roofs

Flat roofs made its appearance in the Free State with *brakdakke* (earth or bracken clay on reeds). It was however highly problematic in the region with a higher rainfall than the Karoo where *brakdakke* was commonly used for roofing. More respectable flat roofs became an option as skilled craftspeople infiltrated the colony. Copper, zinc and lead were expertly applied, but were not really available to the common colonist. Flat roofs for the common man became widely accepted as experimentation with standing seams, concealed fixing and alternative profiling of iron sheets took on. Reinforced concrete also became available for flat roofing. Although it was never part of the mainstream, it was always another option after the First World War. It was this material which made possible Le Corbusier's Dom-ino structure. When focusing on the Dom-ino structure, the statement that "the plan is the generator" comes across as self-evident. But the argument here is that the plan can only be the generator if the roof has been predetermined, as in the case of the Dom-ino. Or, as Auret argues, if the roof and silhouette have been rendered inconsequential, it is not predetermined, but it is no longer a limit to the topology. Everything is then up to the topology, but you lose the majesty of the silhouette.

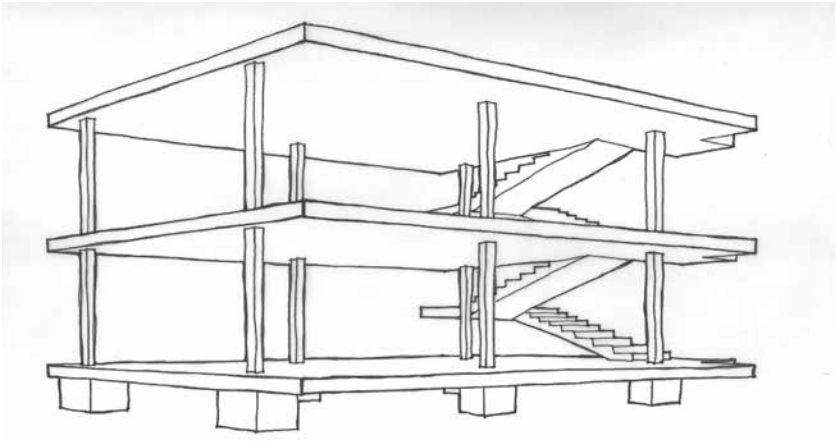

Figure 7
The Dom-ino structure designed by Le Corbusier (c. 1915) during the First World War (original simplified by author).

The image of the roof

The loss of the silhouette, the typological dimension, render the image monotonous. To overcome this typological impoverishment, Postmodern architects were quick to realise the polemical value of the roof after decades of Modernist suppression. Thus cementing the link between roof, silhouette, typology and ultimately memory. From the Vanna Venturi House to the popular retirement villages in Bloemfontein, the image of the roof was exploited to reassert the value of a recognisable silhouette. In the hands of Venturi, Graves and Stern, Postmodernism was perhaps a commentary on Modernist thought; but in the South Africa of the 1980s with all its political unrest, it became a nostalgic backlash.

Conclusion

There are also other types of dwellings that were used in the Free State like the corbelled stone huts (Frescura 1998: 13) and more, which were not included in this overview of typologies. The list does not aim to be exhaustive. The inclusion of these lesser known examples might have been interesting, but would not have changed the overall argument. The aim of this article is to conduct a comparative study of different examples of residential architecture as found in the Free State, in order to illustrate that the roof is in some cases the generator of the type and that it is not always the plan, as per Modernist axiom.

Typology, Topology and Morphology is neglected at the risk of architecture becoming partially mute. If the focus is only on the roof, we may loose the ordering capacity of the plan. If the designer focuses only on the plan, we loose the silhouette of the roof, recognisable in the distance.

Note

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Wupperthal, an object of people and place

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Wupperthal is a place that reflects an intimate relationship between man and nature and stands as an object within the landscape. It is one of the best-preserved mission stations in the Western Cape that still functions as an active community under the administration of the Church. To conserve Wupperthal, it needs to continue as a working mission station and adapt to changes associated with technology and development. The approach was that the land speaks its own language and would reveal possibilities rather than to be dominated by highly scripted interventions. Assessment criteria for cultural landscapes are still in development, therefore a combination of methods was used. The main literature review was centred on values that gave rise to a series of obligations. The obligations informed the design process while the fieldwork connected embedded narratives of the land to physical links and requirements. The methodology includes documentary, oral and physical mapping. Each mapped feature was tested for its significance as per the value criteria that the authors developed. Value in Wupperthal was found in the vulnerable, the unexpected and the coincidental. The functional needs of the town called for the preservation of the historic nodes and their amplification or framing. Critical in significance however are the in-between moments, where the everyday life of the people are celebrated and made tangible. The project aims to balance sensitivity to the internal logic of the vernacular landscape with the boldness required to ensure the longevity of the town over time.
Key words: cultural landscape; value; embedded narratives, preservation, mission station

Wupperthal, een object van mens en plek
Wupperthal is een plek die een intieme relatie tussen mens en natuur weerspiegelt en het staat als een object in het landschap. Het is een van de best bewaarde zendingsstations in de West-Kaap die nog steeds fungeert als een actieve gemeenschap onder de administratie van de kerk. Om Wupperthal te behouden, moet het als een werkend zendingsstation blijven bestaan en zich aanpassen aan veranderingen in verband met technologie en ontwikkeling. De aanpak was dat het land "zijn eigen taal spreekt" en mogelijkheden zich zouden voordoen in plaats van onder gedwongen interventie te lijden. Beoordelingscriteria voor culturele landschappen worden steeds ontwikkeld, daarom werd een combinatie van methoden gebruikt. De belangrijkste literatuuroverzicht was gericht op "de waarde van het land" dat aanleiding geeft tot een reeks verplichtingen. De verplichtingen hebben het ontwerpproces geïnformeerd, terwijl het veldwerk de verhalen ingebed in het land aan fysieke koppelingen en vereisten heeft verbonden. De methodologie omvat documentaire, mondelinge en fysieke kartering. Ieder in kaart gebrachte kenmerk werd getest op hun betekenis volgens waardecriteria die de auteurs ontwikkelden. In Wupperthal werd in het kwetsbare, het onverwachte en het toevallige waarde gevonden. De functionele behoeften van de stad eiste het behoud, versterking en omlijsting van van de historische knooppunten. In de tussenliggende momenten wordt het dagelijkse leven van de mensen gevierd en tastbaar gemaakt. Het project beoogt om de gevoeligheid voor de interne logica van het volkseigen landschap in evewicht te brengen met de dapperheid die nodig is om de levensduur van de stad op de lang duur te garanderen.
Trefwoorden: cultureel landschap; waarde; Ingebedde verhalen, behoud, zendingsstation

Wupperthal, established in 1830, remains one of three mission stations in the Western Cape Province in South Africa that still functions as an active community under the administration of the Church [1]. Wupperthal consists of a core with fourteen outposts in the larger area that developed as a self-sustaining community on the edge of the Cederberg

Mountain range (Franklin 2015: 18). The historic core consisted of socioeconomic functions implemented by the Church to serve the people. Today its isolation from the rest of the world, and lack of development is the reason for the preservation of the 19th century colonial architecture, and its rich culture associated with the Afrikaans language. The purpose of this study was to establish the cultural landscape significance of Wupperthal and illustrate the value link between objects, people and place. The study highlights the importance of perception of people as part of place, not only in the shaping of the land but also in what and how people value as objects.

Wupperthal is a place, perceived as an object, but mostly misunderstood without its people. Why is it that the "beauty" of Wupperthal is not always accessible to the visitor? Henry Lefebvre (2009), a Marxist philosopher writes about this phenomenon in his *Critique on everyday life*, where he insists that public space is a social product of the means of production. Wupperthal in its core represents an institutional landscape introduced by the German Mission Society with a strong reference to the Western world view and what is considered therein as the 'large events of life'. Yet, this institutional landscape is somehow in contrast with the residential landscape of the people of Wupperthal and their everyday life. Jackson (1987) argues that what is seen has special significance to a specific viewer. To the environmentalist – topography and vegetation will be visible; and to the architect – buildings. What is seen is the material realisation of human principles: property makes humans visible and accessible (Jackson 1987: 35). Edmund Bacon (1967: 20) describes the perceptions of cities as being their "very life force" and argues that it will only be possible to successfully intervene once the "language of a city is understood". The notion of perception was found to be an important aspect in the understanding of the cultural landscape of Wupperthal. Not only to understand the way in which the people of Wupperthal view their own town, but also to challenge one's own perception as it is formed during the investigation.

Wupperthal was turned upside down, inside out, viewed from a distance, circled, and rotated repeatedly to understand this manifestation of an intimate relationship between man and nature; this internal logic seemingly deaf to human understanding. Each perspective either verified or broke down the perceptions that inevitably formed, and each method of investigating cultural landscapes focused the attention on a different set of values further discussed throughout this article. In the article, we first describe the method employed for the investigation, then the conceptual approach. Thereafter we present the findings in order of scale, and finally we offer some conclusions.

A combination of methods

From the literature, the authors selected the outline of the Burra Charter [2] (UNESCO 2015) as overall methodology but supplemented it with additional methods for the assessment of value in cultural landscapes. The Burra Charter was found to be particularly useful due to its specific focus on the managing of places with cultural significance and well-defined methodology. Another purposeful tool is the Historic Urban Landscape (HUL 2013) approach that considers the city as a continuous dynamic system rather than a static historic entity. The newly formulated methodology combined elements of HUL into the outline of the Burra Charter, specifically aiming to address the assessment of cultural significance (figure 1).

Human ethics for decision making is based on values and valuation but also entails duties or obligations (Jax et al. 2013). From the methodology above a series of obligations arise from the held and assigned value [3] of the land. These obligations inform the design process: the designer establishes physical links and requirements based on the values identified. It was

important for us that the land revealed the possibilities and their obligations and did not suffer under a closed narrative[4]. Figure 1 shows the mapping process the researchers followed. In this section, we only discuss a summary that outlines the process but a detailed mapping and significance assessment is available in Franklin (2015).

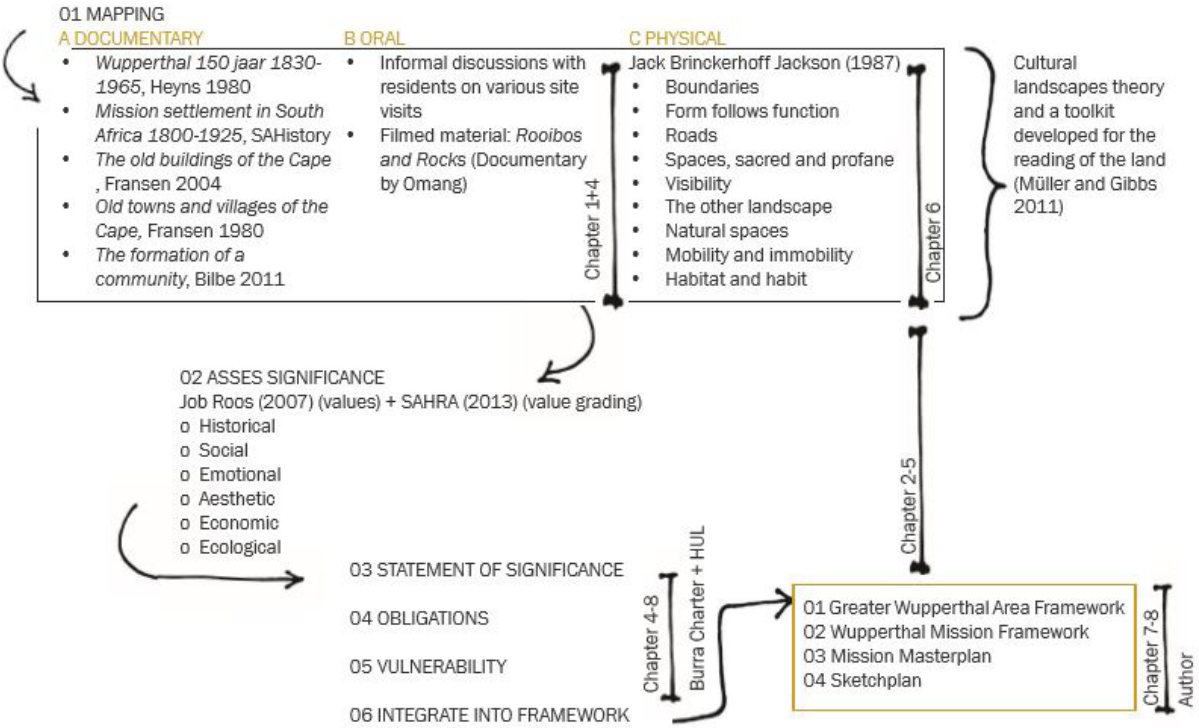

Figure 1
Methodology for the mapping and significance assessment of Wupperthal (diagram from Franklin 2015).

In the documentation mapping, it was found that Wupperthal, in contrast to other mission stations, is poorly mapped and planned in terms of physical structures and the availability of plans. While the Moravian Mission Society was meticulous in its planning and documentation of mission stations, the Rhenish Mission Society responsible for Wupperthal, was seen as the "cowboys" in terms of planning (Le Grange 1993). One of the maps obtained was a conservation map drawn up by Lucien le Grange and another diagrammatic hand drawn plan (date unknown) as part of a mission journal that verified the *werf*-like (backyard) feel to Wupperthal. Most of the historic buildings on site were interpreted by the description in the *Feesalbum* (Heyns 1980) and verified by Hans Fransen's (1987) description of the buildings and filled in with the information by Bilbe (2011) in his research of the formation of a community. The latter proved to be a well-researched thesis providing interesting insight into the dynamics of the community of Wupperthal through an abstract of the missionary journals written in German. Some of these insights had a direct influence on the design decisions made later in the process.

The oral mapping consisted of various informal discussions with the residents that added to a better understanding of the cultural landscape. It was important to get a better general understanding of the site before any formal participatory process with residents was recorded. Several of the findings from the documentary review were verified through these informal discussions and referenced as such. The study area was visited four times over the course of the year.

The physical mapping of Wupperthal was influenced by different theoretical approaches in the understanding of the cultural or vernacular landscape. UNESCO's (2015) reference to the importance of water, the mountain as a religious object, and the concept of unintentional aesthetic, directed to a certain extent the mapping of the landscape. It was however John Birkenhoff Jackson's (1987) book *Discovering Vernacular Landscapes* that highlighted most of the physical aspects to look out for in the vernacular landscape. Jackson finds beauty not only in the landscape, but in the relationship displayed between humans and nature. Through the mapping process, Wupperthal revealed itself to be a product of such an intimate relationship.

The different components that Jackson identifies to consider in the vernacular landscape shed a different light on cultural landscapes for the researcher. Jackson discusses the difficulty of working with landscapes in the definition of the word landscape and the ambiguity of this word. He locates the obscurity of the landscape in those elements that we are quite unable to explain – mysteries that fit into no known pattern (Jackson 1987: 11). In every landscape, however there are elements that are familiar and could be clearly understood. It is these elements that we start with in the analysis of the landscape: fields, houses, fences. Each of the features that Jacson mentions within the landscape assisted in discovering the significance of Wupperthal (Franklin 2015: 41).

Value is a difficult concept to explain or to determine, for every value has worth to someone for a specific reason (Franklin 2015:42). The theory of *Herbestemming* (re-purposing), developed by Job Roos, that assisted with the assessment of significance through values, was also used in the cultural landscape of Wupperthal as overall method to facilitate the design process. Roos suggests that there are six value lines that an architect must investigate within a project. Depending on the complexity of the project the architect may wish to add value lines (Roos 2007). As shown in figure 1, these six core value lines are: historical, social, emotional, aesthetic, economic and ecological value. The research confirmed Roos' (2007: 34) prediction that value is found in the vulnerable, the unexpected, and coincidental – this is also true for Wupperthal. The six value lines formed part of the mapping, serving as a means to extrapolate a summary from the different mapped features. These lines of value had a direct influence on the framework development and decisions made within the design process and proposals.

Heritage Western Cape developed a *Short Guide for Policy Statement on Grading* to satisfy section seven of the National Heritage Resources Act, 1999 (Act 25 of 1999) and regulation 43 published in the Government Gazette No 6820. This guide provides a list for the establishment of value in the cultural landscapes, typically for the nomination of a site for the declaration of a historic monument. The South African Heritage Resources Association (SAHRA) expands on some of the values listed by Roos (2007) for an appropriate application within the South African landscape. These values include: historical, scientific, aesthetic and social value within the landscape and a special reference to slavery within South Africa (SAHRA 2014). The research revealed that Wupperthal carries significance for this history of slavery, this is discussed later in this article.

Conceptual approach

The popular singer Stef Bos in his song, *In Het Midden,* captures some of the extremes in the world that at times through history have become the norm. He reminds us that a middle ground, that represents an area of no extremes, still exists. The use of duality as a way of opposing extremes, has also been present in the history of Missionary movements in South Africa that played a role in the pursuit of capitalism under colonial ventures. In these terms Wupperthal as

a mission station in South Africa represents: Freedom from slavery yet obedience to the rules of the Church; A place where wanderers could stay on their own land; Where isolation means freedom from the rest of the world; A compact core, yet dispersed; Remote yet connected; Caught between the modern and the old; Between conservation and development (Franklin 2015: 7).

The line that represents the middle becomes thin and almost non-existent in a world where extremes exist. It is the interplay between these sides that holds the energy in motion and the world in play. The human interference is the lifeblood of the pendulum that continuously swings from one side to the other (Franklin 2015: 7). We believe that the middle ground still exists. The landscape represents such a grey area, between the built and natural environment, where building meets landscape through human intervention. In Wupperthal, the agricultural landscape forms an important aspect to the *genius loci* and the interface between the larger natural environment and the physical structures. The continuation of the Church to the heart of the people represents another middle ground that continues past the physical structures and mediates the slave to become truly free; even from the rules of the Church (Franklin 2015: 7).

The identification of this prominence of duality in Wupperthal gave rise to the concept of the "preservation of absence" (Franklin 2015); a wordplay taken from Marc Treib's publication, *The Presence of Absence* (Treib 1987). In Wupperthal the areas of absence (historic nodes) are almost lost between the clutter of a working farm. It is these pockets of absence that need to be preserved and rather amplified or framed by the functional needs of the town (Franklin 2015: 25-26). In the presence, the everyday life of the people of Wupperthal are celebrated and made tangible in its response to their functional needs that is often associated with technological improvement. The concept of the "preservation of absence" (Franklin 2015), together with the above mentioned notion of duality was applied to the different scales of planning in Wupperthal. This will be dicussed in the following sections with reference to three lenses of perception: object, people and place.

The different scales of Wupperthal

Scale 38 000 ha

Figure 2
Sketch exploring the larger landscape and outposts of Wupperthal (sketch from Franklin 2015).

Object

Moravian Mission station with fourteen outposts on the edge of the Cederberg mountains and its dramatic landscape between the Ceder and Karroo formations. Figure 2 is an explorative sketch of the mission station with its fourteen outposts.

Key Features: Mission station with fourteen outposts; Placement within a dramatic and contrasting landscape; Agricultural fields.

People

Two missionaries from the Rhenish Mission society in Germany began their journey in 1829 to South Africa, Theobolt von Wurmb and Johann Gottlieb Leipoldt (grandfather of the poet Louis Leipoldt) settled among the seven Khoi families living on the farm at that time. The first church service was held on 17 January 1830 under the tree behind the first homestead (Heyns 1980: 27). Newcomers were welcomed with a stiff handshake and all had to adhere to the rules of the church. Leipoldt was a shoemaker by trade and started the first shoe factory to look after the temporal well-being of the people in addition to the spiritual focus of the church (Heyns 1980). The shoe factory provided 40 permanent job opportunities, but over time struggled to keep up with other mechanised shoe factories. Today the shoe factory has only five permanent staff members. Other industries established in Wupperthal included a tannery, glove factory, tobacco and rooibos industry (Heyns 1980: 127). Agricultural fields and livestock farming are to this day still a valuable source of income.

In 1838 slaves were emancipated in South Africa. Slaves had the choice to work out their four-year apprenticeship at their current owner or settle at a mission station. Bilbe (2011) describes the formation of a community as the "mission elite" based around the mission (mostly ex-slaves) while the "rural elite" formed through the acquisition of land in the larger area. It is important to note that the "mission elite" were dependent on skilled based activities implemented by the church, while the "rural elite" depended on agricultural based activities.

Place

Figure 3
Diagram showing the fourteen outposts in Wupperthal, and the layout of three of them (diagram and sketches from Franklin 2015).

Garden plots were developed according to the German economic agricultural composition. The founding of Wupperthal coincides with this time in Europe where agricultural specialists came to establish the agricultural fields in Wupperthal. German agricultural fields are characterised by their *hufe* (strips), which is the distance an ox could plough in one day (figure 3). The German street village was developed to take up as many people as possible where German colonisation occurred in Europe (Weber 1920). The influence of the German street village is evident in the cultural landscape of Wupperthal. The fact that these garden plots are still in use today adds to the significance of this component.

The Greater Wupperthal Area is divided into two main landscape vegetation types. These vegetation types determine the spatial character of the area and the potential of the land. The Cederberg Sandstone Fynbos (Ceder formations) to the east and the Agter-Sederberg Shrubland (Karoo formations) to the west (Mucina & Rutherfort 2006). Rooibos shrub, *Aspalathus linearis*, is a dominant feature in the landscape.

Response

In order to preserve the absence of Wupperthal (a self-sustaining community on the edge of the Cederberg), it was necessary to keep Wupperthal functioning as an active community and avoid the risk of turning it into a museum. The proposed Greater Wupperthal Area Framework (38 000 ha) sought the understanding of the historic function of Wupperthal as socio-economic hub to its people. The proposed regeneration of the cultural landscape, as seen in figure 4, included the establishment of economic drivers in the agricultural based outposts and skills based functions within Wupperthal.

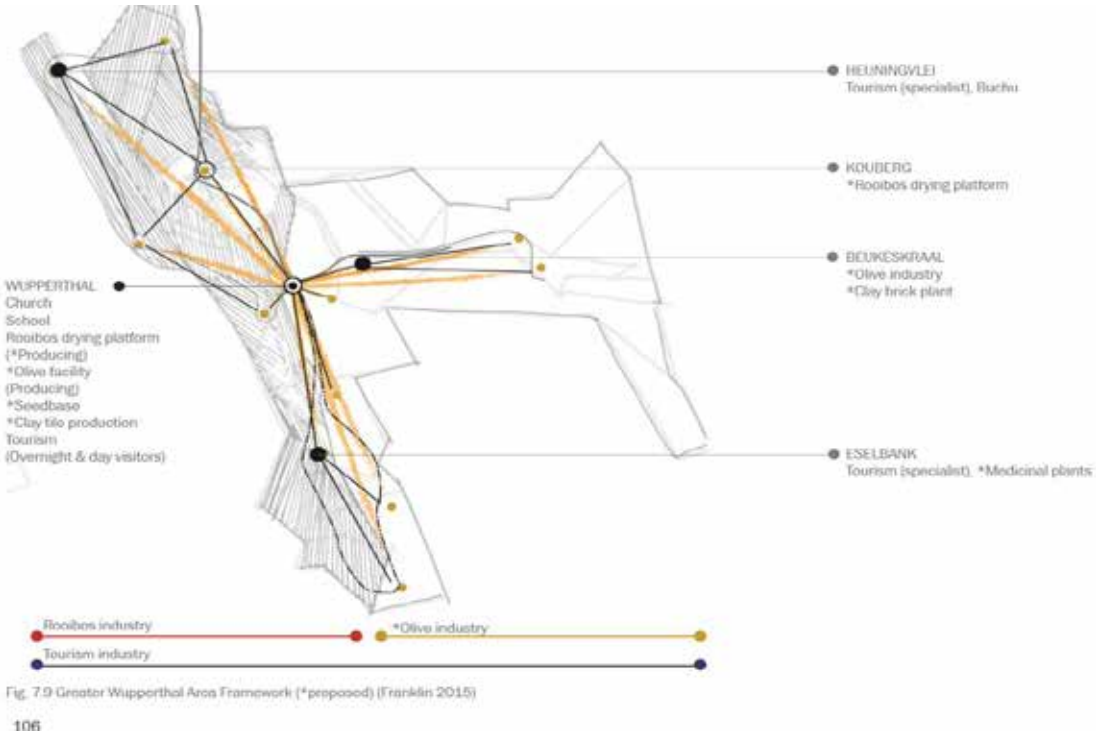

Figure 4
Greater Wupperthal area framework
(diagram from Franklin 2015).

Figure 5
Explorative sketch investigating the timeline of Wupperthal, and the influence of nature and leaders on the history of the town (sketch from Franklin 2015).

Scale 120 ha

Object

Tree rich compact town, with some of the most important build elements (reported in Heyns 1980:95) of the town being the church building, shoe factory, agricultural fields and irrigation channel.

Key Features: German street village (figure 5); Division of the institutional landscape and residential landscape; Inflow, outflow and enabling functions, their groupings and placement; Lack of legibility as one moves through town.

People

Over the years, strong traditions were formed that are still in use today. *Potjiekos* is a Sunday special and the baking of *asbrood* (ash bread) by the women is noteworthy. In contrast to other traditional practices in Africa, it is not the women working in the fields, but the men that look after the crops. Individuals live close to nature for their survival and the medicinal value of plants is well known. The *Rieldans* is a traditional dance with its root in both Khoi and colonial customs and represents the courtship between a man and a woman. Rugby is a sport highly valued in Wupperthal. According to a resident of Wupperthal "*Ons versmoor ons in onse talente*" (they are smothering in their talents) because they do not have a standard size rugby field to showcase these (comment from a resident, February 2015).

"All Pay Day" is once a month and all the individuals of the larger Wupperthal Area gather in the historic core for collection of payment. This day is described as the day where one

talks one's heart out with old friends ("*dan praat ons ons harte uit*"; comments from a resident, February 2015). Although most residents of Wupperthal were found to be very cautious during interactions, their open-heartedness is remarkable.

According to the residents of Wupperthal it is safe because "everyone knows each other" and observing people is an important aspect of public life. Wupperthal has been used as refuge for several other individuals. It is rumoured that Heuningvlei, one of the outposts of Wupperthal, was first inhabited by a man accused of murder in the Netherlands (Bilbe 2011: 272). The Cederberg in the 1830s was an environmentally marginal zone; an island of black elite clans, squatters, runaways and thieves. Overall, it was this unique environment that most fundamentally shaped the social history of Wupperthal (Bilbe 2011: 272). People still regard Wupperthal as a sanctuary on the edge of the Cederberg, where visitors can find refuge from the hustle and bustle of everyday city life. Tourism is a valuable source of income for the residents and has the potential to benefit an entire area when managed correctly.

Schieffer (in Heyns 1980) mentions two faces of Wupperthal in the *Feesalbum*. A glimpse of both faces was seen in Wupperthal after several site visits; "*Ek kan nog steeds nie glo dat die Here ons hier kom plaas het tussen hierdie mooi berge*" (I can still not conceive that the Lord placed us here in between these beautiful mountains; comment from resident, Jan 2015). Alcohol abuse and poverty do however play a large part to the other face of Wupperthal. The experience of the dualistic landscape is amplified through interactions with its people.

Place

Visibility, mapped in Figure 6, shed some light on the divided landscape between institutional and residential landscape found in Wupperthal. All the residents live in the street village while the other functions of the town are located in the core of Wupperthal. The strong edge dividing the residential area from the core area in Wupperthal is enforced with the road that divides it and topographical changes in the landscape.

An alternative mapping of energy identified inflow and outflow functions that informed the identification of a set of boundaries seen in figure 6. Here inflow functions that attract people inward (church, school, rooibos facility) are located on the foot of the Cederberg mountain range (Heyns 1980: 20). The area in between this inflow area and the outflow area (residential area) forms the enabling functions (Bakery and hostels supports the school; Rooibos shop supports the Rooibos factory).

The mapping of choices in figure 6 highlights the *werf*-like functioning of Wupperthal within its historic core. It is because of the lack of legibility that the mission route was proposed with a series of nodes.

Response

As part of the Mission Framework (120ha), a development line proposed by the researcher is a line that wraps around the town and prevents any structures being built or planted outside this line, keeping the character of a strong object within the landscape. This edge was found to be mostly well-defined by natural elements such as rivers or roads that border it. Two areas however were identified that needed a buffer (figure 7) to control future development as part of the proposed Mission Framework. Due to historic changes in usage, these two areas are

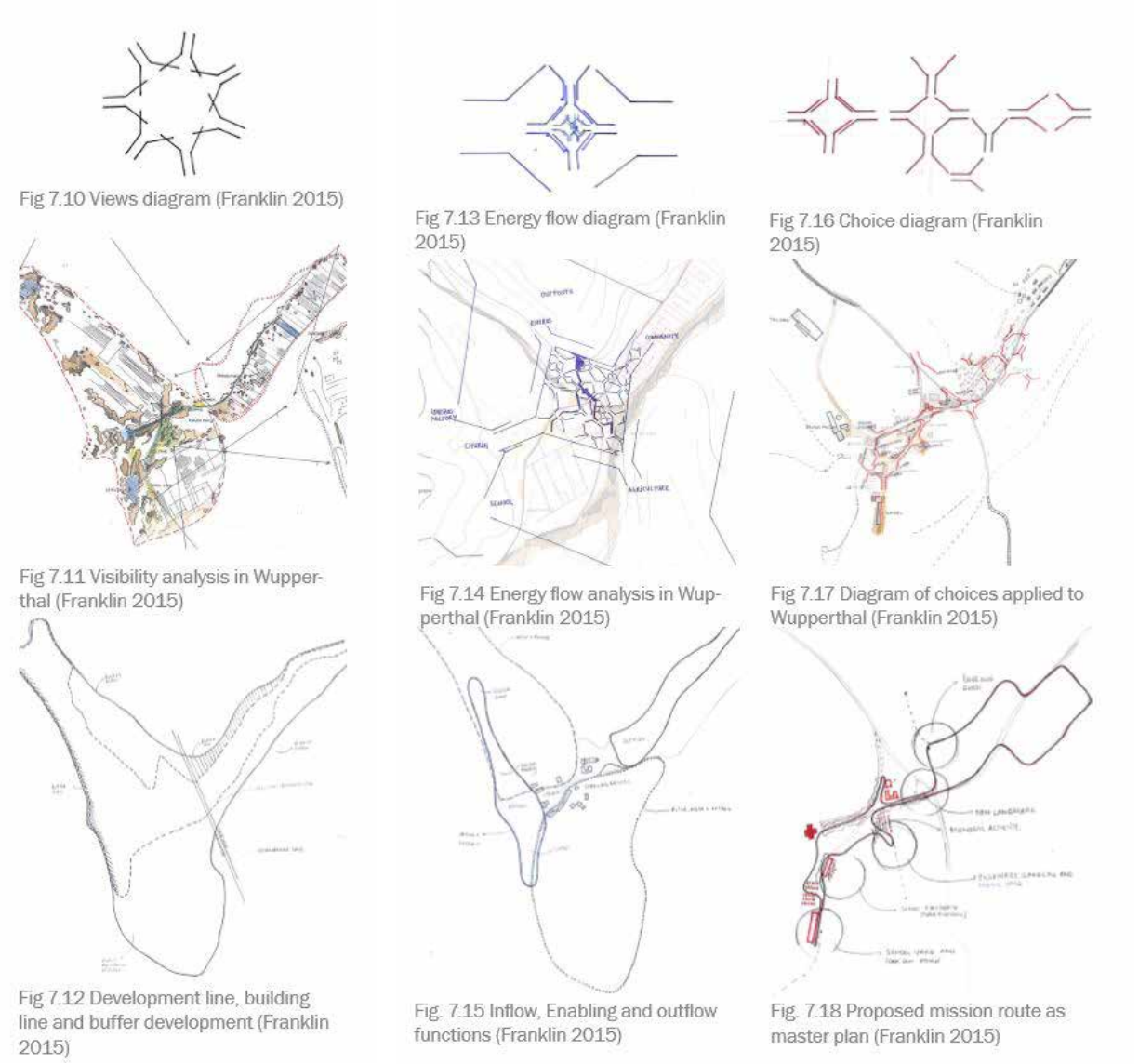

Figure 6
Analysis of Wupperthal in terms of views, energy flow, and choices in the cultural landscape (diagrams and sketches from Franklin 2015).

the only places in Wupperthal where the town boundaries are currently not well-defined. The first area is located behind the church, that went through many historic development efforts to create a suitable backdrop to the church. One such is example was the planting of pine trees, watered by the school children during breaks, but unfortunately all the trees died in the harsh environment (Heyns 1980: 45). The buffer behind the church proposed in the Masterplan was explored for a suitable Rooibos drying platform. The second area is located at the highest row of residential units in the street village, where the existing *kraal* (coral) structures used for goat farming (now with limited function) was an appropriate functional edge that could buffer sprawl into to the larger landscape. Here development needs to be controlled and buffered to prevent sprawling into the larger natural area, it is a matter of management. The proposed building line indicates the line in which large buildings (with roof structures) can be placed and differs from the development line that allows transitional functions such as agricultural activities.

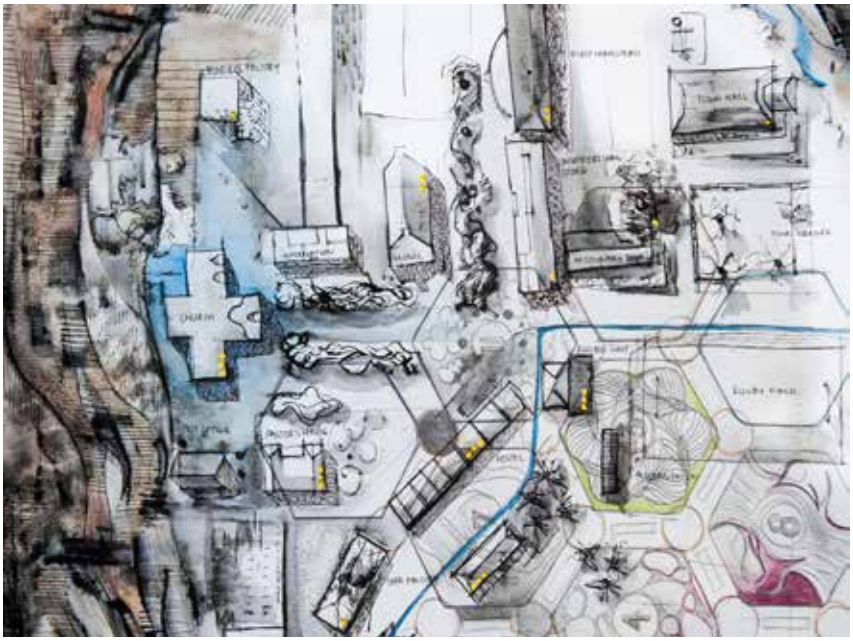

Figure 7
Remembrance sketch after first site visit.
Note the organised interpretation of Wupperthal (sketch by the author).

Scale 20 ha

Object

Dusty ill defined nodes with historic structures and large remnant trees, lost between the clutter of a working farm (figures 7 and 8).

Key Features: public space; ablution structures; perception.

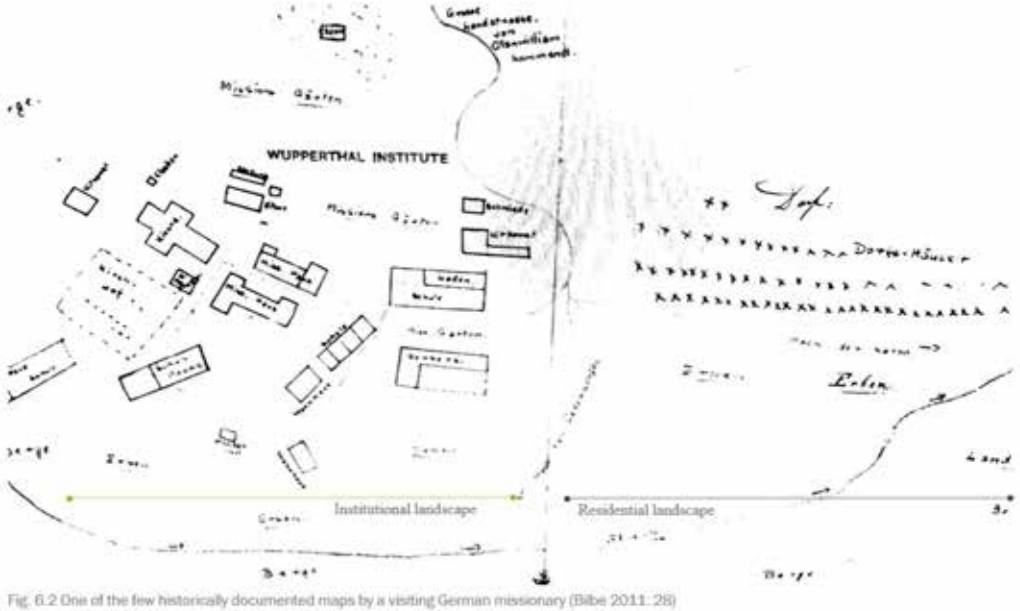

Fig. 6.2 One of the few historically documented maps by a visiting German missionary (Bilbe 2011: 28)

Figure 8
One of the few historically documented maps by a visiting German missionary.
Note the werf-like position of the buildings (Bilbe 2011: 28).

People

Lefebvre (1986) classifies social space into three categories: spaces for representation; the representation of space and practice of space. These categories were used to understand public space in Wupperthal (see table 1). Public spaces in Wupperthal are spaces of practice, which in turn influences how these spaces are physically formed. The spaces of practice are physical to an extent but also form part of the intangible properties included within the cultural landscape because practices are transient and change over time. Without understanding these intangible properties, we may overlook the emotional value different users assign to these spaces.

1. Spaces of representation [*le vecu*] EXPERIENCE	**2. The representation of space** [*le conqu*] DESIGNED	**3. Practice of space** [*le percu*] PERCEIVED
Church Building	Tree lane in front of church	Protestant church service
Spaces of representation are influenced by the imaginary of the time. Corenlius Castoriades writes about the "imaginary" by explaining it as the element that directs life (Jackson 1987: 2). For the Greeks it was historically the creation myths and for the Jews it was Yaweh. Similarly in Wupperthal it is governed by God and the mission movement of Europe in the 1800s (SAHistory 2015).	Representation of space refers to the designed elements that remind us of the imaginary. The church is a representation of God, of the missionary movement but at the same time the line of trees in front of the church represents the church.	Practice of space gives rise to spaces of representation. These spaces are only fully understood once these areas are seen in light of their function or mode of operation. Wupperthal as a landscape is only fully understood once one enters the church and sees the Bible. This specific Bible is a representation of the Protestant church. It changes one's perception of the entire landscape once the imaginary or source of influence is understood.

Table 1
Three categories of social space according to Lefebvre.
Used to understand public space in Wupperthal (Franklin 2015: 24).

Place

Some of the following equivocal perceptions were found in the cultural landscape through the first observations of Wupperthal as an object. Only once place was understood in relation to the way it is used through practice, did the reality of place reveal itself.

Perception	**Reality**
Ill defined open triangle in front of shoe factory	Important Rieldancing platform
Not all buildings are in use	All the buildings are in use, even if it is only used for a few hours a day
Wupperthal stood still in time and its confinement to the valley gives the illusion that it did not develop	Some of the buildings are not even 60 years old
The institutional landscape forms the most prominent unit within the cultural landscape: church and shoe factory	The most significant unit of daily life is the residential landscape with its agricultural fields as prime component
Wupperthal is the only town in the area	Wupperthal consists of fourteen outposts over a diverse range of vegetation units
The plaza in Wupperthal is the main area of public interface. The plaza is a larger market space used once a month on All Pay Day	Gathering space is rather found in the in-between spaces, on a small wall in front of the mission shop, or on the intersection of two roads
The agricultural fields close to the centre of town proved to be a space of passive enjoyment for the men working in the fields; observers without participatory obligation	The most important form of public space is the *stoepe* (verandas) of individual homes; revealing the intimacy of such a close-knit community in its isolation

Table 2
Perceptions tested against reality, and used to understand public space in Wupperthal.

Response

The Mission Route Masterplan (20 ha) was developed from the Mission Framework (120ha). The separation of humans and nature in the core of Wupperthal as well as the distinct difference between the institutional and residential landscape informed the mission route as a masterplan. To get a complete overview of the cultural landscape, the proposed route navigates through the key elements within the institutional as well as residential landscape. It will however not be a traditional route, but rather a series of elements that draws the user through the site through moments of absence and presence.

The nodes located in the presences, were identified facilities that the residents of Wupperthal require as a result of change in technology, such as ablution facilities. The fragmented nodes and the *werf*-like positions of buildings (see figure 10) in Wupperthal added an unusual layer to the proposed design. Areas of 'presence' were explored to bring order to the areas of 'absence'. The two proposed nodes that will be discussed in this article include the Rooibos drying platform and the Ablution facility.

Rooibos drying platform

Existing Rooibos drying courts in Wuppethal are half a rugby field of concrete, mostly situated on valuable agricultural fields, as the fertile valleys are often the only level area to be found. The proposed Rooibos platform was explored to address the problematic undefined edge behind the church (discussed earlier), and the growing need for the cultivation of Rooibos in the landscape. The proposal was to look at a way to integrate this large platform gently into the slope considering the minimum turning circle required for a tractor (20 meters). Investigation of the slope behind the church revealed a natural platform fit for this purpose (see figure 9).

Figure 9
Proposed masterplan for the historic town of Wupperthal (sketch from Franklin 2015).

Ablution facility

Ablution facilities in Wupperthal form part of infrastructural development that came with an advancement in technology. A new architectural typology is proposed for these structures, that are added to the existing historic abblution buildings. The architectural guidelines, developed by Franklin (2015), propose that the building follows the *stoep* (veranda) typology in contrast to the mass of the solid white-washed wall façade, as illustrated in figure 10, 11 and 12. These guidelines are informed by the Burra charter and HUL discussed earlier in this paper. It is proposed that any new building should follow the traditional mass of the building in Wupperthal.

The proposed ablution facility of the post office will be a pergola type structure cladded with thatch panels, that can open and close. Signage will be included on these panels that tells the story of Wupperthal (figure 13) for individual interpretation. It is proposed that greywater is treated in a series of wetlands next to the facility, thereby lessening the load on the sewage system. This ablution facility will also form part of an area in Wupperthal which is a vital link for pedestrain circulation from the church to the shoe factory. This main link is currently the sloped backyard of the rectory and post office, which show signs of erosion due to excessive use. The backyard includes the functional components added to the historic building, such as an ablution facility and shed, seen in figure 12. Here a new structure will allow the functions to be integrated into the historic fabric with the use of contrasting material clearly indicating the new additions (figure 13).

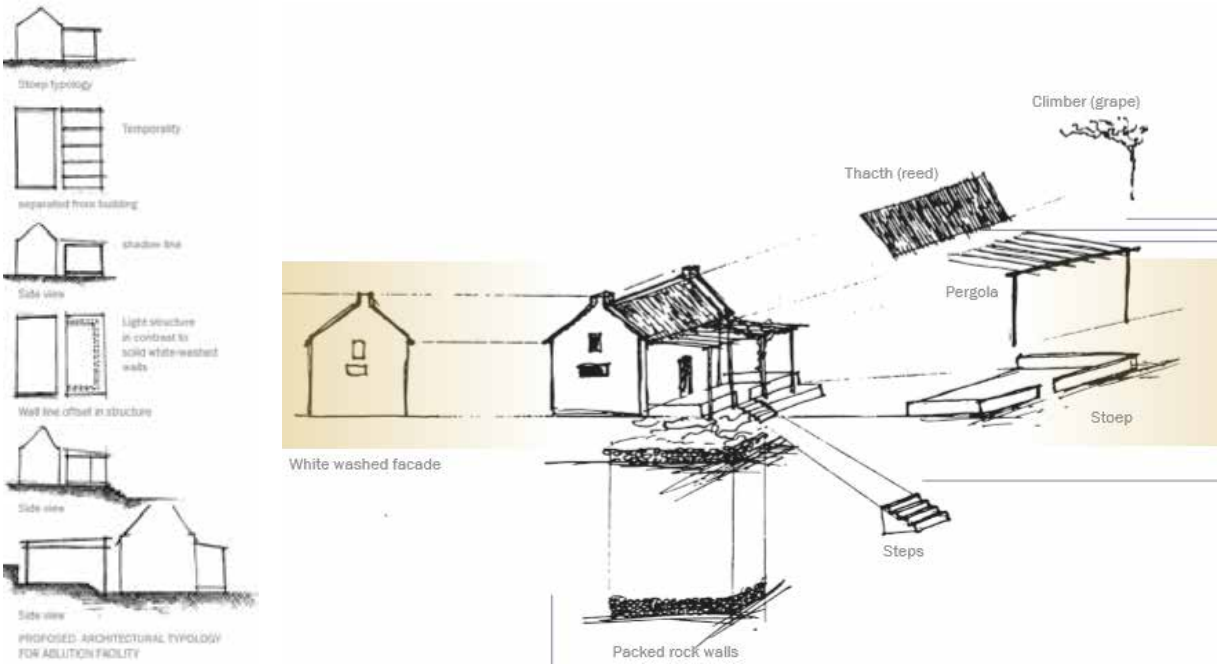

Figure 10
Analysis of the *stoep* typology, and the application to the new proposed ablution structures (sketch by the author).

Figure 11
Proposed ablution structure in Wupperthal (sketch from Franklin 2015).

Figure 12
Existing ablution structures cladded to building in the link between the church and the shoe factory (photo from Franklin 2015).

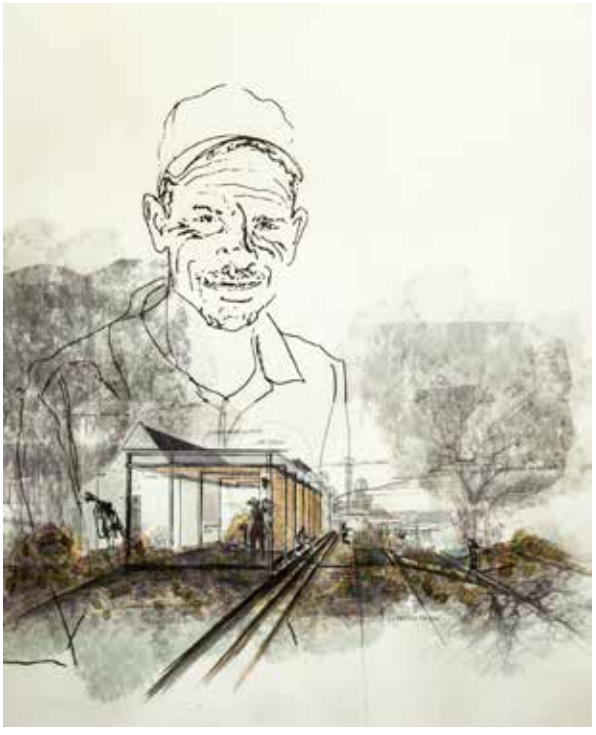

Figure 13
Perspective of the ablution structure and greywater system (sketch from Franklin 2015).

Conclusion

Wupperthal as an object is a material culture spoken through things. Its internal logic is deaf to the understanding of people, but perceived through place. Although Wupperthal, like any other place, could still not be comprehended in its fullness by the researcher, enough elements revealed themselves to verify or break down initial perceptions through continuous visits to this unique setting. Mistaken perceptions could be contributed to the fact that the historic town of Wupperthal is not an accurate reflection of its current mode of operation, but rather part of a suppressed view in time. In giving account of Wupperthal as an object, it is nearly impossible to separate people from place, and therefore it is concluded that Wupperthal cannot be fully appreciated in the absence of engagement with any individual living there. In the same way, none of the interventions could be proposed without a test of perception. Perception remains relative to the viewer, and only through an effort in understanding the perceptions of others can the viewer be rewarded with a glimpse of their reality.

Notes

1 The Rhenish Mission Society established Wupperthal in 1830, but was taken over by the Moravian Mission Society in 1960. It is still under the administration of the Moravian church today.

2 This article deals fairly loosely with the concept of values, as many of the cultural landscape tools employed do. It serves to say that values are worthy of a far more complex and detailed discussion. In this article "values" refer to: held values that shape perceptions of the world and describe people's preferences based on deeply engrained standards, as well as assigned values that relate to valued objects and refer to the relative worth given to things (Ives & Kendal 2014: 68).

3 The Burra Charter falls under the Australian ICOMOS Charter for places of Cultural Significance 1999. The Burra Charter provides a basis for the conservation and management of places of high importance (ICOMOS 2013).

4 We use the term "closed narrative" after Potteiger and Purinton (2002:136), who define this as a "controlled and highly scripted narrative" in design that does not allow for free interpretation by the user. They contrast this with open narratives that allow for multiple interpretations and recognise the presence of embedded narratives inscribed by cultural practices and natural processes.

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The subject of the object: contemplating the bidet in the Maison de Verre

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When Le Corbusier writes in *L'art decoratif d'aujourd'hui*, that "*L'Art est partout dans la rue qui est le musee du present et du passe* (art is everywhere in the street, which is the museum of the present and of the past)", according to Beatriz Colomina, he is referring to the poster, the industrial design object, and advertising as the equivalent of our time to the madonnas, crucifixes and frescos of medieval society. Takingasinspiration the image of an advertisement by the manufacturer Maison Pirsoul for a bidet published by Le Corbusier in the same article this essay will discuss the bidet asan apparatus defined by GiorgioAgambenas that which"has insomewaythe capacity to capture, orient, determine, intercept, model, control, or secure the gestures, behaviours, opinions or discourses oflivingbeings"and"arerootedinthevery process of 'humanization'…". Through these apparatuses the human being attempts to nullifytheanimalisticbehavioursinsearchfortheall-too-humandesireforhappiness but in the process the capture and subjectification of this desire in a separate sphere, he argues, constitutes the specific power of the apparatus. This essay will explore this concept with a comparison of the bidet installed by Pierre Chareau in the Maison de Verre, where the apparatus is not only designed to move about a pivot but is hidden behind a movable screen, to that of Le Corbusier in his apartment at 24 rue Nungesser et Coli in Paris, where the bidet is installed immobile and exposed as if on display in a museum.
Key words: Maison de Verre, Le Corbusier, bidet

Objet de l'objet: considérer le bidet dans la Maison de Verre
Selon l'historienne Beatriz Colomina, lorsque Le Corbusier écrit dans L'Art décoratif d'aujourd'hui que « l'art est partout dans la rue, qui est le musée du présent et du passé », il fait référence à l'affiche, au design industriel et à la publicité qui représentent pour lui l'équivalent contemporain des madones, crucifix et fresques de l'âge médiéval. En utilisant comme source d'inspiration l'image publicitaire d'un bidet du Maison Pirsoul, publiée par Le Corbusier dans un chapitre du même livre, cet article examinera le bidet en tant qu'« appareil », tel que ce terme a été défini par Giorgio Agamben, pour qui il s'agit d'un objet ayant « en quelque sorte la capacité de capturer, orienter, déterminer, intercepter, modéliser, contrôler ou sécuriser les gestes, comportements, opinions ou discours des êtres vivants » et qui « trouve son origine dans le processus même de l'humanisation. » Encore selon Agamben, à travers de tels appareils l'être humain tente d'estomper ses comportements animaliers dans une recherche ô combien humaine du bonheur, mais, en route, ce désir du bonheur est rendu sujet et captif d'une toute autre sphère – ce qui constitue le pouvoir spécifique de ces appareils. Cet essai cherchera à explorer ce concept en comparant les bidets installés par Pierre Chareau à la Maison de Verre, qui sont non seulement pivotants mais aussi cachés derrière un écran mobile, à celui, immobile, que Le Corbusier aménagea dans son appartement au 24 rue Nungesser et Coli à Paris, exposé comme au musée.
Mots clés: Maison de Verre, Le Corbusier, bidet

In his essay, *What is an Apparatus?,* Giorgio Agamben (2009) borrows Foucault's concept of the *dispositif* as it relates to "governmentality" and classifies all beings in two groups: "living beings" and "apparatuses in which living beings are incessantly captured". Between these two groups, he then argues, lies a third class, "subjects", which, for Agamben (2009: 16), is the resulting relationship between living beings and apparatuses. These apparatuses are therefore not accidental, according to him, but are "rooted in the very process of humanization that made humans out of…Homo sapiens" (Agamben 2009:16). Agamben relates this subjectification to

a process of interruption by which the apparatus separates us from our immediate relation to our environment, what he refers to as a process of profanation, and that separation he further argues is *religion*. Agamben traces this to the original meaning of apparatus as it relates to the Greek word *oikonomia,* which signifies the administration of *oikos* (home) that in the beginning of church history took on a religious function (Agamben 2009:8). "On one side, then, to return to the terminology of the theologians, lies the ontology of creatures, and on the other side, the *oikonomia* of apparatuses that seek to govern and guide them toward the good" (Agamben 2009:13). "We could say that today there is not even a single instant in which the life of individuals is not modeled, contaminated, or controlled by some apparatus" (Agamben 2009:15). This essay will demonstrate how the bidet is such an apparatus and will reveal how on the one hand, Le Corbusier removes it from its potentiality by exposing it against a white wall as if on display in a museum, while Chareau gives it potentiality by giving it a renewed, if modern,life.[1]

Cleanliness is next to Godliness[2]

To discuss the bidet as an apparatus that "seeks to govern and guide… toward the good" is to speak of the relationship between hygiene and morality. The term moral is etymological rooted in the Latin word *mos,* which refers to custom or habit, and is a translation of the Greek word, *ethos* (habit) from where the word ethic is derived. For Aristotle morality is a disposition to behave in the right manner and "moral excellence comes about as a result of habit". In order to understand the role of the *bidet* and its significance in the early 20th century it is important to return to its historical beginnings in the 18thcentury and the emerging role of water as it relates to hygiene.

Treatises on manners throughout the 16thand 17thcenturies, which were directly inspired by the courts, according to Vigarello (1988), emphasized that cleanliness of linen reflected the cleanliness of the person as a whole and was therefore considered more proper.3The visibility of the white linen worn closest to the body became the expression of its cleanliness and propriety, a representation of what was otherwise invisible. The amount of linen in use, not only for the body but also for table covers, increased significantly in the middle of the 16thcentury reflecting its importance. In the 17thcentury linen continued to play an important role and mores dictated that the white linen closest to the body emerge in the form of collars and sleeve cuffs, which were washed separately and changed more often, emphasizing the significance of the appearance of cleanliness perceived through the whiteness of the linen. According to Vigarello (1988), the surface of the intimate had become a completely external sign. It was during this period, according to Illich (1986), that white powder was introduced not only for its effect in keeping the skin dry but as a sign of cleanliness with its perfumes seen as protection against miasma by correcting the corrupted air, therefore a sign of purification. It is crucial to understand that water at this time was considered dangerous to the skin as it was believed to enter the body through its pores, thereby creating an in-balance of the body'shumours.

With the development of scientific knowledge in the 17thcentury, however, the tendency for concern of health and hygiene began to move towards the interior of the body, which resulted in a transformation during the final decades of the 18thcentury with regard to cleanliness, noted by both Vigarello (1988) and El-Khoury (1996). Both have argued that soon after the mid-18thcentury, out of the fear of smells emitted from the body, cleanliness became less a matter of appearance but a matter of health, and hygiene became a concern for the interior of the body rather than its surface alone, which resulted in its movement from the sphere of social mores, or manners, into the realm ofmedicine.

> In the face of the old visions of swellings and circulatory obstructions, arising from the discovery of Harvey, in the seventeenth century, in the face of the diffuse risks of blockages and plethoras, cleanliness now acquired a stronger legitimacy. It facilitated the excretion of humours and the movement of blood. It was firmly functional. It protectedthe body by assisting its physiology. It fostered circulation and internal movement… (Vigarello 1988:140).

The mechanisation of water and its significance

Before William Harvey's discovery of the circulation of blood, according to Ivan Illich (1986), the idea of circle had always implied a center and the presence of that centre and the points at the circle's circumference altogether at once had been a symbol of God, the soul and eternity. The concept of the "circulation" of liquid was before related to evaporation perceived as the separation of a "spirit" from a "water", as in the case of the distillation of liquor from wine, or the process of "spiritualization by which blood was assumed to pass through the septum from the left to the right brain" (Illich 1986: 40). The modern idea of a "stuff" following a destined path and circulating back to its source was foreign, even to Renaissance thought, making Harvey's discovery of the circulation of blood a profound break from the past. According to Illich, the term was first used outside of medicine in France where ideas had already begun to "circulate" by the beginning of the 18th century and after 1750 it also referred to the "circulation" of wealth and money. Society began to be imagined as a system of conduits and by the French revolution, ideas, newspapers, information, traffic, air and power were in "circulation". Beginning in the 19thcentury with the writings of Chadwick, the city, like the human body and social body, was redefined as a network of pipes. A healthier city, as seen reflected in proposals already being made in 18th century France, now depended on the circulation of water, used to clean and wash the city of its sweat, excrement and waste.4Nevertheless, despite this new tendency and proposed solutions, while a few of the wealthy had introduced places of commodity into their homes using mechanised water flush equipment, these proposals were few and far in between and the common practice for ridding human waste by disposing of it onto the streets continued well into the 19th century. Historians agree that the sudden need to wash and keep the city clean was not from an aversion to the site of waste but rather to its smell and that the need to maintain the city being constantly washed was a new phenomenon emerging during the second half of the 18thcentury. By the end of the 18thcentury ideas of odour were changing social attitudes toward bodily 'wastes' where defecation and urination were now pushed out of sight to be hidden in thecloset.

Where the body is concerned, water also took on a new significance. While still considered a risk during the mid-18thcentury, bathing slowly emerged among the aristocrats. Its purpose not so much for washing away dirt but rather for its effects on the bodily humours. In order to avoid the dangers of over exertion it was considered critical, therefore, to follow certain procedures like purging prior to taking a bath and retiring to bed for rest after the bath to ensure maximum protection for the body but also to allow just enough exposure to stimulate the humours as necessary. Bathing however remained rare even among the aristocrats and was reserved for great occasions such as marriages, as in the case of the marriage of the daughter of the Duc de Croÿ, described by the Duc himself as a ritual that involved purging and bathing "in preparing her body and her soul" (Vigarello 2008: 96-7). It is clear that during this time water maintained a symbol of purity rather than cleanliness. Rome's glory, according to Illich (1986: 37), was based on the ostentatious domestication of Mnenosyne, the Greek Goddess of memory, both, through the codification of public memory in Roman Law and through the piping of city water. This can also be seen reflected in Jean-François de Bastide's 1753 publication of *La Petite Maison,*

a story of the seduction of Mélite by the Marquis de Frémicour who introduces her to the house of pleasure he had recently built. As he takes her from room to room she is slowly seduced step by step and room by room but not by the magnificence of the rooms but by their convenience and elegance, by its taste rather than by its grandeur. The visit ends with the bathroom, which she found to be the most delightful room she had ever seen, "I can't bear it, she said, it's too beautiful. There is nothing like it on earth", revealing its essential purpose for beatitude as it relates to the purification of the soul.

Dominated by the concept of water as penetrating and affecting bodily humours, bathing continued to be a luxurious practice limited to the few, however its very presence and significance was enough to give rise to new initiatives like the bath- houses that began to appear in the latter part of the 18th century along the banks of the river Seine where water in the centre of large rivers were considered more pure. The first of these was the Poitevin bathhouse built on the Seine in 1761, which included hot baths that used pumped water from the river to supply small cabinets on a boat. These were commended by the Faculty of Medicine and according to their inventor, Poitevin, they were intended for both therapeutic and hygienic purposes: "I see all the time the sick comforted and healed with the aid of baths; equally, they come to safeguard their health" (Vigarello 2008: 103). So, while still focused on its virtues in stimulating the humours and maintaining their balance within the body it was the beginning of the emergence of a new kind of cleanliness, which was most profoundly reflected in the introduction of the "chair of cleanliness", or as it became popularly known, the "bidet". The emergence of the bidet, Illich (1986) has argued, was related to the fear of smell and its association with miasma for not only excrement but, the body itself, as was being discovered, emanated bad odours. Washing underwear, which had been worn previously for its warmth but was now being associated with the elimination of sweat, became more frequent. The power of water to cleanse away odours, reflected in the introduction of the mechanized flush toilet during this time, according to Illich (1986), led to the popularization of the bidet in France.[5]

The bidet as the object of a subjectification

While the bidet has practically disappeared in France, from whence its name originated, it nevertheless continues to be popular today in numerous other countries like Italy, Spain, Portugal, Greece, Japan, South Korea, Argentina, Brazil, Uruguay, Venezuela, Egypt, Turkey, Lebanon, India and Pakistan. Celebrated by Le Corbusier, as the highest form of hygiene in the West, its history in France is a reflection of the cultural constructs that are determined by the changing relationship between hygiene and morality. The inventor of the bidet, as we know it today, has not been historically determined but its name certainly implies a French beginning. Etymologically it is rooted in the ancient French words, *bider* and *baudet,* which refer to *" a small horse trotting".*[6] The implication is that it was most likely the French who invented the piece of wooden furniture with four legs that held a basin in the form of the resonance box of a violin that enabled one to mount it. According to Guerrand and Beaupré (1997), its history can be traced from the *Memoires* of the marquis of Argenson, Rene-Louis, where he relates an event that took place in 1726 when the marquise Jeanne de Prie granted him audience while she sat on her bidet*,* to the master craftsman, Peverie, who in 1739 proposed to his customers the design of "double bidets being able to be to be occupied by two persons at once", and then, to the popular adventures of a young provincial student at a convent, *Therese Philosophe,* published in 1748 by the Marquis of Argens, Jean-Baptiste Boyer, when the bidet first entered the erotic imagination where it adopted its infamous symbol of the toilet ritual performed by prostitutes.[7]

This is certainly not to suggest that the use of water to clean the genitals did not exist before the French bidet, as clearly testified in the Old Testament, but rather a different form of it was used, often referred to in French as a *seau de toilette*, a kind of bucket or bowl. 8While the *Dictionnaire Critique, Pittoresque et Sentencieux*, published by Caracciolli in 1768, defines the bidet as a "type of bowl in use by all women who like cleanliness and of which some provincial women are not yet acquainted with", according to Guerrand and Beaupré (1997: 17), the *Encyclopedie de Diderot et d'Alembert,* 1777, omitted its relationship to bathing altogether due to taboos related to morality. At the same time, the *Encyclopedie Methodique de Medicine*, 1790, under the heading of hygiene, defines the bidet as " a basin to clean oneself that must serve both sexes" (Guerrand and Beaupré 1997: 17). In the same year, *L'Almanach des Bonnetes Femmes* proposed the second day of February to be the *Fete du Bidet* in the hopes of encouraging nuns to use it as a confessor of their sins, obliterating all their sins through this perfect ablution (Guerrand and Beaupré 1997: 20). Until the mid-19thcentury the bidet, was used indistinctively by both men and women as witnessed in the story of Mme. Brioux de Bazanville, the wife of a famous magistrate, who gave as a gift to her lover, Monsieur de la Mariniere, "*un petit meuble en forme de guitare*" – a bidet into which she had enamelled her self- portrait. Attached to the gift was a note indicating that she hoped with this artefact he would think of her during his most intimate moments of everyday life (Montifaud 1890).

It was not until the second half of the 19thcentury that the dictionary definitions given the bidet began to include its form and function such as "a piece of furniture kept in the closet that one mounts when one wants to use it" or "a piece of furniture containing a bowl where one can put oneself astride" (Guerrand and Beaupré 1997: 21). It was also during this time that the bidet took on a more technical character popular in health and hygiene manuals, as well as periodicals in therapeutic medicine. All the while, however, it continued to be haunted by its place in the erotic imagination. At the dawn of the 20thCentury a cartoonist of *L'Assiette au Beurre* sketched a concierge who, annoyed with one of her tenants, exclaimed: "You're not going to make me believe that an honest woman is able to use so much water!" (Guerrand and Beaupré 1997: 139) Until the era between the two world wars the bidets were symbols of the brothels where they sat as thrones in the rooms of prostitutes and expressions such as "*le confident des dames*", or "*se refaire une virginité*" were commonplace (Guerrand and Beaupré 1997: 141). According to Guerrand and Beaupré (1997: 157), Le Corbusier told Brassai when referring to the toilet bowl occupying the centre of the room in his Cabanon, which he might as well have been referring to the bidet in his apartment at Molitor, "…It is one of the most beautiful objects that the industry has fabricated, in them is revealed the sensual curves of the divine human face without its imperfections. The Greeks never reached such height in their culture. It reminds me a little of the statue of Nike of Samothrace, in its fine drawn movement of its contours." Nevertheless, with its continued association with contraception and the growing concern of a diminishing population after World War 1, as well as, Louis Pasteur's contagion theory that raised the fear of germs, many physicians began to promote the bidet as a vehicle for the spread of germs (Guerrand and Beaupré 1997: 168).

Contemplating the bidets in the Maison de Verre and Le Corbusier's apartment at 24 rue Nungesser et Coli, Paris, France

In 1933, just two years after the completion of both the Maison de Verre by Pierre Chareau and Le Corbusier's apartment block at 24 rue Nungesser et Coli in Paris, the bidet had entered a new era. Out of 616 cities in France with at least 5000 inhabitants, 324 had installed mechanized systems of water distribution. By 1936 the *Salon des Arts Ménagers*, in collaboration with *L'Architecture*

d'Aujourd'hui had organised its third exhibition of *Habitation*, which included the great firms of Chaffoteaux et Maury, Jacob Delafon and Piel who all presented bidets among other sanitary equipment. Hygienists and architects were working together. To have a mechanised bidet with running water was in keeping with the new standards of hygiene.

The bidets in the Maison de Verre at first appear to most as somewhat peculiar. Originally a total of six occupying all the bedrooms, including those of the children and servants, these bidets of white porcelain are each mounted on a raised terrazzo floor and are located a little distance away from the wall where there is a sink and a mirror.[9] This composite of sanitary equipment is then encased in a pivoted and revolving screen of perforated metal. What appears, however, as peculiar about the bidets in each case is that they swivel on a pivot, which is also its waste water pipe that drains the soiled water from the basin in the shape and form of the resonance box of a violin. Despite the effort it must have taken to install these, having to provide a separate and detached source of clean water from above for the sake of sustaining the swivelling motion, this did not seem to have deterred Chareau, nor his clients, Dr. Dalsace and his wife, Annie. While many scholars have dismissed it as just another of Chareau's fascination with mechanisation and mobility that has been for some an inspiration for high tech architecture, my contention is that embodied in it is the memory of 19th century bidets on wooden platforms with wheels, which were not uncommon at the time, that were advantageously attached to the plumbing of the sink and stored under it to be pulled out when needed (Guerrand 1997: 185). In the case of Chareau's bidets, however, where space was not a concern and there was certainly no need to take advantage of the pipes carrying water to and away from the sink, they appear a little peculiar, if not absurd. I would argue even further then that it is not only the memory of these movable bidets described by Beaupré and Guerrand but the portable bidets of Mme. Brioux de Bazanville where one was able not only to choose where one's ablutions took place but where anything to do with the lower parts of the body could be appropriately stored away in a hidden place, hence Chareau's pivoted and revolvingscreen.

Façade of the Maison de Verre (photo by Mark Lyon).

Toilet-unit including the bidet in the children's bedroom (photo by Mark Lyon).

Ivan Illich (1986: 29) has argued that ritual water historically had the power to both purify and clean. He gives the classical example of the cleansing ritual of the dead, a custom attested to as far back as Homer, the only memory we have left of it that is common among Christians, Jews and Muslims. In this ritual the water used to wash the dead body becomes symbolic of the separation between the past and the future and is referred to as the "waters of forgetfulness" (Illich 1986: 30). By leaving the discussion of the use of water to modern hygienists and engineers, he further argues, what resulted in the process of its politicisation was a loss of the memory of its power in previous centuries to penetrate body and soul. In their peculiarity, is it possible perhaps to consider the bidets of the Maison de Verre as embodying the two qualities of cleansing and purification because not only do they provide modern hygienic cleansing of the perineum but they also have embedded in their use the memory of past habits while at the same looking towards an inevitable future of mechanisation.

In developing the concept of profanation, which he defines as the process of returning things to human use and potentiality, Agamben has posed the question whether there are still effective ways of profanation in the current era of late capitalism that "has its emblematic place in the museum" a space where use has been withdrawn from things. Perhaps it could be argued then that in displaying the bidet in the centre of the master bedroom of his apartment building at 24 rue Nungesser et Coli, Paris (1934) where he lived with his wife for 25 years, Le Corbusier, is posing a similar question. In spite of his wife who always kept the bidet covered with a piece of cloth, by placing the bidet in the centre of the room as if on display in what he referred to as the true museum "that contains everything", what, according to Colomina, Malraux will later call a "museum without walls", Le Corbusier, at the same time, unwittingly withdrew from the bidet its everydayuse.

Bidet on display in the bedroom of Le Corbusier's apartment at 24 rue Nungesser et Coli, Paris (photo by Luis Burriel Bielza).

Conclusion

By examining the hidden memory within a culturally and politically produced object such as the bidets in the Maison de Verre and Le Corbusier's apartment at 24 rue Nungesser et Coli, it becomes possible to make visible our own current malaise, allowing to see what lies hidden within our everyday practice. It is within everyday rituals such as defecation and ablution, and their apparatuses, that one discovers the essence of humanity within a culture and by its validation we may therefore be able to recuperate its potentiality.

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Notes

1 This essay is part of a larger research project that explores concepts of private and public spheres in architecture through an investigation of the toilet rooms in the Maison de Verre as a critique on Modern ideas of universal standards introduced in the early 20th century.

2 A well-known idiom that dates back to ancient Hebrewwritings.

3 The word "courtesy" is a clue of the establishment of mores as originated in the West by the courts. See *The Civilizing Process* by Norbert Elias.

4 Refer to the work of Pierre Patte, for example, who is credited for being the first in France to illustrate a city street plan with buildings

and sewer system in a section drawing that represented the city as anorganism.

5 The Spanish has maintained this in their reference to the flush toilet as*inodoro*, meaning "without odour".

6 All texts in italics are the author's translations from Fanny Beaupre and Roger-Henri Guerrand's book entitled, *Les Confident des Dames: Le bidet du XVIIIeme au Xxeme siecle: histoire d'une intimite*, published in Paris, 1997.

7 For an account on the history of the bidet as a form of contraception, refer to Guerrand and Beaupré (1997: 139-47), Chapter 8, *Un symbole de mauvaise vie*.

8 Excerpt from Leviticus 15: 18: "If a man lies with a woman and has an emission of semen, both of them shall bathe themselves in water, and be unclean until evening."

9 There are now only five bidets, the bidet belonging to the servant's room on the ground floor that was the chauffeur and gardener's room has since been removed together with a bathtub and sink in the room identified as a *vestiaire*.

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A comparative analysis of fancy writing and calligraphy: as craft art and creative activities

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Fancy writing was well known to the white pioneer communities in South Africa during the 19th and 20th centuries, covering the period from the Great Trek to the Anglo-Boer War (1899-1902). Fancy writing as part of cultural experience was practised on a variety of materials. These materials were diverse and included genealogical registers in Bibles, fancy writing in anthologies, inscriptions on monuments and in schoolbooks, and official documents. This fancy writing must, however, not be confused with calligraphy as an art form. Fancy writing most probably developed as a simplified form of calligraphy and developed its own individual character. Calligraphy, in contrast, is an art form regulated by strong internal styles and rules and its foundational history stretches to well before the Roman Empire. This article points out that there is a difference between fancy writing and calligraphy and explains the rules that applied to the latter. In the concluding section of the article, five examples of official addresses that were presented to President Paul Kruger during his term as state president are discussed. In this section it is pointed out that some of the addresses are good examples of calligraphy and some are examples of fancy writing.
Key words: calligraphy, fancy writing, cultural and creative expressions, addresses to Paul Kruger

'n Vergelykende ontleding van skoonskrif en kalligrafie: kreatiewe kulturele aktiwiteite
Skoonskrif was welbekend aan die blanke pionier gemeenskappe in Suid-Afrika gedurende die tydperk voor die Groot Trek en voor en na die Anglo-Boere Oorlog (1899-1902). Skoonskrif as deel van kulturele belewenisse is op 'n verskeidenheid van materiale beoefen. Die mediums was baie uiteenlopend en het gewissel van geslagsregisters in Bybels, skoonskrif in bloemlesings, inskripsies op monumente en in skool boeke en amptelike dokumente. Die skoonskrif moet egter nie verwar word met kalligrafie as kunsvorm nie. Skoonskrif het waarskynlik ontwikkel uit vereenvoudigde kalligrafie en het 'n eie individuele karakter ontwikkel. Kalligrafie daarteenoor is 'n kunsvorm wat deur streng voorskriftelike reëls beheer word en het 'n ontstaansgeskiedenis wat terugstrek tot voor die Romeinse Ryk. In hierdie artikel word daarop gewys dat daar 'n verskil is tussen skoonskrif en kalligrafie, en die reëls wat op laasgenoemde betrekking het word verduidelik. In die slotgedeelte van die artikel word vyf van die amptelike addresse wat gedurende President Paul Kruger se ampstyd aan hom oorhandig bespreek. In dié gedeelte word daar ook daarop gewys dat van die addresse goeie voorbeelde van kalligrafie is maar dat daar ook voorbeelde van skoonskrif is.
Sleutelwoorde: kalligrafie, skoonskrif, kulturele en skeppende aktiwiteite, eerbewyse aan Paul Kruger

In the social and religious life of the white community during South Africa's foundational history, decorative or fancy writing was a well-integrated feature. The early pioneers during the Great Trek and pre- and post the South African War (1899-1902) employed decorative or fancy writing in and on various materials and objects for a variety of reasons, including as a form of cultural expression. A wide range of materials were utilized and included outlines of family genealogies in Bibles, letters to friends or families, official documents, and the expression of feelings in anthologies. The pastime of fancy writing, with its European origin and roots, formed a distinct cultural dimension of life within the early white communities and was integrated into the fabric of our pioneer history.

However, it is important not to confuse fancy or decorative writing of the early white pioneers with the art form of calligraphy. Decorative or fancy writing as a form of cultural

expression was basically a simplified version of the art of calligraphy and did not adhere to a specific style or formalized rules. It is therefore important to understand the distinction between fine, neat or decorative writing and calligraphy as an art form. The border between fancy writing and calligraphy is often blurred when the concept of calligraphy is explained. In the literature no clear distinction is made between the two forms of writing. In many instances fine, neat or decorative writing is regularly perceived as the same concept as calligraphy. In *Die Woordeboek van die Afrikaanse Taal* calligraphy is explained as a form and a piece of neat writing ("skoonskryf") (PC Schonees 1950: 178).

In the early foundational history of South Africa, thousands of documents, inscriptions in Bibles, letters and addresses were written in a fine decorative style with elaborate curls and in different sizes and fonts (Pretorius 1980: 115). The majority of these were examples of fancy writing not calligraphy, but were semantically and historically treated as the latter. The well-known historian Gustav Preller wrote in one of his books on the Great Trek that "the suggestions were neatly written in calligraphy and handed over to His Majesty's Commissioner". What Preller referred to was not calligraphy as such, but a formal letter written in a neat and formalized manner. These examples must not be regarded as calligraphy, but merely as a form of neat or fancy writing (Schonees 1950: 178).

The focus of the article

In light of the introductory remarks, this article focuses on some instances of neat, fancy or decorative writing during the foundational period in South Africa. (This form of writing will be referred to primarily as fancy writing.) The aim is to explain that many of these examples of fancy writing were in fact not calligraphy, but merely an effort to write in an elaborately decorative manner. In the article the basic differences between fancy writing and calligraphy are explained with reference to selected examples of the different styles during the early history of South Africa. The selection includes names on school books, an inscription in an anthology, wording engraved on a monument, messages formalized in addresses, and genealogies outlined in Bibles.

In the last section of the article a selection of five addresses to the former president of the Transvaal Republic, Paul Kruger will also be analyzed. The addresses were presented to President Kruger by various well-wishers and are currently on display in the Kruger House Museum. The purpose of this article is to analyze each example and to indicate if the specific address was done in the format of fancy writing or calligraphy.

Calligraphy is writing as craft

The word 'calligraphy' for the general public conjures up terms such as "fancy writing" or, for those more accustomed to this art form, 'Italics' (Steven Waters 2006:7). However, historically and technically, calligraphy embraces much more than just fancy or neat writing. Calligraphy is an art, and semantically the term derives from the Greek words for 'good' and 'beautiful' in combination with the words 'writing' and 'drawing'. The writing masters referred to calligraphy as the art of fair writing, whereas neat or fancy writing is not regarded as art (Waters 2006:7).

The general public may also associate calligraphy with the clergy and the church and specifically the Middle Ages. In this regard calligraphy is strongly connected and associated with the formal, precise and rigid style that was used by the cleric to write and to duplicate religious

scripture and documents. However, in reality calligraphy is much older and actually predates the Middle Ages. The earliest form of calligraphy emanates from before the Roman Empire, which formalized the art of writing. Although the spread of calligraphy in Europe coincided with the global extension of the Roman Empire, the first non-formalized examples of fine writing date back to clay tablets in Athens in Ancient Greece (Doreen Harris 2010: 5).

The fact that calligraphy is described in literature as 'writing as an art' or a structured art form that elevates the style to a higher level, distinct from formal fancy writing. The art of calligraphy is inherently a more structured and more formalized form of expression than individualized fancy writing. There are universal formal rules that govern calligraphy and its use in various forms and expressions and variety of styles (Waters 2006: 7).

The decisive impetus for the use of a specific standardized form of writing came from the early Christians. They deliberately chose the commercial vellum notebook in which to circulate the Christian gospels in preference to the Jewish roll known as the Torah scrolls. Without exception the earliest texts of the New Testament were in codex form even though written on papyrus. In the second century AD pagan works of literature also appeared in the same format. By the fourth century calligraphy had become the dominant form of writing in the Roman Empire and it went through various phases. However, throughout the various periods of development the art of calligraphy was strictly governed by the principles of clarity, regularity, impersonality and deliberate stylization. The development of calligraphy provided the first clear examples of writing (Waters 2006:7). The earliest form of calligraphy crystallized in a broadly uniform pattern, occurring in an ancient Roman style known as rustic capitals. In order to write correctly in the rustic capital style, the pen was of huge importance. The pen was cut with a broad end and held so that its thickest part fell at an oblique angle and was lifted several times to form a single letter (Waters 2006:7). This resulted in a majuscule style with all the letters contained between a single pair of horizontal lines, displaying a strong uniformity in appearance. The rustic capital style was very versatile and could soon be used on materials, such as for inscriptions on stones. When the rustic capitals were used in writing formal documents for private, official or business purposes, the pen was cut to a sharp point and cursive capitals were then used.

The Roman style was dominant for a long period over a large area in its sphere of influence, but soon the Anglo-Celtic, Insular and other national styles started to develop in the far-flung areas of the Empire. This development took place when the Roman authority was challenged by nationalism, and the growing native cultures were allowed to discover their own creative energy. The Insular manuscripts were produced at monasteries; and the Anglo-Celtic centers, where fine books were made, developed their own majuscule script for documents and vernacular text. There was a high degree of conformity within the new styles, which also attested to stylistic maturity and formality (Waters 2006: 7).

In Europe, in Italy, the Latin cursive allowed individual styles to develop, such as a distinctively narrow minuscule style in Burgandy. In southern Italy during the same period the Beneventan style developed, which was a peculiarly jerky style with its own rhythm, displaying a strongly individual character. However, this period of uniformity of diverse styles in calligraphy was rather short-lived. Under the rule of the Holy Roman Empire's Emperor Charlemagne, the era was hallmarked by a distinct return to universal conformity. Under Charlemagne uniformity was reintroduced to calligraphy and from the 8th century the style became standardized. The insistence on conformity, however, set the highest standard for books throughout the Western Empire. The minuscule style influenced by both the Beneventan and Burgandy styles was written with the shaft of the pen pointing somewhat to the right instead of straight back over the shoulder. The letters were formed deliberately, even and round, stroke by stroke precisely in

the same manner as dictated by the rules. The opening words of the text were celebrated by the display of letters and decorative symbols (Harris 2010: 44).

However, outside the sphere of influence of the Holy Roman Empire, other developments also boosted the spread of calligraphy. The rediscovery of old Hebrew texts and the spread of Aramaic to the Near East and Asia strongly popularized the use of calligraphy in areas outside the Holy Roman Empire. Arabic calligraphy developed during the seventh and eight centuries into two distinct scripts, namely cursive, for everyday purposes, and Kűfic, which had a strong decorative element. (Harris 2010: 5).

It is important to note that although the art of calligraphy swung between conformity and individual styles, the rules that governed the art remained dominant within a specific style. Throughout the various periods of development from the early Middle Ages the art of calligraphy was governed by the principles of clarity, regularity, impersonality and deliberate stylization. For writing numerals, the numbers/letters were described as being of a capital height, and all were written at a degree angle of 30 percent with odd numbers that descended 2 nib widths, with a prescribed space between the numbers/letters (Harris 2010: 5).

In sharp contrast, fancy writing differed from calligraphy because it was not commanded by a historical development pattern. Fancy writing during the pioneer period in South Africa never obtained a universal status or a set of formal rules that prescribed exact size and format. In the case of fancy writing, the style basically followed the desire to write in a neat, decorative and fancy manner and not to adhere to rigid formalistic rules. In the fancy style, the individualistic style of the writer was and is foremost and paramount within the end product. In calligraphy, the writer is in the background and almost indistinguishable from the text because of the uniformity of the style. In the case of fancy writing, the reader of the letters or documents can most easily identify the author because the deviations are individualistic in nature.

However, in spite of the vast differences between calligraphy and fancy writing, it remains commonplace that the two broad categories of writing were, and still are, treated as similar styles and interchangeably. The Afrikaans author W.E.G. Louw wrote that the governor Swellengrebel had written an official document with a duck feather in a flamboyant calligraphy (Schonees 1950: 178). Although it was an official document that he referred to the writing certainly bore strong individualistic characteristics and not subject to the inhibitions of the rules of calligraphy.

Examples of local fancy writing that existed in the pioneer community of the Orange Free State and Transvaal Republic were certainly not calligraphy but variations of decorative writing. However, the fact that these forms of fancy writing were not formal calligraphy does not make them less important. The early forms of fancy writing carried the important stamp of individuality and the individual efforts are representative of the early history of the country.

Early writing, the Voortrekkers, Boer Republics and the era after the Anglo-Boer War (1899-1902)

The early pioneers during the Voortrekker era had very little time for formal education, and in many cases even the skill of writing was not commonly mastered or spread. The schooling in the outlying areas in the Cape Colony and during the Great Trek was at best sporadic, because of the nomadic lifestyle and the general attitude of the Voortrekkers regarding schooling. The main goal of schooling was that the children should be able to read and write (Carsten 1988: 145). It is difficult to ascertain how many of the Voortrekkers and their children were proficient in reading and writing, but the skills were certainly not widespread. A person who possessed the

skill of writing and a well-developed proficiency in terms of reading and writing was held in high esteem (Rhe Carsten 1988: 145).

Erasmus Smit noted in his diary during the Great Trek on Sunday 1 January 1837 that one of the Trekkers, L.C. de Klerk, had brought a young Colored man, Jan Bantjes, to the lager. Smit wrote that 'since the latter has some talents I requested him read a passage and to sing. He soon withdrew himself and found much writing work from the men in the camp' (Schoon ed 1972: 7). The fact that the men in the camp used Bantjes, for writing purposes and as the official secretary to Andries Pretorius at Blood River, also leaves the impression that the writing skills amongst the Voortrekkers were rather restricted (HF Schoon 1972: 7).

The Trichardt trek had a school master, Daniel Pfeffer, with 21 children in his care, and the well-known Erasmus Smit and his wife Susanna provided schooling for 50 to 60 children at a time. However, schooling became only more widespread when the Trekkers settled down on farmsteads during the aftermath of the Great Trek, and an increasing number of farm schools were started in the two Boer republics (Schoon 1972: 7).

During the presidency of Francis William Reitz (1889-1895) of the Orange Free State Republic, there was attention to the need for education and the development of cultural life in the republic. Reitz discovered that 23,700 whites in the Boer Republic were unable to read or write. Under the capable leadership of his newly appointed superintendent of schools in the Free State, John Brebner, the situation was dramatically bettered. Brebner put a system in place in schools with regular inspections and subjects such as reading, writing and grammar. In his 1888 report, he was able to report that the number of schools had risen to 144 in the Free State (Moll 1978: 11).

The number of people that could read and write certainly increased with the improvement of schooling during the era of the Boer republics, which ended with the Anglo-Boer War of 1899-1902. In spite of the restricted ability of many of the pioneers of the era, there are various examples of writing, including decorative writing, in addresses to important persons to welcome them, engraved names and additional particulars in Bibles, inscriptions on gravestones, and decorative letters and numbers on wooden calendars. There is also the earlier example of Debora Retief during the Great Trek who, in a very decorative manner with green paint, eternalized her father's name, P. Retief, and the date on a rock face at Kerkenberg (Oberholster 1972: 227).

There are also many examples of addresses which were presented to statesmen in the former Boer republics. When President Burgers was elected as the new president of the Transvaal Republic, he was met by a delegation who presented him with an official address of welcome (Van Aswegen 1978: 115). More than seven hundred tributes were made to the two Boer presidents, Kruger and Steyn. Most of the tributes were illuminated addresses, heavily decorated, which are displayed in various museums across South Africa. The local addresses and the inscriptions on gravestones and in Bibles in a decorative style were certainly influenced by the European tradition of calligraphy. In many Bibles calligraphy was printed in illustrations in the text, and these examples certainly also influenced the forms of fancy writing before and after the Anglo-Boer War.

Examples of formal/fancy writing in the Voortrekker and Boer community

During the Great Trek the Voortrekkers had to face a few challenges when they planned to conduct a simple task such as writing. They had to come up with innovative ideas to make their

own writing instruments. The pen was often a duck feather which was sharpened at the end of the shaft. In order to make ink, gunpowder and vinegar were mixed, and the juice of wild berries and certain leaves were also used (Carsten 1988: 145).

In school, the children had a page or little writing board, and when the teacher wrote a sentence they repeated it a number of times in writing. An alphabet was often used by the teacher to teach with, and it was copied by the pupils. The alphabet that was used contained capital letters and small letters in different formats. In the lower part of the example, four lines were displayed which illustrated a clear effort to teach pupils how to write in a decorative and fancy manner (Carsten 1988: 145).

This can also be seen from the children's school books and the minute book dated 1908 of the Paardenvallei Public School, which were decorated in the same manner with many curls added to the decorative style of writing. Although this fancy writing was evidence of a strong effort to be consistent and formalized, it did not adhere to the basic rules of calligraphy.

Figure 1
School books with names and dates in a decorative fancy style (on the left) and the minute book of the Paardenvallei Public School, with name in the same decorative style (on the right) (private collection: Magdaleen Pienaar, Theunissen).

In the case of fancy writing the writer was more individualistic in his or her approach, and a number of variations are detectable. The use of fancy writing, unlike calligraphy, was not governed by the principles of clarity, regularity, impersonality and deliberate stylization, which are the hallmark of calligraphy.

The most well-known examples of fancy writing in the pioneer families were in Bibles. In many Bibles a template was provided to record the family genealogy or otherwise the empty space was used to document and proudly display the lineage of a family. The heavily decorated example below is of the well-known Voortrekker Louis Tregardt. Although the writer was clearly very skilled in fancy writing and the writing was formalized, it still did not adhere to basic rules of calligraphy.

Figure 2
Tregardt family Bible (source: Ditsong, National Cultural History Museum, Pretoria.)

The fancy writing that was used to decorate the Tregardt Bible was obviously an effort to copy calligraphy. The writer copied style hand; however, the variations in the style show that it was done in fancy writing and not calligraphy. The Gothic that is displayed in the box below for easy comparison shows the obvious differences.

This is what the Gothic hand looks like and it is not an easy hand to read.

The Gothic script in calligraphy is characterized by compressed, angular letterforms based around an "o". It is pointed at the top and the bottom, including the pointed arch of the "n". Another feature of the hand is the long and heavy "f". The hand is written in an even, regular style, much like a picket fence. For this reason it is important that the dots of the "j" and "I" be well executed to ensure legibility. The script has a romantic, antique feel that lends itself to proclamations or historical quotations (Vince Kespersaks 1999: 111).

The fancy writing in the front section of the Tregardt Bible, in spite of the fact that it is not calligraphy, is a good copy of Gothic hand. The problem was that the writer of the inscription in the Tregardt Bible did not keep all the letters upright, and the spacing within letters is uneven. In the last lines "in den huweliiken" the writer was unable to maintain the structure, and the writing deteriorated as the letters became wider than in the top lines. This normally happens towards the end of a piece when the scribe has been writing too long and has grown tired (Waters 2006: 7).

The next example is from a Bible that was donated to the Ditsong Cultural Museum (accession no. 18283). This is another example of the most common use of fancy writing, namely to record ownership or to reflect family genealogy in a Bible. The Bible is from the Van der Walt family and the purpose of the writing was to reflect the births of the family, although the effort to record more than three generations petered out at the end.

The inscription in the Bible illustrates the formal and standardized differences between calligraphy and fancy writing. A calligrapher would usually not use more than two different hands in combination in one piece of writing. In this piece the person who wrote it varied its style and used at least eight different letter types. It also appears as if the piece was not planned, but randomly written. A calligrapher would have planned the layout and chosen something important, like the name of the person, and put that in as a focal point and written only that in big decorated letters and the rest in smaller, plain letters. Too many colors were used (with yellow,

red, green, blue and black) as well as too many decorations (with flowers, leaves, stars, hearts and patterns). This clearly indicates that the piece was not done by a professional calligrapher. Negative space on the page is very important to make the piece 'breathe', and in this case it was unnecessarily utilized. The overall layout of the piece is that it is unstructured and unorganized and it almost appears as childishly done.

The next example of fancy writing (displayed in figure 4) occurs in a personal anthology. It was kept in the Aliwal North Concentration Camp by one of the women from Rouxville, Zacharia Gertruida Labuschagne, who was in the camp from 1900 to 1902. Such anthologies were kept by women and girls to record personal feelings, experiences and the collection of inscriptions consisted of poems, phrases and fragments of diaries, which reflected deep internal feelings. In these anthologies fancy writing was mostly used to decorate the inscriptions and the pictures.

This example of fancy writing clearly shows at the bottom that the person copied a piece of calligraphy. The writer also tried the full alphabet in lower case and the capitals of the piece copied. Thus this example reflects an effort towards standardization, which is also discernible in other similar instances.

A large number of examples of fancy writing occurred on other materials as well during early pioneer history, such as crafted inscriptions done on gravestones and memorials. The precision with which the letters were formed is of the highest order and has a strong element of conformity. The next example displayed is of a memorial that was erected in the small Free State town of Theunissen to commemorate the death of three burghers during the Anglo-Boer War.

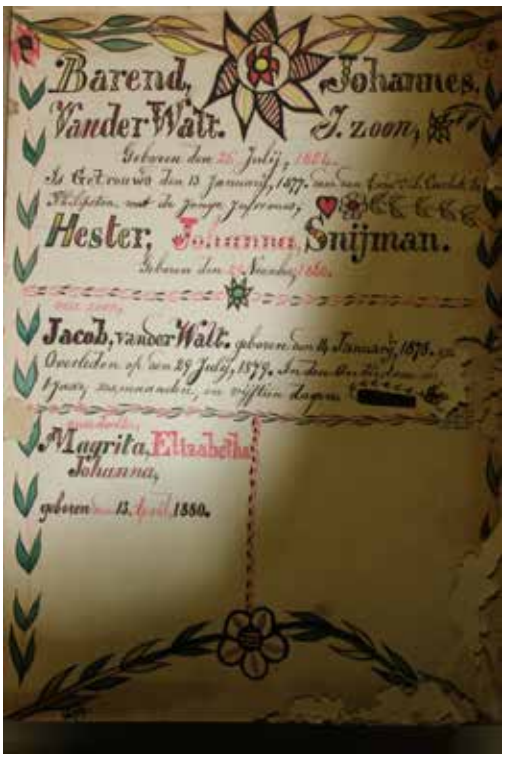

Figure 3
The Bible of Barend van der Walt (source: accession number HG 18283, Ditsong Museum).

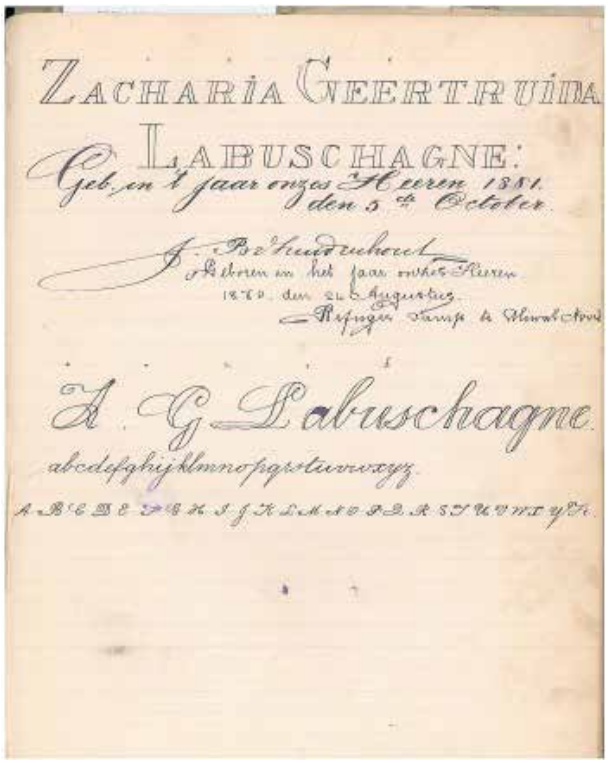

Figure 4
Zacharia Gertruida Labuschagne anthology (private collection: E. Bezuidenhout, Theunissen).

Figure 5:
Inscriptions on the soap stone Burgher memorial in Theunissen (photograph by the author).

In spite of a high level of conformity, slight variations in the script on the monument are detectable. The engraver was clearly skilled and the end product is a masterpiece in spite of the variations, especially in terms of the size of the lettering. The overall appearance is neat, and the layman will find no fault with the writing. However, from a calligrapher's viewpoint the most obvious indication that the person who did the piece was not a calligrapher is the uneven spacing between letters and words. The engraver employed the Roman style, and in his spacing between words the width is the same width as an 'o'. In applying this rule, the engraver could have centralized each line on the stone, and the end product would have been more pleasing to the eye. The 1927 at the top of the stone was clearly done afterwards by someone else. The style does not fit in with the rest of the stone, and it almost spoils the whole appearance.

President Kruger and the addresses he received

One of the best examples of calligraphy is most probably an address that President Paul Kruger received. He received thousands of addresses, memorials and tributes during his term as president, especially when he was in exile and travelling through Europe seeking intervention or support for the beleaguered Boer Republic. The collection ended up in the hands of a well-wisher to prevent the addresses from falling into British hands after their occupation of the Boer republics during the Anglo-Boer War. The collection was stored in the Netherlands, because it was initially on display at a world exhibition in Paris in 1899. The collection stayed in Europe because of the pending Anglo-Boer War and the possible damage to the great collection of documents, memorials, tributes and other objects. The collection was eventually brought back to South Africa in 1921 after a lengthy legal battle with the custodian, J. Hidde Nijland.

The addresses were published in the *Lantern* magazine in 1984, and five have been selected for the purposes of the article, which include examples of both fancy writing and fine European

calligraphy. The first address that will be discussed is displayed in figure 6. The address on the left was presented to President Kruger by the Gorinchem committee. The committee aspired to provide relief for the Boer women and children in the concentration camps and mentioned in their exhibition the art pieces of the Boer prisoners of war in Ceylon. The address on the right in figure 6 was presented by the Dwyer National Club in Dublin. The content of the address displays a very strong anti-British flavor.

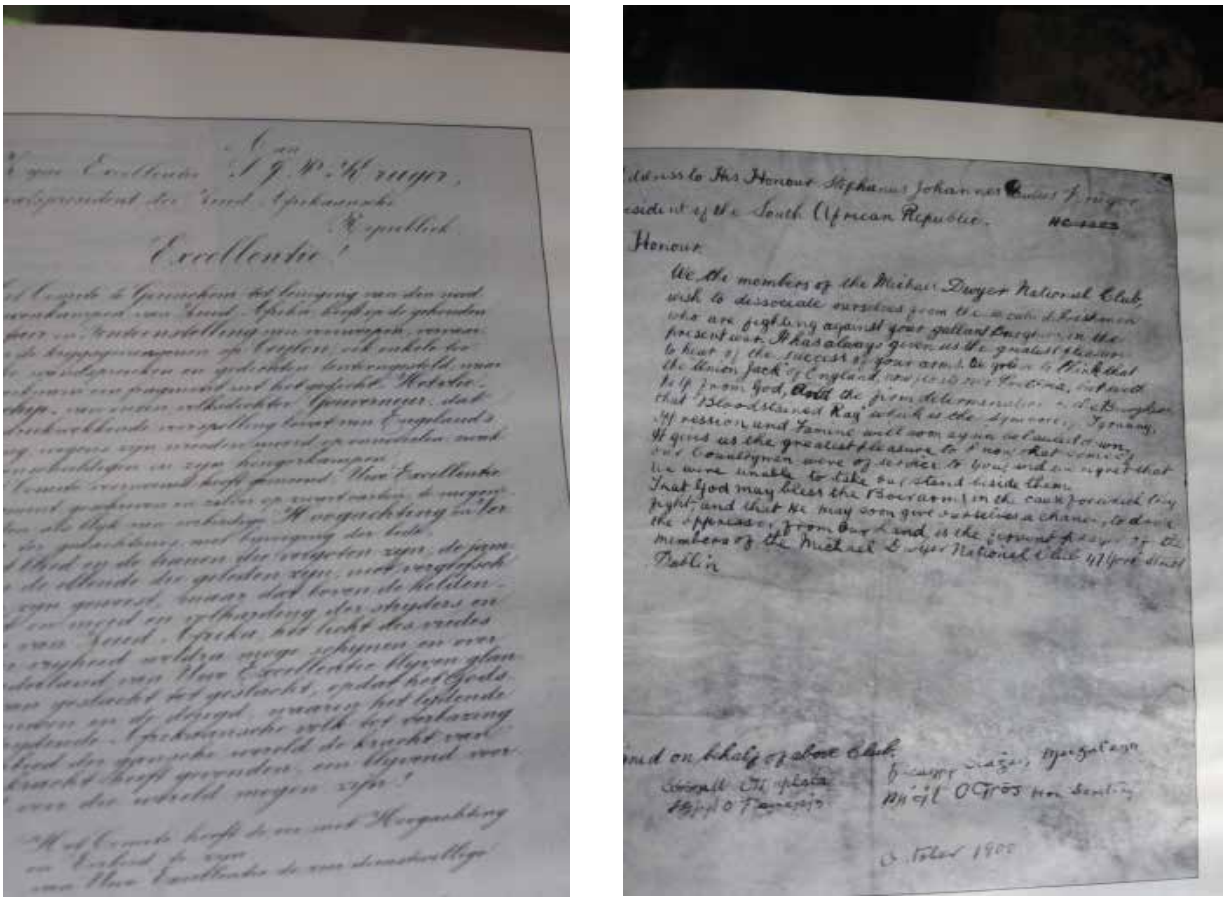

Figure 6
The two addresses presented to Paul Kruger (source: *Lantern* 33 (October) 1984)

The address on the left from the Gorinchem committee is in calligraphy and in hand Italic. A comparison of the address with the style of hand Italic in the box below provides a good indication of the style.

This is more or less what Italic looks like.

The basic characteristics of Italic are the tendency for the hand to lean to the right, and the slant of all the letters must be parallel throughout the text. The bowls of letters like a, o, c, and g are not circles but formed as ovals. The letters are also distinguished by the use of wedges within them and the fact that they are joined to each other with a connecting stroke. The next identifying aspect is the inter-linear space, which must be the same between all the lines. The spaces between letters and between words are consistent. All the letters are the same height and slant, and the ink flow is equal, the text appearing almost as if printed (Harris 2010: 5).

In contrast, the address on the right in figure 6, presented by the Dwyer National Club in Dublin, is clearly an example of fancy writing. It appears that the writer might have tried to copy the Italic hand. The most obvious differences are the unequal slant of letters and the uneven ink flow during the application. The words are also not written on a straight line, which demonstrates the lack of proper planning by the writer (Harris 2010: 5).

A further two addresses to Paul Kruger, displayed in figure 7, demonstrate the same principles as outlined above. The one on the right was presented to President Kruger by the Independent Nationalists of Dunleary in Kingstown (Ireland), and the one on the left was presented by the former Netherlanders.

Figure 7
Two more addresses in *Lantern* that were presented to Paul Kruger (source: *Lantern* 33 (October) 1984)

The address to President Kruger on the left in figure 7 by the former Netherlanders was done in calligraphy, and two styles were utilised to compile the address. The name of the president was done in Versals and the rest of the address in Gothic. It is typical for a calligrapher to use only two different hands and not to utilise too many colours. It is also typical for the calligrapher when using Gothic hand to add a line with a pattern to give the whole piece a blocked look. The

piece is pleasing to the eye, and it is obvious that the person who did wrote it had planned the address properly and was therefore able to do a professional job. The very large decorated "O" of the first word "ondergeteekenden" is typical of the Gothic hand. The calligrapher spent a long time on decorating the first letter of the contents of the address, which is pleasing to the eye.

The address on the right in figure 7 from the Indepent Nationalists of Dunleary in Kingstown is visually pleasing but an example of fancy writing and not calligraphy. The fact that the person drew lines over the piece to write between is proof that it was not done by an experienced calligrapher. There is no focal point to direct the eye towards the important words in the address. The president's name is written very prominently and in a contrasting colour in the piece on the left. The fancy writing is tidy, but the decoration is very plain, and maybe the person knew only this one letter style and therefore could not highlight the name of the president.

The richly ornamented address in figure 8 was presented to President Kruger when he arrived in the Netherlands in 1900. It was presented by the citizens of Rozendaal to commemorate his arrival on Netherlands soil.

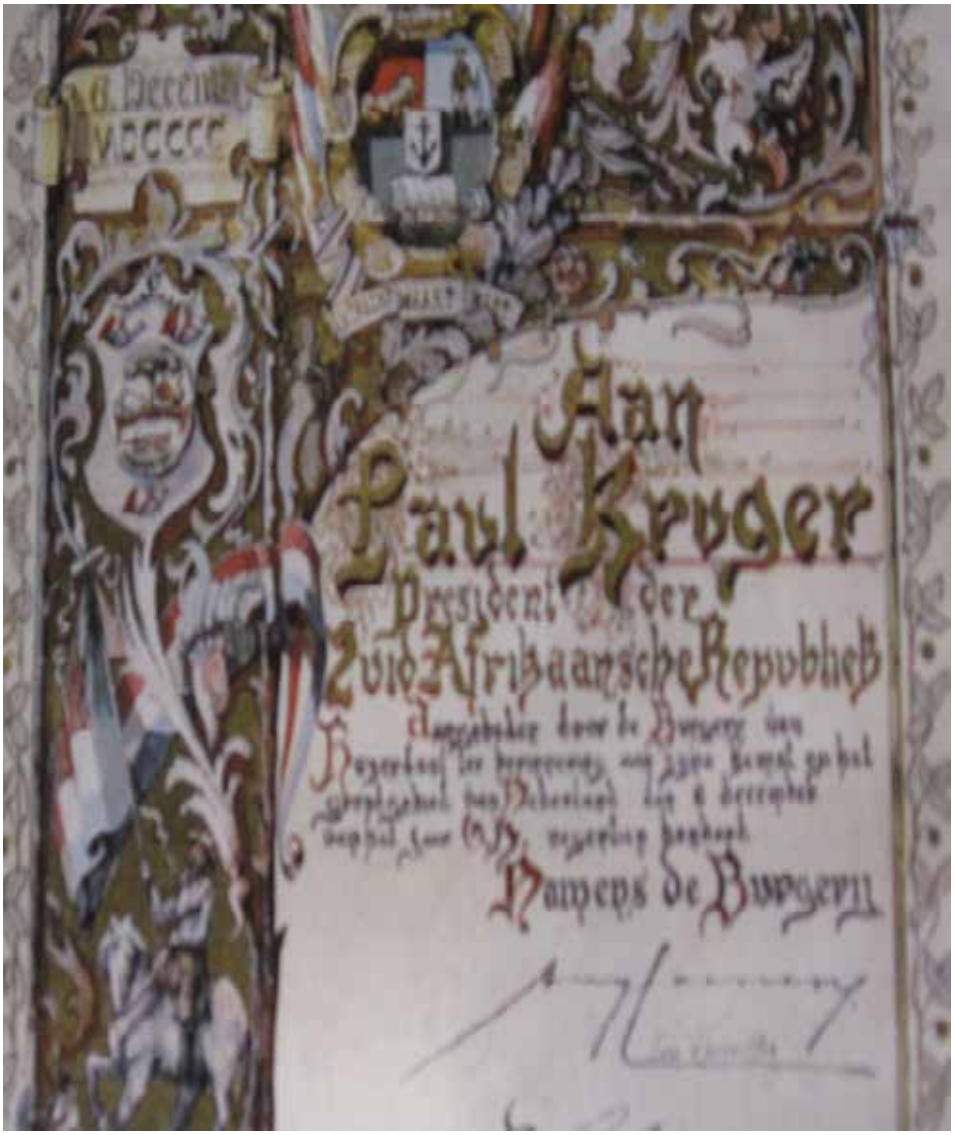

Figure 8
A further address that appeared in *Lantern* (source: *Lantern* 33 (October) 1984)

This address was done in Gothic hand, and the person who did the piece obviously copied it. The end result is that the address represents a very bad copy of Gothic. The spaces between the letters are much too big; they should be as wide as a single 'o' but in some places are almost as large as four. The overall look of the letters should resemble a picket fence, but the letters on this piece appear round and not compressed and angular, as they should. If the inter-linear space had been done according to calligraphy rules, there would have been negative space around the name of the president, which would have emphasized his name. All the lettering was squashed together and is therefore difficult to read and not pleasing to the eye. The person spent a long time on the beautiful decoration around the writing, but the writing does not meet the overall standard of decoration.

Conclusion

The article's general purpose was to look at the various forms of writing that existed in the pioneer communities before and after the Anglo-Boer War. It is obvious that formal writing had a place from early on and a specific significance if an event or a person was to be honored.

The specific purpose of the article was to demonstrate the difference between fancy writing and calligraphy. Many of the examples of the foundation period are of fancy writing and not representative of calligraphy. In the article the difference between the two styles was highlighted and the reasons why they fell into different categories explained. In the final analysis it could be inferred that the European forms of calligraphy had an influence on writers in the early pioneer communities and even on the person who used a basic form of decorative or fancy writing.

However, in spite of the fact that many of the examples of fancy writing during the foundation period did not strictly qualify technically as calligraphy does not reduce their historical value and importance. In fancy writing the individuality of the writer is more strongly noticeable, because the style was not restricted by a strong set of formal rules. The addresses to Paul Kruger, the inscriptions in anthologies, the wording on monuments and the writing elsewhere on various mediums are equally treasured as part of our heritage. They form an invaluable part of the cultural history of the country.

Notes

1 No author indicated, Calligraphy, *Encyclopedia Britannica* (1978: 17).

2 *Verslag van die Staat van Het Openbaar Onderwys in den Oranjevrijstaat Diensjaar 1888* (The State Library, Pretoria, 1971: 4-6).

3 Personal collection, P.A.H Labuschagne, *Paardenvallei Public School Minute Book*: 1.

4 Private collection: Eben Bezuidenhout, Anthology of Z.G. Labuschagne: 6.

5 *Lantern*, No Author, The history of the collection, *Lantern*, October 1984, 33(4): 5.

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Recovering the past: paper conservation and the reconstruction of information[1]

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For the purpose of this paper, it is accepted that archival materials such as documents and other records, photographs as well as works of art on paper, contain information which is, in some way or another, of cultural and historical value. Moreover, these items exist as the craft of papermaking provided a more or less durable support. As paper deteriorates either naturally and through neglect, the act of conservation can be seen as the recovering or the re-construction of information which is "hidden" as the paper item is too damaged or fragile to access its information. Paper conservation treatment can be considered as the point at which science intersects with the crafts of papermaking and bookbinding. The examples of paper conservation intervention used in this paper, are mostly from the University of KwaZulu-Natal Special Collections, work undertaken as part of the Alan Paton Centre & Struggle Archives' Outreach Programme (also at the UKZN), and the KwaZulu-Natal Archives and Records Service.
Key words: paper conservation, paper restoration, history of paper

Vir die doel van hierdie artiekel word die kulturele waarde van argiefmateriale soos dokumente, foto's en ander rekords sowel as kunswerke op papier as noodwendig aanvaar. Hierdie items bestaan juis omdat papier 'n duursame basis verskaf. Aangesien papier van nature en as gevolg van verwaarlosing agteruit kan gaan, word papierrestourasie beskou as die herwinning en rekonstruksie van die inligting wat die paper item bevat wat as "verskuil" beskou. Die inligting is nie beskikbaar nie omdat die item verswak of beskadig is. Die restourasiebehandeling van papier kan as die punt beskou word waar wetenskap met die maak van papier en die kuns van boekbindery mekaar ontmoet. Die voorbeelde wat in hierdie artikel gebruik word kom van die van die Universiteit van KwaZulu-Natal se Spesiale Versamelings; werk wat gedoen was vir die uitreikprogram van die Alan Paton Centre & Struggle Archives ook by die UKZN; en die KwaZulu-Natalse Argiewe.
Sleutelwoorde: papierbewaring, herstel van papier, papiergeskiedenis

Integral to the now more than two decade old democracy in South Africa is the on-going interrogation and reclaiming of our collective past. For a number of reasons, documentation of much of this past is not available in state-owned archival repositories: firstly, information was collected selectively and secondly, custodians of archival collections did not, and in many cases still do not have the knowledge and practical know-how of taking proper care of the physical well-being of these records. Deteriorating and damaged records – documents, bound volumes, photographs, film, audio tapes, maps and works of art on paper – are mostly not accessible, hence any attempt at a comprehensive interrogation of the past will essentially be marred as the available information could be incomplete, or at worst, misinterpreted due to lack of evidence. The recovery of this information is crucial to ensure research and decision-making are informed, and that a legitimate, well-rounded legacy, characterised by accurate information and verifiable fact, can be left for future generation to build upon.

Due to past collecting practises remaining dominant, archival repositories in South Africa have had to pay critical attention to transformation. Much has already been written – and said – about this process. Verne Harris (Hamilton et al 2002: 7) calls this process 'refiguring'. Whereas Harris and his co-authors of the seminal text *Refiguring the past* deal with ways in which knowledge is produced; what researchers focus on; and the Foucauldian notion of the archive as

law and system of power, this paper wishes to focus on the actual physical paper-based item, and the extent to which neglect has obscured and obliterated various levels of information, frustrating thereby attempts to gain sufficient insight into the past and to meaningfully engage with the archive in the widest possible sense. Further, the contribution of conservation to 'recover' such lost information will be discussed.

In a more recent newspaper article, Ra'eesa Pather (2016: 10) cites Harris as raising the need for transformation again. Pather reminds of the lack of records dealing with black experience and activism during the Apartheid period, a period in which records were "meticulously kept, detailing the atrocities the National Party inflicted on black people" (Pather 2016: 10). Pather further cites the fact that many records from this period are not only remaining "in the depths" but that records have also been "missing". What is particularly alarming from the perspective of a lack of evidence mentioned earlier, is that the concept of "preservation" of records is mentioned only once throughout this text: "Black history has been altered or ignored, so preservation is important" (Pather 2016: 10). Pather's reference to preservation suggests, as is the case with the numerous references to the term occurring in *Refiguring the Archive*, firstly the practise of collecting or gathering information and secondly, keeping such information safely in an archival repository. The assumption in Pather's text is that the records referred to are in good condition and can, in fact be preserved. As evident from many museums and archives which have since the beginning of the South African democracy been established which deal with this 'absent' history, as well as records in existing anti-apartheid archives such as the Alan Paton Centre & Struggle Archives at the UKZN, such records are not necessarily perfectly intact and in good condition. Many of these documents were written on inferior quality paper, and have also been exposed to those factors which generally cause serious deterioration of the paper substrate, resulting in information being be obscured or destroyed. A parallel can be drawn with works of art on paper. Many provincial and municipal art galleries and museums only began, in earnest, to collect works of art on paper produced by non-white artists in their quest for transformation and to build collections which would reflect South African creativity representatively. A work of art on paper, like a document, contains information which, albeit essentially and by nature visual, contributes to the cultural legacy of South Africa and deserves to be preserved.

This paper proposes to expand on the suggested process of transformation to include the physical preservation and conservation of the paper-based item. Both these processes are geared towards the longevity of the paper base containing information. Much of our heritage has been recorded on paper in the form of handwritten, typed or printed documents and in bound or unbound form. Throughout the centuries South African artists have also used paper as a base for their creative expression, and even photography makes use of paper as a base for photographic imagery. These paper-based items are now stored in archives, museums, galleries, libraries, special collections and in private collections. While the paper substrate is independent of the writing or imagery which occurs on its surface, the paper as carrier needs to be preserved and conserved to ensure that the information it contains remains accessible. Paper conservation is presented in this article as a craft in much the same way that bookbinding is considered a craft. In both cases, bookbinding and conservation make use of the craft of paper-making to create the new: in the case of bookbinding, a book; in the case of paper conservation, paper sheets which have been treated and 'reconstructed' to 're-reveal' its content. In this sense, the paper conservator rebuilds information through various conservation treatment options.

Preservation, conservation and restoration

The term *preservation* is frequently understood to mean the gathering, recording and documenting of information which is of historical significance. Caroline Hamilton (2002: 223) uses the term to indicate the collecting of information and further assumes that archivists and historians with a tertiary education are "familiar with such [preservation] procedures". While this paper acknowledges that collecting practises fulfil an important role in the construction and preservation of information, whether recorded in writing, on magnetic tape or as visual imagery, this paper uses the term *preservation* as the implementation of all possible strategies and measures to ensure paper-based collections are properly cared for. *Preservation* (also often referred to as preventive conservation) is a pro-active and on-going activity to ensure archival materials remain safe and protected against damage and deterioration at all times, even while in use. The measures implemented would focus on protecting collections from potential future damage resulting from disasters including insect and microbiological infestation; poor handling habits by staff and users; poor environmental factors such as polluted air, heat and humidity in strong rooms; and incorrect storage methods, practises and enclosures. *Conservation* for the purpose of this article describes the repair and chemical reversal of damage, which is undertaken by a trained or qualified paper conservator. Conservation is also referred to as remedial preservationii or restoration. The concept of *restoration* is extremely problematic, as it implies the recovery of the original state and condition of the item. In this event, all historical 'evidence' the item has accrued during its lifetime will be removed to regain the original state and appearance of the item, whatever that state might have been. Usually, there is no recorded evidence on the original appearance of the paper item, making it extremely complex to implement correct treatment procedures.

Documents on paper are created with the intention to last into the future. These items hold references to the past – people, activities, events and even objects. These references are simultaneously projected into the future as written evidence, as fact of the existence of a person or the occurrence of an event. Works of art on paper were also in many instances, intended to last into the future. These artworks, aside from their cultural and aesthetic information, also carry documentary and evidential information of its social and historical contexts; landscapes, portraits, dress and so on. Inevitably, archival documents as well as works of art on paper were created using different kinds of paper, depending on what was officially used in government offices, or what was commercially available. A variety of inks, pencils, paints and other pigments were used to write, draw, stamp, paint and print information onto paper. Paper as well as the inks and other media it may contain deteriorate naturally, and can in addition be damaged by a variety of factors, which could either partially or completely destroy them. If the paper substrate is damaged, the information it contains could be irretrievably lost.

To prevent such loss of information, custodians of collections in archives, galleries and museums need to be *au fait* with the causes of paper deterioration and be trained in reliable and appropriate preservation methods and procedures. Paper, whether in the form of loose sheets or in bound form, acts as the carrier of such information. It is well to remember that the acts of writing, of forming letters to construct words, and of drawing, by forming shapes to create images and the illusion of space and form, depend essentially on the pre-existence of a flat(ish) surface onto which these acts can become manifest. The histories of writing and of art indicate that humans have, since the earliest times, expressed the urge to make marks on a flat surface whether to communicate, record events, images and dreams, or for expressive purposes. Stone walls, clay tablets and waxed surfaces, bamboo strips, silk, papyrus, vellum and a host of other suitable materials have been used throughout the centuries and throughout the world to write

(Lyon 2012: 15-31). Without a suitable surface, writing/drawing would be a mere gesture which will lose its meaning the moment the gesture stops. Since the manufacturing of paper, its use as the basis of an artwork and printing runs parallel to that of writing. Many cultures throughout the world have created works of art on paper whether as illustrations, religious texts, correspondence and other records or art. Irrespective of where in the world paper was and still is used, the paper substrate behaves in the same way and can suffer the same types of damage and deterioration leading to the loss of the imagery and/or writing it contained.

Paper and its origins

It was only in 105AD that the invention of paper was announced in China (Hunter 1974: 50) although Silvie Turner (1998: 14) notes that fragments of hemp paper were discovered in China, dating to 49 – 8BC. Turner (1998: 14) also notes that a Chinese dictionary compiled by Hsu Shen described paper as a "mat of refuse fibres". It is not clear whether T'sai Lun, an official at the court of emperor Ho-Ti of the Hang Dynasty, was responsible for making the paper which resulted in the announcement of its invention or whether he simply reported the event to the Emperor (Hunter 1974: 50). Hunter (1974: 48) further records that until this time, the Chinese wrote on bamboo strips and on wood, but found that the storage of these were problematic and space-occupying. A solution to this was to write on silk, but despite the ideal surface it offered for calligraphy, it proved to be expensive as preparing silk scrolls meant much wastage due to off-cuts. As the Chinese had been familiar with making bark cloth, it is possible that they examined Tapa making in search of a cheaper, more suitable writing surface.

Paper was first made in China by boiling old linen rags, fishnets, bark and cotton together in a large vat (Hunter 1974: 50 and 56). The water was squeezed out and the remaining wet pulp was spread out flat onto a sieve to dry in the sun. This resulted in a substance which could be used for writing instead of the expensive silk. Later, the surface of paper was made less permeable to hold ink better, by adding gelatin or alum sulfate (also called paper maker's alum) to the vat (Seery 2013: 3) and then buffer the dry sheets. This process bound the paper fibres closely together and thereby strengthened the paper and made the surface impermeable to inks and paints.

Paper manufacturing was intended to be kept secret (Tschudin 1980: 14), as paper was so valuable. Yet, paper making spread to Korea and later to Japan. Turner (1998: 14) notes that the Korean priest Ramjing went to Japan in 610 AD with the intention to teach brush-, ink- and papermaking. Tschudin further records that in 751 AD the Chinese T'ang army entered into, and lost a battle, against the Ottoman Turks, who captured some Chinese soldiers who were papermakers. They took these captives to Samarkand where they had to make paper and teach the skill to the Arabs. Here, the production of paper was also kept a secret, but eventually, the Arabs taught paper-making to the Egyptians during the 10th century AD. The craft of paper making arrived in Spain around 1036, probably with the Crusaders (Turner 1998: 14) and also to Italy (Ellis 2014: 4). Parchment had, by 1115 AD, replaced the use of papyrus as a writing substrate and became the dominant material for writing on in Europe (Ellis 2014: 4).

At first, Europeans were opposed to the use of paper instead of vellum. The use of paper for legal and public documents was forbidden by law (Ross and Mahard 2014: 120). In 1231, Frederick II and in 1265, Alfonso V of Castille issued edicts that only parchment could be used for prestigious documents (Abulafia 1988: 210) "so that they may bear testimony to future times and not risk destruction through age" (Clapp 2014: 4). However, it was soon discovered that

paper held many advantages for calligraphers and illustrators. By 1268 AD the Italians were already making paper in the town of Fabriano and sized their paper with animal gelatin (Turner 1998: 14). This sizing resulted in a smoother, resistant surface ideal for ink applied with quill pens instead of brushes as was the custom in the East.

The making of paper spread slowly through Europe while paper importation continued for a long period before paper mills were erected in Germany by 1320, in France during the 14th century, and Holland in 1586. England began making paper in 1495 and the craft reached Mexico via the Spanish in 1575 (Turner 1998: 14-15). European paper makers also began during Medieval times, to add watermarks to their paper (Tschudin 1980: 16; Zender 2008: 292). These 'marks' were made by a brass design sewn onto the mesh onto which the paper pulp was spread, causing a thinning of the paper in that area. This thinned out area becomes visible when the sheet is held against strong light and fulfilled the function of identifying the paper mill, guild and the size of the sheet (Tschudin 1980:16).

Because European paper was denser than the thin Japanese and Chinese papers, it could be used for writing on both sides, a property which probably contributed to the printing of the Bible in 1453 (Hunter 1974: 61-62). Although Johan Gutenberg invented the printing press in Germany, the techniques of printing had been practiced by the Chinese and Japanese for many centuries prior to the appearance of the Gutenberg press (Hunter: 1974: 61-62).

After the printing press was invented, paper making rapidly replaced the use of vellum and parchment for writing and art works and paper production increased. In 1798 a hand operated paper-making machine was built near Paris by Nicolas-Louis Robert, opening up the field of paper-making to industrialisation (Tschudin 1980:20). When reading became a popular activity and an increase in newspapers occurred during the 19th century, the supply of cotton and linen rags became depleted and alternative sources for cellulose had to be found. Wood became the most available source while cotton and linen was reserved for artists' materials and special papers such as bank notes (Seery 2013:2).

Wood pulp paper has proven, in the short time it has been in use, to be problematic as it is prone to discoloration and embrittlement. The problem with the cellulose found in wood is that the lignin polymer is a great deal shorter than those found in cotton or linen, causing the fibres in wood pulp paper to be much shorter than the long fibres characteristic of cotton-derived cellulose. Wood gets its physical strength from lignin, a substance responsible for transporting water in the stems of plants. The lignin polymer interferes with the manner in which cellulose fibres bind, causing the resulting paper to be weak (Seery 2013: 2). The danger of paper containing lignin, is that, because lignin is bound up with wood and hence also with wood pulp in paper, it gives off acids as the wood deteriorates (McCrady 1991:1). These acids affect not only the paper in which lignin is found, but it can migrate to any adjoining paper. Because wood pulp paper is "born acidic" (Vogt-O'Connor and van der Weyden 2001: 1) it deteriorates rapidly and has a short life-span, such as newsprint paper, corrugated cardboard boxes and cheap brown paper. Matija Strlič (2004: 11) further cautions about acid degradation in paper: "Due to the production process, papers produced in the period ca. 1850 – 1990 are acidic and the rate of the degradation is such that it is quite possible that in the next century or two, most of the artistic, written and printed documentation in paper from the period will irreversibly fall into pieces if no action is taken". Drago Kočar (2004: 26) confirms this viewpoint: "Of all paper properties, acidity/alkalinity is probably the crucial parameter for stability of its most important structural element, cellulose". Michael Seery (2013: 1) sums up the result of the extensive use of wood pulp paper since its invention: "[a]bout one third of the paper items in large libraries

are too brittle to handle, with another third in need of attention over the coming century". This is indeed cause for concern for South African archives, libraries, museums and art galleries as wood pulp paper was also used abundantly during the 19th and 20th centuries in South Africa for the production of art works such as prints and drawings, as well as for newspapers and other historical documents and records.

It is hence inevitable that paper will naturally deteriorate and decay over time. This process cannot be stopped but much can be done to slow down or prevent some of the deterioration and natural decay. Correct storage methods, careful handling and good environmental control will prolong the life of paper, whilst conservation intervention dealing with neutralising acidity in affected papers and iron gall inks can contribute greatly to the longevity of a sheet of paper. The continued existence of our paper-based heritage - items of cultural and historical significance - hence lies in the hands of the people in charge of these collections.

More often than not, digitisation is offered as a useful preservation tool. Digitisation certainly carries many advantages, mostly increased and unlimited accessibility. Marcus McCorison (1990: 1) underlines the important fact that "in many cases a reproduction may mask the actual text and the facsimile can never reveal the physical evidence inherent in the original object". Digitisation does not compensate for the presence of a paper substrate and the historical information this substrate contains. Our histories are mostly written, typed, painted, drawn or printed onto paper; researchers consult these 'papers' to examine and interrogate those histories; they handle these 'papers' looking for notes in margins and on the verso of the sheet, yet no attention is paid to the substance this 'paper' is made of, or of the information it might contain. Similarly, most of the world's greatest art works were created on paper. It is only when the loose paper sheet or bound volume has deteriorated and has been damaged, that attention is drawn to the item, not for the paper substrate but to rescue the drawn, painted, written or printed information it contains.

The meanings of/in paper

Paper, along with all surfaces used since humans felt the need to draw or write, reflect their biological-, geological/geographical- and socio-historical contexts. A sheet of paper, whether it holds writing (text) or an image (art work or photograph), contains several layers or levels of meaning: the first layer is the one which contains the writing or image. This layer was clearly created after the sheet of paper was manufactured and has its own contextual references which are often separate from the second layer which is the sheet of paper. The sheet of paper exists as a material object which was created within a different context and during a time earlier than the period in which a writer or artist chose to use the sheet. The paper substrate will inevitably always date to either the same year the sheet was used, or to an earlier period. Often papers are imported, bringing with them a different history, context and set of references, e.g. bond papers which were manufactured in the UK and imported to South Africa during the time of the Union. This history leads us to the history of the Empire and its colonies, and relations forged between countries and people. This second layer is usually to the researcher of no value other than being the carrier or container of the information. Further layers or levels will centre on the manner of writing, drawing or printing; the instruments and inks used; the spaces around the written text and illustration which will reveal different writing, printing (which has its own history), and drawing styles – even the size of the paper might reflect an 'imperial' size or a 'decimal' size; the stains and blotches the sheet has accumulated during its lifespan; and signs of deterioration. These layers too have their own histories and may even reveal something of the context of the

sheet at the time of its use, or while it was kept for future use. Together, all these layers make up the item, and the condition of the item further reflects information about the history of the item i.e. paper and writing/artwork alike, as a total object. Tears and abrasions, losses, dirt and dust embedded into the paper fibres, finger prints, smudged ink and the by-products of the normal deterioration paper-based items undergo all contribute to the history of the item. Each sheet of paper should therefore be considered not just as a sheet containing written, printed or drawn information, but as a complex structure consisting of multiple layers of meanings and references to more than one context and historical period.

It is important to note that any of the meanings listed above can be lost or altered due to poor storage, neglect, man-handling, insects and rodents, micro-biological organisms such as bacteria and fungal bloom, fire and water, theft, and a host of other pathologies paper can suffer from. If no preservation measures are implemented and no conservation work undertaken where needed, this information will, eventually, be lost permanently. If preservation measures are applied before damage occurs or becomes irreparable, hopefully, some or all of the above meanings/information could be maintained or recovered, stabilised and saved for future generation to use and enjoy. The paper conservator has the complex task of taking all of these contexts into consideration when treating a single item. Disregarding any one of these layers means that information of some kind could be lost.

And information *does* get lost in archives, galleries and museums. Paper-based items are often not stored in correct enclosures and following correct storage methods causing a range of damage patterns which either obstruct or destroy information, or simply causing items to be misplaced or to go astray. Often, the documentation process is lacking, causing piles of paper to be rummaged through in search of the correct item. This increased – and often rough – handling can cause irreparable damage and loss. Climate control is also often neglected which means natural deterioration of paper occurs in the hot and often humid South African climates. In addition staff and users do not handle items correctly. All these factors contribute to causing such damage that remedial intervention is necessary.

Paper conservation and remedial intervention

The Italian conservation theorist Cesare Brandi (1963: 233) presented the following explanation for conservation work in his text *Theory of Restoration* :

> If a work of art is the result of human activity and, as such, its appreciation does not depend on fluctuations in taste or fashion, its historical significance has priority over its aesthetic value. Since the work of art is a historical monument, we must consider it as such from the extreme point when the formal arrangement that shaped matter into a work of art has almost vanished, and the monument is reduced to little more than a residue of the material that made it up. We must then examine the ways we conserve the ruin.

and further:

> A ruin is anything that is a witness to human history. Its appearance, however, is so different from the one it originally had that it becomes almost unrecognisable […] Consequently, the preservation of a work of art that is reduced to a state of ruin depends to a great extent on the historical significance that is assigned to it. […] when dealing with ruins, restoration can only be a consolidation and preservation of the status quo.

As his theories were written in the early 1960s when conservation as a science and practice was still relatively young, ‘restoration’ here probably means what we today call conservation

or remedial conservation (as opposed to preventive conservation). Be that as it may, what is important for this paper is that the act of intervening with the condition of an item, of repairing and treating it with the aim of making it useful again, results in the information contained in that item to be "recovered". Brandi (1963: 231) also stresses that "[o]nly the material form of the work art is restored". This is also valid for the conservation of a document as they share the same type of carrier: paper. The conservator treats the material aspects of the item and this material aspect supports the non-material significance ascribed to, and inscribed into, the item.

The practice of paper conservation can contribute remarkably to the recovering of 'hidden' i.e. inaccessible or 'lost' information. All paper-based collections, whether in archives, museums, libraries, art galleries or private collections, contain a percentage of items which cannot be used for whatever purpose due to their poor or fragile condition. This situation regularly forces archivist to take the decision to withdraw these items from use until they could be repaired or treated by a conservator. The shortage not only of paper conservators in South Africa but also the lack of awareness of correct preservation protocols have resulted in information in these items to remain 'hidden'. Until a paper conservator has treated these items, the information they contain will remain inaccessible. This 'hidden' information could deny or verify the conclusions which had already been drawn by researchers and scholars, had access to these fragile items been possible. This opens up the question of how complete our current knowledge about our history and culture really is. The number of documents discarded, or destroyed through neglect or through the threat of imprisonment in the case of Apartheid history, remains a mystery. This notion, along with the knowledge that researchers inevitably present their work from a particular and biased stance, leads us to the possibility, remote as it may or not be, that aspects of our history could look very different if 'hidden' information were available. Also, further damage continues to be done as delicate items are made accessible for public use in their fragile state. 'Preservation' in the sense used by i.a. Hamilton et al (2002) and Pather (2016) is therefore not sufficient in ensuring information remains intact and accessible.

Paper pathologies which restrict access to, and irretrievably destroy, information

Because paper consists mainly of cellulose, a natural, plant-derived substance, it will inevitably deteriorate over time. However, much can be done to slow down this natural deterioration such as keeping a paper-based item in an environmentally controlled space; enclosing paper-based items in suitable enclosures such as folders and boxes; using suitable shelving; and so on. A suitable storage space will have a cold and dry atmosphereiii with good air quality and no fluctuations in temperature or Relative Humidity. Chemical deterioration of mostly wood pulp papers and papers containing alum rosin, as well as papers containing iron gall inks, occur in humid rooms and deterioration is not immediately visible as acid hydrolysis occurs over time. Heat will speed up this form of deterioration, in which an exchange of hydrogen ions occurs between the moisture in the atmosphere and the acids in the paper and inks. The result of hydrolysis as well as of oxidation, is discoloration and embrittlement of paper to the point where the paper substrate becomes dry, can break easily and powdery. The metals in iron gall ink, whether Fe I or Fe II, will also oxidise due to excess moisture, and this will cause the characteristic pattern of deterioration in which the ink 'eats' into the paper until only fragments are left.

Non-aqueous conservation treatment is a useful method of removing surface dirt and grime from a loose document or the pages of a bound volume. Dust is abrasive and can erode the surface of the paper as well as the inks or other media on its surface. To stabilize and

de-acidify deteriorating paper, aqueous treatment options can be followed, depending on the type and general condition of the paper substrate as well as the media added to its surface. Aqueous treatment will rid the paper sheet of embedded dirt as well as the by-products of paper deterioration; the sheet will generally be strengthened due to re-activated hydrogen bonding and renewed flexibility will be re-introduced into the paper sheetiv; and the conservator can replace degrading sizing and insert an alkaline buffer to a sheet, all intending to prolong the life of the paper substrate and to ensure that inks and dyes contained on the paper's surface remain in good condition. Various chemical procedures can be employed by the conservator to ensure that soluble inks, dyes and paints are consolidated before any aqueous treatments are undertaken.

Aside from folds, tears and surface dirt, mold occurrence in archival documents in South Africa is common. Mold, along with planar and structural damage, naturally follows damp or wet conditions and where the atmosphere is humid and hot or where there was a fluid spill or flood. Moisture can introduce the development of mold and bacteria, which can soften paper, cause photographic emulsions to split and destroy the inks and colours on works of art on paper. Mold on a document can also contaminate adjoining documents. It is destructive as its hyphae embed themselves into the paper fibres, sapping it of nutrients resulting in severely weakened paper. The paper becomes cotton-like, severely impairing any effort to separate out the sheets. Paper weakened by mold is not always visible to the naked eye and handling such a weakened sheet could result in permanent loss of information. Mold carries a health hazard for the people handling infected documents and if correct treatment procedures were followed, an infected sheet can survive the outbreak. The best method, however, of preventing a mold bloom to occur, is to ensure a stable climate in the storage space.

A storage space where paper-based items are kept which is not clean and free of insects, rodents and other biological and micro-biological agents feeding on the nutrients paper products provide, is the first cause for concern. The losses caused by insects or rodents eating away at the paper are permanent and such lost information cannot be retrieved by anyone. Suitable pest control measures will contribute greatly to the longevity of collections. Paper items also suffer severe damage due to poor handling habits, and incorrect methods of storage.

Poor handling can cause paper based items, whether works of art on paper, documents or photographs to tear, fold and be crumpled up; finger prints can become embedded into the surface of the paper along with any dirt particles which allowed to settle onto the sheet; 'dog ears' can develop which could result in tears and eventually, the loss of a fragment of the item. Incorrect storage methods and enclosures can, likewise damage paper items irreparably.

The role of the paper conservator

The paper conservator, who is largely involved in the practical aspect of conservation rather than its scientific or theoretical divisions, will aim to stabilise a paper artefact through selective cleaning and careful consideration of further treatment where necessary. The conservator also weighs up the benefits such treatment will have for the longevity of the item. The historical evidence the item has accumulated throughout its life span should also be retained, provided such evidence does not contribute to the deterioration of the item. This is problematic as the conservator has to decide which by-products of deterioration should be removed; which could essentially be a reflection of the history of the item; and which would cause further damage if not removed immediately. This places the conservator in the often unwanted position of power as he/she has to make decisions about what to salvage and what should be allowed to deteriorate

further; which treatment options to follow in favour of others; what would be acceptable to be lost during treatment; and whether items do in fact need further treatment.

Paper conservators are tied to very strict ethical codesv. These codes stipulate i.a. that all conservation procedures should be 'reversible', a principle which is essentially fluid, as not all conservation treatments are fully or even partially reversible. The reason for this is clearly to ensure that conservation treatment does not permanently alter a sheet of paper, or anything which has been added to the paper. The Code of Ethics and Guidelines for Practice (AIC 19..) requires conservators to interfere minimally with an item, not to remove or alter evidence, and to ensure all treatment efforts are reversible and visible. Treatment decisions made by conservators could have radical effects on the item treated as well as on the conclusions eventually drawn by the user of this document. Treatment could, if carelessly undertaken, remove important information, such as e.g.whether the carbon stains left by a type writer on a document qualifies as 'dirt' and whether it should be cleaned off. These stains could help with the identification of the kind of typing machine which was used, and could lead to other significant historical conclusions.

Much historical evidence contained in a sheet of paper can be recorded in the conservation documentation protocol (which includes a photographic record of every step the conservator applies to the item), alleviating this dilemma to some extent. The various ethical codes also state that all repairs to paper items should be visible as testimony of this accumulated history. In this regard, Max Schweidler, considered by many to be the father of paper conservation, said that the conservator "may not create the new, but bring[s] the old into order" (2006:138). Brandi (1963: 231) also labels the removal of additions to works of art (which could equally be true of paper-based documents) such as earlier repairs as 'falsification' as such additions are testimony of human activity (Brandi 1963: 234). On the other hand, the conservator will rid a sheet of paper from surface dirt, accumulated harmful dirt and stains, as well as the by-products of paper deterioration to improve the durability and condition of the paper. However, the conservator should always ask the question about how much repair work should be done and how much intervention is necessary to ensure the longevity of the sheet. Any paper item will, during its lifetime, accumulate folds, creases, stains and other 'signs'of its history. How many and which of these should be removed? There hence appears to be a tension between the conservation of paper and the retention of the information/knowledge contained on/in the paper, and the paper conservator is in the unenviable position of having to make these decisions.

The process of washing paper, i.e. submerging a sheet of paper into a bath containing water and other treatment chemicals, has been done for centuries as it has been believed that this process not only revives paper but also rids it of the by-products of paper degradation. Now, it is considered a radical and invasive form of treatment. In the Foreword to the book *Water and Paper* (Banik and Brückle 2011: xiv) Kate, Colleran states that the invasiveness of this procedure has not always been acknowledged, and that the losses – whether of paper or information – incurred in the washing process have been deemed acceptable in comparison to the benefits of the washing process for the paper (and not the text or image). This argument does make sense on the one hand in that, if the paper substrate is damaged, the art work or writing on the paper will be lost; on the other hand, conservators are bound the ethical codes to achieve no or minimal loss.

Some of the advantages for the researcher/visitor of archives and museum achieved by conservation treatment are:

- an improved durability of the paper substrate or carrier, thereby allowing the writing/text which this substrate contains, to exist for longer. Also the more durable the substrate or 'carrier' is, the more it will withstand handling, and the longer it should last;
- the legibility of writing/printing/typing would be improved if the "carrier" is firm, all folds and creases eased out and repaired;
- ease of handling archival materials, without having to unfold or easing out creases. Information contained on creased papers is equally unavailable as dirty or moldy papers;
- the recovery of information which, without treatment, might exist but could be inaccessible due to the factors discussed. Paper conservation treatment opens up the world of knowledge and facts, and makes this world accessible, thereby enriching the holdings of an archive/library or museum.

Aesthetic appearance

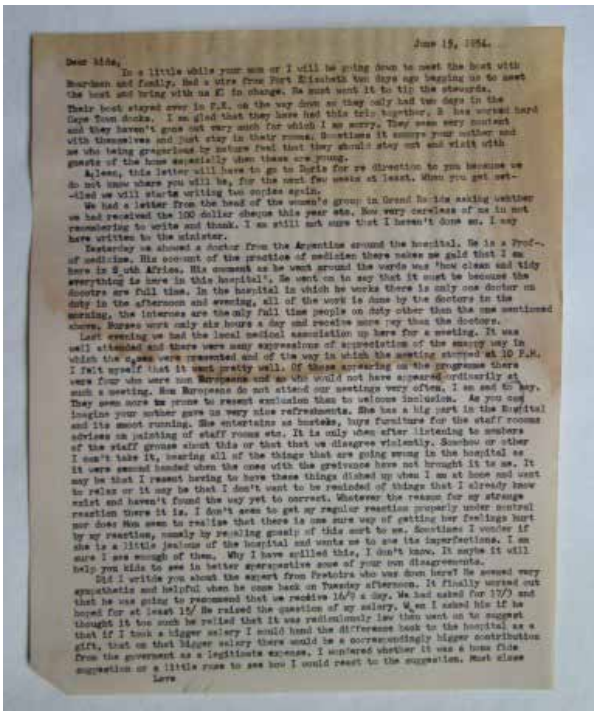
The by-products of the natural deterioration of paper, as well as stains and dirt the item accumulated during its life span such as finger prints, wine and coffee stains and so on, can leave unsightly stains on the paper substrate. Such stains can also obliterate writing or imagery on the surface of the paper. The conservator can stabilise these stains to ensure that no further damage is caused and therefore allow the stain to remain as evidence of the history of the document. A question remains: does the conservator bleach out these stains to improve the appearance of the item, or allows the stains to remain as historical fact. Bleaching out stains bear no benefit for the paper – on the contrary, most bleaching methods can be extremely harmful to paper over a period of time. The function of bleaching paper is cosmetic and should be undertaken with much consideration of all the factors involved.

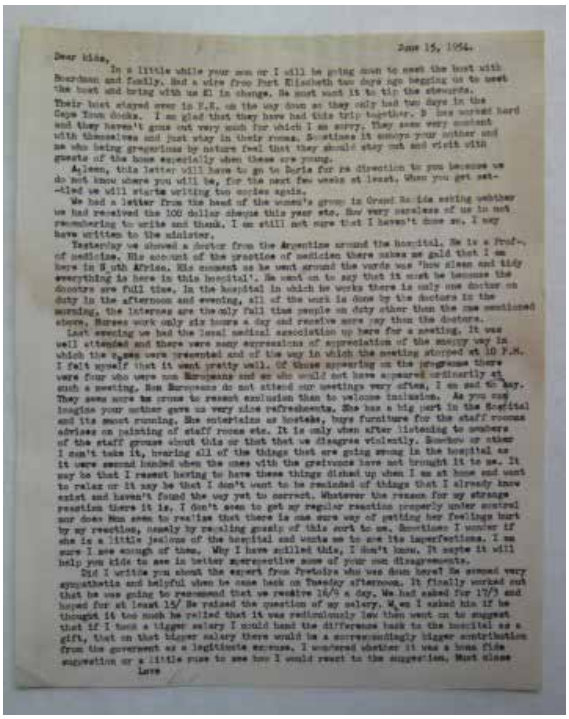
Conclusion

The continued craft of papermaking has ensured that our heritage could be recorded in a variety of paper-based forms. Without the conservation and preservation of these items, the information they contain might be inaccessible or, at worst, lost. Part of the transformation process of the South African archives and record keeping system, should be the inclusion of a system of proper care and repair of paper-based items which reflect the South African history in full as well the training of conservators in dealing with fragile archivalia and art works. The absence of information, and by implication information written on paper, carries the possibility that current knowledge could be either verified through 'hidden' or 'missing' records; or stating alternatives. Until such records have been recovered physically, and stabilised to become accessible, such information remains mere possibility. Brandi (1963: 32) states that "Restoration [sic] is generally understood as any kind of intervention that permits a product of human activity to recover its function".

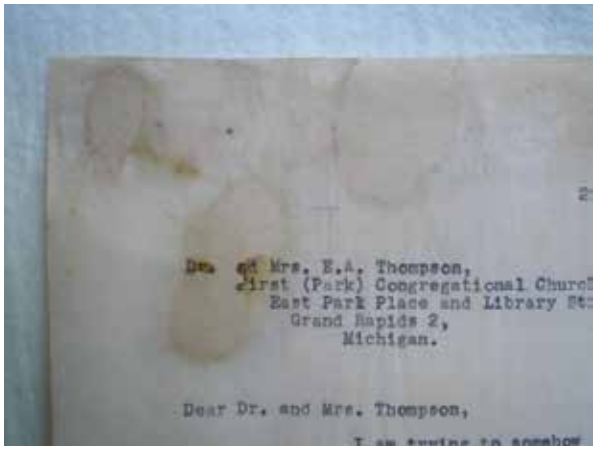
In addition, the natural deterioration of paper, along with damage it has accrued during its lifespan, places the South African archivist in South Africa in a dilemma: the *National Archives Act of South Africa no 43 of 1996* as amended stipulates clearly that the duty of the Archives is not only to preserve public and non-public records, but to make these records accessible.

Furthermore, "The National Archivist shall take such measures as are necessary to preserve and restore records". To achieve this aim, paper conservation aims to recover various levels of information related to the paper-based item through reconstructing such information via the conservation process. It is at this point that the craft of papermaking intersects with paper conservation, and where paper conservation as a skill adopts the characteristics of a craft.





Figures 1 and 2
The reduction of an oil spill on a letter before (left) and after (right) treatment.
(McCord Collection, Campbell Collections, Universityof KwaZulu-Natal Special Collections
(photographs by the author).



Figures 3 and 4
Increased legibility through the treatment of rust stains before (left) and after (right) treatment.
(McCord Collection, Campbell Collections, University of KwaZulu-Natal Special Collections
(photographs by the author).

Figures 5 and 6
Easing out of folds and repairs of tears and losses .
(Collection Nazim Gani, Pietermaritzburg (photographs by the author).

Figures 7 and 8
Reconstructing a page from a birth register 1909 by repairing fragments. The left edge of the item was eaten by insects and the information contained in these sections is irretrievable.
(Pietermaritzburg Archives Repository (photographs by the author).

Notes

1 This topic was originally presented at a one day seminar: 'The role of small Libraries and Archives in the 20 years of Democracy and beyond', Msunduzi Museum 3 November 2014

2 Patric Ngulube referred to conservation as 'remedial preservation' during a lecture for the course 'Preservation and Conservation' on 19 September 2006 at the University of Kwa Zulu-Natal.

3 The recommended atmosphere for South African climates is 55 – 60% RH at 18 - 20◦C. Fluctuations can cause structural and planar damage to paper, and affect paints and inks as well as the emulsions of photographs.

4 Renate Mesmer, who conducted the course 'Washing and Drying Paper' at the Centro del bel Libro in Ascona, Switzerland 30 July – 3 August 2012, stressed these factors as important to consider when washing paper. She further pointed out that paper benefits from washing where strong chemicals had been used, as the water rids the paper of these.

5 There are a number of codes issued by a number of institutions and different countries. While these codes contain more or less the same information and guidelines, the American Institute of Conservation's ethical code, as well as the European Confederation of Conservator-Restorers' Organisations appear to be the most commonly used.

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The craft of memory and forgetting

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Craft is inherently linked to memory and time. This association is especially evident in several Japanese traditions and philosophies: The continual rebuilding of the *Ise Jingu* Shrine which inherently preserves traditional skills and knowledge required for its creation; the concept of *wabi sabi* where the beauty of modesty, weathering and decay is embraced; and the practice of *kintsukuroi* where broken pottery is visibly mended to celebrate and remember the moment of its breaking. These practices all essentially preserve a specific type of memory, whether it is the preservation of craft-memory through constant renewal, the accumulated effect of the passing of time, or the capturing of a specific event in time. The rebuilding of the *Ise Jingu* Shrine and the concept of *wabi sabi* will be explored further and with reference to the work of a number of contemporary South African architects who are either experimenting with the preservation of indigenous craft by incorporating it into their built works and designing for continuous renewal, or by crafting their buildings and details to specifically allow for weathering and appropriation by nature.
Key words: craft, forgetting, *Ise* Shrine, memory, *Wabi Sabi*

Die kunsvaardigheid van om te onthou en te vergeet
Kunsvaardigheid is inherent verbind aan onthoue en tyd. Hierdie assosiasie is veral duidelik in verskeie Japanese tradisies en filosofië: Die voortdurende herbou van die *Ise Jingu*-Heiligdom wat inherent tradisionele vaardighede en kennis preserveer wat nodig is vir die skepping daarvan; die konsep *wabi sabi* waar die skoonheid van beskeidenheid, verwering en verval waardeer word; en die praktyk van *kintsukuroi* waar gebreekte potte sigbaar herstel word om die oomblik van breking te vier en te onthou. Hierdie praktyke preserveer almal in essensie 'n spesifieke tipe onthoue, of dit die preservering van kunsvaardigheid-onthoue is deur konstante vernuwing, die opgeboude effek van die verloop van tyd, of om 'n spesifieke gebeurtenis in tyd vas te vang. Die herbou van die *Ise Jingu*-Heiligdom en die konsep *wabi sabi* sal verder ondersoek word met verwysing na die werk van 'n aantal Suid-Afrikaanse argitekte wat óf eksperimenteer met die bewaring van inheemse kunsvaardigheid deur dit in hulle bouwerke te inkorporeer en om te ontwerp vir konstante vernuwing, óf deur hulle geboue en details kunsvaardig te ontwerp om spesifiek toe te laat vir verwering en oorname deur die natuur.
Sleutelwoorde: *Ise*-heiligdom, kunsvaardigheid, om te onthou en te vergeet, *Wabi Sabi*

Time and embodiment

Time and memory are inextricably linked: The retention of certain types of memory is made possible by continually resetting the clock, while allowing time to take its course allows for the layering of memory to occur. Both time and memory are simultaneously related to bodies in space, and the philosopher Edward S. Casey (2000: 148) as cited by Pallasmaa (2009: 117), describes body memory as "the natural center of any sensitive account of remembering." The body referred to in this article is on the one hand the body of the immaterial object subjected to the layering of memory, and on the other hand, the body of the craftsperson performing his or her craft and thereby retaining the memory of its making. Both cases however require, or result in, a certain measure of forgetting in order to create and preserve memory.

Remembering craft: from the *Ise* Shrine to the *matjieshuis*

The *Ise Jingu* is considered to be the most important Shinto Shrine in Japan (Earhart 1984: 44; Popham, 1990: 22, Taut, 1936: 6, Young and Young 2007: 30). Shinto, according to Earhart (1984:

16) means "the way of the many kami (spirits or deities), and usually these kami either helped create aspects of nature or are themselves expressed in natural terms." The religion essentially grew out of prehistoric Japanese beliefs, especially those that revered nature, and it freely assimilated foreign influences which included some aspects related to Buddhism (Earhart 1984: 37). Unlike Western religions that consider nature as the creation of God, Shinto considers nature itself to be divine. (Earhart 1984: 14). Popham (1990: 22) describes it as having a "wonderful profusion of gods and spirits but without any doctrine or philosophical apparatus." This is confirmed by the Public Affairs Headquarters for Shikinen-Sengu (PAHSS 2013: 12) which adds that there is also no dogma or official founder: "Its origins can be seen in the relationship between the ancient Japanese and the power they found in the natural world." A *kami* or deity can be found where there is a "high concentration of divine power" (Young and Young 2007: 30) and they can be anything that inspires awe: From anthropomorphic gods and goddesses, to natural features in the landscape or particular animals and people (Nishi and Hozumi 1983: 40), but Shinto's most prominent deity is the Sun Goddess who, in the Shinto creation myth, was the original ancestor of the Japanese people and the imperial family are regarded as her direct descendants. During the reign of Emperor Suinin, the princess Yamatohime-no-mikoto established the site at *Ise* in the Sun Goddess's honour.

According to Jingu Shicho (2015), the area of the Ise precinct is roughly the size of Paris and it contains a hundred and twenty five *jinja*, or Shinto Shrines. The two most important structures are undoubtedly the third century *Naiku* Shrine of the Sun Goddess Amaterasu-Omikami, and the fifth century *Geku* Shrine of Toyouke-Omikami (the Goddess of Farms, Crops, Food and Sericulture) (Tange and Kawazoe 1965: 8). According to Tange and Kawazoe (1965: 9),

> The buildings at both shrines are very old and very new. They are very old because they are identical with the ones that stood there at least as early as 685. They are archaically pure. They are very new because they are ceremonially rebuilt every twenty years.

Figure 1
The Naiku Shrine at Ise Jingu on 26 August 1953 just prior to disassembly, showing a few subtle differences between the two constructions (source: Retrieved from https://commons.wikimedia.org/wiki/File:Ise_Shrine_Naiku_1953-8-26.jpg on 6 August 2017).

The renewal ceremony, which takes place every twenty years, is referred to as *Shikinen Sengu* or *Sengushiki* and is unique to *Ise*. The buildings are completely rebuilt on one of two adjacent sites of exactly the same size: The one site houses the current Shrine buildings, while all that remains on the empty site is a field of stones with a small wooden structure that houses a *hinoki* stick on the spot where the next sacred "heart pillar" will be erected. After the old sanctuary is disassembled, its materials are donated to other *jinja* throughout the country, and once the new buildings have been completed (and before the old ones are demolished) the sacred mirror, which is the symbol of Amaterasu-Omikami, is moved to the new sanctuary. The *Shikinen Sengu* involves thirty-two rituals and ceremonies, the first of which is the cutting of the 14 000 *hinoki* (Japanese cypress) or white cedar trees for the next rebuilding – the entire process of renewal takes approximately eight years (PAHSS 2013: 46). It involves a small army of craftspeople and priest-carpenters to remake sixty-five structures and approximately 16 000 artefacts (Young and Young 2007: 34), and it inevitably maintains a highly-developed and established network of craftspeople. Kerr (2015: 151) describes Kyoto as "the interlinked world of thousands of craftsmen that defined the city", and *Ise* helps to maintain just such a network.

There seems to be some uncertainty about the origins of the rebuilding according to Nute (2004: 67), although authors like Kawazoe (Tange and Kawazoe 1965: 202) argue that one of the reasons for its rebuilding is related to the impact that any warping or sagging would have on its construction system which relied mainly on straight lines, and that it would be "disastrous to the aesthetic effect of the whole". Popham (1990: 24) on the other hand argues that the renewal is in order to maintain purity and for "the rejection of dirt, decay and infection". PAHSS (2013: 48), however, quite clearly states that:

> The concepts of sustainability and reutilization, and the maintenance of know-how and skills are considered more important than the actual physical existence of a structure or building. This is the essence of 'eternity' as it is expressed at Jingu, and the reason for choosing to build and rebuild dwellings for the *kami*, instead of permanent structures of stone. Shikinen Sengu plays one other very important role by enabling the transfer of our technical skill and spirit to the next generation. This transfer maintains both our architectural heritage and over 1,000 years of artistic tradition involving the making of the divine treasures – including 714 different kinds of sacred objects.

While the sustainability of *Ise*'s reconstruction can be questioned in terms of the ecological and financial cost, it certainly succeeds in the preservation of craft traditions and its architectural heritage. When discussing the importance of tea utensils as part of tea ceremony, Bartlett, Holland and Iten (2008: 17) note that "Various kinds of memory work are used to project the utensils into the future but the most important is the investment of memories in a successor." In addition to the importance of the actual experience of rebuilding and of the physical structure, Kurokawa (1977: 238) also mentions the importance of a written system in the preservation of memory:

> The carpenters of the past, who were the equivalent of architects until Western architecture was introduced, did not draw plans but relied on written instruction sheets called *sashizu*. They were able to build successfully on the basis of nothing more than *sashizu* because of the existence of a system of standardizations (*kiwari*) and detailed specifications (*shikuchi*). Furthermore the workmen could see and feel the rebuilding and replacement process in the finished building.

Besides its obvious spiritual, cultural and historic importance, the architectural importance of *Ise*, according to Taut (1936: 15), is based on three things: That there is nothing in contradiction with common sense; that it has a simple, logical, expressed construction system; and that its form has been received from it context. He goes on to praise the faultlessness of the natural timber and the perfection of the roofs, but he does not seem to mind that a number of the details

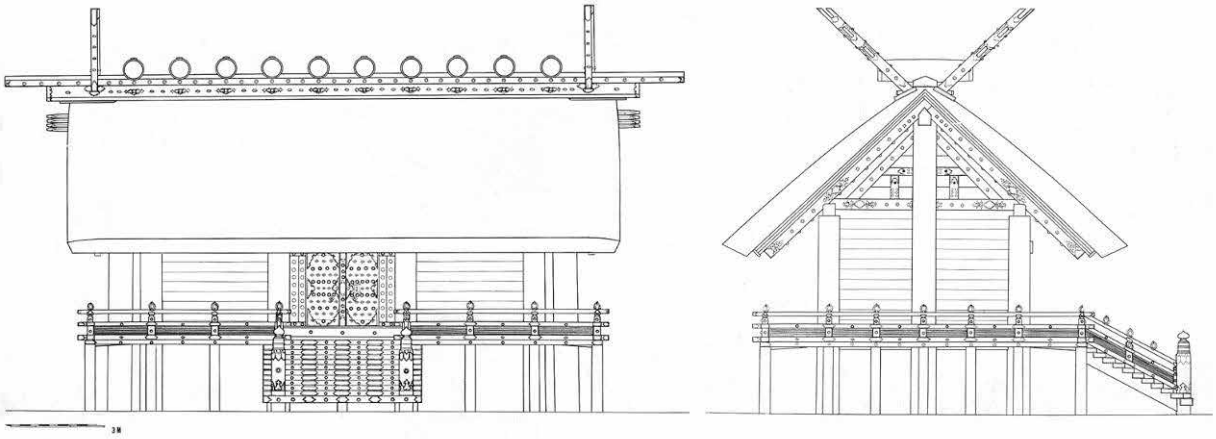

Figure 2
Front and side elevation of the Main Sanctuary of the Naiku
(source: Tange and Kawazoe 1965: 108 and 109).

may be regarded as being purely decorative and somewhat frivolous. Popham (1990: 29) feels that it is the combination of the simplicity of its design with the perfection of its execution. Kenzo Tange considers *Ise* to be "the first architectural achievement of the Japanese people" (Tange and Kawazoe 1965: 14) and that its form is essentially seen as the form of the gods, while Kawazoe (Tange and Kawazoe 1965: 52) describes is as the "fountainhead of Japanese tradition". In Japan, the image of deity is typically not visualised as in many other societies, but rather the image of the space in which it is present. Tange, while referring to *Ise*, notes that "When the Japanese try to glimpse the divine, this form becomes its symbol. Or perhaps we should say that the Japanese see in this form the divine." (Tange and Kawazoe 1965: 51).

> The faithful adherence throughout the ages to the custom of rebuilding the Ise Shrine every twenty years is a sign that the Japanese were not interested in preserving old buildings as such. It was the style, not the actual structures embodying it, that they sought to preserve for posterity. Everything that had physical, concrete form, they believed, was doomed to decay; only style was indestructible. Fire can destroy a wooden building in a matter of minutes: the philosophy of the impermanence of all things was a solace to a people that built mainly in wood. A Westerner would probably insist that style is inseparable from physical, concrete form, but, to go one step further, what the Japanese wanted to preserve was not even the style as such in all its details but something else, some intangible essence within the style (Tange and Kawazoe 1965: 202).

The constant renewal of the *Ise* Shrines raises questions of a philosophical nature, as explored by Townsend (2016) in discussions about the Ship of Theseus, where it is debated whether authenticity is dependent on form and appearance, or on materiality and substance. Kawazoe (Tange and Kawazoe 1965: 200) echoes this when he notes that the *Ise* Shrines' structure may not be permanent, but its style is, while Kurokawa (1977: 238) has a similar view that the structures are not regarded as "original" because the materials are not the same, but that the form is an "intermediary conveying that spirit and philosophy to human beings".

In terms of its architectural roots, Popham (1990: 29) describes the *Ise* buildings as the "apotheosis of the primitive Japanese farmhouse", but according to Tange and Kawazoe, (1965: 30, 168 and 187), *Ise* is built in the *Shinmei-zukuri* style and its form was inspired by the Jōmon-period rice storehouses or granaries like the ones found at the Toro site. These structures typically consisted of loadbearing log-cabin type walls with crossing ends at the corners. At *Ise* however, the Shrines have a post-and-beam construction with timber boarded infill. An interesting aspect

is that initially the timber boarded infill walls carry the roof since the posts and beams do not touch, but as the boards contract after a few years, the posts begin to share the load. Some changes have been made to the basic form of *Ise* over the years, and it has assimilated some Buddhist influences like the coloured decoration on some of the railings, but its essence has stayed the same. Popham (1990: 30) is surprised that the original forms and techniques were not swept away or forgotten because of the "seductive potency of the new influences arriving from the continent." The renewal may have been a reaction to the extent of foreign influence at the time of *Ise*'s establishment (Young and Young, 2007: 34) and served as a way of preserving traditional skills, but Paine and Soper (1974: 166) are of the opinion that the purpose of some of the details on the buildings has been "completely forgotten".

One of the most noticeable elements of the Shrines are the decorative horizontal *katsuogi* (tapered wooden cylinders) which were originally weights to keep the roof down, and that are placed on top of the ridge and perpendicular to it. The importance of a shrine can be gauged by the number and size of the *katsuogi* on its roof. Another noticeable roof detail is the crossing of the gable members or *chigi*. The reason for the crossed gable members was because they used to be tied together with ropes, while the *munamochi-bushira* or gable post was originally there to support the extended gable roof overhang. All of these elements are however purely decorative at the *Ise* Shrine, and Kawazoe (1965: 169) notes that the Shrine is neither free from ornamentation, nor does it exhibit a unity of structure and style. He does, however, feel that it evokes a sense of vertical striving and that the *katsuogi* evoke the heaviness of rock.

The rigid adherence to superfluous details in some cases is somewhat at odds with the habit of changing the layout of the inner Shrine and adding or removing structures during rebuilding, seemingly at a whim. It also raises the question, especially in terms of financial and environmental sustainability, whether all of the structures and artefacts should be rebuilt, or whether the rebuilding of the main Shrines would be sufficient.

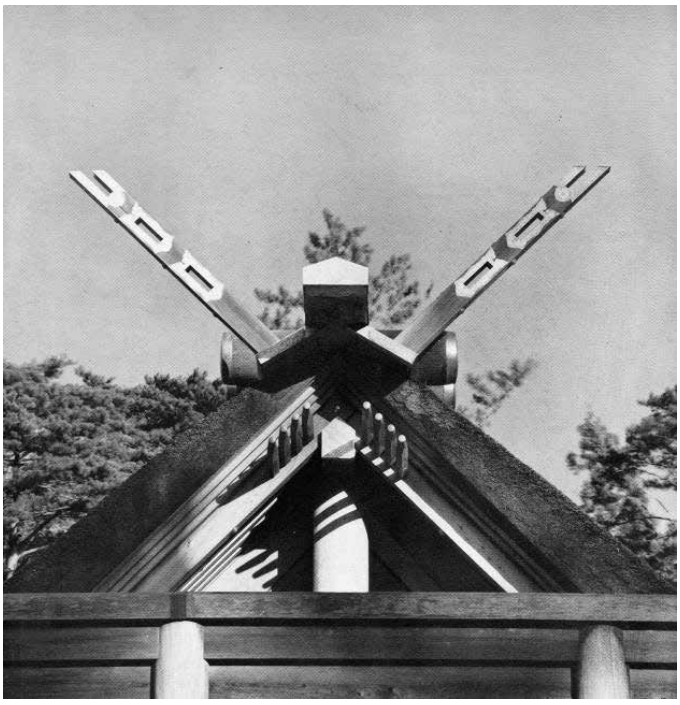

Figure 3
Detail showing the *katsuogi* and *chigi*.
(source: Watanabe, Y. in Tange and Kawazoe 1965: 85).

Many of *Ise*'s details were subject to foreign influence: The Inabe clan may have played a part in *Ise*'s original construction, and many of its techniques were developed by Korean artisans who, according to Paine and Soper (1974: 168) were the founders of the Inabe carpenters' guild – ancient local traditions were blended with new imported technologies.

In ancient times temporary shrines were built for important occasions, and these were forerunners of permanent shrines like those at *Ise*. The temporary shrines were constructed in the *Kuroki-zukuri* style out of logs with their bark left on, and with posts planted directly into the earth with no foundations. The roofs were made of thatch with green grass, and included *katsuogi* and *chigi*, while the inner chamber was also made out of grass with woven straw mats on the outside (Tange and Kawazoe, 1965: 176). The ceremonies, festivals and rituals of Shinto are collectively known as *matsuri*, and they often make use of portable shrines called *mikoshi* (PAHSS, 2013: 20). Nishi and Hozumi (1983: 40) are of the opinion that the early shrines possibly resembled *mikoshi* and that their primary structures would have been moveable.

These nomadic temporary shrines and field shelters, which are known in Japanese craft circles as *tenchi-gongen-zukuri*, or the "building type of the age of myth" (Paine and Soper, 1974: 164), were made from lightweight materials and often included the use of woven straw mats. They have since been stylised into permanent shrine architecture, but they share some similarities with the nomadic structures that were used by the Khoekhoen and San in southern Africa. A type still used today by the Nama, known as the *matjieshuis* or *!haru oms* in Nama, shares some material traits with the originators of *Ise*: In structure, there is some commonality with the *heichi jūkyo* flatland buildings, which had a conical shape made from bent poles, while its covering is similar to the reed walls used at the buildings at the *Ikegami-sone* site and the *Daijo-kyu*.

The main similarity, though, is due to the fact that the Khoekhoen and San lived a largely nomadic existence and hence their shelters were made from locally found materials that are light and portable, and which also had to be rebuilt regularly (Frescura 1998: 5). The *matjieshuise* in particular, are made from bent saplings and woven reed mats, or *biesiesmatjies*. The reconstruction and renewal in the case of the *matjieshuise* was out of the need for mobility and due to natural deterioration and not ritual, although Fisher (2017: 1) mentions the women's collection of reeds and weaving of the mats at the Biesjespoort project probably ritualised the telling of "water stories" and reinforced the myth of the "waterslang" (water snake). This is another trait shared with traditional homes in Japan that were often built with the aid of rituals (Earhart 1984: 76).

Regardless of the reasons, the craft traditions have survived due to this constant rebuilding. While the *matjieshuis* does not have many constituent parts, there is already division of labour: Males usually cut locally sourced tamarisk timber branches and strip them of thorns, before tanning them over a fire to remove the bark, and then planting them into the ground for a number of days in order to set. The poles are usually planted in the shape of a circle or oval of three to four metres in diameter and 1.2 to 1.5m in height (Frescura 1998: 5). In the meantime, females harvest the reeds, dry them in the sun, and weave them into mats with hand-made rope. Each hut requires between twenty and forty mats, which are tied to the structure with leather thongs or grass ropes (Experience the Northern Cape, 2017), and which were sometimes weighed down with flat rocks to prevent them from being blown away by strong winds. The mats were sometimes substituted or augmented with animal skins, although these were usually reserved for the lower skirt of the structure.

The *biesiesmatjies* are still used by the Nama for the construction of *matjieshuise,* and they are primarily used for storage, cooking space, additional sleeping space, and accommodation for tourists. The Richtersveld is the only place where they can still be found in large numbers and it is "a testimony to their suitability to the harsh climate, as well as to the strength of cultural traditions in this remote mountain desert" (Explore the Richtersveld, nd). The mats are climatically very effective, since they allow natural ventilation through the gaps between the reeds, but when they get wet, the reeds swell and provide improved protection from the rain.

The Richtersveld Cultural and Botanical Landscape was accepted as a World Heritage Site by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) in 2007, and one of the reasons for its acceptance was because "the seasonal migrations of graziers between stockposts with traditional demountable mat-roofed houses, !haru oms, reflect a practice that was once much more widespread over Southern Africa, and which has persisted for at least two millennia; the Nama are now its last practitioners" (UNESCO, 2007: 149).

Many professional teams working in the so-called global south, try to incorporate indigenous craft practices into their work. This is mainly to provide temporary employment for members or the local community, for the preservation of indigenous skills or as a "skills building" opportunity. Sometimes these practices can appear condescending and often they merely perpetuate the monotonous repetition of a well-known technique which results in products that are typically to be found at curio shops.

Many of these techniques have also lost their ties to a specific locality, since their prevalence has spread far beyond their original origin, especially in the African context where virtually the same items can be found in markets or shops from Cape Town to Nairobi. In only a few cases are ways explored of how to re-interpret a specific skill, to combine it with more advanced production techniques and how to provide means for the community to learn new and more advanced ways of utilising prior knowledge and extend their capabilities beyond their original position. Townsend (2016: 1) cites Laurajane Smith as stating that heritage is not so much about the physical object "but in the act of passing on and receiving memories and knowledge. It also occurs in the way that we then use, reshape and recreate those memories and knowledge to help us make sense of and understand not only who we 'are', but also who we want to be."

> Tradition by itself cannot function as the driving force for creativeness, but it always bears within itself the chance to stimulate creativeness (Tange in Tange and Kawazoe 1965: 52).

This would mean that the incorporation of craft techniques should not just be a means to an end for a project or project team as a way of "ticking the right boxes" or finding a popular avenue toward publication, but that it should primarily be used as a way for local communities to discover new possibilities and potentially establish sustainable sources of income. When Walter Gropius visited Japan in 1954, he suggested to a group of Japanese architects in Zen-like fashion to "Develop an infallible technique, and then place yourself at the mercy of inspiration" (in Tange 1965: 11). This may be what should be called for when making use of traditional crafts, where the technique is re-interpreted and adapted to create new expressions and contribute to the production of knowledge, not merely its preservation. The establishment of continuity is difficult, especially when project teams from the global north swoop in for a short period to do work in the global south: Sometimes continued mentorship, financing and marketing assistance is required, which would need to be budgeted for prior to project implementation.

The South African practice Crafford and Crafford Architects has for many years incorporated the use of local materials and locally available traditional crafts in their projects.

While in many cases, they have used the craft skills as found (for the purposes of job creation and skills preservation), they have also experimented with the adaptation of these skills into different forms of expression. This is especially evident at their projects Gannakouriep and Kokerboomskloofcompleted in 2005, where they used the traditional *biesiesmatjies* in a reinterpreted fashion in combination with modern materials as part of the roof construction of the new camps (Louw 2014: 37).

Figures 4 and 5
Left: *Matjieshuis* construction, Sandrif, 1991 (Source: Paul Grendon, UCT Libraries, Digital Collections); Right: Kokerboomkloof construction (source: Crafford and Crafford Architects).

Another design decision was planned obsolescence, which means that the continuous replacement of the *biesiesmatjies* was to be factored into the lodge's management plan: The plan was that the mats would have to be rewoven annually, thereby both preserving the skills and providing an intermittent income over the years, albeit a small one (Louw 2014: 38). Unfortunately this is not being done, since the mats were all covered with other materials in order to minimise maintenance: Most of the *biesiesmatjies* were covered with removable canvas sheeting, which is similar to the local practice of covering them with plastic sheets and other modern materials (Crafford 2017). This again raises questions about institutional commitment: While the willingness to embrace solutions that are not normative is to be commended, the necessary follow-through and acceptance of operational challenges is also needed. In terms of a management plan, the regular reweaving would have fitted in well with UNESCO's recommendations (2007: 150) which propose that "The two key areas for conservation measures are sustaining the grazing areas and sustaining the tradition of building portable mat-roofed houses." According to Crafford (2017), the weavers are reported to have expressed a sense of pride at being involved in the projects, and they are a tool for the transference and preservation of their cultural memory. In terms of an annual need for replacement, the process itself could even have become ritualised as an important cultural memory-event. UNESCO (2007: 149) describes the seasonal pastoral regimes of the Nama as being vulnerable, but that

> The authenticity of the traditional domed houses is mainly intact, despite the incorporation of some new materials along with the finely braided traditional mats. There are increasing numbers of young people interested in continuing the traditions.

Crafting forgetting: the Japanese concept of *wabi sabi* and designing for inevitability

Wabi sabi is a beauty of things imperfect, impermanent, and incomplete; it is a beauty of things modest and humble, it is a beauty of things unconventional quoted in (Koren 2008: 1).

Koren (2008: 21) goes on to describe it as "the most conspicuous and characteristic feature of what we think of as traditional Japanese beauty", and he notes that the closest English word to it is most probably "rustic". The words *wabi* and *sabi* are seen as interchangeable (Koren, 2008: 22, and Bartlett, Holland and Iten, 2008: 19), but Koren suggests that *wabi* refers more to a spatially-oriented, inward, subjective, spiritual path or philosophical construct, while *sabi* is a more temporally-oriented and objective aesthetic ideal that is related to physical things. Bartlett *et al* (2008: 19) translate *wabi* as "poverty and undemandingness", and *sabi* as "seclusion, ageing, patina and decay", while Nute (1993: 128) describes *wabi* as simplicity and *sabi* as rusticity.

> Things wabi-sabi are expressions of time frozen. They are made of materials that are visibly vulnerable to the effects of weathering and human treatment. They record the sun, wind, rain, heat, and cold in a language of discoloration, rust, tarnish, stain, warping, shrinking, shrivelling, and cracking. Their nicks, chips, bruises, scars, dents, peeling, and other forms of attrition are a testament to histories of use and misuse. Though things wabi sabi may be on the point of dematerialization (or materialization) – extremely faint, fragile or desiccated – they still possess an undiminished poise and strength of character. (Koren 2008: 62)

The idea of time frozen could be related to the art of *Kintsukuroi* or *Kintsugi* which, according to Bartlett, Holland and Iten (2008: 11), primarily convey a sense of time passing: "It may be perceived in the slow, inexorable work of time (*sabi*) or in a moment of sharp demarcation between pristine or whole and shattered." An architectural application of this sharp demarcation can be seen at the Chavonnes Battery Museum in Cape Town by Gabriël Fagan Architects (1999). More often than not, though, *wabi sabi* is about the acceptance of the passing of time.

Figures 6 and 7
Left: Tea bowl, Korea, Joseon dynasty, 16th century AD, Ethnological Museum, Berlin (source: Daderot, 2014. Retrieved from https://commons.wikimedia.org/wiki/ DSC02061.JPG on 27 February 2017;
right: The demarcation of old and new, with the worn and previously mended wall below the line at the Chavonnes Battery Museum, Cape Town, 1999, by Gabriël Fagan Architects (photographs by the author).

> The explanation for this can be found in a distinctively Japanese aesthetic perception and sensitivity which, rather than considering defects, wear associated with ageing, and imperfection in general as flaws, is able to discover a profound and touching quality in them. The roots of this mode of perception and sensitivity can be traced to the aesthetic ideals of *wabi* and *sabi*… (Bartlett, Holland and Iten 2008: 19).

Bruno Taut translates *wabi* as an artistic conception which is "the love of the atmosphere of age" or "to become, or appear, antique" (1936: 9 and 16). It is thought to have originated in the Taoist and Zen Buddhist ideals of natural simplicity and the acceptance of reality, but according to Koren (2008: 32) it reached the peak of its expression through the practices of the famous tea master Sen no Rikyu (1522-1591). It has since become an integral part of Japanese culture.

According to Earhart (1984: 15), a continuous theme in Japanese architecture is the appreciation and expression of the natural qualities of materials. The unpainted cypress and cedar, and the natural thatch that is used for the *Ise* Shrine are used as an example where the natural ageing and weathering of these materials contribute to the precinct's overall aesthetic. Paine and Soper (1974: 166) mention a *kuroki torii* or ceremonial gateway at *Ise* made of unplaned and irregular logs, which they attribute to a "late nature romanticism". This is similar to Mostafavi and Leatherbarrow's statement (1993: 6) that an appreciation of weathering is about a "romantic appreciation" of the appearance of age. Koren (2008: 8) mentions the fact the *wabi sabi* may not be to everyone's liking and Taut (1936: 13), while having extensive praise for Japanese architecture otherwise, clearly disapproves of *wabi sabi*:

> Though the Japanese may call *wabi* or *sabi* (antique) those rough planks half a metre in thickness which are placed on top [they] cannot contest the total nonsense of the thing. They may retreat behind national peculiarities, behind the marked irrationality of the Japanese character, and perhaps also behind the closeness to nature of the Japanese – which one likes to emphasise so much, and which is not doubted by anyone.

Although Kerr (2015: 159) writes about *wabi*'s "artifice, snobbery and artistic refinement", he commends its inherent beauty. *Wabi sabi* as described by Koren is essentially about the appreciation of imperfection, impermanence, incompleteness, modesty, humbleness and unconventionality. He states "The main strategy of this intelligence is economy of means. Pare down to the essence, but don't remove the poetry." (2008: 72) This has a very similar ring to the design approach of the South African architectural firm StudioMAS Architecture and Urban

Figure 8
Nature gradually taking over the roof and walls of 17 Glen Avenue within five years of its construction. 17 Glen, Higgovale, Cape Town, by StudioMAS Architecture and Urban Design, 2012 (photograph by the author).

Design, whose company profile describes the paradox of design as "the synergy of the tangible common sense of logic and the intangible qualities of poetry" (StudioMAS, undated: 1).

Koren (2008: 26 and 27) writes that *wabi sabi* is expressed primarily in the private domain, that it romanticises nature, and that it is about people adapting to nature. He lists some of its other traits as "Natural materials. Ostensibly crude. Accommodates to degradation and attrition. Corrosion and contamination make its expression richer." He also describes it as striving towards an organic organisation of form, or "forms with soft, vague shapes and edges". These points could easily have formed part of the project description of StudioMAS's award-winning project "17 Glen", which was completed in 2012:

> Considered a long-term urban experiment with the aim of encouraging conditions for life, 17 Glen Ave can also be viewed as a sculptural extension of the landscape. Over time, the building has been designed to disappear, engulfed by trees, plants, and small endemic wildlife that migrate between it and Table Mountain less than 50m away... The architectural approach is one of simplicity. Simple systems and materials have been applied to the design of this dwelling, to blend in with the presence of Table Mountain close by; the building offers human shelter that is integrated with a larger living system… The prominent curved sweeping wall of the design, relates to the sculptural forms of Lion's head and the curvature of the boundary road, evoking strong experiential qualities reminiscent to those of the Zimbabwe ruins (StudioMAS Architecture and Urban Design 2012: 1).

Koren (2008: 42) notes that "Things are either devolving toward, or evolving from, nothingness". 17 Glen is about metamorphosis: Philosophically, it is about a natural devolution of the building form into nothingness, where nature is allowed to evolve and take over in time. As Mostafavi *et al* (1993: 16) argue:

> Our aim in the argument that follows is to revise the sense of the ending of an architectural project, not to see finishing as the final moment of construction but to see the unending deterioration of a finish that results from weathering, the continuous metamorphosis of the building itself, as part of its beginning(s) and its ever-changing "finish".

Similar to another Project, House Protea in Cape Town (also completed in 2012), where the walls of the house are an abstracted cliff face which is designed to accommodate the growth of endemic air plants and succulents, it is about the structure allowing for the layering of time. These projects both have a sense of the ephemeral and they both exemplify the w*abi sabi* ideals of impermanence, imperfection and incompletion. They are about crafting a capacity for weathering, a "forgetting" of finish and maintenance, and the allowance for natural inhabitation. The buildings are a substrate for natural memory, rather than objects monumentally defying it.

17 Glen has, since its completion in 2012, been impressively inhabited by plants and animals: Despite the well-publicised drought that Cape Town has been experiencing in recent times, creepers on the walls, grass, flowers and succulents on the roofs, trees, bushes, grasses, ground covers and moss, have all found a welcoming environment for propagation. Different types of fauna have found a welcoming environment too – even holes in the walls that were designed specifically to attract bats show signs of habitation (although not necessarily by bats). Design Architect Sean Mahoney (2017), who is aware of the concept of *wabi sabi*, could not conceal his joy at noticing the establishment of different types of lichen on the in-situ concrete during a site visit. Mostafavi *et al* (1993: 32) would classify this as "'aesthetic' deterioration" and they are of the opinion that stains or patina of this nature adds to a building's sense of completeness. The project's awards citation (SAIA 2016: 19) notes that while (like many things *wabi sabi*) it may be an indulgence, this project is devoid of embellishment, and it refers to the architects' approach as making it a "sanctuary for life itself".

Romanticising decay may have its challenges in terms of human habitation where the deterioration of waterproofing and enclosure is left unchecked, but at the same time the philosophical authenticity could be undermined if the weathering of a building becomes a form of curated decay. Things are constantly moving back towards a primordial state, and these buildings are about the acceptance of the inevitable; of the man-made gradually disappearing, and nature gradually taking back what was once lost. Kurokawa (1977: 238) speaks about the revealing of "continuity and unity with nature", while Mostafavi *et al* (1993: 106) call this a building's "dematerialization and consequent democratization" and on a contextual basis as "the assimilation of an art work *back* into its location, the place *from which* it was first taken." (1993: 68).

Maré (2002: 94) contends that "The shrines at *Ise Jingu* embody an archetype of the polarities of the process of life in which renewal and destruction are unified. This is echoed by Kawazoe (Tange and Kawazoe, 1965: 167) who, while pondering the contrast between the full and empty site at *Ise*, notes that:

> The new sites, with their clustered buildings and quadruple fences, form a strange contrast to the empty spaces of white stones adjacent. It is the contrast, one might say, between existence and nonexistence. Yet, to the Japanese mind existence and nonexistence are basically identical.

Conclusion

The examples explored in this paper contain many ironies and contradictions. The *Ise* Shrines are about constant renewal, which preserves the memory of the local *kami* and the traditional craft techniques used to construct the Shrines. However, the origins of the buildings' forms and the purpose of some of its details are largely forgotten, and while the natural materials used to construct them are celebrated during construction they are largely "forgotten" during use, since they are untreated and allowed to deteriorate unchecked (only having to be there for twenty years). After demolition, they are sent off to be used on other projects before being finally forgotten. *Wabi sabi* on the other hand, is about the celebration of humbleness and decay: In this case natural deterioration is allowed to persist and it is seen to add character. The object's original condition is in a sense forgotten and left unmaintained at the mercy of its users and the elements, but the ravages of time add layers of memory to the forgotten base material. In the same way, the art of *Kintsukuroi* celebrates the memory of a specific moment, while the original whole object itself is largely forgotten. In the same way that existence and non-existence can be seen to be identical, memory and forgetting may be too. Memory and forgetting seem to be inextricably linked and they are one another's *raison d'être* – the one cannot exist without the other.

Notes

1 No author indicated, Calligraphy, *Encyclopedia Britannica* (1978: 17).

2 Verslag van die Staat van Het Openbaar Onderwys in den Oranjevrijstaat Diensjaar 1888 (The State Library, Pretoria, 1971: 4-6).

3 Personal collection, P.A.H Labuschagne, Paardenvallei Public School Minute Book: 1.

4 Private collection: Eben Bezuidenhout, Anthology of Z.G. Labuschagne: 6.

5 Lantern, No Author, The history of the collection, Lantern, October 1984, 33 (4): 5.

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Unique ceramic vases designed, crafted and painted by one creator

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Three examples of vases, by Exekias, Pablo Picasso and Ian Calder, are selected for analysis as designed artefacts, skilfully crafted and painted with coherent figurative compositions. In the works by these craftsmen-artists, design and art are complementary, and the representations on the surfaces of the vases disclose a contextualised cultural meaning.
Key words: ceramic vases, Exekias, Pablo Picasso, Ian Calder, complementarity of design and art

Unieke keramiekvase wat deur een skepper ontwerp, gevorm en beskilder is
Drie voorbeelde van vase, deur Exekias, Pablo Picasso en Ian Calder, is vir ontleding gekies as artefakte wat vaardig gemaak en met samehangende figuratiewe komposisies beskilder is. In die werke deur genoemde vakman-kunstenaars is ontwerp en kuns komplementêr en daarbenewens onthul die voorstellingts op die vaaswande 'n gekontekstualiseerde kulturele betekenis.
Sleutelwoorde: keramiekvase, Exekias, Pablo Picasso, Ian Calder, komplementariteit van ontwerp en kuns

The purpose of this research is to explore a theme in the design of ceramic wares relating to the painting of figurative compositions on their surfaces by the same craftsman-artist. Three such examples of vases designed, crafted and painted with figurative representations, by Exekias, Pablo Picasso and Ian Calder, are selected for appraisal as designed artefacts in the sense of being skilfully crafted functional objects in which design and art are complementary. Besides the pleasing and innovative formal design qualities of the chosen vases they are enhanced by painted figurative representational compositions that merit the added value of symbolically transforming their surfaces by means of pictorial communication. Furthermore, it is assessed how the technical and artistic aspects of the chosen vases disclose contextualised cultural meanings.

A theoretical approach: the difference between art and design

A theoretical approach to design and art needs to acknowledge that both are creative processes that shaped human evolution and intelligence since their earliest phases. The differences between functional and symbolic aspects become evident when the task of designer and artist are compared, especially in the creation of a single artefact like a ceramic vase.[1] It is proposed that although design and art are distinct fields of human endeavour they may also become complementary, reciprocally enhancing their diverse purposes and manners of expression in the shape and embellishment of an artefact.

The production of tools and instrumental products by means of design improved the survival probability of our *homo habilis* ancestors, who originated two-and-a half million years ago, for one million years.[2] These original designers of tools were craftsmen and craftswomen whose useful products were often skilfully shaped. Subsequently, styles developed in the formal design of functional objects and artefacts as the need for them became more complex, the experience of their inventors increased and the availability of resources expanded. Moreover, the intentional and purposeful shaping of tools to fulfil a function, initiated a process that eventually led to the development of science and technology. The design process not only enabled evolving

humans to act and survive in the world. It became a process that enabled *homo sapiens* to act purposefully in various life-worlds, to develop personal identities as well as an aesthetic sensibility that eventually enabled the species to become *homo pictor*, symbol-producing human beings.

In art, like in science, paradigms expressing world views evolve that transcend mere stylistic developments. Since the time of the Cro-Magnon race that lived in Europe between 30,000 and 100,000 years ago and were skilled toolmakers as well as artists famous for the cave art at Lascaux, Chauvet and Altamira, until the early twentieth century, figurative representation was the enduring artistic paradigm. However, within this long-lasting paradigm many personal and group styles can be identified during various periods, especially in Western art history.

There are distinctions between art as a symbolic activity, and the technical activity of craftsmen, even though both are dependent on intelligent planning and are meaningful on a cognitive level. Tsion Avital designates design products as "hand tools", which quite literally are objects that can be handled or afford a functional material manifestation, distinguishing them from works of art which he designates "mind tools": "A figurative painting is a *symbol*, part of a pictorial symbol system, and as such as mind tool" (Avital 1992: 65).[3] An artist's creation in the form of a figurative representation is a symbol system intended for communication on a conceptual level that denotes a level of abstraction from reality: "When an image is externalised [in a work of art], it preserves the qualities of connectivity and generalisation which it had in the mind of that person as image. Thus every figurative painting is a generalisation and for that reason it is a symbol" (Avital 2017: 55).

The foremost complementary cognitive aspect between the processes of creating art and designing utility products is that both the designer and the artist need to have an image, plan or concept of what he or she intends to realise before proceeding to implement it in a chosen material form or medium. Avital (2017: 204) explains: "The starting point of both the tool maker and the artist is a certain image. The difference is that while the tool maker uses the image for a template for the construction of any number of a specific tool or objects, the artist uses the image in order to make pictorial symbols." In other words, both the designer and the artist has foresight; they both plan an imagined future outcome, either purposeful or symbolic. That is unless a painter, for example, has no image or plan for a painting, but a misguided intention to splash paint on a canvas in a random, gestural way in the hope that some art historian will discover a fractal formation or some other meaning in the so-called "abstract" outcome.[4]

Ceramic wares decorated with painterly compositions

The term "ceramic" derives from the Greek word *keramos*, meaning "clay", which has always been the main ingredient for the fashioning of useful products, mainly to contain liquids or foodstuffs. Shaped from moist clay and hardened by heat such objects were often decorated in various ways.[5] For example, in the tradition of the Italian Renaissance ceramic practice majolica wares are glazed, hand-painted with metal oxides and fired a second time to enhance the decorations or depictions on their surfaces by means of translucent colours.[6]

The decoration of ceramic products is a universal phenomenon. In Greece the potter traditionally executed his skill on the wheel, but seldom decorated his own products with ornamental motifs and/or figurative scenes. The painting of ceramic wares was most often, and is still done by a different specialist, an accomplished painter. However, the painting of a coherent figurative composition on the surface of ceramic ware required, and still requires,

the skill of an excellent and original painter. If the design function and artistic representation become complementary, the ceramic work is transformed into a unique bi-dimensional artefact in which diverse manners of expressions are reciprocally enhancing. It needs to be emphasised that when a design product, such as a ceramic vase, is decorated or painted artistically to acquire a symbolic communicative value, it does not lose its functional purpose, even if, as often happens, the decorated ware is assessed by collectors as a self-referential work intended only for display, either in a private collection or a museum.

Ceramic vases, designed, crafted and decorated with coherent figurative compositions on their surfaces by the same person are highly exceptional. Below follows an appraisal of the selected vases by three designer-artists.

An appraisal of ceramic vases by designer-artists

Exekias

In the Attic ceramic output there are many examples of vases by designer-craftsmen which display compositions by competent painters on their surfaces. However, one of the earliest and the main example of the exceptional phenomenon of a vase designed, crafted and painted with coherent figurative compositions by one gifted man, is by Exekias (active in Athens between 545-530 BCE).[7] Exekias was a black-figure era potter and painter – undoubtedly the greatest Attic craftsman and precursor of the Classical style – who in a few instances signed his name on amphorae as both potter and painter.

Actually, the references to "design" and "art" when discussing a Greek ceramics are *posteriori*. It would be more appropriate to refer to Exekias's manner of creation in the Greek terms of *epistēmē* and *techné*. The first term referred to knowing how to do something in a craft-like way; subsequently, the application of this skill and knowledge was referred to as *techné*. In his time Exekias's renowned masterpieces would not have been evaluated as exceptional, even though they exhibited his dual skills, as designer and artist. To his contemporaries Exekias was a craftsman, a category that, at the time, did not distinguish between, but included all "design" and "art" practices – such as pottery, painting, sculpture and architecture.[8]

As a first step in the design process Exekias fashioned an innovative form for the amphorae on which he painted figurative scenes. Their forms are vastly different from archaic Greek examples of mass-produced amphorae (*circa* 720-550 BCE), used for the storage of wine, honey or olive oil, that had elongated shapes, without a base (figure 1). Exekias followed the design trend that came in vogue during the geometric period (ninth to eight century BCE), which gradually changed the shape of amphorae to enable surface decoration in the round. This trend continued until the beginning of the sixth century when such pots acquired a distinct proto-belly shape (figure 2). The full belly shape of Exekias's design was obviously carefully planned in concept and crafted for his imaginatively conceived painterly compositions on its rounded surfaces, mostly with a mythological reference that would have been recognised by contemporaries. As craftsman-artist Exekias was clearly in control of the full creative process and left nothing to chance or an assistant: he shaped the clay himself and masterfully painted and sgraffitoed[9] his ware with mythological scenes, turning the surfaces on both sides of his amphorae into works of art, without obliterating its purpose as a container. One might venture to say that there is a complementarity between the utility or purposefulness and the purpose-free artistic expression in such artefacts.

Figure 1
Examples of archaic Greek amphorae stacked in a ship (retrieved from https://en.wikipedia.org/windex.php?title=Amphora&oldid=637240495).

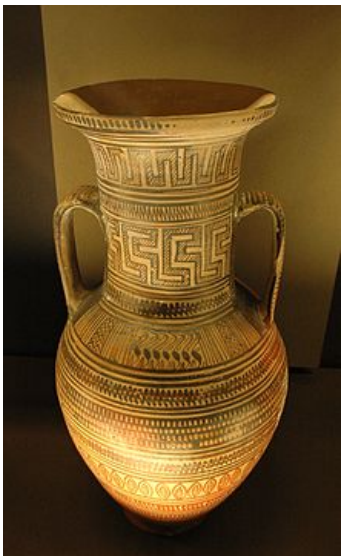

Figure 2
A geometric period Attic amphora, circa 725-700 BCE (retrieved from https://en.wikipedia.org/windex.php?title=Amphora&oldid=637240495).

The most renowned example by Exekias is the belly amphora painted with scenes on both sides, representing mythological subjects (figure 3).The design of this ceramic piece is more elaborate and refined than most belly amphora. It has an unprecedented unbroken curve from lip to foot, forming the large surfaces that allowed for the two painterly compositions; it is also exceptional because it has a stepped foot, cylindrical handles and a flanged rim. For the planning of the composition Exekias devised a method of outlining the drawing with thin, incised lines, which he then shaded with various hues of white.[10]

On the one side of the curvature between the handles of the pot the subject of the painting refers to the friends Ajax (right) and Achilles (left) throwing dice on a board during the time of the Trojan War at a time when they were not fighting. They are depicted in the act of making a move with the dice to establish who would assassinate Hector, whose death would cause the fall of Troy.

The heroes are so focussed on the outcome of the dice throws that they sit intently on the edges of their low stools, bent forward over the board supported on a centrally placed game stool at the centre of the composition, the object that is the closest to the viewer on the curved

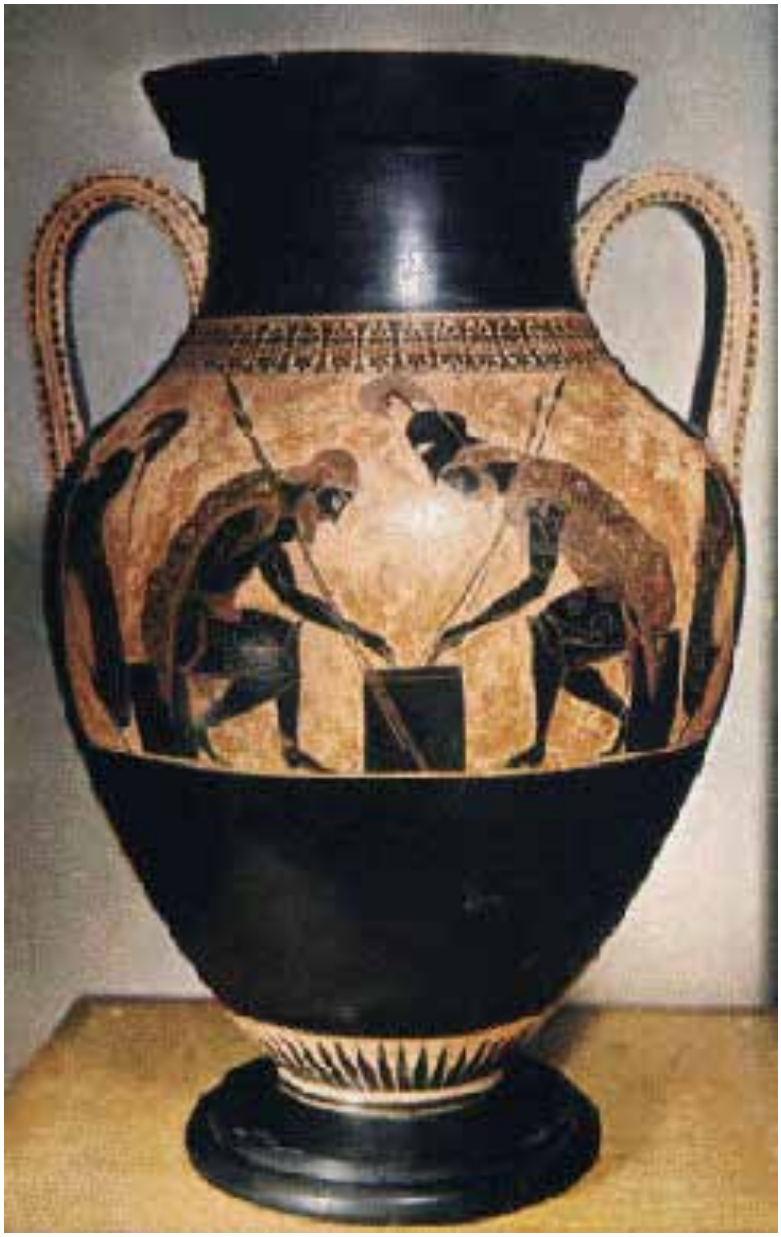

Figure 3
Exekias, Attic black-figure belly amphora, representing Ajax and Achilles throwing dice, *circa* 530-25 BCE, height 61 cm, Musei Vaticani, Vatican City (retrieved from https://www.slideshare.net/rqueree/3-exekias-belly-amphora-1782345).

surface. The focus is on the hands of the players on the board and the implicit drama of the fall of the dice. The composition is adapted to suit the continuously curved shape of the amphora, allowing the postures of the two opposing figures to echo its arc, but subtly avoids complete symmetry. The participants' heads are contained within the oblique lines of a "V" formed by the differentiated spears that they hold in their left hands, resting them on their shoulders. Compositionally the straight lines of the spears serve another function by pointing to the top of the handles and as such leading the viewer's eye away from the board to the neck of the pot. Both Ajax and Achilles are clad in battle-ready armour with their shields positioned behind them. However, the finely crafted textile cloaks that cover their backs afford a soothing softness to their warrior appearance. Ajax bends slightly more than Achilles who wears his Corinthian helmet while Ajax's is placed on top of his shield behind him, thus giving the former a greater physical prominence and symbolic advantage, alluding to his destiny to slay Hector and become

Figure 4
Exekias, Attic black-figure belly amphora, representing the family of the *Dioskouroi*, *circa* 530-25 BCE, height 61 cm, Musei Vaticani, Vatican City (retrieved from https://www.slideshare.net/rqueree/3-exekias-belly-amphora-1782345).

the hero. In this regard Katerina Thomas (1985: 105) states: "The interpretation of the scene of Achilles and Ajax as an oracic consultation about crucial events in the Trojan war around which evolved the fates of these two heroes accounts for Achilles' prominence in the composition for he was to slay Hector."

On the other side of the amphora Exekias painted an elegant figurative scene, referred to as the family of the *Dioskouroi* (figure 4). The composition comprises five standing figures, a horse and a dog, grouped according to their interactive relationships, but their movements are limited on the sides according to the curvature of the panel demarcated for the composition. The figures depicted belonged to the mythical royal family of Sparta. At the far left the naked Polydeukes is greeted by his dog which is superposed over his mother's peplos. His mother, Leda, does not see him, because her attention is turned to her other son, Kastor, standing behind his horse placed in the centre of the scene, who turns his head to receive the flower she offers him. Tyndareos, Leda's husband, pats the horse. On the far side of the panel a little boy carries a stool, oil and clothing intended for Polydeukes.

This scene has been variously interpreted, but since no story has been associated with it, E. Anne Mackay (1979: 475) offers a revisionist view, concluding: "I suggest, therefore, that Exekias has chosen to represent the Diskouroi iconographically, but has given his scene more immediate appeal by depicting them *en famille*."

Pablo Picasso

The second example of a ceramic work designed, executed on the wheel, and painted is chosen from the vast output by Pablo Picasso (1881-1973), renowned as a modernist painter. However, he also experimented extensively with clay at the Madoura workshop in Vallauris, Spain, where he collaborated with the owner, Suzanne Ramié.[11] He often shaped pots like sculpture and decorated them with various figurative motifs. The design of these works and their painted

decorations are often innovative and always seemingly spontaneous. However, many drawings testify that Picasso carefully considered the design of his pots, planning their shapes and the surfaces to be painted before proceeding to execute them on the wheel. However, it is not sure whether Picasso could have executed a sophisticated vase by himself. The *Bullfight* vase is very well thrown with good balance and would have required more skill than a part time throwing amateur like Picasso would have been capable of, despite his stature as an artist.[12]

To illustrate Picasso's skill as a designer-artist the example chosen is entitled *Bullfight* (1958), a white earthenware clay turned vase with decoration in engobes (red, black)[13] under partial brushed glaze (figures 5 and 6).

Picasso, the Spaniard, was an avid bull-fight spectator and the vase he designed and painted celebrates devotion to the ring as a feature of Spanish culture. In contrast to Exekias's static pictures, Picasso emphasises narrative by means of cinematic movement around the orb-shaped surface of the vase. Characterised by independent scenes representing a continuous narrative in time and space, each event occurs in one particular moment at one particular place. This genre became well defined in Hellenistic and Roman art, but was previously already practiced in the decoration of Attic and Classical Greek pottery. Thus, Picasso's idea of a narrative around the surface of a vase is not original, but he dealt with it in a remarkably accomplished way.

The bull-fight narrative commences as the conquistadores leap onto their horses while the spectators positioned beneath the monumental red arches of the bull-ring watch events unfold. To view the narrative the pot has to be turned, an action that emphasises its three-dimensionality,

Figures 5 and 6
Pablo Picasso, *Bullfight*, 1958, height 32 cm and diameter 20,5 cm, Madoura Plein Feu, Edition Picasso (retrieved from https://www.masterworksfineart.com/artist/pablo-picasso/bullfight-1958).

which also enhances the viewing of the decorative motif of birds taking flight around the neck of the vase.

The destiny of Picasso's vase was to be commercially copied and the replicas sold to become exhibition pieces, thus negating its functional purpose. In terms of the difference between art and design, as explained, Picasso's original composition of the bullfight narrative is turned into a template.[14] Thus, repetition of the painting invalidates its uniqueness as a work of art.

Ian Calder

Ian Calder studied ceramics within a BA(FA) and MA(FA) degrees at the former University of Natal (now the University of KwaZulu-Natal). During the 1970s era the inclusion of ceramics as a craft-oriented discipline within the Fine Arts curriculum was probably unique at South African universities, due to the derogatorily meant appellation of "handicrafts" attached to ceramics. However, in collaboration with a ceramics colleague Calder developed new research capacities in indigenous ceramics. Studying, researching and experiencing at first hand the fusion of art and craft in the local material cultures of KwaZulu-Natal changed their received ideas about the parochial divisions of Fine Arts in late modernism.

Calder's vases are intended to be useful, both utilitarian and as vessels with interior and exterior surfaces that offer shaped "canvases" in the form of a curvilinear surfaces to draw and paint upon. Metaphorically speaking, Calder refers to the vases he creates as containers of ideas, carrier-forms for pictorial concepts about his creative concerns as an artist working in KwaZulu-Natal, which is a complex multi-cultural zone.

To express intended visual ideas on a vase surface Calder plans the whole composition by sketching designs and compositions with a graphite pencil onto the powdery surface of wares bisqued[15] during a first firing in a kiln over which he subsequently poured a tin glaze. Having planned the whole composition with pencil, he then proceeds to paint the designs, using raw oxides of metal diluted with water. At this stage the raw oxides resemble black or grey inks. Since the surface of the glaze is highly absorbent, thin and friable, corrections to the oxide washes are almost impossible. Calder's majolica technique is incredibly challenging as the glaze surface sucks hard on the brush because of the high degree of porosity, with the result that it is difficult to prevent smudging. Therefore, Calder asserts that "mistakes have to be incorporated into a design; corrections to the oxide washes are almost impossible. I'm acutely aware of the spontaneity and immediacy that this imposes on my painting process, and enjoy the sense of impulsiveness and 'artlessness' that I have to work with to complete a piece".[16] In the second firing at 1080 the higher heat converts the raw materials into a glossy white glaze, and transmutes the black and grey metal brushstrokes into highly colour-saturated areas.

Calder usually includes several individual painted motifs around the curvilinear surfaces of the ceramic vessels he creates and titles them by listing the principle elements depicted. He does this intentionally to emphasise the three-dimensional form of his ceramics. Thus the viewer is encouraged to experience the elements of time and movement of the narrative sequence in the juxtaposed motifs by literally moving around the vase to see the array of depictions placed around its curvilinear surface. This physical movement Calder compares to the visual action of "traversing" a two-dimensional painting, or a natural three-dimensional landscape in order to grasp the whole view.

Figure 7
Ian Calder, *Rooster, Vase, Battle Hill, height 26,5cm, width at widest point 17,5cm and rim 9,5cm* (photograph by Ian Calder).

The vase chosen for discussion is referred to as *Rooster, Vase, Battle Hill,* a title according with Calder's practice to list the principal elements of the design (figure 7). The first depiction that merits discussion is the painted vase as a depiction of the real object on the surface of which it appears. This form frames a landscape painting.

The landscape reference reveals the context in which Calder works. He explains that he draws with watercolours, *en plein aire* on site, such as the renderings of various mountain views

that stand on their own and to which he does not directly refer when painting a vase (figure 8). The landscape on the vase represents a mountain outcrop near Isandlwana, an iconic battle-hill site, painted from memory in the studio. Though it is not the battle-hill itself, Calder contends that the image has become so embedded in his work that he is capable of painting the hill from memory in an imaginary way from almost any viewpoint. It has become a generic representation of historical inter-cultural battle scenes in South Africa, of which many are marked by a hill or a mountain stronghold; consequently, it is an emblem of conflict and commemoration.

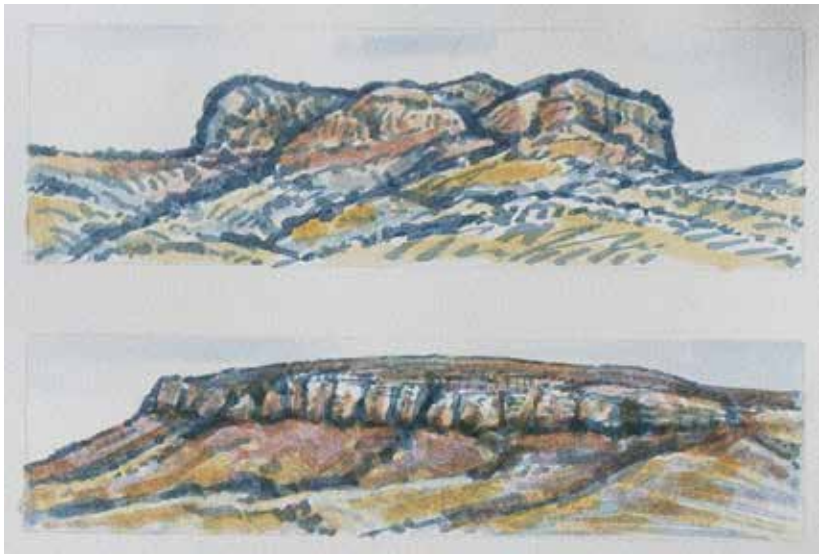

Figure 8
Ian Calder, watercolour sketches of mountain ranges near Isandlwana (photographs by Ian Calder).

Calder often depicts indigenous plants or flowers on his vases. In this case the four delicate watsonia flowers on long stems were picked from the hill-site (figure 9). The tough corms are long-lasting, but the ephemeral flowers prompt the artist to give a thought to memory that is short-lived. Perhaps he has in mind our historical memory of the battle at Isandlwana.

Figure 9
Ian Calder, watsonia flowers on long stems depicted on the vase (photograph by Ian Calder).

On the side opposite the depiction of the vase a strutting rooster is depicted in meticulous detail (figure 10). This strutting creature seems self-sufficient and foolhardy; he looks away from the battle-hill and does not communicate with the viewer either. He is, according to Calder, emblematic of the danger that pride comes before a fall.

Figure 10
Ian Calder, rooster depicted on the vase
(photograph by Ian Calder).

It is left to the viewer's imagination to link the various depictions on the vase or to view them as separate entities. The depictions may evoke reminisces about how time changes our memory of the past and, moreover, that both memory and flowers are ephemeral and that pride cannot be sustained.

Conclusion

This research afforded me the opportunity to investigate the different disciplines of design and art enhanced by the phenomenon that they can be linked in a complementary manner by the collaboration between designers and artists, albeit demonstrated in the article by a limited number of examples of works by designer-artists.

Designer-artists are a special category of original creators. Historical examples spring to mind: Leonardo da Vinci, a painter who also designed machines and architecture; Michelangelo Buonarroti, a painter, sculptor and architect; Benvenuto Cellini, a goldsmith and sculptor who fashioned and cast his own works; Gianlorenzo Bernini, a sculptor and architectural designer

who decorated a chapel interior he created with paintings by himself; and William Morris, a nineteenth-century designer and master of various crafts. This is a field of study that has not received the attention it merits. Especially in our age of specialisation there is a need for emphasis in the education of designers and artists on their contribution to the creation of artefacts that combine the purposefulness of design with purpose-free artistic expression.

Notes

1 In my discussion of the theoretical differences and complementarity of art and design I am greatly indebted to Avital's (1992 and 2017) analysis of the two creative disciplines. For the discussion of the ceramic vases in the text I have selectively appropriated his terminology regarding the relations between art and design.

2 *Homo habilis*, one of the earliest members of the genus *Homo*, lived 2,4 million to 1,4 million years ago. The name which means "handy man", was given in 1964 because this species was thought to represent the first makers of stone tools. However, according to current research, the oldest stone tools are dated slightly older than the oldest evidence of the existence of the genus *Homo.*

3 Avital (2017: 63) actually postulates three levels of reality. First order reality consists of all manmade objects to which he refers to as "body tools" (also designated "hand tools). The second order reality consists of all symbol systems and their products, referred to as "brain tools". The third order reality is referred to a "mind tools" that is postulated as "transcendental structuralism".

4 I was asked by a critic why I chose vases with figural compositions and not "any with 'painterly' abstract designs". The answer is straightforward: "'painterly' abstract designs" are designs consisting of colour and line. Thus reduced to the most elementary elements of painting, such "abstract designs" lack symbolic meaning and are therefore not works of art.

5 For more detailed information about the Western ceramic tradition, see Coutts (2001).

6 Fournier (1977: 145) defines majolica technique as "the painting with metal oxides on a white, generally tin-opacified earthenware glaze". The technique requires that after the first bisque firing to about 1000 centigrade or less, the ceramic ware is dipped into glaze, then painted with oxides on top of this layer of not yet fired raw glaze.

7 Publications about Exekias are extensive. The New Zealand scholar, Elizabeth Anne Mackay wrote her doctoral thesis about Exekias, entitled *Exekias: A Chronology of His Potting and Painting*, submitted to the Victoria University of Wellington in 1982. In 2010 she published a definitive study on Exekias.

8 Umberto Eco (2005: 191) reminds us that "[m]odern aesthetics frequently forgot that the classical theory of art, from ancient Greece to the Middle Ages, was not so eager to stress a distinction between arts and crafts. The same term (*techne, ars*) was used to designate both the performance of a barber or a shipbuilder, the work of a painter or a poet".

9 "Sgraffito" in ceramics practice terminology refers to the process of incising a design. Founier (1977: 202) defines sgraffito as "decoration in which slip or other coating is scratched or cut away to reveal the clay body beneath".

10 In black-figure vase painting "figural and ornamental motifs were applied with a slip that turned black during firing, while the background was left the colour of the clay. Vase painters articulated individual forms by incising the slip or by adding white and purple enhancements (mixtures of pigment and clay)". Retrieved from https:// www.metmusem.org/toah/hd/vase.htm on 14/11/17.

11 For an overview of Picasso's ceramic works, see (Wooding, Milliet and Barrier, eds., 2004).

12 Concerning Picasso's skill on the wheel, the following evidence is relevant: "Suzanne [Ramié] gave him some instruction. She was the potter who started Madoura with her husband. […] She had the pottery training. Other potters worked for them too. It seems that Picasso did not actually throw or fire pots but that potters there made them." Retrieved from https://www.quora.com/How-was-Picassos-pottery-made.

Even if witnesses may have claimed to have seen Picasso seated at the potter's wheel, "it is highly unlikely Picasso threw his own pots, wisely depending on the expertise of the Madoura staff to create the basic building blocks of his ceramic output: jugs, platters, plates and vases". Retrieved from https://www.artguidenw.com/Picasso.htm.

13 "Engobes" is also known as clay slip, which is liquid clay that may be coloured by the addition of metal oxides, and "can [alternatively] be composed of materials more usually associated with glazes [such as] feldspars, flint, opacifiers and fluxes" (Fournier 1977:78).

14 According to Avital (2017: 204): "[W]hile the tool maker uses the image for a template for the construction of any number of a specific tool or objects, the artist uses the image to make pictorial symbols."

15 Bisque is a firing "to render the pots less fragile and make glazing easier" (Fournier 1977: 22).

16 This statement by Ian Calder was included in an e-mail letter to the author, dated Tuesday, 8 August 2017.

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Like a fish in water: the smooth hybrids of Jackson Hlungwani

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This article enlists the thought of Bruno Latour, to facilitate study of the smooth, hybrid qualities of Jackson Hlungwani's sculpture. Following an introduction and discussion of how other scholars have characterised his work, the paper moves to consider the "nature-culture" notion of philosopher Bruno Latour – which it is argued – exemplifies Hlungwani artful craft. And, finally a discussion of selected works follows, set in relation to three themes: object and figuration, abstract geometry and material, function and metaphoric representation.
Key words: Jackson Hlungwani, Bruno Latour, hybrids, sculpture, craft

Hierdie artikel is gebaseer op idees van Bruno Latour om die studie van die gladde, hibriede kwaliteite van Jackson Hlungwani se beeldhouwerk te fasiliteer. Na die inleiding en bespreking van ander kundiges se karakterisering van sy werk, word die "natuur–kultuur"- idee van Bruno Latour vervolgens in verband met Hlungwani se vaardige handwerk oorweeg. Laastens volg 'n bespreking van gekose werke wat in verband gebring word met drie temas: voorwerp en figuur, abstrakte geometrie en materiaal, asook funksie en metaforiese voorstelling.
Sleutelwoorde: Jackson Hlungwani, Bruno Latour, hibriede, beeldhouwerk, handwerk

As those who knew him personally will testify, "like a fish in water" was a favourite saying of Jackson Hlungwani's. I myself heard him mention it, the memory of which is most clear. He stood there before me with arms spread and thumbs raised, beaming a smile as he exclaimed "like a fish in water"[1]. Wanting to know more of what he meant, I endeavoured to ask those who knew him well[2]. Architect Peter Rich explains that 'like a fish in water' was for Hlungwani, an expression of sheer joy, and art historian Rayda Becker confirmed, "[w]hen Jackson felt good, when he was happy, he would say "I feel like a fish in water"[3]. Rich also recalls how Hlungwani spoke of the fish as "something that always moves forward, not backward". As a creative being, "it's related to the fact that … you need to choose work that gives you pleasure, and you enjoy doing"[4]. In a recorded interview, Hlungwani states "I am shoeshine like a fish in the water. I also have nothing apart from what you see", an expression of joy (shoeshine) and integrity[5]. The fish is also a mixed metaphor for Hlungwani, combining personal practises and beliefs, with the symbol of Christ, the "fisher of souls"[6]. A Tsonga proverb about fish, which Hlungwani would surely have known, states "[i]f you do not get something at once, you will not get it later" (Junod 1973: 87). No doubt derived from an experience of fishing – the Tsonga fish and eat fish – this proverb speaks of human agency and the uniqueness of every moment.

Hlungwani carved more fish than any other subject matter[7]. His sculptures that capture the fluid, smooth and slippery quality of the creature, provide a fitting symbol for his flowing and inclusive creativity. Like the fish he so admired, Hlungwani's imagination is one that swims with the flow, moving around, over and between things. Never resistant, against or opposed. This paper hopes to portray the smooth hybrids of Hlungwani creative work. Following an introduction and discussion of how other scholars have characterised his work, the paper moves to consider the 'nature-culture' notion of philosopher Bruno Latour – which it is argued – exemplifies Hlungwani artful craft. And, finally a discussion of selected works follows, set in relation to three themes: object and figuration, abstract geometry and material, function and metaphoric representation.

Introducing Hlungwani

Jackson Hlungwani (1923 - 2010), without doubt one of South Africa's finest sculptors, was born at Nkanyani in Limpopo Province (Bila & Waller 2012: 25) (Rankin 1989: 110). His father Mundunwazi had learnt metalworking and carpentry whilst working for the railways and the mines, and taught his working skills to his son. As Hlungwani recalls, "we used to work together just the two of us … My father, taught me to make bedstands, chairs, tables, boxes, doors, mortars, pestles, spoons, porridge stirrers, scoops, sticks and head-rests" (Burnett 1989: 58). After some years as a migrant worker in Johannesburg, Hlungwani lost a finger in an industrial accident, was retrenched and decided to return to his home, a rural village at Mbokoto near Elim in Limpopo (Rankin 1989: 110). His earliest carvings in wood are dated from the 1960s. However, it is roughly from the 1980s onward that Hlungwani produced the wood sculptures for which he is renowned (Burnett 1989: 31). His work first came to prominence in the 'Tributaries' (Burnett 1985) exhibition, curated by Ricky Burnett in 1985. Then later, and more substantially so in the 'Jekiseni Hlungwani Xagani' (Burnett 1989) retrospective exhibition of 1989 in Johannesburg, also by Burnett, which in 1990 travelled to Windhoek (in Namibia), Harare (in Zimbabwe) and Pietermaritzburg (Bila & Waller 2012: 11). Further exhibitions in South Africa and abroad would introduce his work to a global audience[8].

Ricky Burnett (Burnett 1989) notes the remarkable turning point in Hlungwani's life, with the emergence of a truly original and accomplished body of work from around 1980 onward – as if seemingly from nowhere. He writes, "we must conclude that he becomes an artist suddenly and that his achievements are the result of activity and vision rather than struggle and discovery" (Burnett 1989: 31). This creative awakening is the result of a Shaman-like near-death experience and spiritual awakening. Reverend Théo Schneider published from an interview with Hlungwani which documents this remarkable story (Ibid: 58 - 62). According to Hlungwani, it was Satan who shot arrows through his legs. One remained in his right side, and he was unable to walk. The pain proved so unbearable that Hlungwani conspired to commit suicide by drinking the poisonousness sap of the *nkondze* tree[9]. One night, having obtained the poisonousness sap, Hlungwani saw a vision. Jesus and two others appeared before him. Pointing to his wounded leg, Jesus spoke – "You see today you are healed, you will not die … You will serve God for the whole of your life … You will see God himself. Look over there" (Ibid: 60). Soon after Hlungwani is drenched with water that fills the entire hut up to his loins – a baptism of sorts, perhaps? – and upon waking, he discovers that he can walk. Schneider estimates the date of Hlungwani's vision to be 1978, shortly after which he emerges as a Shaman-like healer, a Christian preacher, and the flourish of his creativity begins.

Characterising Hlungwani's work

"I am concentrating now on carving things related to this [my] God-given task", says Hlungwani (Ibid: 59). A self-professed mission, which arguably, has contributed to the unique and somewhat 'difficult' characterisation of his work – are we dealing here with sculpted art works, architectural adornments of his New Jerusalem or sermons carved from wood? It's not surprising, therefore, to find that existing scholarship on Hlungwani has tended to present different aspects and explanations of his work. Journalist and art critic Ivor Powell, for example, emphasises the shamanistic aspect of Hlungwani's work. In his piece "In the Soul of the Shaman" devoted to Hlungwani, he writes, "[a] student of comparative religion would note that Hlungwani is an artist of what is possibly the most ancient kind – the shaman" (Powell: 1989)[10]. And, when describing Hlungwani's vision and subsequent healing, journalist van Niekerk writes, "[h]is

story … conforms very neatly to the archetypal myth of the shaman, seer and medicine man“ (van Niekerk: 48)[11]. From this perspective, Hlungwani’s sculpture might derive from spiritual visions, with intention to heal, and therefore not merely art objects, in the modern, Western sense of the term.

Art historian Anitra Nettleton, by contrast, downplays the Shamanistic side of Hlunwani’s work that might connect him to a ‘mythical past’ (Bila & Waller 2012). Instead, she emphasises the highly original and creative modernity of his art. Nettleton writes, “Jackson Hlungwani was, on the contrary, a man of his time, a modern artist with similar political concerns and moral dilemmas as those held and faced by the city-dwellers who went to visit him” (Ibid: 8). For art historian Rayda Becker, the salient aspect of Hlungwani’s work is the way it connects between ‘two worlds’ – between African and Western/Christian traditions. She writes, “Hlungwani developed a cosmology that is an eclectic amalgam of biblical events and Tsonga mythology, a belief system in which he freely adopted ideas and images from two very different world views, and reflecting contradictions and oppositions which Hlungwani often expressed verbally in a system of dualities” (Ibid: 60). From this perspective, Hlungwani’s sculpture may be appreciated for their hybrid mixture of traditional and modern, African and Western themes.

A different insight into Hlungwani’s is offered by architect Peter Rich. Rich – who had been a long-time friend of Hlungwani’s – surveyed and made a scaled architectural drawing of Hlungwani’s New Jerusalem (figure 1). The New Jerusalem, a spiritual acropolis-like site, was constructed by Hlungwani upon the ruins of an Iron Age settlement that he had discovered in the 1950s, in close proximity to his home village at Mbokoto (Burnett 1989: 27). Hlungwani’s New Jerusalem – described by him as ‘the New Country home of God and Christ’ (Ibid: 27) – was formed from organic stone enclosures and walls, terraces and paths that climb the natural terrain, culminating in an outdoor chapel and beyond toward the Temple of Jupiter and Golgotha. In an interview, Rich explained his view that this ambitious excavation and stone construction would have consumed substantially more time and labour than was given to Hlungwani’s sculpture[12].

Figure 1
Plan of Jackson Hlungwani’s New Jerusalem, drawing by Peter Rich (courtesy Peter Rich Architect).

Many of Hlungwani's best known sculptures were in fact sculpted, purposefully, for the New Jerusalem. The chapel, where Hlungwani would teach, preach and heal, was spatially ordered through the positioning of sculptures such as *The Altar of God*, *The Altar of Christ*, *The Ariel of God*, and other large figurative works (Ibid.)[13]. By implication, Hlungwani is the architect of an African cathedral, structured and adorned with didactic, religious art[14]. His sculptures are here conceived as site-specific creations, rather than separate objects for display in art galleries.

Arguably, the richness of Hlungwani is that he can readily absorb the varied explanations that are offered for his work – each of which mentioned here have clear merit. His work is multi-layered. Schneider's attention to Hlungwani's theology, however, provides a key insight into Hlungwani's work. He writes "Jackson Hlungwani moves as it were between Israel and Africa. Where outsiders might detect endless contradictions … Hlungwani sees a perfectly integrated order of things, based on his firm belief in the creator God of Genesis" (Ibid: 9). And in support of which, when questioned by Schneider as to his use of the Bible, and the divining bones of traditional African healers, Hlungwani remarkably replies "[y]es for me who is a Christian, the Bible is my bag of divining bones" (Ibid: 62). Schneider's interpretation has special appeal, for it introduces the sense of continuity rather than contradiction, the idea of daring and seamless hybrids rather than an admixture of incompatible worlds.

Latorian hybrids

What we might call the smooth hybridity of Hlungwani's vision is, perhaps, best explained with reference to the work of Bruno Latour. In his book, *We have Never Been Modern* (Latour 1993), Latour presents a diagram, titled 'purification and translation' (Ibid: 11), which aims to explain the leading thesis of his book (figure 2). A horizontal line divides the picture into two primary zones, above and below (annotated 'second dichotomy'), whilst a vertical line sub-divides the upper part into left and right (annotated 'first dichotomy'). Starting with the upper portion, distinct domains of 'culture' and of 'nature' are here contained, and importantly separated, by

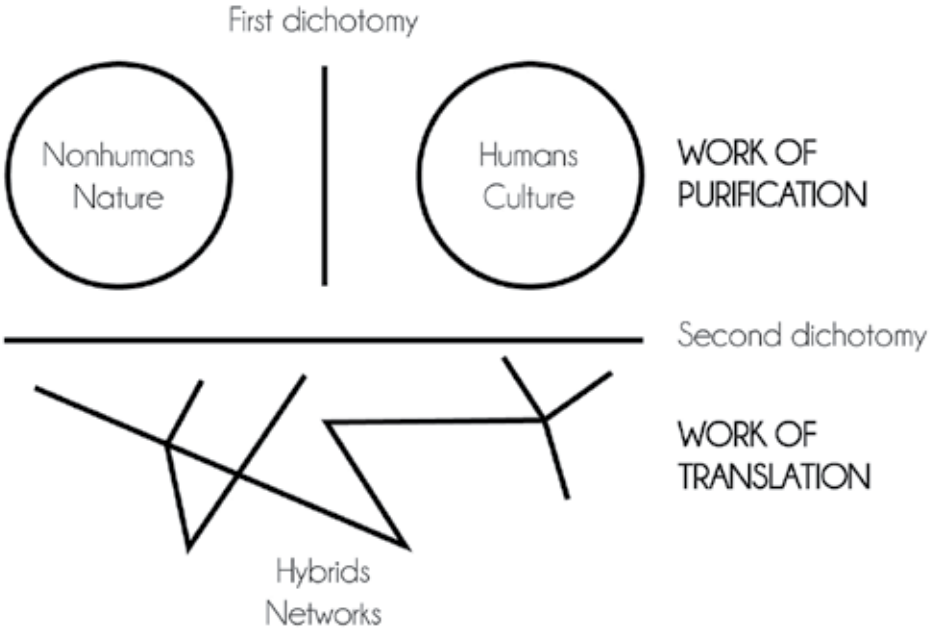

Figure 2
'Purification and Translation', drawing by Sander van Leusden after Bruno Latour (Latour 1993: 11).

a pair of full circles. The configuration illustrates Latour's view that, within modernity, the 'constitution of modern knowledge' relies upon a narrow, two-sided ontology – we either find ourselves on the side of nature, or on the side of culture.

How did this come about? If we might allow some crudity for the sake of brevity, Latour's leading intuition is that the emergence of the empirical sciences involved a purification of what is commonly called "pre-scientific" knowledge. Simply put, myth, fantasy and belief had to be bracketed out to facilitate the genuine advance of positive, scientific knowledge. And in converse motion, the new freedoms afforded by the advance of modernity encouraged an 'enlightened' view of culture which was increasingly deemed to be self-made, assertive and self-critical. Hence a two-sided motion was initiated that effectively severed nature from culture. Animals might remain subject to the whim of nature, but we, the "moderns",[15] have supposedly won our autonomy, have won our freedom – we humans benefit from culture, they the animals are at the mercy of nature. Yet, despite this double motion, few would ultimately deny the extent to which "human nature" and "human culture" are embedded within the natural world, and vice versa. So, the dislocation that the 'moderns' have invented for themselves is false – false but apparently, unthinkably so. Hence, as the title of Latour's book suggests, we have never been modern. We have never been modern because we never did achieve the full autonomy – nor the "self-critical" freedom – of culture over and against the assumption of a universal and compliant nature. The "second dichotomy" depicted by the horizontal line shows the primary zone below, of networks and hybrids. Here, contrary to the depiction above the line, the real substance below – if we may call it that – of "nature-culture" is a connected terrain, of motion, mediation and translation. Thinking above the line, we are conscious of the explanations that the "moderns" have crafted for themselves (a two-sided ontology of nature versus culture, and of what Latour calls the modern "critical project"), whilst below we are confronted by a wild terrain of "unthinkable" hybrids that translate and mutate seamlessly between human and non-human (for example, robotics, prostheses, artificial intelligence), between cultural and natural domains.

It is Latour's thesis that, for the "moderns", the work of purification (differentiating, focusing, defining, separating) was disassociated from that of translation (joining, connecting, relating, networking), but in fact the success of the one hinges upon that of the other. Ultimately, we are modern to the extent that we fail to see the two-sided operations of purification and of translation, and the assumed self-critique of modern intellectual culture is premised upon this disassociation. Quoting Latour,

> So long as we consider these two practises of translation and purification separately, we are truly modern – that is, we willingly subscribe to the critical project, even though that project is developed only through the proliferation of hybrids down below (Ibid: 11).
>
> Here lies the entire modern paradox. If we consider hybrids, we are dealing only with mixtures of nature and culture: if we consider the work of purification, we confront a total separation between nature and culture. It is the relation between these two that I am seeking to understand." (Ibid: 30)

The "second dichotomy", that between the upper and lower portion of the diagram, is somewhat reminiscent of Freud's discussion of the unconscious (1915) with the illustration of an iceberg, only a small portion of which is viewable whilst the greater mass floats below surface (Freud 1971). The image depicts Freud's theorised relation of the conscious (the smaller portion that can be seen) with that of the more determinate and primary unconscious processes of the mind (the larger portion below). By inference, the purifications of modernity are merely the visible tip of the iceberg, whilst below Latour wishes to acknowledge "the expanded

proliferation of hybrids" whose very existence the 'moderns' deny (Latour 1993: 35). Latour does not present his argument with respect to Freud, but he does admit to the 'unconscious' implication of his portrayal. Quoting Latour, "[e]verything happens in the middle, everything passes the two [nature and culture], everything happens by way of mediation, translation and networks, but this space does not exist, it has no place. It is the unthinkable, the unconscious of the moderns" (Ibid: 37).

For Latour, nature, reason, myth and fantasy are connected, or at least potentially so. Because, the necessary purification of this against that (for example, of nature as opposed to myth), will likely introduce a new barrage of wild and unexpected connections (which may allow for various re-imaginings of nature). It is important to note that for Latour, we do not merely possess closed and finite domains (such as the purity of science as opposed to politics or art), but rather intelligence – human or otherwise – works to achieve ever expanding and dynamic relations (networks), which can be navigated in various ways. And, as he makes clear, the relations in question are not simply the "cultural" construal of narrative, of language, but are far more besides[16]. They are the untameable paths that connect, for example, ideas to physical objects, natural patterns with desires, flows with systematizations, robotic measurement with theoretical models and positive knowledge with the exercise of power.

Of nature and culture, of art and craft

Hlungwani is best known for his large figurative works, such as *The Altar of God*, *The Altar of Christ* and various figures associated with these[17]. These works, which have been studied by others, commonly blend elements drawn from Tsonga beliefs and material culture with Christian icons and types, to produce an inventive, unique and hybrid iconography (Burnett 1989) (Nettleton 2009) (Bila and Waller 2012). However, as already noted, Hlungwani originally learnt woodworking from his father, through the crafting of utilitarian, household objects. And although he emerges post 1980 as an artist-sculptor, his attention to the crafting of functional objects remained. Indeed, as Schneider notes, Hlungwani's figurative/iconographic works are in any case 'functional', in the sense that they support religious teaching and devotion (Burnett 1989: 12). Purposefulness is a recurring feature of Hlungwani's work, a fact that perhaps derives from a blending of art and craft. It is an aspect which has been inadequately studied by others, and to which we shall now turn.

If – after Latour – we might say that art is often thought to sit on the culture side of nature, then craft sits somewhere between.[18] On the one hand, a crafted object is a creation of culture, and sometimes artistically and creatively so. On the other hand the usefulness of crafted objects – be it a walking stick, a bowl or headrest – derives from the constraints of nature and of need. The crafted object is a Latorian hybrid, one that connects ideas with ingenuity, materiality with processes, object type and formation with natural necessity. The crafted object is an idea and an object, an artefact and a tool, a form and a function, a 50/50 admixture of culture (human) and nature (non-human).

The art and craft of Hlungwani's work will now be considered with respect to three important themes, namely: object and figuration, abstract geometry and material, function and metaphoric representation. This will elaborate upon the character of his hybrid creations.

Object and figuration

Ordinarily we would distinguish between natural objects, artefacts and works of art – where a natural object merely is, an artefact also requires human selection (i.e. acculturation), whilst an artwork is surely an artefact of a somewhat special or privileged kind. Following George Dickie's 'institutional' theory of art (Dickie 1974)[19], for example, we may observe that artworks are twice removed from nature, once by virtue of being a human artefact, and twice by virtue of the institutional/artistic selection that is required to differentiate art. *School of Fish*, by Hlungwani is in this respect, a remarkable work, one that connects seamlessly between our various senses of a natural object, an artefact and a work of art. Seen from a distance, on the gallery wall, *School of Fish* appears as though it were a branch taken from a tree, or perhaps a piece of drift wood (see figure 3). The wood was obviously selected by Hlungwani before it was carved and displayed, and the work retains much of its former, natural character and form. Approaching the work reveals the presence of numerous fish that swim along the branch, as if carried by the current of a stream (see figure 4). The length of the piece and the grain of the wood flow in the direction of the stream. Figuratively speaking, the branch is the water, and the grain is the stream. Fish emerge from the grain. Sometimes they appear fully formed, as if they have surfaced or at least are momentarily visible through clean water. On other occasions, fish are immersed in the grain, in the turbulence of the stream. Some are almost indeterminate, appearing almost wood, almost water, almost fish.

Emergence and Submersion – wood becomes water becomes fish becomes water becomes wood: a fluid metamorphosis which establishes an intriguing relation between object (namely wood) and figuration (namely water and fish). Ordinarily we might say an object/medium is mute for the medium is not yet art, whereas figuration speaks thanks to representation. Only here, it's as if portions of the wood retain the inherent sense of natural wood and expressively so, whilst other portions bear the figurations of art. Perhaps Hlungwani invites nature to speak to art, whilst adding an art that transforms back to nature.

Abstract geometry and material

A respect for the nature of materials is an important part of the art of craft. A master crafter intuitively thinks the nature of things, works with the compliance of materials, cuts, carves and constructs but only just so. She knows how to join, how to form, but also when to stop, what to avoid, the limitations as to what a particular material might allow for. The work of craft is never merely the projection/representation of a pure intention, an idea, or a form. For, the pragmatic nature of the process and of material constraints accompany the mastery of craft. Hlungwani unquestionably shows the imagination of an artist, whilst retaining the skill and material sensibility of a crafter.

The bowl pictured here (see figure 5)[20], for instance, is chiselled from an almost square block of wood. A barrelled depression is carved to form the hollow of the bowl, the lower surface of which bears the angled cuts and marks of chisels, a record of the process of making. Walls angle up from the hollowed inside to form outer sides. The original block of wood would most likely have had four almost equal sides, two facing sides of which are caved back to allow an ease of access into the bowl at either end. The other pair of facing sides retain their geometry from the original block, only thinned from below to form a pair of handles. The work also shows a careful and inventive resolution of geometry. Note for example how adjacent sides transition with each other and with the curvature of the bowl. Here toward each of the four corners, a small

Figure 3
Jackson Hlungwani *School of Fish* (Wits Art Museum, private collection, photograph by author, published with permission of the Hlungwani family).

Figure 4
Jackson Hlungwani *School of Fish*, detail (Wits Art Museum, private collection, photograph by author, published with permission of the Hlungwani family).

Figure 5
Jackson Hlungwani, geometric bowl (Peter Rich, photograph by Barry Goldman, published with permission of the Hlungwani family).

triangle is formed on the inner, vertical face of the handles, and a small thickening of the one side curves to join the upper surface of the handle, a resolution both delightful and inventive. The bowl bears a simple, elegant and at times playful geometry, and an almost bilateral symmetry. 'Almost', because the geometry is never pure, the surface is never clean, the resolution is never 'perfect'. Instead, the natural irregularity of the wood allows for subtle shifts and accents, fluid diversion from the stricture of geometry. As with the *School of Fish*, this bowl demonstrates a fluid metamorphosis, where, in this case geometry morphs into wood, and wood into geometry.

Function and metaphoric representation

When a sculptor carves an object, such as a chair or a bowl, an obvious question arises as to the purposeful intention of the work. Is it a bowl, or a sculpture of a bowl? The large bowl pictured here (see figure 6)[21] has a size, a weight and grandeur that lends expression to the ceremonial act of cooking, and of eating. Note the coiling inner formation at the mouth of the bowl. Perhaps a stylisation of hot soup, or water when stirred? And the outer circle of incised triangular zig-zags which spills to one side: perhaps a stylisation of splashed water? Perhaps so, perhaps this piece is a sculpture of a bowl, an artistic metaphor for the ceremonies and joys associated with cooking and eating.

The food platter, pictured here (see figure 7)[22] provides a subtle and beautiful combination of metaphor and function. What a wonderful serving platter this would be. You could place your meats, vegetables and starches for display on separate plates. Note the circle on the left, which includes a smaller plate within, perfect for a dip, a spice or a sauce. I'm quite sure the food would look fantastic, and guests would gather to feast with glee. The carving respects the organic property of the wood, with an artful and considerate imposition of geometry in the interest of functional design. Now note the shelf that curves and rises at the back, forming a sculpted edge to the piece, a decorative aspect like one might find on expensive, carved furniture, closer inspection of which reveals the sculpted form of a fish. The fish is embedded and abstracted such that it merges with the wood, but is clearly present upon closer inspection. If this work is intended as sculpture, then perhaps it celebrates an important meal, one that was served with fish[23]. But, even if intended as sculpture, one must surely note the anthropomorphic, one-to-one, real life size and function-able nature of the piece. The point being you certainly could use this piece for serving food – it would function perfectly for such use. This is not something you could say of many art works. This work clearly links metaphoric expression with the pragmatics of function and use.

A further example is provided by this magnificent throne (see figure 8)[24], the metaphoric properties of which are clear to see – a flared, winged back rest which is reminiscent of a bird, suggesting flight, or perhaps rays of light that shine from the majesty of the throne. Observation of the supporting structure, however, reveals a sense of carpentry, the rationalised joining of structural members designed for load. And most interesting of all, are the carpenters' joints, in particular where a diagonal support slots into the seat, and where horizontal members slot through side wings (see figure 9). And once again, the scale of the work is anthropomorphic, life size. It's surely not unreasonable to conclude that this is a function-able chair, and a sculpture of a chair – a work of art and work of craft, an inventive hybrid of nature-culture.

Figure 6
Jackson Hlungwani, ceremonial bowl, 1987 (Peter Rich, photograph by Barry Goldman, published with permission of the Hlungwani family).

Figure 7
Jackson Hlungwani, food platter, 1987 (Peter Rich, photograph by Barry Goldman, published with permission of the Hlungwani family).

Figure 8
Jackson Hlungwani, throne, 1987 (courtesy Wits Art Museum, published with permission of the Hlungwani family).

Figure 9
Jackson Hlungwani, drawing of throne (Wits Art Museum, drawing by author).

Conclusion

This paper has enlisted the thought of Bruno Latour to facilitate study of the smooth, hybrid qualities of Jackson Hlungwani's sculpture. An emphasis on the crafted character and quality of Hlungwani's work provides a useful avenue for demonstrating the inventive relations of nature-culture that inform his work. This study was here achieved through a consideration of object, figuration, geometry, material, function and metaphor. Lesser known works were discussed, yet the findings of the paper are relevant to much of Hlungwani's work. For instance, with his figurative works the sense of metamorphosis from the medium, the mixing of figuration with wood as object, is often paramount. At the New Jerusalem geometric order repeatedly shows subtle shifts and organic mutations derived from materiality and topography, and similar deviations

may be observed in many, if not all, of Hlungwani's carved objects. Finally, a theological, didactic purposefulness qualifies much of his highly imaginative sculpture – works that merge metaphor with function, vision with symbol, imagination with life. Jackson Hlungwani is more than an artist, in the 'modern' sense of the word, for surely he is the creator of magnificent and highly provocative, nature-culture hybrids.

Notes

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1 I met Jackson Hlungwani at his New Jerusalem site in 1987. The occasion was part of a second year, Wits architecture student tour to Elim and Mbokoto, conducted by Peter Rich, who was lecturing second year architectural design at that time.

2 Specifically, Rayda Becker (December 2016), Ricky Burnett (September 2016), Peter Rich (June 2015, April 2017) and Karel Nel (April 2017).

3 Interview with Rayda Becker, December 2016, Cape Town.

4 Interview with Peter Rich, April 2017, Johannesburg.

5 The Wits Art Museum have DVD copies of live interviews conducted between Hlungwani, Reverend Théo Schneider and others, but about which no further information is provided. Rayda Becker, however, clearly quotes from the same interview that is cited here, the date for which she lists as February 1989 (Burnett 1989: 23). Translation from Tsonga to English was kindly provided by Dr. Nxumalo at the University of Limpopo.

6 As much is suggested in the recorded interview with Hlungwani, see footnote 5.

7 As much is noted by Lionel Abrahams (Burnett 1989: 14), Rayda Becker (Ibid: 20) and Peter Rich (Ibid: 25).

8 Notably: 'Images of Wood' exhibition at The Johannesburg Art Gallery in 1989; 'Art from South Africa' exhibited in Oxford and London in 1990/91 and Edinburgh in 1997; at the Watari-um gallery in Tokyo, Japan in 1994; "Authentic Woodcarver" retrospective exhibited in Polokwane in 2012, amongst others (Rankin 1989) (Bila & Waller 2012).

9 *Nkondze*, or the Candelabra tree / Naboor (Burnett 1989: 59).

10 During my interview with Ricky Burnett (September 2016), he kindly gave to me a personal file of newspaper and media clipping relating to his curated exhibitions of Hlungwani's work. This citation is taken from one of the clippings I found in the file. Unfortunately, no publication details are included on the clipping. Reference to the 'Jekiseni Hlungwani Xagani' exhibition however, strongly suggests that this would have been published in 1989.

11 This citation is taken from Ricky Burnett's file of newspaper and media clippings (see footnote 10). Unfortunately, no publication date is shown on the clipping.

12 Interview with Peter Rich, June 2015, Johannesburg.

13 On the Altar of God were included figures of *Christ, Cain, Cain's son, Cain's Aeroplane, Angel Gabriel (III), Shangaan Warrior 1, Shangaan Warrior 2, God and Christ Panel 1, God and Christ Panel 2* and *Jonah's Fish*. While the Alter of Christ housed *Angel Gabriel (III), God, Fish, God Playing Football, Solar Arc* and *Metal Cross* (Nettleton 2009).

14 Schneider adds a helpful insight concerning the didacticism of Hlungwani's work – "[l]ike the figures created by his predecessors the traditional Venda and Tsonga wood-carvers, Hlungwani's sculptures may be interpreted as a collection of teaching aids" (Burnett 1989: 12).

15 'Moderns' is the term that Latour uses (Latour 1993).

16 In this respect, Latour's notion of nature-culture is substantially more persuasive than Homi Bhabha's 'hybridity' (Bhabha: 1994) – for the translations of Bhabha's hybridity, do not circulate beyond the discourses of language.

17 See note 13.

18 Which of course is not to say that nature-culture hybrids aren't applicable to art. But rather, craft demonstrates the culture-nature realtion with unique clarity.

19 According to George Dickie, "[a] work of art in the classificatory sense is (1) an artifact (2) a set of the aspects of which has had conferred upon it the status of candidate for appreciation by some person or persons acting on behalf of a certain social institution (the artworld)" (Dickie 1974: 34).

20 The bowl shown here in figure 5 forms part of Peter Rich's Hlungwani collection, and is without know title or date.

21 The large bowl shown here in figure 6, from Peter Rich's Hlungwani collection, appears as item 108 in the "Jekiseni Hlungwani Xagani" catalogue, titled "Pot", 1987 (Burnett 1989: 46).

22 The food platter shown here in figure 7, from Peter Rich's Hlungwani collection, appears as item 109 in the "Jekiseni Hlungwani Xagani" catalogue, titled "Multiple Bowl with Fish Motif", 1987 (Burnett 1989: 48).

23 Perhaps the meal of bread and fish is the one the risen Christ served his disciples on the shore of lake Tiberias. Following the Biblical account in the book of John, chapter 21, verse 9.

24 The throne shown here in figure 8, forms part of the Wits Art Museum's Hlungwani collection. It appears to be item 210 pictured in the "Jekiseni Hlungwani Xagani" catalogue, titled "Throne (V)", 1989 (Burnett 1989: 56).

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Walking and mapping as craft in architecture

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This paper explores the tacit practice of walking as a craft that already exists in the design process of the architect. Made explicit, and with the help of mapping, walking may offer a powerful tool for the architect to participate more actively in the project of social change. The benefits of walking and mapping are examined and some suggestions are offered on how to bring them together. Walking the line becomes drawing the line in an interactive and iterative cycle. Recordings of a site by a designer entail a range of activity types, from personal observations, interviews or casual conversations with project stake-holders, to interpreting existing maps and research data. The recordings that result between site, body and architect's studio aim to contribute to an engaged practice; a practice that remains true to the multi-modal nature of architecture that brings together the various crafts that go into making buildings. This practice of recording responds to the various and often conflicting social and material, visible and invisible, realities of a given context. The designer's approach to recording and understanding information at the start of a project, and the way this process is crafted, will frame and determine the direction, and level of social responsiveness, of the eventual design. The paper sets out walking types and mapping techniques presented as the craft of walking and mapping. This process involves the iterative process of drawing, which entails recording, understanding and projecting as interconnected actions of the designer. It is hoped that if the recording stages of the design process explicitly engage and reveal the lived realities of the site, the design will stand a better chance of resonating with its users in a meaningful way.

Key words: walking, mapping, recording, revealing, design

Περπάτημα και χαρτογράφηση ως αρχιτεκτονική τέχνη

Αυτή η μελέτη διερευνά τη σιωπηρή πρακτική του περπατήματος ως τέχνη που υπάρχει ήδη στη διαδικασία σχεδιασμού του αρχιτέκτονα. Αφού διασαφηνιστεί, και με τη βοήθεια της χαρτογράφησης, το περπάτημα μπορεί να προσφέρει ένα ισχυρό εργαλείο για τον αρχιτέκτονα να συμμετέχει πιο ενεργά στο έργο της κοινωνικής αλλαγής. Αναλύονται τα οφέλη του περπατήματος και της χαρτογράφησης και προσφέρονται κάποιες προτάσεις σχετικά με τον τρόπο με τον οποίο μπορούν να συνδυαστούν. Το περπάτημα της γραμμής γίνεται η σχεδίαση της γραμμής σε ένα διαδραστικό και επαναληπτικό κύκλο. Οι καταγραφές ενός εργοταξίου από σχεδιαστή συνεπάγονται μια σειρά από τύπους δραστηριοτήτων, από προσωπικές παρατηρήσεις, συνεντεύξεις ή περιστασιακές συνομιλίες με τους ενδιαφερόμενους φορείς του έργου, στην ερμηνεία των υφιστάμενων χαρτών και των δεδομένων έρευνας. Οι καταγραφές που προκύπτουν μεταξύ του εργοταξίου, του σώματος και του γραφείου αρχιτέκτονα αποσκοπούν να συμβάλουν σε μια δεσμευμένη πρακτική· μια πρακτική που παραμένει πιστή στην πολύμορφη φύση της αρχιτεκτονικής που συγκεντρώνει τις διάφορες βιοτεχνίες που είναι διαθέσιμες για την κατασκευή κτιρίων. Αυτή η πρακτική της καταγραφής ανταποκρίνεται στις διάφορες και συχνά αντικρουόμενες κοινωνικές και υλικές, ορατές και αόρατες πραγματικότητες ενός δεδομένου πλαισίου. Η προσέγγιση του σχεδιαστή στην καταγραφή και την κατανόηση πληροφοριών κατά την έναρξη ενός έργου και ο τρόπος με τον οποίο δημιουργείται αυτή η διαδικασία, θα πλαισιώνουν και θα καθορίζουν την κατεύθυνση και το επίπεδο κοινωνικής ανταπόκρισης του ενδεχόμενου σχεδίου. Η μελέτη καθορίζει τύπους περπατήματος και τεχνικές χαρτογράφησης που παρουσιάζονται ως η τέχνη του περπατήματος και της χαρτογράφησης. Αυτή η διαδικασία περιλαμβάνει την επαναληπτική διαδικασία σχεδίασης, η οποία συνεπάγεται καταγραφή, κατανόηση και προβολή ως αλληλένδετες ενέργειες του σχεδιαστή. Αναμένεται ότι εάν τα στάδια καταγραφής της διαδικασίας σχεδιασμού δεσμεύουν ρητά και αποκαλύπτουν τις υπάρχουσες πραγματικότητες του εργοταξίου, θα έχει καλύτερη πιθανότητα το σχέδιο να αντηχεί κατά τρόπο ουσιαστικό με τους χρήστες του.

Λέξεις-κλειδιά: περπάτημα, χαρτογράφηση, καταγραφή, αποκάλυψη, σχεδιασμός

The research that underpins this paper began as a response to the challenges presented to the discipline of architecture to be more active in the project of social transformation through spatial design (Low 2003). Architecture is often criticised for being static and incapable of coping with current world conditions that are unpredictable and in constant flux. It is also criticised for placing excessive focus on form, on visible aspects over the invisible. This paper offers some suggestions on how to start a design process, by engaging a closer connection to the lived realities of a site, in the belief that this will increase the possibility of producing design that is responsive to those realities.

The word 'craft' refers to the ability to make something that involves skill and is often considered in opposition to 'knowledge'. However, craft is also associated with the term *techne,* which according to Heidegger, is not a mere process of making. Merely making something implies standardization and predictable outcomes (Nadal 2010). Instead *techne* offers a mode of revealing through the making. This suggests that the practical skill of making is capable of leading to knowledge.

This paper examines two specific skill sets of the architect with the potential to increase the possibility of revealing knowledge through making. It entails making explicit the architect's tacit know-how of walking in the design process. It also explores ways in which to visualise, or map, invisible aspects of the city that may be used to inform design. If architects intend to contribute to, and participate in, the project of social transformation, the process of design must necessarily be responsive to the lived realities of the site and its context.

The architect's craft

While the architectural product is a building, the practical skill of the architect lies predominantly in the ability to imagine a new reality and to communicate and instruct others to build. This means the architect must develop know-how in construction and in design; crafts that belong to the construction site and those that belong in the studio. In his book, *Languages of Art,* the philosopher, Nelson Goodman, refers to these two forms of practice as autographic and allographic art forms (Goodman 1968, cited in Allen and Agrest 2000).

Autographic refers to art forms that rely on the direct presence of the artist for the quality of the work to be realised. Allographic refers to those art forms that can be reproduced at a distance from the author through a method of communication, such as the music score in music. The allographic artist relies on conventions to communicate the intentions of the work and on interpretation by those who will perform the work at a distance. The performer will interpret the composer's score as the builder will interpret the architect's blueprint.

The allographic arts do not merely mimic reality. They produce new realities through a system of notations. As such architecture can be used to imagine a city that is equipped to facilitate positive change and cope with the unpredictable. The drawing of the architect (as autographic production) is often considered to be disconnected from reality. This has led to two polarised views of either valuing design as the true work of the architect or, conversely, considering the built product as the architect's only valid production. However, it is the architect's drawing, the representation, that makes the building possible and the building will inevitably carry the traces of skills and techniques used to draw it. This paper proposes one way to adjust this position, to bring the design process of the architect closer to the reality of the site, and that is through the act and the metaphor of walking, visualised through mapping.

Designers typically make the mistake of treating the initial stage of gathering and collating information about a site as detached from the design process (Wright 2011: 109-122). This, however, is where the focus of the type of transformation desired of the final design can be identified and targeted. A well-crafted building begins with a well-crafted walk to the site and recordings of the findings.

A critique of mapping

Since the Enlightenment, Western cartography, along with planning, urban design and architecture, developed its technical production based on the absolute belief in science. Cartographers claimed to 'mirror nature' assuming a direct correlation between reality and its representation (Rorty 1979). Based on the scientific rigour of its technical production, cartography therefore claims to be an authority on truth. Harley offers a critique on this position: "Never mistake the map for the territory … while territory may be authoritatively mapped, it can never be truthfully mapped" (Harley 1989).

Maps reflect and reinforce social inequalities. The hierarchies set up by mapmakers reinforce power relations, be they political or economic. An emperor's palace may be placed on a map while the home of a lesser subject is likely to be omitted. The value placed on vehicular transport over walking will result in a map clearly marking freeways but omitting footpaths. Maps therefore conceal certain realities in favour of those that further their agenda. They provide us not only with the measurement of the physical world but also with an image of the social order. Maps have therefore come to be associated with the modernist, universal approach to planning as instruments of power that reinforce the view that something is either true of false. The dominant logic is presented as truth negating any position that contradicts it. How then can mapping be considered to contribute to the transformation of established power-relations?

The power of mapping

If maps are products of the rules of geometry and equally products of social norms and values, they are both quantitative and qualitative. This aspect of mapping opens the possibility of engagement and enquiry from absolutes to the recognition of cultural phenomena as valuable informants to map-making (Harley 1989).

> Although drawn from measured observations … maps are neither depictions nor representations but mental constructs, ideas that enable and effect change. In describing and visualising otherwise hidden facts, maps set the stage for future work. Mapping is always already a project in the making. … Through reformulating things differently, novel and inventive possibilities emerge. (Corner 1999)

It is precisely because maps are not a true reflection of reality that they have the power to create an alternative reality, one that is underpinned by whatever agenda the mapmaker wishes to pursue. This implies that the map can also be a means for discovery and a means for change (Harley 1989; Graafland 2012).

Roland Barthes stated: "to catalogue the world is to appropriate it" (cited in Harley 1989). Appropriation is a form of power through the control of knowledge. Working according to a set of values and related criteria, the mapmaker gathers specific data leaving out information about the territory that does not fit the chosen criteria. The power of the map lies in how it catalogues knowledge and makes it available. But it has the ability not only to conceal but also to reveal, allowing us to 'see' what is not yet visible. Mapping can therefore help us uncover unimagined

or previously unseen realities. James Corner explains how mapping can be more than a reductive and authoritarian instrument. It can be an instrument of visualisation; it can be used to understand spatial relationships and to store information. It has the potential to be a research tool through which we can understand relationships and recognise patterns and tendencies. If seen in this light, mapping, like architecture can bring together scientific accuracy with cultural and creative expression (Corner 1999).

For mapping to be useful in a creative process of revealing, we must consider maps not purely as forms of representation, measurements or depictions of what exists. Instead we should also consider what maps can 'enable'. Maps have the potential to "enable" the reformulation of what already exists and to facilitate the transformation of the world we live in. What already exists is not only made up of what is visible but also of ideas that are invisible. If we wish to reformulate or transform our environment, we must consider both its visible and invisible aspects.

The creative potential of mapping lies in the two sets of operations essential to its process: the operation of 'finding and revealing', and the operation of "relating and connecting". James Corner refers to these as the 'abstract' and 'analogue' characteristics of maps.

Maps are always both analogue and abstract. In other words, they resemble the territory (analogue) in some way, while at the same time being disassociated (abstracted) from it. Two representation types of the same city are used to illustrate this point: the aerial photograph and the transport network map. While the aerial photograph is more recognizable and more directly and closely linked to the territory, being a photographic representation from above, it is nevertheless, to some extent, also abstract in the sense that it has "disassociated" information about the city through the fact that it is unable to capture information of life below the roofscape. Conversely, the typical diagrammatic map of a city's transport networks is predominantly an abstract representation of the city, having distorted distance, direction and shape. However, it has an element of analogue in that it resembles the city in its relationships between stops in terms of sequencing and intersections. So, while one map is essentially an example of the analogue properties of maps and the other of abstract qualities, they are, to varying degrees, both simultaneously abstract and analogue.

Polynesian stick maps (figure 1) are a clear illustration of the abstract and analogue qualities in one. These charts made of sticks and pebbles or shells, were used up until World War II after which they were replaced by Western navigation maps and techniques. The abstract charts accurately depicted island positions and wave patterns to aid navigation.

Walking as alternative to mapping

In "Walking in the city", Michel de Certeau (1984: 91-110) urges the urban planner to move down from the position of power of the master plan, of looking down, to experience the city with its 'walkers'. Mapping sets up a distance between the planner and the city providing a position from which to read and control it. On the other hand, walking in the chaos down below affords the opportunity to experience the city as it is experienced by users in their everyday lives. He refers to walking in the city as writing it without reading it.

To explore the relationship between the dominant logic and its resistance, De Certeau uses dialectics. He refers to writing and reading as 'non-oppositional' binaries that, through their dialectic relationship, can influence and transform one another.

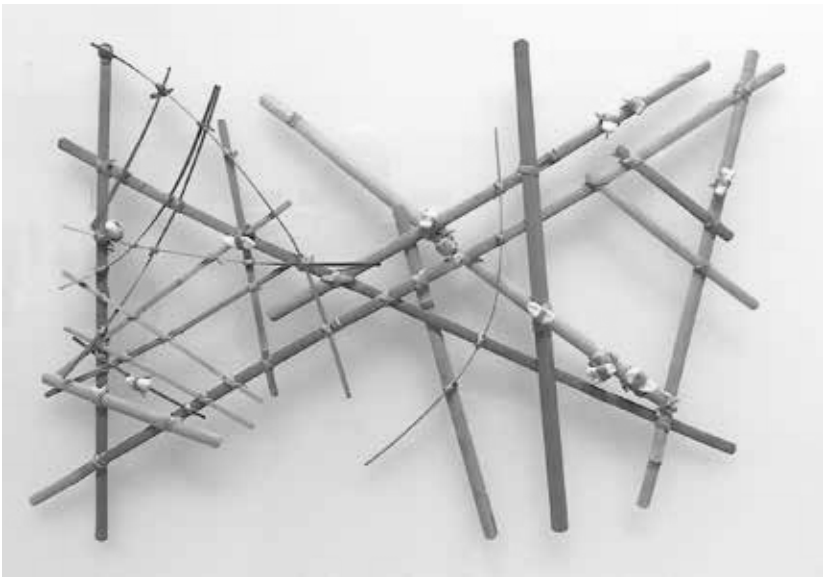

Figure 1
A navigational chart from the Marshall Islands, from the collection of the Phoebe A. Hearst Museum of Anthropology at the University of California, Berkeley. (photo by Jim Heaphy, retrieved from the public domain: https://upload.wikimedia.org/wikipedia/commons/b/bf/Micronesian_navigational_chart.jpg).

Similarly, he refers to 'strategy' and 'tactics' as 'forms of action' of the everyday that are dialectically interrelated. Strategy is the form of action used by governing bodies and designers to control and manage, operating through sight and place, from a position of strength. Tactics on the other hand are mobile, nomadic and lack a proper location. They are the forms of action taken by people in their everyday lives to survive the rule of law by appropriation; they seize the moment when opportunity arises. Tactics use the potential presented in a strategic circumstance in a creative way to 'get by'. Tactics need strategy to exist (1984: xiii).

Mapping can be interpreted as a strategic tool setting up a distance from the city to make it legible and therefore controllable. Walking on the other hand is its tactical counterpart that brings the body into close contact with the chaos of the city and through which opportunities can be grabbed in the moment. Walking is a fundamental human activity that not only connects us to the earth but also connects the various disconnected spaces of our lives. Metaphorically speaking, we can walk across different spaces and as a result begin to think differently about space; we can linger between the spaces and think about their ambiguities and ambivalences. (de Certeau, 1984; Solnit 2001; Careri 2002; Jacks 2004: 5-9)

STRATEGY	Dominant logic	Represented	Conscious	Place	Sight	Production
TACTICS	Resistance	Repressed	Subconscious	Time	Wit	Consumption

Table 1: The non-oppositional binary: strategy and tactics, according to Michel de Certeau.

MAPPING	map	writing	establishes boundaries	frozen in time	place
WALKING	itinerary	reading	crosses boundaries	movement	space

Table 2: The non-oppositional binary: mapping and walking, following Michel de Certeau.

Walking plays a vital role in the practice of architecture. It is an everyday activity we do without thinking that allows us to gain knowledge (embodied and otherwise). Unless we walk a site and immerse ourselves in its physical reality, we are unlikely to understand it enough

to contribute to its improvement, its transformation. Similarly, it forms part of our practice to simulate walking through our designs while testing them. Walking in architecture is a means through which to experience existing realities and to test intended experiences.

Ways of walking

It is useful to distinguish between four different modes of walking: "purposive", "discursive", "conceptual" and "creative". The first three are borrowed from Filipa Matos Wunderlich (2008); the fourth was inspiration by Friederich Nietzsche and William Kentridge. These modes are not distinct from one another; we slip in and out of different modes as we walk.

The first mode of walking, "purposive", is how we walk when aiming for a destination. It is characterised by a constant rhythm, a rapid pace and bodily disengagement, aware only of obstacles to dodge or shortcuts to take.

Quite different, however, is our state of mind when we meander; when we walk in "discursive" mode. Discursive walking, such as a leisurely stroll, is characterised by a varying pace and rhythm where the journey itself takes on more importance than the destination. Our body's rhythms pick up on the rhythm of the city and our senses are alert to its smells and textures. This is the mode of walking that belongs to "the man in the crowd", the "*flâneur"* or the "city stroller" from the writings of Edgar Alan Poe, Charles Baudelaire and Walter Benjamin, respectively. This way of walking becomes a means of discovery.

While the two modes of walking described above form part of our everyday lives, the third mode of walking forms part of the everyday practice of the designer. This is the 'conceptual' mode of walking. It is the way we, as designers, become acquainted with a space and gather information about it. Unlike the first two, it is thought about before being performed. Both the journey and the destination become less important than the practice of gathering and recording information associated with walking. In this sense walking becomes a means of production and of control, shifting from being a tactical action to a strategic one.

Ben Jacks distinguishes between four practices of walking, three of which could be identified as part of the "conceptual" mode. These he calls "sighting", "measuring", "reading" and "merging" (Jacks 2004: 5-9). Most architects undertake these practices tacitly during "conceptual" walks seldom explicitly acknowledging them as part of their practice. The first three practices are reminiscent of what de Certeau referred to as strategic forms of action that rely on place and vision.

"Sighting" involves walking in relation to "edges", "paths" and "nodes" in the landscape (Lynch 1960, cited in Jacks 2004: 5-9). While the everyday walker negotiates the landscape through these landmarks unconsciously, the designer notices these relationships, surveying (without measuring) and aligning them for future interventions. Through sighting while walking, the designer abstracts and embodies the environment simultaneously. Knowledge and understanding gained through this process is transferred to drawings and influences design decisions. The "serial vision" drawings by Gordon Cullen (1964) capture this sighting aspect of conceptual walking. Through sighting the designer captures the tension between the converging and diverging paths of the eye and the foot.

"Measuring" a territory involves walking whether using sophisticated geometrical surveying equipment or counting paces. Joseph Rykwert, in *The Idea of a Town*, describes the

Roman process of setting the boundaries of a town through a ritual walk along its boundaries. He promotes a walking practice through which to measure and ritually claim our cities to develop a sense of belonging, and to take literal and imaginative ownership of the city.

"Reading" the landscape through walking has benefits to the designer. It requires the naming of places and features. Walking encourages a "narrative". In common with storytelling, walking is linear, with a beginning and an end. Just as a narrative selects to expose a specific aspect of reality, leaving out many others, the walk requires one route in favour of other routes, which will provide a specific but not exhaustive experience of the place. Reading the city while walking generates an interpretation of the place. A narrative can become a guide for walking and making sense of a route. The act of walking in a "discursive" (meandering) manner encourages the narrative to change each time a new walk is undertaken. Reading the landscape while walking requires immersion and engagement and thus becomes a way to get to know a place. It requires identifying information and making sense of it in its context.

"Merging", the fourth practice described by Jacks, is the one that brings the first three practices of conceptual walking together through the imagination of the designer. It also involves a heightened awareness of time and timelessness, as well as sensitivity to the character and potential of a place while sighting, measuring and reading it. It is about "understanding land and site for design" (Jacks 2004: 8). It is a moment of interpretation and synthesis about 'what is' in preparation for the design process that will offer 'what could be'. What Jacks has called 'merging' is much like studio walking described by Kentridge, referred to here as 'creative' walking.

> All truly great thoughts are conceived while walking. (Nietzsche 1889, Aphorism 34 cited in Oppezzo and Schwartz 2014)

Friedrich Nietzsche, Jean-Jacques Rousseau, William Wordsworth and Søren Kierkegaard, among others, all practiced walking to encourage their creative processes (O'Rourke 2013: 27). Similarly, Kentridge (2013) extends this idea to describe his own creative process through walking in the studio. This "creative" mode of walking can equally be applied to the architectural studio. It entails engaging physically with the fragments of images and words spread out in the studio that have been collected by the artist/architect related in some way, to the brief and to the site. The physical walk, the rhythmical and repetitive movement between left and right, according to Kentridge, does something to make the brain productive. Perhaps the left-right rhythm of walking transfers ideas between the logical and imaginative sides of operation. Whatever the explanation, walking facilitates the emergence of clarity amid incongruent material, through which design can emerge (Oppezzo and Schwartz 2014).

For the architect, this way of understanding the studio extends to the site. Information and ideas are picked up through our 'peripheral vision' as we walk through the chaos of the city. This "creative" mode of walking serves to access the unconscious and reveal the hidden potential or tactical aspects of the city. In this instance, the personal unconscious is conflated with the hidden aspects of the city, assuming our unconscious is connected to the murmurings of the city through discursive walking.

Ways of mapping

Maps translate the complex three-dimensional reality on the ground to capture and represent it on the flat surface of a sheet of paper. Three actions are used to achieve this: projections that

translate from three-dimensions to two-dimensions; the separation into layers to isolate specific aspects of a complex reality; and the selection and omission of material according to an agenda (Tyner 2010).

The act of map-making involves a process of selection and omissions. It also involves cataloguing, simplifying, creating hierarchies and symbolising. These are not scientific tools, but instead tools of rhetoric used in story-telling and to convince an audience of a point of view. This makes evident the 'narrative' quality of maps and the cultural production of cartography. Every mapmaker operates, even if unconsciously, within a set of values and an agenda that will underpin the technical production of the map (Harley 1989).

According to the Penn State online course on Cartography and Visualisation, maps can be categorised into three broad types: "base" maps, "special-purpose" maps and "thematic" maps. "Special-purpose" maps are aimed at specific users to communicate known information while "thematic" maps are produced for visualisation to reveal unknown information about an issue. "Base" maps act as reference to locate 'special-purpose' and 'thematic' maps to the territory.

Whether creating a map for visualisation, to learn new knowledge, or for the communication of known information, it is important to clarify what is being mapped, why it is being mapped and who is the intended audience. The presentation of the information gathered will play an important part in the understanding and interpretation of the material gathered (Tyner 2010). All of this implies a disciplined and systematic practice of note-taking when walking on site and when browsing through archives, and clarity about how to represent the data.

Mappings can be represented in different ways depending on the intentions of the map maker and the questions used to frame the process. Three groupings of mappings are considered here: overlays, distortions and tables.

In *Design with Nature* (1969), landscape architect and planner, Ian McHarg presented a system he devised of layering information about the territory, called "suitability analysis", to facilitate making decisions about the optimal location for human settlements and development. It separates aspects of the territory such as vegetation, hydrology, soil, structure, erosion and social aspects into individual sheets, all based on the same co-ordinate system, creating an overall master map. This makes it possible to identify the spatial relationships and intersections between layers (Amoroso 2010: 93-94). The value of the transparency is that each map constructed through its own set of values (as an abstraction) relates to a base map (making them analogue), which acts as mediator to allow the maps of varying value systems to be seen in relation to each other.

The method of revealing through overlays is generally loyal to the geometric interpretation of space representing distances as accurately as possible. These maps are useful when orientation between elements and the relationship of the body to space are being considered. An early example of revealing information this way was produced by John Snow, and published in 1854 in *On the Mode of Communication of Cholera* (figure 2), through which he demonstrated the relationship between cholera deaths and a contaminated water pump in relation to where the deceased lived.

The individual layers each take on a focus to the exclusion of anything else in the city that does not fit the purpose of that focus; much like the individual chapters in *Invisible Cities* by Italo Calvino that describe the city of Venice each time through a specific lens. The process of overlaying the individual layers makes it possible to visualise the spatial relationships between them.

Figure 2
Extract from map by John Snow showing the clusters of cholera cases in the London epidemic of 1854, drawn and lithographed by Charles Cheffins. (retrieved from the public domain: https://upload.wikimedia.org/wikipedia/commons/2/27/Snow-cholera-map-1.jpg)

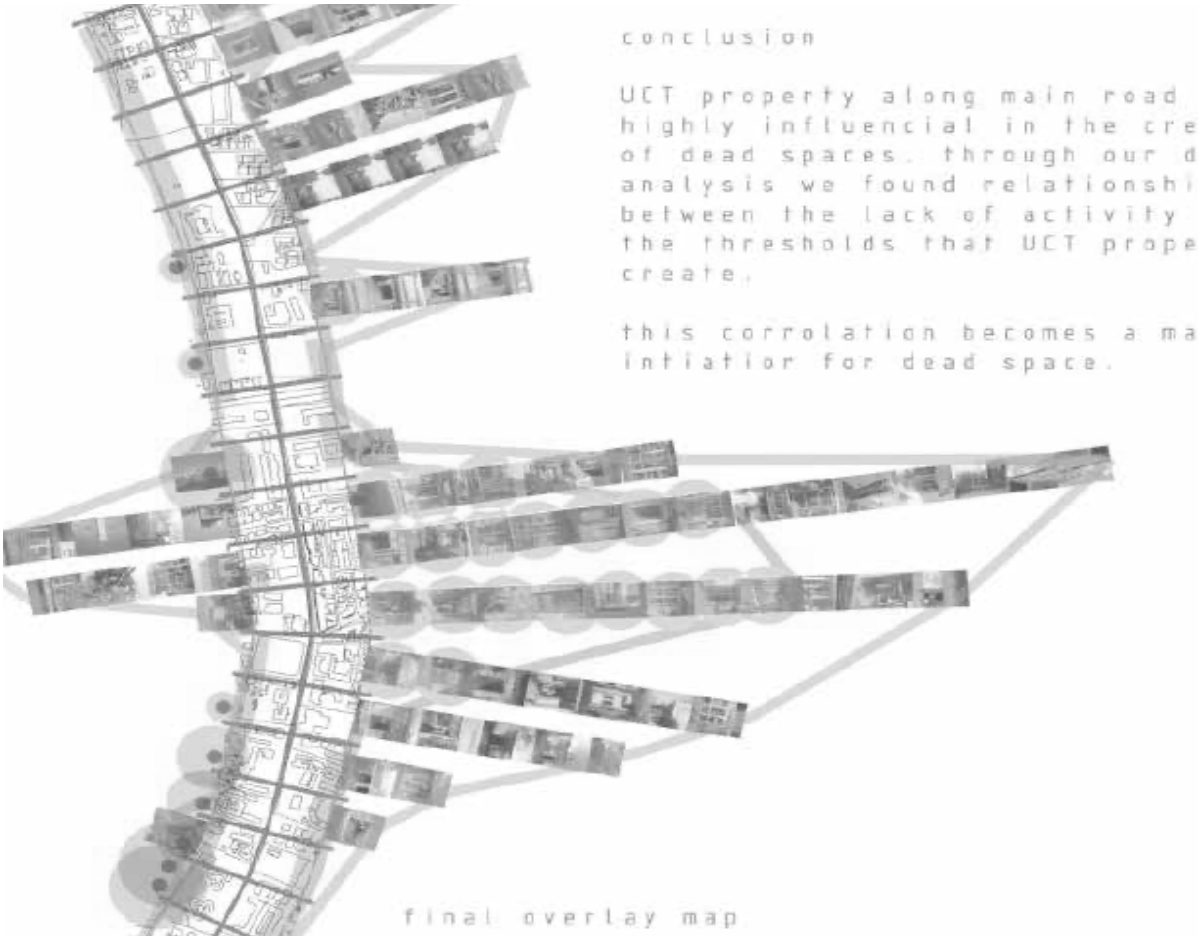

Figure 3
Final overlay map of Main Road Mowbray in Cape Town, by Jamil Randera and Wessel Botes, 2011. (source: work produced for the Design and Theory Studio 3 course of the undergraduate programme of architecture at the University of Cape Town).

An example of revealing information through overlay was explored by student-collaborators for this research in 2011 (figure 3). Through mapping overlays, they related a map of property ownership with a map of public activity observed on the street over the course of a week. This juxtaposition revealed that university ownership on Main Road was responsible for the inactive spaces along that strip. This led to the suggestion that university buildings should be more porous and inclusive of everyday activities on Main Road if they intend to be of public service.

The map that distorts distance is useful to capture movement systems and how these are perceived relative to each other. This mapping is loyal to the idea of space as a set of relations. Transport systems particularly work well depicted in this way, but any topic where movement or relationships between elements are a priority will benefit from this kind of map.

The map of the London underground designed in 1931 by Harry Beck (http://www.bbc.co.uk/culture/story/20150720-the-london-underground-map-the-design-that-shaped-a-city), subsequently copied by transport networks in cities across the world, was the first of its kind. It distorts distance for clarity of communication. Student-collaborators of this research mapped out the various transport systems in relation to one another along the Voortrekker Road corridor in Cape Town (figure 4) by following the principles of schematic design used by Beck: omitting unimportant information, using straight lines, 90 and 45 degree corners, extreme simplification and distortion, as demonstrated by Venetikidis in a TedTalk (https://www.ted.com/talks/aris_venetikidis_making_sense_of_maps).

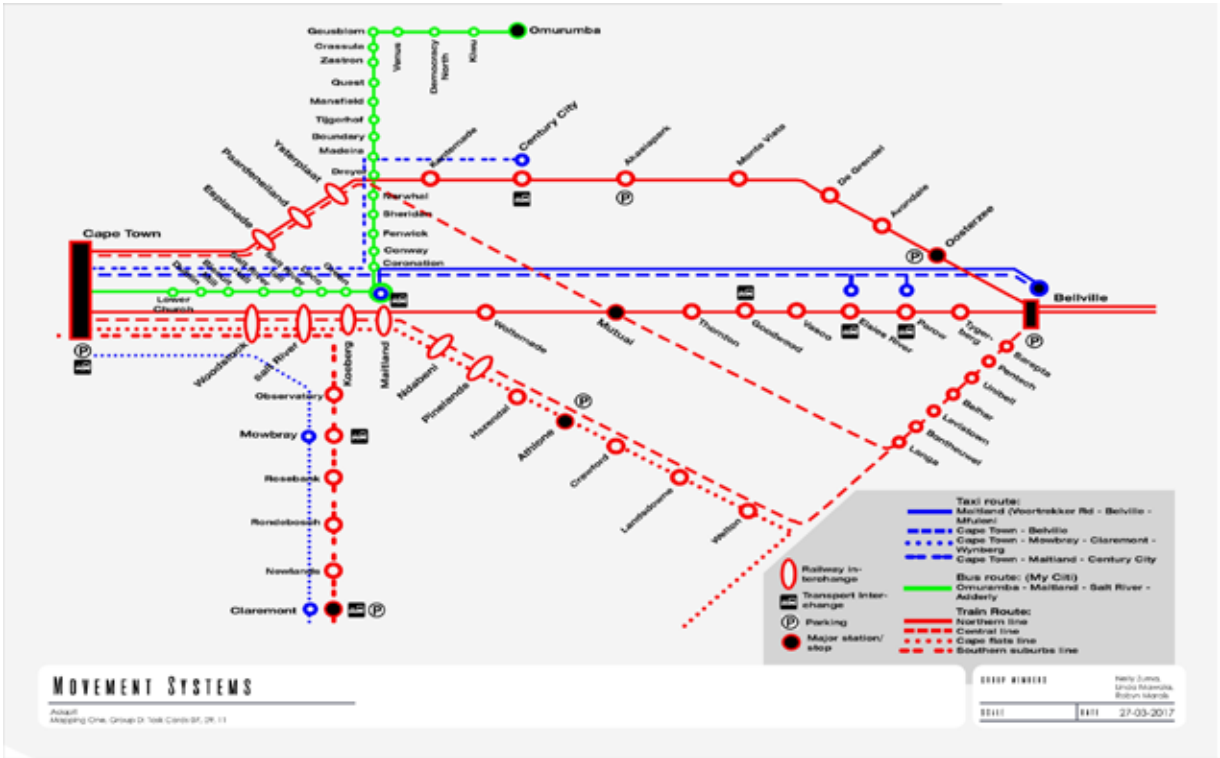

Figure 4
Movement systems, Cape Town to Belville, mapped by Nelly Zuma, Linda Mawala and Robyn Marais, 2017. (source: work produced in the Adapt Studio Elective of the BAS Honours programme at the University of Cape Town).

A different example of revealing information through distortion is Charles Minard's 1869 chart (figure 5) showing the number of men in Napoleon's 1812 Russian campaign army. It reveals the number of soldiers along the path by distorting the width of the path in relation to the number of soldiers on it. Soldier deaths that took place along the route are registered through the reduced width of the path.

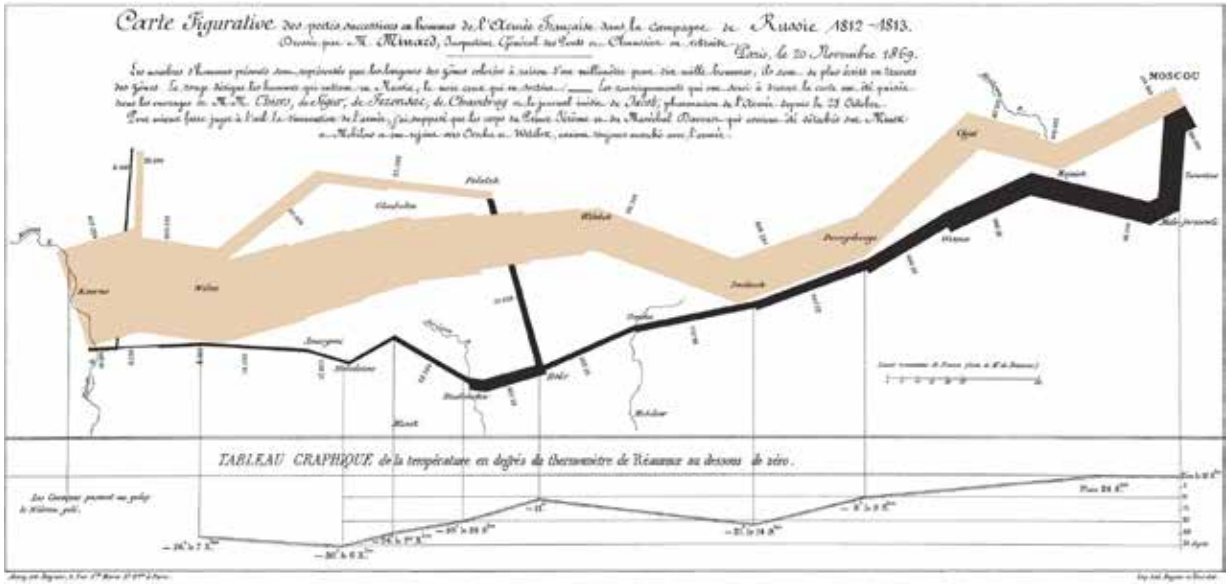

Figure 5
Charles Minard's 1869 chart showing the number of men in Napoleon's 1812 Russian campaign army, their movements, and the temperature they encountered along the path. Lithograph, 62 x 30 cm (retrieved from the public domain: https://upload.wikimedia.org/wikipedia/commons/2/29/Minard.png).

The third mapping type entails a process of laying out images in a table for comparison, to notice similarities and identify repetitions and types. It disconnects (abstracts) elements entirely from the territory and lists them on a matrix of images, either as photographs or diagrams.

The grid principle devised by Le Corbusier for the 1953 CIAM 9 meeting is an example of this kind of mapping for visualisation. The aim was to facilitate various architects to display their ideas about architecture according to categories of interest for comparison (http://transculturalmodernism.org/article/132).

In his book *African Metropolitan Architecture*, David Adjaye uses this method to categorise architecture across Africa into groupings related to geographic locations and climatic conditions rather than national boundaries. He combines a map of Africa, identifying geographic conditions, with images of buildings gathered while driving around African cities (https://www.dezeen.com/2013/03/25/africa-is-an-extraordinary-opportunity-at-the-moment-david-adjaye/). In this way, he combines the view from above with the experiential view from the ground, bringing together the analogue and abstract qualities of mapping, to reveal how building types correlate to climatic and geographic conditions. The images of buildings provide a means of "finding and revealing", while the map of Africa performs the operation of "relating and connecting" them (Corner 1999).

Walking as narrative, as spatial trajectory

The dialectic relationship between walking and mapping, as between strategy and tactics, can be explained through de Certeau's idea of the metaphor: the metaphor transports ideas from one context to another. Stories or narratives are like metaphors; they travel across frontiers and tactically re-organise places. The "frontier" that contains and delimits a place has the potential to become a crossing. The bridge at the frontier can divide and connect. It is ambiguous as it identifies division as much as it threatens it. The bridge facilitates departure from the strategically demarcated place; it allows departure from a specific logic. This departure affords an objective perspective and allows the traveller to understand what is exterior, what lies beyond the frontier. For de Certeau, it is on returning from the exterior that the traveller can recognise the exteriority that resides within the borders. The benefit of the bridge and the frontier for de Certeau is that it is through marking out place and defining the rules of one's logic that it becomes possible to see the resistance to that logic, to see the tactical within the strategic. It becomes possible to represent it.

Stories, or narratives, as metaphors move around organising places, crossing boundaries, setting up and transforming relationships. They move ideas across from one context to another transforming them as they go. For de Certeau, stories are "spatial trajectories"; through movement in a specific place over time they "spatialise place". Space is "practiced place". Practiced place includes in it the invisible aspects of space that involve relationships and experiences, in other words, the actions of people (1984: 115).

Walking metaphorically allows us to be tactical, to cross frontiers established through the strategic action of mapping. Walking is introduced to emphasise the experiential aspects of the city in opposition to the distance achieved from strategically observing the city from above. Representation sees the city from a distance allowing reading and deciphering to take place.

The word "theory" implies this meaning of representation as described by de Certeau. It signifies looking from a distance, as a spectator looking at a distant view. This elevation turns us into a "viewpoint" or "voyeurs"; it makes us "god-like". We see an abstraction of what goes on down below. This is the method of the city planner or cartographer who must keep aloof from the messy entanglement of the everyday to produce a visual representation of the city. Walking on the other hand is presented as experience and non-visual.

> The ordinary practitioners of the city live "down below" … they are walkers … whose bodies follow the thicks and thins of an urban text they write without being able to read it. These practitioners make use of spaces that cannot be seen. … The networks of these moving and intersecting writings compose a manifold story that has neither author nor spectator, shaped out of fragments of trajectories and alterations of spaces: in relation to representations, it remains daily and indefinitely other. (de Certeau 1984: 93)

Unlike the city planner or cartographer, the ordinary people of the city, who live 'down below' experience the city as "walkers". As walkers, they write the city without being able to read it. They each generate narratives that intersect and are in continuous motion producing the spaces of the city.

De Certeau juxtaposes the clear legible representation of the planner, defined through geometry and visual constructs, against what he calls "another spatiality", a "poetic" and "mythic" experience of the bustling city. This "other spatiality" slips into the "clear text" of the planned city. The dialectic interaction between mapping and walking offers an opportunity for the tactical forms of action of the city to be explored and represented.

Working with the dialectical understanding of "strategy" and "tactics" it is possible to foreground the tactical: to make it visible so it can influence design more overtly. The dialectical relationship between mapping and walking allows legibility to infiltrate the act of walking to allow 'reading' (Jacks 2004), so that walking itself shifts between being tactical and strategic. Mapping is coupled with walking to explore what might be revealed in its making, and the transformational potential that emerges through exposure to the everyday lived realities of the city.

Once invisible aspects of the city are made visible through a process of visualisation, they are more easily understood and can therefore more readily influence and drive decisions of form-making during the process of design. These aspects do not necessarily need to remain in the visual realm. Louis Kahn is known to have stated that the design process is "making the invisible visible, to make it invisible again".

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Lasting futures: sustainable craft projects in South Africa[1]

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This paper focuses on successful local craft enterprises, and analyses the actions and activities that account for their sustainability and success. There is an increasing focus on crafts, because of the need for the development of small businesses and job creation, which are being supported, funded and encouraged by many organisations and institutions. In spite of this, far more projects fail than succeed. Examples make clear that funding and enthusiasm are seldom enough to create a sustainable craft initiative. However, some very successful craft enterprises are to be found historically and in South Africa. "Success", in this context, refers to enterprises that have longevity; sustainable earnings; noteworthy products and continuing product development; national or international recognition and a level of job creation, together with capability enhancement. This paper investigates three craft enterprises: Ardmore Ceramic Art in KwaZulu-Natal; Kaross embroidery project in Limpopo Province and Monkeybiz South Africa, a beadmaking project in the Western Cape. In analysing and comparing these projects, I aim to demonstrate that it is a combination of factors that contribute to a sustainable, successful craft enterprise.

Key words: craft, enterprise, sustainability, design, business, labour

Langlewendheid: lewensvatbare handwerkondernemings in Suid-Afrika

Hiedie artikel fokus op suksesvolle plaaslike handwerkondernemings en analiseer ook die prosesse en aktiwiteite wat tot hulle lewensvatbaarheid aanleiding gee. Daar is 'n toenemende fokus op handwerk, te wyte aan die behoefte aan die ontwikkeling van kleinsake ondernemings en werkskepping, wat ondersteun, befonds en aangemoedig word deur talle organisasies en instansies. Ten spyte hiervan faal die meerderheid van sulke projekte. Voorbeelde dui duidelik daarop dat befondsing en entoesiasme selde voldoende is om 'n lewensvatbare handwerkonderneming te skep. Nietemin is daar talle suksesvolle handwerkondernemings wat histories wêreldwyd, asook huidiglik in Suid-Afrika, as voorbeelde kan dien. 'Sukses' in hierdie konteks verwys na ondernemings met langlewendheid; 'n volgehoue inkomste; merkwaardige produkte en voortgesette produkontwikkeling; nasionale of internasionale erkenning en 'n bepaalde vlak van werkskepping met kapasiteitsversterking. Hierdie artikel ondersoek drie handwerkondernemings: Ardmore Ceramic Art in KwaZulu Natal; Kaross-borduurprojek in Limpopo en Monkeyiz South Africa, 'n kraalwerkprojek in die Weskaap. Deur hierdie projekte te vergelyk en te analiseer, poog ek om te illustreer dat dit 'n kombinasie van faktore is wat bydra tot 'n lewensvatbare, suksesvolle handwerkonderneming.

Sleutelwoorde: handwerk, onderneming, lewensvatbaarheid, ontwerp, besigheid, arbeid

An art made by the people for the people as a joy for the maker and the user.
(William Morris 1880)

Since 1994, there has been a great deal of interest in crafts in South Africa. The South African government, for example, has identified crafts as a potential area of economic growth with strategic contributions to nation building, and it has provided funds for an array of crafts-based initiatives. Programmes and funds have also been offered by local government, tertiary institutions, non-governmental organisations, businesses and individuals to support the development of craft enterprises (Sellschop 2004). These activities are intended to create jobs and alleviate poverty as South Africa has high unemployment[2] and huge income disparities (van den Berg 2004: 22). They also intend to reduce capability deprivation by helping to provide lives that people can value (van Heerden 2017). Crafts are furthermore seen as a way of encouraging the growth of foreign and local tourism and, more subtly, as a way of encouraging nation building through the development of vernacular styles, thus "constructing" a national heritage (Gordon Bowe 1993). However, evidence suggests that many craft projects fail. This

paper posits a strategy, based on a close analysis of the Victorian craft-based enterprise, Morris & Co., that could circumvent such failures.[3]

Seeking strategies that might prevent such failures and help to predict success, I turned to Victorian Britain in the nineteenth century, where a similar craft revival occurred, which grew into the Arts and Crafts Movement. Britain at that time was an economically powerful industrial country, yet also had serious poverty and high unemployment (Hobsbawm 1975). Thus, the Victorian era saw the interface between high industrialization and high unemployment. This situation is comparable to the mixed economy in present day South Africa, with one segment of the population prosperous, "privileged" (and mostly white), and the other poor, 'under-privileged' (and overwhelmingly black). Thus, while I do not suggest that Victorian Britain is like post-apartheid South Africa, there are nonetheless certain similar conditions and demographic parallels: similar population numbers; high unemployment; economic shifts such as a burgeoning middle class on the back of exploitation of labour leading to a degree of instability; high urbanisation and growing levels of poverty, with an attendant breakdown of traditional lifestyles and craft practices.

However, certain craft enterprises, such as Morris & Co., flourished, from 1861 to final liquidation long after owner and main designer, William Morris's death in 1896 (MacCarthy, 1994: 166). An 'enterprise' is a project or business venture and, more aptly, "an undertaking, a bold or difficult one showing courage or imaginativeness" (Sykes 1976: 345), and these are indeed qualities that I have come to associate with such enterprises. This article employs the term specifically to refer to the potential of an enterprise producing crafts to create jobs, alleviate poverty and enhance capability development. It focuses on craft-based enterprises, applying a model based on Morris & Co., to selected contemporary South African craft enterprises.

Such successful craft initiatives do exist in South Africa. As criteria for assessing the 'success' of an enterprise I include longevity, sustainable earnings so that no additional funding is needed, products[4] perceived as being of high quality, innovation and continual product development, national/international recognition, and the creation and sustaining of satisfying jobs. However, as stated, not all projects and interventions are successful. Post-apartheid South Africa has attempted to instigate a craft revival (Sellschop, Goldblatt & Hemp 2002; Coetzee 1999), yet many craft projects have failed. Examples exist which make clear that (donor) funding and enthusiasm are seldom enough to create a sustainable craft enterprise where none exists or to adapt an existing craft to changing circumstances such as new market demands or the loss of traditional materials or skills. The lack of a theoretical model that specifically explains the approaches, structures and procedures of a successful craft enterprise compounds the problem.

A possible theoretical model for a successful craft enterprise[5]

The first factor that accounts for this success is, in my analysis of Morris & Co., design. The designs for Morris & Co.'s products were always innovative and bold, produced by designated designers. They did not come about in the production processes and were not copied from existing traditions, but were done expressly and deliberately *before* production of goods began, in a planning stage. The chief designer was Morris himself, with some designs undertaken by partners and later by managers. Nature dominated Morris's approach to pattern design and the decorative arts throughout his career (MacCarthy 1994: 182). This provided a core vernacular for design that gave unity and cohesion to his entire oeuvre and provided inspiration for renewal and innovation in design. This established a coherent, shared style that might be termed a

'house style' evidenced from the earliest products of Morris & Co. This ran through the various different products and ranges, albeit with different designers and artists (Harvey and Press 1991; MacCarthy 1994).

Furthermore, Morris was able to achieve a high quality in the execution of the company's designs by knowledge about, and concern for, skilled and appropriate craftsmanship, the best quality use of appropriate materials, the mastery of difficult, time-consuming techniques and control over the quality of the manufacturing processes. These aspects of the production process gave the products of Morris & Co. a distinct advantage in the Victorian market place, producing craft products considered to be of the best of their type ever produced. The final products were varied in type, pattern and colour; new products and designs were added constantly. Products included unique, one-off products as well as batch productions of popular products, prices ranged widely and the design and manufacturing processes allowed for constant innovation within a recognizable style.

The crafts produced by Morris & Co. were very successful because (a) they were original although derived from older traditions; (b) they were different from the established tastes of the day yet established a regional and vernacular (English) style; (c) they showed a deep understanding of essential aesthetic elements such as the combination of simple, functional forms with rich surface decoration; and (d) they successfully combined functionality with decorativeness and innovation.

In summary, the first factor that accounts for success is design. Most critically, the designs of craft products should be innovative and bold, produced by designated and highly skilled designers. There is usually a head designer, often the owner/manager, in other words, the leader of the enterprise, with some designs undertaken by partners and selected, trained crafters, and there should be a very clear design aim for each product or range, which could be nature, local narratives, pure decoration, or indigenous subjects such as animals, for example. Designers, therefore, should have clear visual aims and a rich source of inspiration for designs. The planning stage can include research into history and best practice, experiments with materials and techniques, the exploration of ideas, searching for source material and the development of final designs on paper. This planning is central to a successful craft enterprise. Furthermore, successful enterprises must be able to achieve a high quality in the execution of the designs by knowledge about, and concern for, skilled craftsmanship, the best quality use of appropriate materials, the mastery of difficult, time-consuming techniques and control over the quality of the manufacturing processes. These aspects of the production process can give the craft products a distinct advantage in the market place. Final products, although recognisable and unified by a consistent theme, are varied in type, pattern and colour; new products, ranges and designs must be added constantly, so that products remain unique and marketable. Products of successful enterprises will generally include unique, one-off products as well as batch productions of popular products, with prices ranging widely and the design and manufacturing processes allowing for constant innovation within a recognizable style.

Morris & Co. was initially founded on Morris's personal inherited wealth, which equates to start-up capital, but this dwindled, necessitating sound business principles, on which the success of Morris & Co. rests, as much as on design. Morris created a company that traded for eighty years, independent of further outside investment (Harvey and Press 1991: 4). Although the company started somewhat informally (the partners had little business experience), it soon established formal and sound business structures and financial systems, such as professional

management, and attention was paid to all financial systems such as costs, prices, profit margins, accounts, estimates, etc.

Morris himself was very involved in the publicity and marketing of the firm's products (Marsh 1986: 58). The company used various means to publicize these, including: a showroom, prestigious exhibitions, publicity material, personal contacts and visits by the public to the workshops; targeting niche markets and selected clients; personal contacts and attention to clients; advertising; diversified products to satisfy diverse markets; expanding shops and showrooms to other cities (then internationally) and using agents for exporting of products. By catering for different markets, the prices of Morris & Co.'s products could vary from reasonable to very high, depending upon range and exclusivity. Prices were kept as low as possible (although the products were generally relatively expensive) by various means without compromising quality: sub-contractors were used when they could produce goods for Morris & Co. more cheaply than the company itself could, so labour costs were optimally curtailed. In spite of competition from other businesses (and imitations of its products), Morris & Co. remained profitable during Morris's lifetime because of its superior products, competitive prices and competent marketing and publicity.

So, the second important factor in success and sustainability is the business practices of the craft enterprise. These may be founded on personal start-up capital, donor funding or even with very little capital at all, as will be seen in the discussion of the South African examples. However, in order to become self-sustaining, sound business principles must be established, as they are as important as design. Generally, only one or two of the members of an enterprise, usually the owner/manager/leader is in charge of the publicity and marketing of the products. The success of the marketing is always linked to the quality and range of products.

By catering for different markets the prices of an enterprise's products can vary from reasonable to very high, depending upon range and exclusivity. Products can be presented and publicized as either "craft" or "art", as will be seen in the examples, and this influences the prices, as art will almost always achieve higher prices than craft, while the latter might sell in greater quantities and be more accessible to more buyers. In spite of competition from other businesses (and imitations of its products, which occurs fairly often in South Africa, as elsewhere), an enterprise can remain profitable because of its superior products, competitive prices, ongoing innovation and competent marketing and publicity.

Finally, it is vital to consider the role of labour in the success of any enterprise. Morris & Co. had a flexible approach to labour and used labour systems ranging from full-time employees to part-time piece workers, from highly skilled experts to assistants and apprentices, as well as outside contractors. However, all were subject to rigorous supervision within a sound organizational structure. In spite of Morris's socialist, humanitarian and democratic ideals, Morris & Co's organization was a charismatic one and all labour roles were centred around, and dependent on, his vision, his abilities and authority. Conditions of labour at Morris & Co. were generally favourable and working conditions pleasant. Morris's employees had a number of advantages in terms of wages, training, working environment, a good relationship with owner and managers, opportunities for advancement and generally skilled and interesting work. Morris & Co. had no labour strife and a low labour turn-over. Morris himself was an idealist, whose approach is summed up in his famous ideal of "an art made by the people for the people as a joy for the maker and the user" (Morris 1880).

So, finally, it is vital to consider the role of labour in the success of any enterprise. Many successful enterprises have a flexible approach to labour and used labour systems ranging from full-time employees to part-time piece workers, from highly skilled experts to assistants and apprentices, as well as outside contractors. However, all must be subject to supervision within a sound organizational structure. Usually all labour roles are centred around, and dependent on, the vision, abilities and authority of a leader. One of this person's vital roles is that of inspiring and training the crafters and designers. Leaders are always excellent teachers who closely supervise the workers, while allowing a relatively high degree of individual agency at the same time (van Heerden 2017), mainly through the creative inputs of the makers while actually making the products.

Although salaries, wages and piece-work rates should ideally be above average for their time and place, labour systems should be flexible so that, simultaneously, labour costs are kept as low as possible in order to keep prices of goods competitive. Most employees in such enterprises have a number of advantages in terms of wages, training, working environment, a good relationship with owner and managers, opportunities for advancement and generally skilled and interesting work. Sustainable enterprises should have no labour strife and a low labour turn-over, to maintain consistency and excellence in the products, while, at the same time, enhancing capability development, apart from simply higher earnings, so that the crafter has "the ability to choose a life one has reason to value" (van Heerden 2017).

Overview of three successful South African craft enterprises

In this section, I will introduce three successful and sustainable South African craft enterprises. Ardmore Ceramic Art[6] is an enterprise producing decorative ceramics in the KwaZulu-Natal Midlands. It has been in existence for thirty-two years, since 1985. Fée Halsted, qualified in fine arts, started the enterprise after she married and went to live on her then husband's farm near Winterton, where Ardmore is still situated. A second studio with a museum has subsequently been opened at Lavendula Farm near Caversham. Ardmore has since become famous both nationally and internationally, achieving the highest prices ever paid for South African ceramics.

The work is exceptionally creative and of impeccable quality. Ardmore now employs more than 100 people working from two studios, essentially making two kinds of products. The first are the 'house' lines, which are sold through upmarket shops and are very expensive compared to most other South African ceramics. These cups, bowls, platters, eggcups and candlesticks have simple modeling, and are painted in elaborate, exuberant patterns (figure 1). The other range includes large, one-off, elaborately modelled and painted vessels, as well as purely sculptural pieces (figure 2). These 'art' pieces, made by the best Ardmore artists, are kept for exhibitions and are extremely expensive.

Some of the Ardmore artists have become very famous, the best example being Bonnie Ntshalintshali (1967-1999), who worked with Halsted from the start of Ardmore. She proved to be exceptionally talented and knowledgeable about Zulu customs and practices, and under Halsted's training, became a creative and well-known artist, producing painted, stacked sculptures in clay (figure 3). The two women formed a long and fruitful partnership.

Kaross is an embroidery business that has been in existence for almost thirty years, on a farm in Limpopo Province.[7] Kaross is in a rural area near the town of Letsitele in the Guyani District, surrounded by small, scattered rural villages. Irma van Rooyen (a fine arts graduate and practicing artist) moved to the farm in 1985 with her husband, a citrus farmer. Women from

Figure 1
Egg cups, thrown by Phineas Mweli, painted by various Ardmore artists, 1998, underglazed and glazed ceramics, no sizes given (Scott 1998: 67).

Figure 2
Candleholders, unknown Ardmore artists, 2007, underglazed and glazed ceramics, approx. 700 x 40 x 40 cm (photograph Susan Sellschop).

Figure 3
Bonnie Ntshalintshali for Ardmore, *Apocalypse*, 1993, painted ceramic, 75 x 30 cm (Scott 1998: 43).

Figure 4
Anonymous, *Wall hanging with fish*, 2007, Kaross, no sizes given (From Kaross postcard).
Anonymous, Narrative cloth, untitled, 2007, Kaross, approx 1000 x1000 cm (Photograph Susan Sellschop).

Figure 5
Designer Calvin Mahluale with drawn cloth, with completed cloth behind, 2007, Kaross (photograph Susan Sellschop).

surrounding rural villages were unemployed – poverty was rife – and also largely unskilled. Critically, as stated by Nettleton (2000: 20), there is no indigenous tradition of embroidery in southern Africa, but the Shangaan women from the area did, however, have some tradition of decorating their houses and clothes and also made tray cloths and bed spreads embroidered with flowers in a European style (possibly adapted from Afrikaner traditions of embroidery). So, rudimentary embroidery skills existed. In order to help the women to earn something, van Rooyen offered them cloth and thread, suggesting that they embroider pictures of their lives, which she would try to sell.

The women were initially not able to do this as they lacked design and drawing skills, so van Rooyen made drawings of their homes and villages, the surrounding bush and its animals, which they embroidered. Some of the cloths have simple, single motifs while others have more complex, narrative subjects, such as weddings, meetings, rural rituals, etc. (figure 4). Initially van Rooyen's friends bought the work. As news of the project spread, more and more women joined. Kaross was established as a business by 1987.

Solomon Muhati, a young local man who showed drawing and design skills, came forward and, with some design training from van Rooyen, started designing and drawing the designs onto cloths (figure 5). Shops began to buy the embroideries and the enterprise grew. There are now over 1200 crafters, mainly Shangaan women, embroidering from their homes, and a small managerial staff, with three young local men doing all the drawing and design. According to van Rooyen (2007) embroidery is not difficult to do, nor does it require complex technology, machinery or expensive materials. However, it is time-consuming and labour intensive to produce, so suitable for job creation. When increased orders require increased production van Rooyen does not push the women to increase productivity (problematic given the labour-intensive nature of the work), but takes on new workers. This has brought the number of craft workers to over a thousand and increasing.

Monkeybiz, unlike the previous enterprises, is situated in a city, in central Cape Town, and involves women making beaded objects.[8] Like the other two enterprises, it was started by two trained fine artists, Shirley Fintz and Barbara Jackson, who encouraged their under-employed domestic workers and their families to make beaded dolls and animals, starting in 1999. The two artists initially bought all the objects and, when money ran out, began exhibiting and selling them. They formed a partnership with a very well-established South African designer, with whom they share exhibition space, marketing and management structures. This not-for-profit company now employs some 500 women, who work in their homes in the townships and squatter camps of the city. The profits, after crafters have been paid, are used to run soup kitchens, educational programmes and an HIV-Aids clinic.

Beadwork has certain advantages as a community craft, much like embroidery. It is a traditional skill amongst many African women, who, rather than men, have been the makers of beaded objects since at least the nineteenth century (Nettleton 2000: 32), so no training is necessary. Beads inherently make for bright colours, rhythmic repetition and fine, geometric patterns. Furthermore, they can be marketed, both to tourists and internationally, as typically "African", as "authentic". The products of Monkeybiz are presented as a South African vernacular and local form, although the actual objects are in no way traditional. So the works are simultaneously African but are also contemporary, fresh and colourful. They include dolls, single or stacked animals in a great variety of sizes, shapes and patterns, and trendy items such as fridge magnets, picture frames, narrative pictures, Christmas decorations and anything else that the project managers think might be marketable. Recent products include fish, dogs, flocks

Figure 6
Anonymous for Monkeybiz, stacked animals, 2003, coloured beads, sizes varied (Viljoen 2003:6) and an anonymous design for Monkeybix, *Lucky Star Pilchard tin*, 2006, coloured beads (Monkeybiz: beaded with love).

and herds of many animals and even beaded reproductions of consumer products (figure 6). The bead makers, given themes or ideas by the managers, then design their own products and make them as they wish, and individual approaches are encouraged. So, there is a division between the originators of the ideas and the design of the pieces

Analysis of the reasons for success in the three South African craft enterprises

The first factor that accounts for success in a craft enterprise is, based on the Morris & Co. model, design. The designs for craft enterprises such as Ardmore, Kaross and Monkeybiz are always innovative and bold, planned or suggested by designated designers, in other words, they do not come about in the production processes and are not copied from existing traditions, but are done expressly and deliberately, usually before production begins, or as the piece develops, but always with certain intentions and themes already established. The planning stage includes research into history and best practice, experiments with materials and techniques, the exploration of ideas and the development of final designs on paper. This planning is central to the enterprises.

There are often one or two main designers, usually the manager-owners such as Fee Halstead of Ardmore and Irma van Rooyen at Kaross, with some designs undertaken by selected crafters trained by them. Each design or part of the design, is the work of one designer, who thus has artistic control and can ensure its quality and integrity, although various aspects of the design can be undertaken by differently skilled crafters. So for example at Ardmore, Halstead suggests the idea, the potter designs and makes the shape, the sculptor adds the modelled elements and the painter creates the surface patterns, so designs are a combination of various inputs. There is always a theme or themes well established in the enterprises: nature and ornament

dominate Ardmore's approach, geometric and bright dolls and animals abound at Monkeybiz and narrative, figurative scenes at Kaross. This provides a core vernacular for design that gives unity and cohesion to the entire oeuvre. Designers, therefore, have clear visual aims and a rich source of inspiration for designs. These sources, as suggested in the model, are researched, imaginatively manipulated, give unity and cohesion to the variety of designs put into production by the enterprise and provided inspiration for renewal and innovation in design. This establishes a coherent, shared 'house'style, which runs through the various different products and ranges.

Each enterprise is able to achieve a high quality in the execution of the company's designs by knowledge about, and concern for, skilled and appropriate craftsmanship, the best quality use of appropriate materials, the mastery of difficult, time-consuming techniques and control over

Figure 7
Kaross, bottle green and turquoise cushion cover, 2017, 60 x 60 cm., showing animals amongst floral landscape bag, 2017, 22 x 42 cm (Kaross).

Figure 8
Ardmore, Monkey bean flame fabric, 2017 and Zambezi limited edition sofa, 2017 (Ardmore Ceramics).

Figure 9
Monkeybiz, Nosiphiwo Xixana, *Elephant,* 2017, and beaded mat, 30 x 22 cm
(Monkeybiz: beaded with love).

the quality of the manufacturing processes, controlled by the leaders or people trained by them. These aspects of the production process give the products a distinct advantage in the current market place, producing craft products considered to be of the best of their type being produced in South Africa.

The final products are varied in type, pattern and colour; new products and designs are added constantly; products include unique, one-off products as well as batch productions of popular products; prices ranged widely and the design and manufacturing processes allows for constant innovation within a recognizable style. Kaross has for example shifted its range to include more monochromatic designs (figure 7), while Ardmore has added a textile range (figure 8) and Monkeybiz has introduced a greater variety of animals, birds, fish and other subjects, in different colour combinations and patterns (figure 9).

There is a distinction in these enterprises to be drawn between creativity and innovation: the crafters have leeway, thus individual agency, to make creative decisions as they work, for example on shapes, arrangements, colours, etc, but true innovation, so important in any successful enterprise, always comes from the leaders, who themselves, all fine art trained, have the power and expertise to introduce innovative change to the products, to invent new ranges and to control important commissions. Although there are varying degrees of individuality, for example at Ardmore and Monkeybiz, the diverse products are recognisable as coming from one project, hence become familiar and cohesive. All are original and are not copied from other products, although, I might mention, these products are themselves often copied.

All the products are in some rather postmodern, hybrid way "South African",[9] and fulfil Fuller's dictum that decorative items should share in the symbolic order of their society by combining individual creativity with shared social values. In conclusion, one might argue that all three enterprises have a hierarchical distribution of power, with a central and controlling

figure. They might be compared, as could William Morris himself, to Gramsci's 'organic intellectuals', who articulate through the language of culture, the feelings and experiences of groups in society, or to Weber's (1968) charismatic leader. Their presence seems to be one of the most important factors in sustaining these 'community' projects, and their ongoing presence, or what van Heerden (2017) terms "aftercare", seems to be an essential factor. However much one might oppose such a hierarchical power structure idealistically, this seems to be a key factor in all sustainable craft enterprises. True community based and run projects have a great deal more difficulty with innovation, not to mention with marketing and publicity, and are very seldom sustainable. Many debates might arise from this need for a leader, including issues of authority and privilege, exploitation of labour, and problems of succession, which time does not allow me to discuss.

The second important factor is the approach of the enterprise to business, including management, financing, publicity, marketing, products and pricing. While business practices were fluid and of little concern in the early stages of the enterprises, as the owners had little business experience, as they expanded, their success required sound business principles. All soon established formal and sound business structures and financial systems, were professionally managed and attention was paid to all financial systems such as costs, prices, profit margins, accounts and estimates. Furthermore, the leaders are always central to the publicity and marketing of products, as they have through the years built extensive networks of buyers, collectors, shops, museums and galleries. Various means are used by all the enterprises to publicize products, including, like Morris & Co., having showrooms, museums or shops, participating in prestigious exhibitions, having publicity material, personal contacts and visits by the public to the workshops; expertly targeting niche markets and selected clients; personal contacts and attention to clients; advertising; diversified products to satisfy diverse markets; expanding shops and showrooms to other cities (then internationally); using agents for exporting of products. The marketing is made possible because of the quality and range of products.

By catering for different markets the prices of products can vary from reasonable to very high, depending upon range and exclusivity. It is interesting that some of the enterprises, such as Monkeybiz, market their products more as craft, while Halsted at Ardmore very deliberately situates the ceramic pieces as art, thus achieving very high prices. In spite of competition from other such projects (and imitations of their products), these enterprises remain profitable because of superior products and constant innovation, competitive prices and competent marketing and publicity.

Finally, it is vital to consider the role of labour in the success of any enterprise. These enterprises have different approaches to labour: Ardmore has a smaller number of highly trained fulltime workers, while Kaross and Monkeybiz use many more labourers who work from their homes and are paid for the finished pieces they deliver. However, all are subject to supervision within a sound organizational structure. The leaders all have strong humanitarian and democratic ideals, with their main aim being job creation. They have created charismatic organisations, with all labour roles centred around, and dependent on, their experience, creativity and authority. So it seems that a good leader is essential to success and sustainability, and enterprises without such a person at the helm seem to falter. One of their vital roles is that of inspiring and training their workers, both of apprentices and of others involved in the company. All are excellent teachers who closely supervise the crafters.

Although salaries, wages and piece-work rates are above average for their time and place, particularly in the case of Ardmore, on the one hand labour costs are kept as low as possible

in order to keep prices of goods competitive, while on the other, crafters who produce superior products are paid more in all the enterprises, giving incentives for creativity and opportunities for improvement. Other conditions of labour at the three enterprises are generally favourable and working conditions pleasant, while for the many female crafters, working from home is practical and even essential. The employees have a number of advantages in terms of wages, training, working environment, good relationships with owners and managers, opportunities for advancement and generally skilled and interesting work. Furthermore, the enterprises, which because of their ideals might be termed social businesses, also pay attention to capability development: Monkeybix, for example, uses profits to run HIV-Aids clinics, and education programmes on literacy, numeracy and personal financial management. Ardmore has what is called the Ardmore Excellence fund, into which 6% of sales are invested, to cover death benefits, health care, pensions, bursaries and housing loans. So the enterprises generally have no labour strife and a low labour turn-over.

Conclusion

Using Morris & Co. as a model, I analysed the South African craft enterprises in categories established in the model: design, business practices and labour practices, and strong correlations were found. These enterprises could be said to succeed largely because the charismatic leaders manage to integrate their approach to design, production, business and labour. They themselves are designer-craftspeople who are also business people and employers who can keep all aspects under their control. These leader-mentors are well connected and understand the ways of the art world and related markets. Interestingly, they deliberately situate the products in one of two basic categories: as collectible and "authentic crafts", in which case prices are generally lower and volumes of objects sold higher, or as "art", in which case fewer objects are sold at much higher prices.

The crafts produced by the three South African craft enterprises are very successful, as in the case of Morris & Co., because of their originality, although they may be derived from older traditions; their distinct styles which have helped to establish a regional and vernacular (South African) style; a deep understanding of essential aesthetic elements such as the combination of form with rich surface decoration; and their successful combination of functionality with decorativeness and innovation.

In conclusion, it is noteworthy that similar ideals drive these projects, as socialist ideals drove William Morris: ideals about empowerment, development of capabilities, upliftment and sustainability. The ideals of these social businesses unite and support all the various participants in these sustainable enterprises. In analysing and comparing these three enterprises, I aimed to demonstrate that it is the combination of all these factors, design, business and labour, with ideals and a coherent vision, that contribute to a sustainable, successful craft enterprise, and all must be taken into account in planning and creating a new craft enterprise or developing an existing one.

Notes

1 This article is a shortened version of a longer and more detailed book chapter, by I.E. Stevens and A Munro, 2017. Morris & Co. as a strategy for contemporary South African craft enterprises, in *Contemporary Perspectives on Art and International Development,* edited by Polly Stupples and KaterinaTeaiwa. New York and London: Routledge:172-88.

2 The current unemployment rate is approximately 26% and this is exacerbated by the statistic that in the age group 15-24, the rate is above 50% (http://www.indexmundi.com/south_africa/unemployment_rate.html).

3 For fuller explanations of the model, see the book chapter mentioned in Note 1.

4 Schmahmann (2000:92) suggests that one should be wary of referring to works as 'products' as this automatically defines them as produced "in the context of a factory" or at best as a work of craft produced anonymously, rather than a piece of 'art'. Because of different words and categorizations used by interviewees in the different enterprises, I shall use a variety of words such as 'art', 'craft' and 'product', and do not intend that any should be pejorative, nor do I intend to imply that there is a hierarchical difference between them.

5 For a more detailed explication of this model, see Stevens, IE. 2007. *Morris & Co. as a Theoretical Model for Contemporary South African Craft Enterprises.* Unpublished thesis.

6 I visited Ardmore over two days (2007) in order to spend a day at each of its two studios and interviewed the owner, Fée Halsted, as well as others involved as potters, sculptors, painters and managers in the enterprise. I investigated the enterprise's website and viewed products in its own museum and showroom, as well as at various exhibitions.

7 I visited Kaross on a number of occasions, starting in 2006. During these visits, I interviewed the owner, Irma van Rooyen, and various managers, designers and embroiderers. I observed the workplace and spoke informally to many of the crafters. I viewed the products both in its own showroom and in a number of shops and galleries.

8 I visited Monkeybiz's offices and showroom in Cape Town in 2006, and interviewed one of the founders, Shirley Fintz, as well as other managers, assistants and crafters in the enterprise. I viewed the products in the enterprise's own showrooms and in a number of shops.

9 These enterprises, as stated, were chosen partly on the basis of longevity, thus each has been producing for almost 20 years, which could account for the highly decorated styles in all three. Newer enterprises, which did not fit my criteria for success, nevertheless do exist and produce much simpler, less decorated products, in line with certain current tastes.

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Yggdrasil, the Tree of Life at AfrikaBurn 2017 in Tankwa Karoo, South Africa

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Since the inception of AfrikaBurn in 2007, focus has partly been on creating large-scale installation artworks that are erected and then ritually torched as the week-long event progresses. It will be shown that the interactive installation *Yggdrasil, the Tree of Life* serves as a palimpsest of significant elements of AfrikaBurn creative energy, in conjunction with the inventive presence and participation of roughly 13,000 other contributors to the 2017 event. In dwelling on these elements, this paper seeks to describe and consider some technicalities of planning and then physically transforming objects, in the form of raw materials - by means of ideas directing wise and knowing human hands - into symbolic works expressing original concepts and collective endeavour. Actual torching and burning of the installation is posited as a climaxing high point that brings plans of sculpting with fire to fruition, yet is also just another step in the process of fostering both meaningful relationships and adding to existing myths and legends, both in individual and collective memory, as well as in the realms of the internet. Theoretical context is found in both object-oriented ontology as proposed by the likes of Graham Harman and Timothy Morton, as well as in new synergies of materialist performativity proposed by Cecilia Åsberg, Kathrin Thiele and Iris van der Tuin, among others.
Key words: AfrikaBurn, co-creating large-scale installation art, materialist performativity, object-oriented ontology, sculpting with fire, Tree of Life

***Yggdrasil, livets träd* vid AfrikaBurn 2017 i Tankwa Karoo, Sydafrika**
Sedan starten av AfrikaBurn år 2007 har fokus delvis varit på att skapa storskaliga konstverk, som uppförs och sedan rituellt bränns ned allt eftersom den veckolånga händelsen fortskrider. Det kommer att visas på den interaktiva installationen *Yggdrasil, livets träd*, att den tjänar som en palimpsest av signifikanta element i AfrikaBurns kreativa energi, i samband med den innovativa närvaro och deltagande från cirka 13.000 andra bidragsgivare till 2017-eventet. I det här dokumentet söker jag att beskriva och betrakta vissa tekniska aspekter av planeringen och sedan den fysiska omvandlingen av objekt, i form av råa material - genom idéer som leder kunniga mänskliga händer - till symboliska verk som uttrycker originella koncept och kollektiva utmaningar. Den faktiska tändandet och bränningen av installationen ställs som en höjdpunkt och ger upphov till planeringen för skulpturering med elden i åtanke, men det är också bara ett steg i processen i att främja både meningsfulla relationer och lägga till befintliga myter och legender, både i enskilt och kollektivt minne, liksom i internetets rike. Teoretiskt sammanhang återfinns i både objektorienterad ontologi, som föreslagits av likeså Graham Harman och Timothy Morton, liksom i nya synergier av materialistisk performativitet som föreslagits av bl.a. Cecilia Åsberg, Kathrin Thiele och Iris van der Tuin.
Nyckelord: AfrikaBurn, medskapande storskalig installationskonst, materialistisk performativitet, objektorienterad ontologi, skulptur med eld, Livets Träd

In two previous papers (Steele 2015; 2016) AfrikaBurn, performed annually during autumn in the Tankwa Karoo, has been established as a large site-specific land-art event geared towards experientially celebrating community and ephemerality, while also providing a setting for individuals and groups to articulate creative ideas within an enabling environment. The site, surrounded by mountains in the distance, is isolated and majestic, and caring for that setting and each other is guided by 11 principles (Steele 2015: 189-190), which promote self-reliance, sharing, helping others, inventiveness and mutual respect.

The emphasis in this paper is on the instigators, process, main design elements and unique methods of implementation that resulted in *Yggdrasil, the Tree of Life* at the 2017 event. This focus is geared towards giving insight into intentions of some people involved, as well as to consider aspects of process: what came next, and how, by whom and with what "tools and techniques" (Smith 2016: 80) did the team hand-build and burn this large-scale installation? Furthermore, it will also be explored how these works embody, in different ways, a sort of rootedness in community and process that adds meaning, and is part of the imprinted end result that, importantly, embodies a quality articulated in 1880 by William Morris in his commendation of works "made by the people for the people as a joy for the maker and the user" (Stevens 2008: 104).

Process oriented teamwork

This emphasis on joy in both making and using is very strong at AfrikaBurn, and was conceptualised as being integral to the *Yggdrasil, the Tree of Life* project from the outset by co-instigators Nix Davies and Agust Örn Helgason (figure 1a). Davies, who was born in Zimbabwe and is now residing in South Africa, is a veteran of five previous installation builds at AfrikaBurn. Helgason was born in Sweden of parents from Iceland, and is now residing in Scandinavia. They first met at AfrikaBurn in 2016. As part of his Kaospilot school tertiary education leadership programme, Helgason had travelled from Denmark to work on the AfrikaBurn installation *Golden X* by Davies and the Space Cowboys. Much of the information that follows arises from interviews conducted variously with Davies and Helgason at AfrikaBurn on 28th April 2017, unless otherwise indicated. Helgason relates that they worked very well together while creating the installation *Golden X*, and that they decided at AfrikaBurn 2016 that the next project would jointly be a Tree of Life when Davies confided that she had been thinking of building a tree based on the African baobab for the past 17 years.

It was decided by Davies and Helgason that the Africaness of the baobab tree and associated Tree of Life myths and legends could constructively be married to Yggdrasil, the Nordic equivalent, "that connects the nine worlds in Norse mythology"[1]. An early conceptual drawing of *Yggdrasil, the Tree of Life* (figure 1b) by Davies shows the basic baobab shape, with an entrance and interior spiral ramp leading to a Viking ship perched on the top, thereby giving clear expression to their desire to bring together African and Nordic elements in this work. Thus, from the outset, part of the plan was to bring people and ideas from the two continents together - creating new relationships, exchanging skills, and investigating two rich histories to create new work synergies and understandings.

Davies and Helgason set up a nonprofit organisation called Dream Yggdrasil, and began fundraising and creating early models of what was planned. In September 2016, the 25th anniversary celebrations of the Kaospilot school in Aarhus, Denmark, presented an opportunity for them to put together a 20-person volunteer team to create a large-scale, six-metre-tall prototype in three days as part of the Agenda Festival. This successful event laid an organisational foundation based on process-oriented teamwork, and contributed towards furthering the fundraising aims of Dream Yggdrasil. Davies and Helgason were very much hands-on in creating prototypes and beginning to establish a team of volunteers. Successful fundraising from Kulturbryggen, run by the Swedish Arts Committee, and from AfrikaBurn, meant that the project really began to take shape towards the end of 2016.

The next steps in creating awareness about the project, also aimed at recruiting volunteers, included building a miniature of *Yggdrasil, the Tree of Life*, which was placed inside a giant

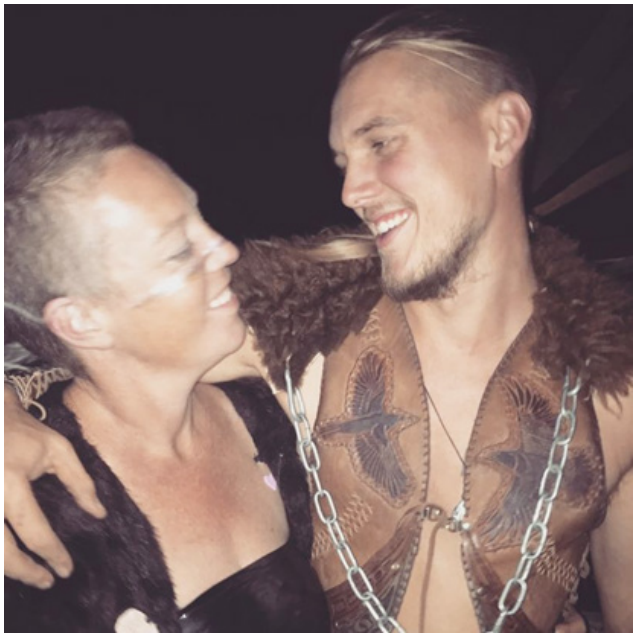

Figure 1a
Davies, left, and Helgason at AfrikaBurn 2017 (retrieved from the public domain https://www.insta gram. com/p/ BWgDaSHHfLj/?takenby=dream.yggdrasil).

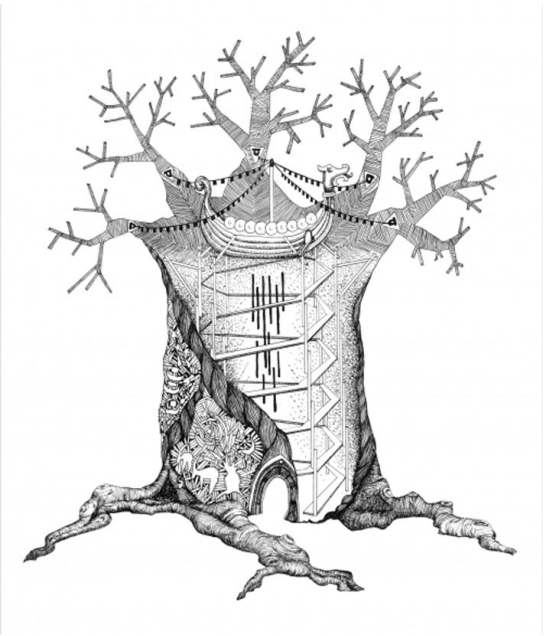

Figure 1b
Davies, early concept drawing of *Yggdrasil, the Tree of Life*. 2016. Ink on paper (photo by Nix Davies).

wooden model representing a baobab seed. This work was presented to the public at the annual Streetopia event during October 2016 in Observatory, Cape Town. These next steps also included extrapolation of rough structural drawings and models into computer-aided designs of the core structure based on a hexagonal 21-metre-high by 16-metre diameter structure on a 28-metre diameter hexagonal base, with an internal ramp ascending to the top.

Various successful worldwide callouts were made for, among others, volunteer designers to help "design the tree in big and small detail", as well as riggers, chefs, carpenters, communicators, project managers, home camp managers, drivers and electricians2. Then followed three weekend sessions of pre-builds at Davies' home in Citrusdal, lots of planning and purchasing of raw materials, as well as the big job of loading up and transporting materials and equipment to the empty site where *Subterrafuge* and then *Project O*, both by Nathan Honey, had stood the previous three years. The first group of seven team members arrived on site at AfrikaBurn on 28th February 2017. The most immediate tasks on hand for this totally collaborative project were to set up camp around the construction site and then begin transformation of more than 60 tons of blue gum, 40 tons of pine and between three and four tons of wattle (Helgason email of 14 July 2017) into the huge installation dominating the skyline (figure 2) that I saw when I arrived at AfrikaBurn on 22nd April 2017.

The build team size soon grew to 20 people, and eventually swelled to as many as 50. All were accommodated and fed at the Yggdrasil camp, and worked at various tasks aimed at bringing the dream of *Yggdrasil, the Tree of Life* to fruition. Davies and Helgason have recounted how camp management and the main elements of *Yggdrasil, the Tree of Life* design and construction were regularly discussed and workshopped with all present, with a primary emphasis on process and arriving at consensus on how best to harness creative ideas matched with practical imperatives. One of the first collective build decisions made, for example, was to reduce the planned base diameter of the hexagonal core structure from 28 to 16 meters which,

Figure 2
Yggdrasil, the Tree of Life **(photo by Leon Högberg).**

Figure 3
Some of the lead build team members, left to right: Brandon Gage, Simon Knutsson, Leon Högberg and Kai (photo by John Steele).

with added roots and branches, eventually gave a ground-level footprint of roughly 20 to 22 metres in diameter in places. The build team then measured out the hexagon and pinpointed 36 positions for cast concrete foundation points for the posts. Concrete for these foundations was mixed with a hand-tumbler and cast at night because the weather, reaching more than 40 degrees centigrade on some days, was too hot for it to cure properly during the day.

Each of the 36 primary posts was eventually made up of seven sections of two slightly staggered 2.9-metre poles bolted together and braced with partners all round, onto which the next 2.9-metre posts were staggered, bolted and braced until the final height of about 20 metres was reached. These posts surrounded an open-space centre area on a low stage, upon which was

placed a giant baobab seed as a central symbol and ground-level focal point. In an interview (26th April 2017) with some lead build-team members (figure 3) it was explained that, in actuality, they had had to work out how to construct this installation as they went along, including using free-forming techniques such as tying a webbing of ropes to posts hoisted by hand to work out ramp gradient measurements, and making ongoing decisions on how to create and place all the elements.

One of the many ingenious aspects of this build was the way in which the inner and outer hexagons of posts supported the ramp upwards, which, in turn, secured the structure as it was being built, thereby doing away with a need for scaffolding and tensioning using external stays despite a large open centre space. A further innermost hexagon of posts, combined with systems of cross-bracing and internal steel cabling that could be gradually tightened, ensured stability due to inward compression (figure 4a). Parallel planking set into the entrance walkway led to the 80 meters of spiralling ramp and viewing deck, as well as the symbolic Viking longboat at the very top. The further importance of this walkway was that it enabled the highest wheelchair access so far facilitated at AfrikaBurn. This factor alone shows an extraordinary degree of foresight aimed at inclusivity.

As the actual AfrikaBurn event opening day on Monday 24th April drew near, the camping spaces and workshops around *Yggdrasil, the Tree of Life* were relocated away from the structure itself, which now dominated the Tankwa skyline. It had taken 54 days to build. This structure,

Figure 4a
Structural main elements and centrally placed sculpted baobab seed (photo by John Steele).

Figure 4b
Nikki Jackman in performance on the baobab seed (photo by John Steele).

which symbolically brought together some Norse and African legends, also fused inputs from approximately 70 volunteers in all, to the extent that, to an outsider, it was not clear which of these volunteers had created what. Its intriguing presence provided shade and encouraged interaction with all-comers. Sometimes, during daylight hours, hundreds of people at a time engaged with the spaces and went up to the viewing platform. Then, at night *Yggdrasil, the Tree of Life* took on a different aspect – computer programmed intelligent lighting, created by Thomas Steiner from Switzerland, transformed it into a new kind of visual wonderland, and various nightly performances (figure 4b) by the Dream Yggdrasil team drew attention to inter-personal commitment and to Nordic and baobab related legends, further symbolically joining together persons and concepts from around the world.

Then, on Thursday 27th April, Davies and Helgason's thinking turned fully towards communal torching of this mighty installation. In due course, *Yggdrasil, the Tree of Life* was closed to the public and a carefully planned procedure was implemented that included removing the electrical system and lights, placing hay bales at floor level, drilling holes into the posts and filling those with wax, and careful progressive chainsaw weakening of the structure without collapsing it prior to the burn. The hay bales and entire structure were also drenched in fuel. Then, before dawn on Sunday 30th April, amid rituals linking overseas and local peoples and Tree of Life concepts, two archers shot flaming arrows to start the torching of this installation by setting the eagle above the main entrance on fire (figure 5). Setting the eagle ablaze fired up the Viking longboat, thereby poignantly harking back to Nordic myths and funerary practices that sometimes involved "cremation of a ship containing … [a] dead leader upon a vast funeral pyre", as is found in Snorri Sturluson's description of how "Baldr's ship serves as his funeral pyre in a ceremony attended by gods, giants and a wide range of bizarre and unexplained rituals" (Williams and Rundkvist 2005: 1).

This set in motion the mightiest inferno yet witnessed at AfrikaBurn, with intense multicoloured flames shape-shifting visible forms, and sometimes increasing the height of the work nearly threefold. Next came a spectacular falling inwards that resulted in a carefully controlled, intensely hot sacrificial pyre that lasted for several hours (figure 6). Thereafter, taking down the Yggdrasil camp and clearing up the burn site was very hard work, and took several days.

Yggdrasil, the Tree of Life was, from the outset, designed to burn. Thus, this installation became fuel for fulfilment of originating ideas and communal endeavours by means of torching. Sculpting with fire, envisioned in 2016, was enacted in 2017. Intentions accomplished. This event was exciting, sad, cleansing and cathartic. It echoed fire rituals "associated with purity and purification, as well as with rebirth and renewal … throughout recorded time" (Steele 2015: 188, citing Gilmore 2010, Hockett 2004 and Bell 1997).

This burn also marked further transformation of idea from object to legend. New understandings became and continue to become integrated into existing Tree of Life myths and are carried forward by shared ideas, experiences and memories, while also developing other nuances in the realms of the internet, thereby opening pathways for further ongoings and other beginnings. Furthermore, the headline quote on the dream.yggdrasil Instagram site on 15th August 2017, posted by Davies, serves as a reminder of primary Yggdrasil intention and practice as being that of "building large-scale art to create meaningful relationships and cross-cultural understanding"3. Thus, it is evident that creating the installation and its burn were actually incidental to those main goals, achieved through carefully devised process-oriented collective workshopping of each creative step, thereby bringing people together into mutually

Figure 5
Torching *Yggdrasil, the Tree of Life* (photo by Scott London).

Figure 6
***Yggdrasil, the Tree of Life* … Sculpting with fire (photos by Ryan Abrey, left, and Bo Duvenhage).**

beneficial interpersonal interactions. Interestingly, it is exactly this encouragement to seek and implement possibilities for meaningful relationships that is part of the essence of the enabling AfrikaBurn environment in general, and will be returned to towards the end of the next section.

Some theoretical considerations

This layering of contemporary legends-in-the-making into ancient Norse and African world views has taken place in a current philosophical context that still rates objects created by wise and "knowing hands" (Dobres 1998: 1) as worthy of consideration. The topic of raw materials – objects – being intentionally transformed in a visual arts context into something else that is still object-based, even temporarily, can be investigated from many angles.

While initially thinking about the implementation process that gave rise to *Yggdrasil, the Tree of Life*, and the interesting degree of anonymity – to an outsider – regarding which aspects of the work had been undertaken by which persons, I found myself wondering if the build set-up and outcome of this installation was rather similar to that advocated by William Morris and the Arts and Craft Movement in the late 19th and early 20th centuries (Petts 2008: 37). Morris' way of thinking about making useful objects was that this activity was partly also a means to engage anonymously with "work as creative expression" (Upchurch 2005: 523) in a setting similar to "medieval crafts guilds … a type of socialist brotherhood where everybody fulfilled themselves according to their level of ability … for the good of society" (Barragán 2014: 3). There are interesting correlations here with events and intentions expressed by Davies and Helgason, but there is also much more to the coming together and creation of *Yggdrasil, the Tree of Life*, especially considering the AfrikaBurn context and that the work was deliberately liberated from the wood and metal physical manifestation of its objectness in the final hours of the burn.

Furthermore, given the theme of "Craft.Object.People" and the crafty inclusion of the phrase "object-oriented ontology" in the brief for this edition of the South African Journal of Art History, it is also tempting to consider the making and torching of the object *Yggdrasil, the Tree of Life* primarily from a point of view that the sculpture was well made and carefully handcrafted using natural materials. I suggest, however, that there are more useful ways of conceptualising this installation than can be achieved from engaging with and chewing on patterns of art/craft/design dichotomous thought (see, for example, Galef 2006, Smith 2016 and Steele 2009). That said, it must also be made clear that this paper, in its search for a relevant "language of … objects" (Anderson 2014: 352) and their makers acknowledges and honours the significance of "tactile, sensory and creative intelligence [expressed] through the practice and use of … [knowing human hands] in the making of things" (Wax 2014: 191) such as *Yggdrasil, the Tree of Life*, as a point of departure for what follows.

Astrida Neimanis *et al* (2015: 4) suggest that it is useful to conceive of participants and events, as well as objects such as AfrikaBurn in general and *Yggdrasil, the Tree of Life* in particular, as an "imaginary" that is specifically geared to challenge "androcentrism … as the measure of all things". They commend an "ability to reimagine ways of getting on in a world where humans are not the only bodies that matter, and where humans and non-human [entities] … are entangled". Physicist Karen Barad (2007: X) calls this "intra-action" which, according to Neimanis *et al* (2015: 12) "posits fundamental entanglement, whereby [from a quantum physics point of view] individual entities do not exist as *a priori* things-in-themselves". This way of perception unhinges human/object dichotomous thinking, partly because neither is valorised over the other because, as with "matter and meaning", it is "impossible to differentiate in any absolute sense between creation and renewal, beginning and returning, continuity and discontinuity, here and there, past and future" (Barad 2007: X).

Neimanis *et al* (2015: 5) explain that, from their point of view, the "imaginary" in which such entanglement takes place should be understood as "the explorative, yet somewhat restricted,

sense-making field wherein humans cultivate and negotiate relations in the material world, both emotionally and rationally, while also creating identities for themselves". Land-art events such as AfrikaBurn, and installations such as *Yggdrasil, the Tree of Life*, can thus be characterised as "imaginaries" arising not from "what we have, but what we do".

When part of what we do at AfrikaBurn is to utilise wise and knowing hands to create ephemeral installations and other such entities, contemplation thereof can lead towards tempting ideas framing speculative realisms such as, for example, the branch of "object-oriented ontology" of Timothy Morton (2013: 19). It appears that this term was first introduced by Levi Bryant (Leach, 2016: 345) subsequent to Graham Harman's (2010) initial conceptualisation of "object-oriented philosophy". This ontology can be viewed as a theoretical means towards emphasising objects as part of a drive towards challenging viewpoints based on outlooks attributable to "Immanuel Kant … that privileged human beings over objects, and viewed objects primarily through the mind of the subject" (Leach 2016: 345). Without venturing into fully tracing philosophical thinkings giving rise to object-oriented ontology, it is thus particularly pertinent to note that, like the posthumanist "imaginaries" posed by Neimanis *et al* (2015: 5), this way of thinking upends androcentrism by suggesting that "speculative realism starts from the assumption that the world doesn't have to be correlated to some (human) observer in order to exist" (Morton 2013: 57).

This is a massive topic that, for example, "builds on the work of thinkers such as Heidegger, Husserl, Whitehead, Latour and Deleuze" (Cole 2015: 319). It deserves more than a paper in its own right, but in an effort to summarise some relevant points for contextualising AfrikaBurn and associated installations and performances, it is useful to note that object-oriented ontology, as proposed by Morton (2015: 65, 38, 76), depends on some basic points, including that "everything is an object, including the seemingly special one [people] we call *subject*" and that all objects are sentient, including particles and "your toothbrush", seeming "to breathe with a strange life" and can "influence one another". Secondly, (Morton 2015: 33, 46, 101, 70, 47) "objects withdraw … from access" and are "unique", even if they cannot be "perceived", and are both "themselves and not-themselves at one and the same time". Thirdly, this concept of "autonomy of objects" is complemented by their equality, in the sense that "there can be no 'top object' that gives meaning and reality to others … and there can be no 'bottom object', some kind of fundamental particle or ether from which everything is derived … [also] there is no ether or 'middle object' in which other objects float" (Morton 2015: 49). Thus, according to this thinking, fire, people, water, atomic bombs, stones, rotifers, cooking pots, trees, microbes and anything else are equal objects.

That said, and leaving many questions unanswered, it is quite startling and invigorating to think of *Yggdrasil, the Tree of Life* from this point of view, which upends androcentrism and posits site, events, people and objects as differently yet equally sentient and interactive, co-participant, yet also withdrawn in the sense that interparticle and interpersonal intra-awareness does not lead to fully becoming the other. Andrew Cole (2015: 322, citing Harman 2011: 49) points out that one must also take into account that the object-oriented ontology of Harman, upon which that of Morton is based, argues that, "while there may be an infinity of objects in the cosmos, they come in only two kinds: the real object that withdraws from all experience, and the sensual object that exists only in experience". It is this "sensual object" that is accessible to human awareness. Nevertheless, despite being drawn to ideas of egalitarian entanglement with sensual objects, and opportunities for expanded experiences that might include, for example, feeling even more at one with *Yggdrasil, the Tree of Life* as I appreciated its structural vibration to

the beat of many feet moving up and down the wooden spiral ramp, there seems to be something vital that is missing from the object-oriented ontology viewpoint.

Cole (2015: 325, 328) points out that, although androcentrism and associated dichotomous thought appears to have been subverted by object-oriented ontology, this is not so because despite that "objects themselves have experiences …the fact that we can also think these object relations means that the relations are *already thinkable*", thereby valorising rather than subverting Kantian subject object correlationism "precisely because there is a sovereign subject around to proclaim what makes the cut". So, where does this take me in attempting to find a workable way of thinking about context for AfrikaBurn broadly and *Yggdrasil, the Tree of Life* specifically? It has been worrying me that, in discussion so far, people, with their energies and differences, are distanced subjects and objects, albeit sometimes at the same time. On the other hand, I like the idea that sentience can be a property collectively experienced, differently, by objects. What to make of this? Should I try to just get over my preference for not finding a single solution and remaining interested in Kantian subject object ontology?

Åsberg *et al* (2015: 151, 150) are helpful by pointing out the importance and formative power of context. Their idea of "posthumanist performativity" is that of a flux of "co-becoming … [that] insists on the co-constitutive role of the embedded observer, the perspective and rich agentiality (multi-subjectivity) of context itself", which in this case includes the AfrikaBurn setting, social space, works and people as co-contributors. These authors recommend avoiding attempts at "prescriptive closure", such as in the proposal of equality between objects as envisioned in object-oriented ontology. Rather, they favour a more likely scenario with prominence given to recognition of context as being "spikey and interfering … [where] … environment, spatiotemporality … and transcorporeal bodies as fleshy, leaky, unbounded and unvoluntary assembleges … achieve a multiplicity of prominences".

Given widespread adherence to the clearly community oriented, mutually nurturing focus of AfrikaBurn's 11 guiding principles4, it is clear that this event offers the possibility for practicing "speculative visions for alternatives to the status quo …[whereby this imaginary can provide] a shared sense of meaning and coherence" (Neimanis *et al* 2015: 2) that can encourage a greater general sense of meaning in daily life. Neimanus *et al* (2015: 10) go on to note that events such as AfrikaBurn "highlight openings for creatively [re]orienting our social practices" and, with reference to Deleuze and Guattari (1994), emphasise "the importance of art in gestating new imaginaries"5. Conceptualising, creating, engaging with, torching and clearing up works such as *Yggdrasil, the Tree of Life* can catalyse thinking that emphasises finding ways to express egalitarian interpersonal and inter-object relations as being a worthwhile way of life. Furthermore, torching of this work symbolically draws all conceptual elements together into a single inferno, thereby handing over control. In a sense, then, this event enacts a "materialist performativity" (Åsberg *et al* 2015: 17) that can be taken forward into daily life in a way that articulates "an ethics within the context of uncertainty, but in which attention to justice, accountability, vulnerability and difference can still be foregrounded". Furthermore, these authors (2015: 18) make it clear that they eschew "hubris inherent in … omniscience and panopticism … recognise entanglement … [and, citing Haraway 2008: 15, warn that] there is no teleological warrant here, no assured happy or unhappy ending, sociologically, ecologically, or scientifically. There is only the chance of getting on together with some grace."

Conclusions

Just as, generally speaking, a Tree of Life is thought of as a symbol connecting and respectively nourishing earth and heavens, so too has experiencing the powerful presence of *Yggdrasil, the*

Tree of Life served to connect me more closely to the people and object/space of AfrikaBurn and ideas about this event. I also know that most of the scores of people who worked together on this project are now a close-knit group of people who have forged mutually supportive bonds for life. This installation, and its burn, has also encouraged my engagement with some fertile realms of speculative thinking that, overall, has confirmed that nothing can be taken for granted, and that I do not have a predilection for universalist ontologies. Furthermore, I enjoy my enmeshedness, as suggested by Morton and clarified by Barad, and also know that both my presence and subsequent reflections contribute to AfrikaBurn and *Yggdrasil, the Tree of Life* imaginaries (Neimanus *et al*). Thus, I cannot take up a position of distanced critical outsider, and consequently relish the rather messier role of participant observer.

My excursion into thinking about the world from an object-oriented ontology point of view has been interesting, but there is a universalism to that viewpoint that muddies matters and, anyway, I did not really find room being made for the variety of warm-blooded bodies and often unpredictably chaotic ways we have of connecting at AfrikaBurn and elsewhere. Consequently, I find, within an admittedly limited frame of reference, that, despite wanting to move away from dichotomous thought, I still cling to Kantian-style correlationism between subject and object because this way of thinking gives room to acknowledge that, as subject, I have the capacity to enjoy or dislike others and/or specific objects. I realise that this observation is rather oversimplified, but it at least seems to be a way in which I can account for my experiencing of *Yggdrasil, the Tree of Life* as having, in the Morrrissian sense as quoted earlier by Stevens (2008: 104), been made "as a joy for the maker[s] and the user[s]". Objects are not purely in place for human enjoyment, but can on occasions give subjects such as myself pleasure in passing, which feeling I in turn may on occasions be in a position to give to others. I value such interactions very highly. Furthermore, the presence, for a short time, of *Yggdrasil, the Tree of Life* on the exact position previously occupied by *Subterrafuge* and *Project O* has added to the mystique and fascination of this specific well-worn spot at AfrikaBurn. I find myself being rather intrigued at the possibility of the emergence of another installation in 2018, of currently unknown proportions and by makers not yet known to me, on this exact site, within the vastness that is Tankwa Karoo. Anticipation enhances my feeling of rootedness in community and enmeshment in an enriching cyclic creative process ...

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Notes

1 Retrieved from http://www.dreamyggdrasil.com on 23 July 2017. Interesting background information on the baobab tree and associated Tree of Life myths and legends can be found in Hunter 1995, as well as in Layser 2001. Similarly, for Yggdrasil, Sturluson translated by Brodeur 2006, as well as Lindow 2001, are good sources.

2 Retrieved from various Facebook posts, including https://www.facebook.com/groups/dream.yggdrasil/ on 9 December 2016, and 15 January 2017, and on 27 June 2017).

3 Retrieved from https://www.instagram.com/dream .yggdrasil/ on 15 August 2017.

4 See https://www.afrikaburn.com/about/guiding-principles as on 20 August 2017.

5 An anonymous reviewer of this paper made some constructive observations, one of which I add here as part of what I would have liked to articulate and investigate regarding issues arising from an object oriented ontology viewpoint. Furthermore, this reviewer comment provides a platform for further studies in this direction. The comment is as follows:

> "The fire makes timber's withdrawn condition (carbon, heat energy, global warming etc) abundantly apparent and is the cataclysmic event appropriate to humans and objects. At the moment of burning, the object condition of the timber overwhelmed the symbolic content ascribed by human creators (except perhaps the Norse funeral boat) – the sculpture fire for a moment set humans on par with objects (arguably), which is part of the point of AfrikaBurn (well, apart from community making aspects and so on that have been highlighted). At the phenomenological level, the burnt object is a mirror of the object nature of humans and should not be discounted. Humans had to construct this object through myth and community to reveal their own object nature".

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John Steele first worked as a studio potter in Rhodes village in the southern Drakensberg mountains of the Eastern Cape in the 1970s, then as a pottery manager in Mthatha, prior to taking up his present post as Senior Lecturer in the Visual Art Department at Walter Sisulu University in East London, South Africa.

An assessment of Henri Comrie's aspiration to achieve well-crafted architecture

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The architect and urban designer Henri Comrie (b.1965) uses the terms "crafting" and "crafted" when referring to the act of designing, as well as to the qualities of good buildings and social spaces. Because of his recognised ability to explore and present ideas found in his built work through the medium of freehand drawings, the term handcrafted, in his case, is associated with the ability to achieve spatial refinement through drawing. Four projects selected from his practice's website were reviewed to determine their most pertinent features. Thereafter, Comrie was interviewed and his attitude towards craft compared with prevalent ideas in literature. The relationship between hand drawing and building information modelling (BIM) is also investigated.
Key words: Henri Comrie, architecture, building information modelling (BIM), craft, design

'n **Waardering van Henri Comrie se strewe na die skepping van vaardig-uitgevoerde argitektuur**
Die argitek en stedelike ontwerper Henri Comrie (b.1965) gebruik die Engelse terms "*crafting*" en "*crafted*" wanneer hy na die aktiwiteit van ontwerp verwys, sowel as na die eienskappe van goeie geboue en sosiale ruimtes. As gevolg van sy alomerkende vermoëns om idees wat in sy geboue voorkom te verken en aan te bied deur die medium van vryhandtekeninge, word die term handgemaak in sy geval vereenselwig met die vermoë om ruimtelike verfyning te bereik deur middel van teken. Vier projekte is uit sy praktyk se webwerf gekies en ondersoek om hulle mees kenmerkende eienskappe vas te stel. Daarna is Comrie ondervra om sy benadering tot handwerk te vergelyk met hedendaagse idees in die literatuur. Die verhouding tussen vryhandtekeninge en "building information modelling" (BIM) word ook ondersoek.
Sleutelwoorde: Henri Comrie, argitektuur, "building information modelling" (BIM), handvaardigheid, ontwerp

Henri Comrie is fond of using the terms "crafted" and "crafting" when discussing good architecture and urban design. Whether in conversation or writing, the way he uses these words – the former denotes product and the latter process – makes the term "well-crafted" almost tautological, since he seems to imply intrinsic appropriateness and proficiency. Apart from the undeniable quality of his buildings and urban spaces, he developed a very distinctive, minimalist hand drawing style that is instantly recognisable as his.

Can hand drawing retain a place in the age of artificial intelligence, robotics, digital fabrication, building information modelling (BIM), three-dimensional (3D) modelling, virtual reality, integrated project delivery (IPD), just-in-time delivery and outsourcing? Juhani Pallasmaa (2009: 15, 60) famously argues for the supremacy of the hand when externalising and extending one's experiences and imaginations from the brain to graphical representation. Hand drawing, and even hand writing, offers a haptic advantage, akin to the handicraft tradition, which the use of the computer, BIM, 3D modelling, virtual reality or the like may never match. The availability of such technology should afford an architect the time to use hand sketches

to establish and visually debate the essence and meaning of ideas, concepts, dreams, feelings, memories and possibilities.

The craft under discussion here is not the conventional handicraft tradition, which relies on apprenticeship to acquire what is essentially tacit knowledge, but rather theory-based design that responds to a wide range of complex and variable physical and metaphysical requirements.

The aim of this study is to investigate the notion and advantages of crafting in contemporary architecture. It pursues three objectives: first, to clarify the apparent contradiction between the artisanal and intellectual manifestations of craft as related to architecture. Second, to identify the characteristics of a well-crafted building [and or built environment] in terms of contemporary criteria, and the third, the objective to probe the process of achieving a well-crafted building, not in terms of construction, but rather in terms of the graphic media that prescribe construction: drawing and BIM.

Method

There seems no better way to study craft in architecture than to consider the work of someone who has been tirelessly promoting the concept, such as Henri Comrie. Information was obtained from his practice's website (www.urba.co.za), from texts by him and about his work, cross-referenced with recent literature on related topics. He was subsequently approached for commentary on topics related to the objectives. After an assessment of his comments, the article was finalised in its current form. Thus, instead of a typical question-and-answer format, Comrie's responses are totally fused into the project decriptions. In order to obtain a better understanding of well-crafted buildings, four award-winning examples were selected from his portfolio. They include two educational projects, one religious and one residential project (figure 1):

1 Gordon Institute of Business Science, Johannesburg, Gauteng (1998)

2 Vaal University of Technology Chapel of Light, Vanderbijlpark, Gauteng (2006)

3 House at Johannesdal, Pniel, Western Cape (2012)

4 Educational Training Centre at Sol Plaatje University, Kimberley (2017).

Apart from concise descriptions of these case studies at www.urba.co.za, they have been extensively reported on. For example, the Chapel of Light was comprehensively described by Paul Kotze in 'Ora Joubert's *10 Years + 100 Buildings* (Joubert 2009: 210-213), and the House at Johannesdal by Julian Cooke (2014: 10-13) in *Architecture SA*. The section on the case studies is, therefore, limited to Comrie's design intentions as they pertain to craft in architecture.

When Comrie lamented in a 2003 article that "the cyber image often mutates into bad architecture", CAD (computer-aided design) was well-established and BIM was in its infancy. In promoting "handcrafted" drawings, rather than digital imagery, he quoted Rob Krier (1979: 169) who declared: "Planning and design is a craft, which is exercised at the drawing board." Krier added: "The perfection of the spatial idea is directly linked with the perfection in drawing." This was written at a time when CAD was still very primitive; the earliest version of AutoCAD was only released in 1982. More recently David Chipperfield (2008) lamented the subjugation of "idea" in favour of "image", with third parties often producing computer generated imagery in remote locations such as China at a fixed price per image. The accessible realism of such

Gordon Institute of Business Science

Sol Plaatje University

Vaal University of Technology Chapel of Light

House at Johannesdal

Figure 1
Henri Comrie, case studies (source: www.urba.co.za).

imagery fools the unknowing viewer into imagining superficial refinement, which negates the need for craft on the part of the architect in favour of commercial expediency.

Two issues emerge from Krier's statement: first, design is a craft, and second, that design is achieved by drawing. This study commences with the notion of craft as an intellectual versus artisanal endeavour, which provides the criteria for assessing the case-studies. This assessment informs an investigation of hand drawings versus BIM, which concludes the study.

Artisanal versus intellectual manifestations of craft in architecture

Thirty years ago, Tom Bartuska and Gerald Young (1994:138) propagated an expanded ambit for architecture: "The art and science of designing and building open areas, communities and other artificial constructions or environments, usually with some regard to aesthetic effects". They define the term "architecture" succinctly as follows:

Arch-i-tecture: art + craft + science + engineering

Although Bartuska and Young's definition has never been seriously challenged, Bryan Lawson (2004: 31), a particularly comprehensible author on design method, rather surprisingly suggests that just those designers who make rather than draw objects are "crafters", clearly excluding architects. His argument is that "the process of vernacular or craft design" relies on

gradual adaptation over time, a process totally unsuitable for "the contemporary world" (2004: 32).

However, the idea of craft as exclusively artisanal had already been conclusively dispelled when Wayne Booth, Gregory Colomb and Joseph Williams published their seminal *The Craft of Research* in 1995. Since then, the concept of craft to include theoretical knowledge and skills has been generally accepted. Craft pertinently became intellectual.

A few years later, publications such as *The Craftsman* by Richard Sennett (2009) and Michiel Riedijk's *Architecture as a Craft* (2011) entrenched this notion in the practice and academic study of architecture. The idea of craftsmanship (a term for which there is no gender-neutral alternative) in architecture is captured in the work of Vitruvius, viewing the use of materials as an integral part of theory (Vitruvius and Granger 1970: 7-9). Craftsmanship in architectural practice is about envisaging buildings on paper, through hand drawings and even hand-made models. The tactile character of Comrie's buildings becomes an extension of his development of the notion of craft in arranging spaces and materials on paper.

For him, craft in architecture embodies a number of very clear principles:

- craft is the conscious exploration of ideas and its patient reworking and refining
- craft uses drawing as a fluid/intuitive exploration tool
- craft considers sensory aspects such as light, movement (circumnavigation), suspense, sound and the like, as primary agents towards creating a more timeless type of architecture
- craft aims to limit the palette to a limited number of readily available materials, of which brick is the primary one
- craft considers building a mouldable, plastic entity that adapts to context rather than being the expression of a preconceived system that provides certain guarantees in terms of cost and technical performance, but little by way of sensory delight.

Perhaps it would be helpful if the definition of craft was simply extended to include the range of creative endeavours, when they are executed with competence and care; One is reminded of Friedrich Nietzsche's referrence to "that diligent seriousness of a craftsman" (quoted from De Botton 2000: 226).

The characteristics of a well-crafted building

Henri Comrie advocates that the well-crafted building is generally achieved through the following approaches:

- Real spatial understanding approaching intuition through research, travel, building, drawing and post occupancy evaluation;
- Creative use of simple and immediately available materials: brick, steel, glass, timber, concrete;
- Thinking carefully about the way in which materials meet (articulation);

- Complementing the use of such simple, textured materials with an understanding of the dynamic use of natural light and the movement of observers through a sequence of spaces to provide heightened sensory experiences;
- Working with contractors on site to develop context-specific details rather than issuing standard details from a remote office location.

Gordon Institute of Business Science (GIBS): Johannesburg (1996-2013)[1]
[SAPAO Award 2009]

The campus of this prestigious business school was developed in three phases. According to www.urba.co.za, "GIBS has been commended for the extent to which "'life between classes"' has been accommodated on campus through carefully designed courtyards, quads and seating alcoves that successfully blur the distinction between formal teaching and spontaneous interaction".

What makes this a well-crafted building (figure 2)?

It manifests:

- Spatial integration across three phases held together by two linear movement axes;
- Variation of carved out, interlocking and overlapping internal and outdoor spaces;
- Variation of internal light quality via overhead apertures and open-to-sky courtyards;
- Juxtaposition of closed and open spaces with a seamless flow between them, conceived as a small city with conscious dilution of boundaries. Courts of various sizes mimic urban squares intersected by generous movement axes that mimic urban streets. The balance of functions supports this clear order by providing a varied foil. Related to Louis Kahn's notion of "served" and "servant" spaces, the "streets" and "squares" are served to enhance their dominance as well used, semi-public spaces within the building ensemble;

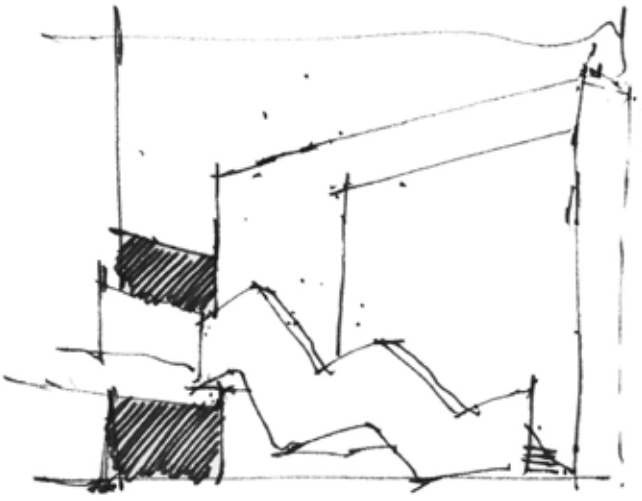

Figure 2
Henri Comrie's drawing of the central staircase in Gordon Institute of Business Science (GIBS), Johannesburg, 1998 (source: www.urba.co.za).

- Simplicity of materials. Clear delineation of line and plane with sharp/crisp corners. Dominance of plastered, common stock brick with returns designed to create deep reveals that etch sun-lit planes against shaded reveals. Brick combined with the plasticity of concrete and long spans/deep beams overhead to release the ground floor as a free flowing, well-lit series of spaces.

Vaal University of Technology Chapel of Light: Vanderbijlpark (2006)[2]
[SAIA Merit Award 2004]

The widely acclaimed chapel was conceived as a multi-denominational facility. Henri's website describes the origins of the form as follows:

> The section of the modest, affordable structure comprising a heavy brick base capped by a floating, virtually flat roof was influenced by a preceding, un-built project for a visitors' centre at the Union Buildings in Pretoria. The use of white-rendered and top-lit internal wall surfaces and the spatial gravitas of thick, u-shaped external walls are influenced by House Comrie which was in turn influenced by Louis Kahn's Escherik House in Philadelphia and by Carlo Scarpa's top lit Canova Plastercast Gallery.

What makes this a well-crafted building (figure 3)? It acknowledges:

- the need to use simple, readily available materials in a developing world context with low technical skills levels;
- the sensory opportunities associated with the use of natural light and textured walls in the crisp Highveld air where shaded planes become vividly etched against sunlit planes;
- the need for using heavy walls towards creating climatologically efficient interiors;
- the potential of architectural plasticity to mould form in response to human movement through space and to act as a receptor for indirect natural light;

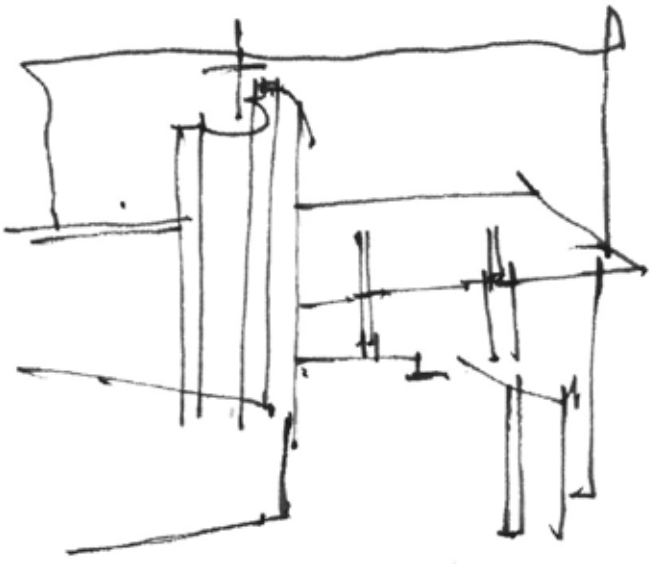

Figure 3
Henri Comrie's drawing of the Chapel of Light, Vanderbijlpark, 2006
(source: www.urba.co.za).

- the need to seamlessly connect interior and outdoor spaces in a context where outdoor rooms are as important as the defined interior spaces;
- and the dynamic use of light and movement as central to the pleasant ambience and the art of designing religious buildings.

House at Johannesdal: Pniel, Western Cape (2013)[3]
[CIA Award for Architecture 2013]

The website (www.urba.co.za) summarises the essence of this project very clearly:

> House at Johannesdal is located in a dramatic rural setting. Its white stereotomic form is etched against the inconsistent ruggedness of the surrounding mountains. The gallery-like internal volumes are of varied size and carved from a heavy, pure white mass made of humble brick. The ensemble creates opportunities for suspense, unexpected views and varied use of natural light.

What makes this a well-crafted building (figure 4)? It is, or involves being:

- Organised internally around a single generous view- and movement axis anchored by dominant features of the natural landscape, specifically by soaring mountain peaks along the east-west axis;
- Organised with its entrance through a needle hole on the main approach, gradually opening up in plan and section to terminate in an unobstructed telescope on the other end of the journey. Lateral views constrained along this journey enhance the explosion into a wide 180 degree view at the furthest end of the journey;
- Extensive exploration and exploitation of the *raumplan* (space plan) concept developed by Adolf Loos, i.e. carving out and stacking of a complex series of overlapping and interleading internal spaces within a simple external envelope. This creates opportunities for discovery and suspense. What is essentially an urban concept is translated for use in a rural setting in which the footprint is minimised, as would be the case with a heavy fortification or castle (as against a "touching the earth lightly" concept);
- Openings are transcends being simply functional windows and doors. They are scaled and placed either to frame views of the majestic landscape or to creatively allow light to enter and animate the carved out internal spaces;
- Plasticity, clarity of line and edge within a minimalist composition using a limited palette of common materials. Flush jointed brick, steel, raw timber, limestone. Separation of steel from brick via fillets of rough-sawn timber;
- Deep returns on brickwork to create depth and the setting off of shaded places against sunlit planes. Sharp and crisp corners (selected undamaged bricks) set against richly textured flush jointed wall planes.

Educational Training Centre at Sol Plaatje University, Kimberley (2017)[4]
[SAIA endorsed national competition winner]

Following a competition, Henri Comrie's URBA was one of five practices that were each commissioned to design a building. The others were Designworkshop SA (Durban), Wilkinson and Associates (Pretoria), Activate (Johannesburg) and Savage and Dodd (Johannesburg).

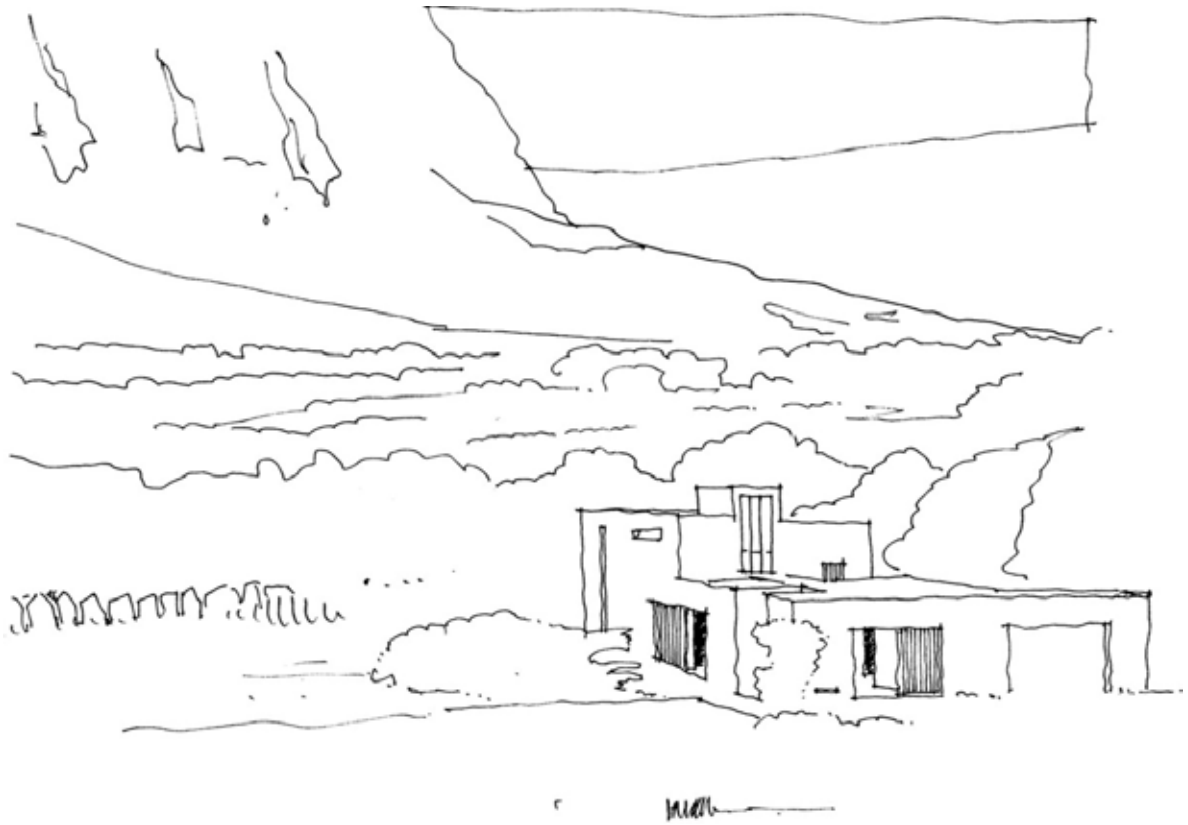

Figure 4
Henri Comrie's drawing of the house at Johannesdal, Pniel in the Western Cape, 2012
(source: www.urba.co.za).

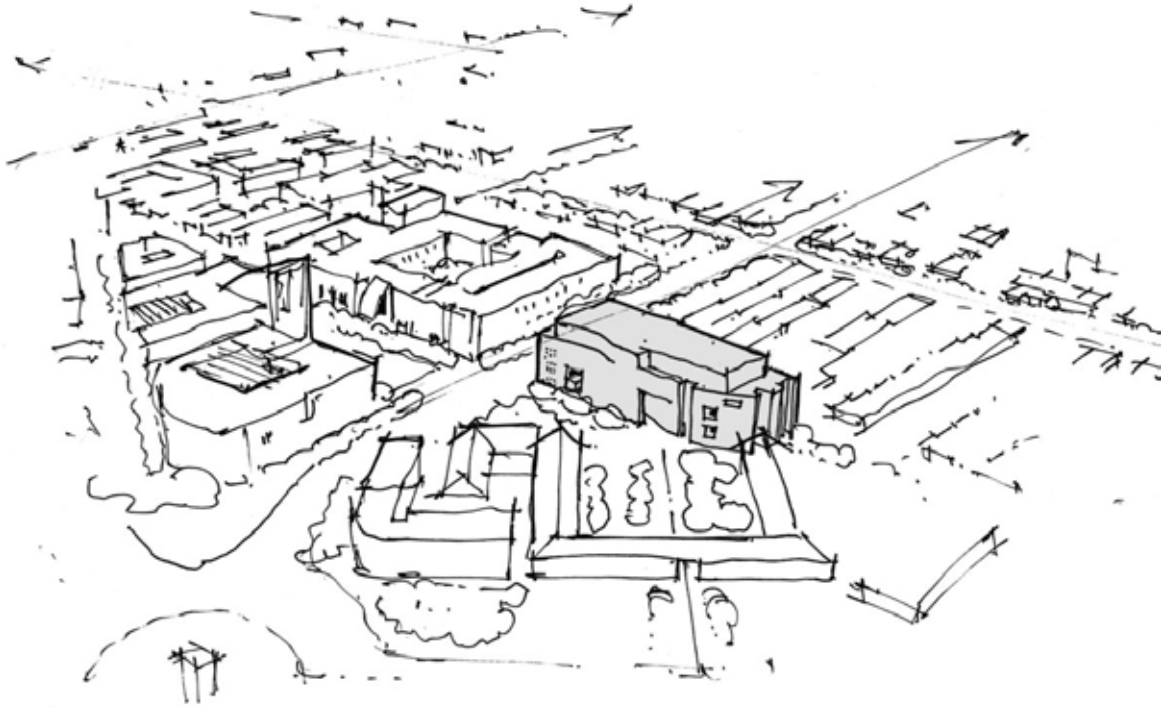

Figure 5
Henri Comrie's drawing of Sol Plaatje University, Kimberley, 2017
(source: www.urba.co.za).

The three-dimensional building envelopes on each of the parcels were determined by Ludwig Hansen Architects and Urban Designers' urban design framework. The Educational Teaching Centre, entrusted to Comrie, consists of lecture theatres, academic facilities for educational and teacher's training, laboratories and staff offices (figure 5).

What makes this a well-crafted building? It:

- Accepts the constraints of a predetermined building envelope, dictated by the urban design framework, as a creative opportunity. When the abstract envelope is considered as something plastic that may be pushed, pulled, and carved into, whilst recognising the need for general rectilinearity, it opens up various creative opportunities, such as:
- responding to campus wide movement systems by carving gateways and passages into the mass that are bold and legible at the scale of the campus;
- using the need for shade in the harsh Northern Cape climate to create a boldness of form, punctuated by carefully placed openings and a limited number of openings;
- rendering internal spaces in white to facilitate enhanced permeation of natural light through carefully positioned apertures;
- thickening walls to improve thermal efficiency and exploiting this minimalist device to offset shaded and sunlit faces in a dramatic fashion;
- recognising the north south orientation by introducing an optimal percentage of solid faces or *brise soleil* along the dominant and sun battered east and west facades;
- and fully utilising a limited palette of materials dominated by brick, while in the process continuing a tradition of labour intensive brick architecture in Kimberley.

The process of achieving a well-crafted building and its setting

Hand drawing as an intrinsic element of architectural conceptualisation

Figure 6
Damien Newton "Squiggle" of 2006, to demonstrate design thinking is a process: (source: www.slideshare.net, released under a Creative Commons Licence).

According to Comrie, it seems as if the advocates of BIM are trying to avoid the messiness of design-orientated research in order to reconfigure design thinking as a neat, linear process. As Damien Newton's iconic design squiggle of 2006 illustrates, this is simply not realistic (figure 6). Peter Rowe (1991: 1, 27) describes the initial design phase as a "fundamental" as well as "practical form of inquiry". He also describes these "early speculations" as "rather private" and "messy".

In South Africa, architecture with a regional character is certainly what the schools of architecture and the architectural profession should aspire to. Regionalism is notoriously difficult to define, but Lawrence Speck (1987/2007: 71-2) suggests that it "addresses the particulars of place and culture. It learns from experience. It tinkers, crafts, accepts, rejects, adjusts, and reacts".

What Speck is describing is unquestionably a process of experimentation, much of it intuitive, which in the case of the contemporary architect, includes experiments with representations of the building (Lawson 2004: 32). This is an important principle, since simulation, encompassing predictions based on a data-orientated model (as in BIM), patently does not represent craft (Scheer 2014: 11).

Since the Renaissance period, hand drawing has been the established method. As Lawson (2005: 94) purports: "The whole purpose of doodles, sketches or models is to act as a kind of additional memory to freeze and store spatial ideas which can then be evaluated and manipulated". Previously Lawson was more specific (2004: 33): "In terms of modern cognitive theory we must assume that there is some sort of correspondence between what is happening in the designer's mind and the representation that is made in the drawing."

The deterioration of craftsmanship and creativity in architecture is, supposedly, partly caused by architects abdicating the narrative, iterative and tactile visualisation of ideas and thoughts to the computer (Ots 2011: 60-2). Hand drawing is a skill of visual storytelling through which the architect's soul, emotions, thoughts, imaginations and memories may be translated onto paper or even a digital pad. Through this "thinking hand" process, as Juhani Pallasmaa (2009: 108-109) terms it, the architect's identity is formed in a manner similar to the way a writer's identity is articulated through iterative writing, (Belardi 2014: 5-7). Importantly, the tradition of architects' hand drawing and the resulting buildings is the epitome of the craft of inventors (Belardi 2014: 1, 5).

CAD, BIM and the design process

CAD is the acronym for computer-aided design, although computer-aided drafting would be more realistic. CAD systems are two-dimensional line drawing programs, the precursors to BIM. By means of BIM, interactive three-dimensional models are developed; they are database-orientated and contain all the physical and intrinsic properties of an envisaged building.

Developed in Budapest, Hungary by Gábor Bojár, and released in 1984, ArchiCAD was the first BIM software for personal computers. However, ArchiCAD became a major player in the market only from 2007 onwards (Quirk 2012).

Frank Gehry's refinement of a program derived from a French airplane manufacturer in 2006, followed in 2008 by Zaha Hadid's development of parametric building models, resulted in what is widely known as Blob architecture, a movement that has caused the profession's

commitment to social responsibility (in favour of serving the egocentricity of the avant garde) to be seriously questioned by the general public. Ironically, the idea sketches of both Frank Gehry and Zaha Hadid are well known.

Comrie considers BIM useful as a communication tool and in testing and refining technical ideas. Its usefulness grows progressively less with reduced building scale and in contexts where unskilled labour is employed. The instant yield in terms of indicators for sustainable practice has been one of its key selling points (shading coefficients, U values, etcetera). This benefit cannot be questioned. It is, however, not difficult to prove that traditional vernacular buildings have always applied common sense to achieve human comfort. In the South African context, it is almost without exception the use of solid walls and small openings that defines this common sense. In a personal observation Comrie protests: "If you wilfully opt for a majority of repetitive glass and steel for the perceived sake of progress, BIM will always be a handy surrogate for such common sense but not necessarily for good design."

He believes that, when considering the use of BIM in Africa, it is important to realise that such systems originate overwhelmingly from cold climates where buildings are designed in winter for rapid Meccano set-like assembly in summer, or in warehouses for even faster assembly in winter. When BIM's function becomes the replacement of creative ideas and the subjugation of imagination, the conflict between BIM and hand drawing will simply be reinforced.

Three dimensional conceptualisation

Le Corbusier is often quoted as having declared that "the plan is the [design] generator" (1927: 47). However, as Peter Fawcett (2003: 20) points out, the real meaning of his statement was lost in the translation. What Le Corbusier probably meant was that "The three dimensional organisation is the generator". The whole purpose of the architectural design process is to conceptualise, shape, craft and technically resolve three dimensional organisation.

This perception immediately suggests that a three-dimensional modelling program, BIM in other words, might be the ideal tool, as suggested by David Scheer in his *The Death of Drawing* (2014). The heated response from the architectural fraternity proved otherwise. Paolo Belardi followed immediately with his book entitled *Why Architects Still Draw* (2014). As more and more architects read *The Death of Drawing*, their views are added to the Amazon.com website. For example, Hal Dean (on March 29, 2015) commented eloquently: "Simulation is not the origin of conception in design. Conception is a more ambiguous process inspired by interactions of the hand-eye coordinated iterative drawing process engaging with the conscious and sub-conscious mind."

Comrie's site analysis of the Flinders Street Station in Melbourne, Australia, illustrates what a wealth of information – and insight – can be obtained quickly by using hand drawings (figure 6).

BIM, the curriculum and the quality without a name

David Scheer (2014: 13) accuses academics of "not yet [recognising] the nature of this transformation" caused by BIM. At most schools, BIM is simply part of the curriculum as advanced computer applications. It is often not even identified as BIM, but simply as (say) an ArchiCAD short course.

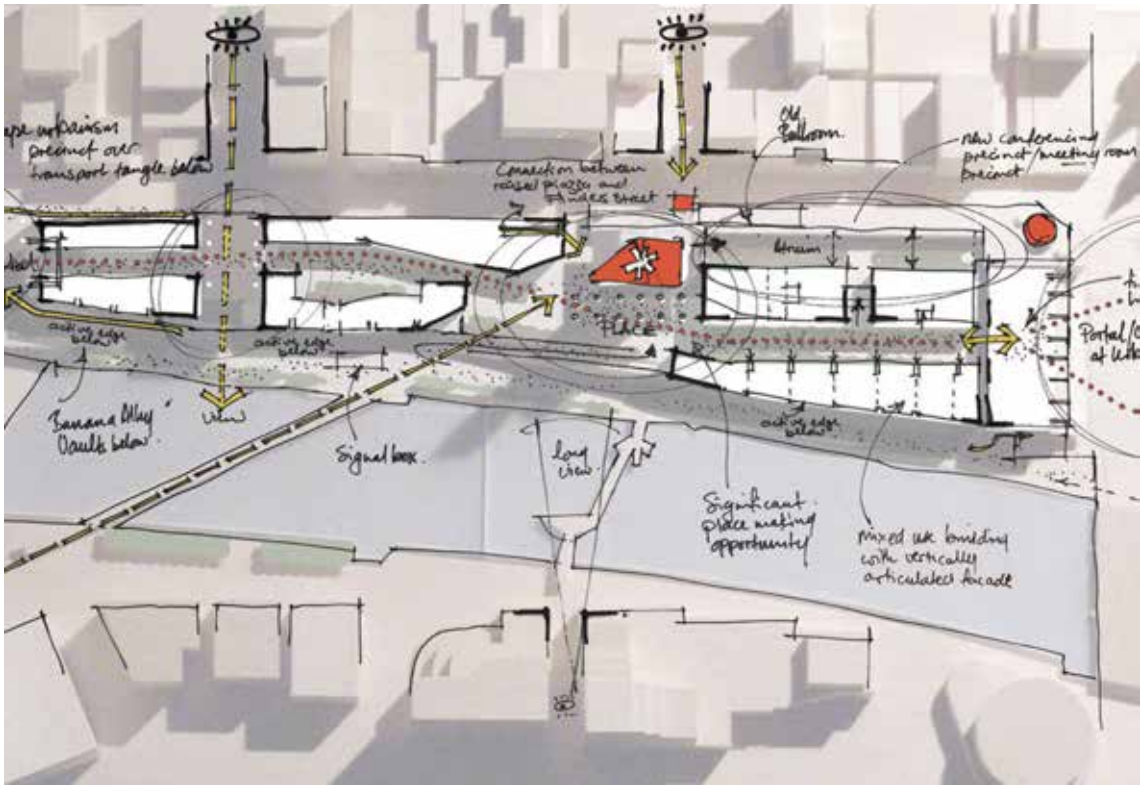

Figure 6
Henri Comrie's site analysis of Flinders Street Station, Melbourne, Australia, 2012
(source: www.urba.co.za).

In a recent issue of *Architecture SA*, the editor, Paul Kotze (2016: 2), discussing the "idea and praxis of craft in architecture", timeously reminds readers that "materials, thoughts, forms, concepts and processes" all contribute to the increasing complexity that characterises the profession. He encourages architects to develop an understanding of the "electronic revolution" that has revolutionised architectural production.

Today it is inconceivable that the documentation for a large, complex project is prepared in any other format but BIM. And when an architect accepts a commission for a project, say a commercial office block, of which he/she has done many and is thoroughly familiar with the brief, program, type and site, then working exclusively with BIM seems a reasonable approach. However, quality architecture, of the kind that addresses and responds to issues beyond the brief – the nuanced, complex and contextualised architecture that Comrie produces – requires intense exploration for which sketching and hand drawing remain the most appropriate approach.

The idea of craftsmanship in architecture is captured in the writing of Vitruvius, viewing fabrication as an integral part of theory (Vitruvius and Granger 1970: 7-9). Craftsmanship in architectural practice is about the "making of buildings" on paper, through hand drawings and even hand-made models. The English word "architect" has its roots in the Greek word, *architekton*, and Latin word *architectus*, which both mean "master builder" (Dinsmore 2008: 1). As architects, the possibility of upholding the status of master builder rests in continuing the tradition of hand sketching and hand model making, which is why an increasing number of architectural schools insist on sketching to explain the design process.

Christopher Alexander (1979: 17) coined the term "the quality without a name". He observes: "There is a central quality which is the root criterion of life and spirit in a man, a

town, a building, or a wilderness. This quality is objective and precise, but it cannot be named". There is unquestionably an infinitely better chance of creating a well-crafted building, one that possesses that quality without a name, if the concept was crafted by hand, through rough sketches and exploratory drawings.

To acquire the necessary drawing skills demands practice and training. Publications such as Michael Welton's *Drawing from Practice* (2015) and Eric Jenkins' *Drawn to Design* (2012) offer invaluable advice on the methods and techniques of freehand sketching for analysis and as an exploratory method during design.

Tandao Ando is an architect who developed this experience through making things by hand, travelling to visit renowned buildings in order to observe and redraw them as well as by redrawing the floor plans of Le Corbusier's buildings. The BIM and CAD programs do not yet offer the level of haptic immersion that hand sketching (from observation, imagination and memory) does. The question is how 3D modelling and virtual reality, in comparison to hand drawing, afford the architect the opportunity to initiate and develop his or her craft.

Conclusion

Since the use of BIM, allowing the accurate simulation of the performance of an envisaged building, became widespread a decade ago, it has been suggested that hand drawing has become obsolete, as argued by Scheer in his *The Death of Drawing* in 2014. The subsequent outraged responses from right-brain biased architects across the age spectrum and from every continent clearly indicate that Scheer's conclusions are not universally appreciated. Consequently, with reference to Henri Comrie's craft-based approach, this study set out to analyse the meaning of craft in contemporary South African architecture by studying the dialectic between the finished building and the design process that shaped it, with particular emphasis on the role of analytical and conceptual drawing.

Comrie's resultant buildings are not only inspiring to explore, both internally and their settings, but are above all delightful to occupy, as is evident from spontaneous occupant feedback. They are fit for purpose, and also constitute a good fit with the context at both the physical and psychological levels. Achieving this level of competence requires a healthy combination of empirical research and intuition. Such research and the creative ideas that inform design decisions can be effectively synthesised by means of quick sketches without considering any part of the non-linear exploration of options as abortive. Finally, it is concluded that hand sketches unquestionably remain the preferred method for architects in search of design quality to explore, conceptualise and articulate well-integrated concepts, before technical resolution by means of CAD or BIM.

The idea behind each drawing and what it communicates to the client is foremost. The skill of drawing itself approaches intuition because of an exercised dexterity or fitness to draw. It is this intuition/unpretentiousness which translates into Comrie's recognisable drawings and ultimately sober architecture. The exercised dexterity is largely due to his protracted involvement in teaching design and communicating design ideas in a "draw me your words" approach, without the need for much further verbal translation of the spatial ideas under discussion. The skill is also used in a Scarpa-esque manner on site or in front of clients and colleagues to communicate the three-dimensional fit of details. When one is fully in control of the spaces being created these should "live" in one's head and one must be able to communicate them to builders without needing to revert to a remote arsenal of CAD data, which in this context is rather distant and

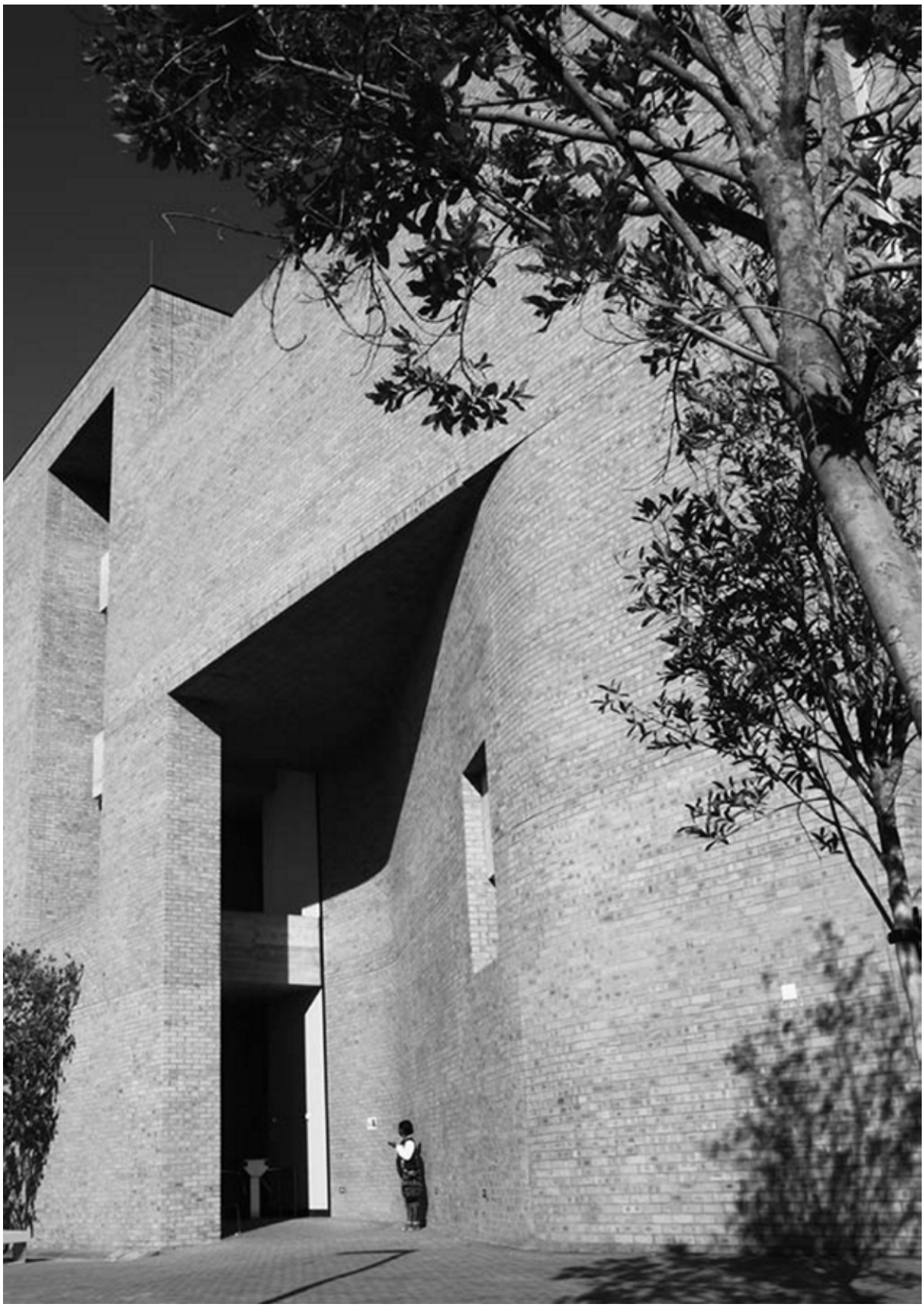

Figure 7
Henri Comrie's photograph of the entrance to the Educational Training Centre at Sol Plaatje University (photo provided by Henri Comrie).

intellectually removed from the conceptual, rather than the technical, issue at hand. The idea should always be accorded priority, with the technical support of the idea following. Doing this the other way round reduces design to something that can be mass produced, increasingly without human involvement – which is precisely the problem. Therefore, it seems essential that the development of this skill continues to be given prominence in the architectural curriculum.

Finally, it emerged that Henri Comrie's relationship with handcraft is at once artisanal and intellectual; it involves an intense effort to achieve appropriate, simple and logical solutions whilst at the same time achieving artistic fulfilment through high levels of sensory awareness by employing dynamic devices such as serendipity, natural light and texture (figure 7).

Notes

1 Team for Phase 1: Henri Comrie in association with TC Design Group Architects. Phases 2 and 3: Henri Comrie as director of Comrie Wilkinson Architects and Urban Designers (with Chris Wilkinson as the architect of record on Phase 2).

2 Team: Chris Wilkinson, Morné Pienaar (project architect), Henri Comrie. This project precedes the establishment of URBA and was completed within the practice of Comrie Wilkinson Architects and Urban Designers. Material on the URBA website used with the consent of Chris Wilkinson.

3 Team: Henri Comrie, Rohan Nothnagel.

4 Competition project team: Henri Comrie, Amálie *Comrie, Michael de Beer, Steph* Potgieter (models). Design Development: Henri Comrie, Etienne Britz.

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Crafting urban space with Pretoria's Church Square as an example

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Craft is the art through which people make objects. These man-made objects will always have embedded social and cultural meaning and speak a language that narrates their materiality and the processes of their creation. The same is true of urban space as an object. Whether urban space was created out of the natural landscape by separating inside and outside with crafted architectural elements, or through an organic process of changing space-shaping architectural form, or by carving it out of existing urban fabric, or whether it was planned, designed and made from the outset, both the process of making urban space and the space made will reveal the social, political and cultural powers that produced it. This article proposes to reveal, through critical analysis and comparison, the powers behind the processes of the making of urban space, as well as the social and spatial relationships embedded in it, using Pretoria's Church Square as example. It aims to expound the general prevailing ideas on crafting urban space over time and the variants that play a role in its production. A structural analysis will firstly reveal the generic elements and secondly the variants and deviations that were conditioned by local factors, which together constitute the basic ideal structure of urban space. A functional analysis aims to reveal the effect of functional considerations on the crafting of urban space.
Key words: craft in architecture, carving urban space, Pretoria's Church Square

Die vaardige vorming van stedelike ruimte met Kerkplein in Pretoria as voorbeeld
Kunshandwerk is die kuns waardeur mense voorwerpe maak. Hierdie mensgemaakte voorwerpe sal altyd sosiale en kulturele betekenis bevat en 'n taal praat wat van hul materialiteit en hul vervaardigingsprosesse vertel. Dieselfde geld vir stedelike ruimte as voorwerp. Of stedelike ruimte geskep is uit die natuurlike landskap deur binne en buite vanmekaar te skei met handvervaardigde argitektoniese elemente, of dit tot stand gekom het deur 'n organiese proses waarin ruimte-vormende argitektoniese massa verander het, of dit uit 'n bestaande stedelike struktuur gekerf is, en of dit van die staanspoor af beplan, ontwerp en gebou is, beide die proses daarvan en die stedelike ruimte self sal die sosiale, politieke en kulturele magte waardeur dit vervaardig is, openbaar. Die doel van hierdie artikel is om die beherende moondhede agter die proses van stedelike ruimtevorming, sowel as die sosiale en ruimtelike verhoudings wat daarin vasgevang is, te openbaar. Kerkplein in Pretoria word daarvoor as voorbeeld gebruik en dit word deur kritiese analise en vergelyking bewerkstellig. Die mikpunt is om die algemeen heersende idees ten opsigte die vaardige vorming van stedelike ruimte oor tyd en die veranderlikes wat 'n rol in die produksie daarvan speel, uiteen te sit. 'n Strukturele analise sal eerstens generiese elemente en tweedens die veranderlikes en afwykings wat deur plaaslike faktore getemper is, openbaar, wat tesame die basiese ideale struktuur van stedelike ruimte opmaak. 'n Funksionele analise poog om die efffek wat funksionele oorwegings op die vaardige vorming van stedelike ruimte het, te openbaar.
Sleutelwoorde: kunshandwerk in argitektuur, uitkerwing van stedelike ruimte, Kerkplein in Pretoria

Craft covers a wide range of disciplines, including plastic or visual arts. Plastic arts[1] are art forms, such as sculpture or ceramics that involve the physical manipulation of a plastic medium, one that can be carved or shaped, such as clay, wood, stone or plaster, by moulding or modelling the material in three dimensions. The term plastic art is also used more broadly to indicate the visual arts.

Craft in architecture is usually associated with the art of making architectural objects by hand, as opposed to machine made mass-produced artefacts. These handmade objects find their way into mainly surface decoration as part of the plastic arts. They include sculpture,

ceramics, tiles, woodcarving, wrought iron work, plaster mouldings and wall paper. These man-made objects will always have embedded social and cultural meaning and speak a language that narrates their materiality and the processes of their creation.

When considering craft in terms of both the plastic arts and as architectural surface decoration as defined above, Church Square in Pretoria contains various examples. The monumental ensemble of bronze sculptures and bronze carvings arranged on and around a sandstone pedestal dominates the centre of the Square (figure 1) and the surrounding buildings contain examples that include carved sandstone, wrought iron balustrades and gates, clocks and moulded façade sculptures (figures 2–6).

This article however, does not focus on the crafted sculptural and architectural elements per se, but presents a novel argument relating to the crafting of the urban space that houses these elements, namely Church Square (figure 7). Its premise is that if urban space can be physically manipulated, if it can be carved or moulded in three dimensions as if it is a plastic medium, then both the embedded social and cultural meaning and the language that narrates the process of its creation are revealed. Furthermore, it intends to prove that the crafting of urban space as a volume gives as much individual identity to the Square as do the crafted sculptural and architectural elements that the space contains.

This notion is in line with a twenty-first century take on craft, as the art of making things, whether they are chairs or cities. As Rossi (2017: 8) rightly points out, the issue of handmade associated with skill is quickly complicated by our complex relationship with technology. Because disciplinary boundaries are blurred, she prefers a more inclusive definition that associates craft with the art of making things and to understand artefacts, whatever they are, by considering how they have been made, by whom and what this tells us of the societies that they have been made for.

Figure 1
Anton van Wouw, *Monumental Ensemble of Statue of Paul Kruger and Four Boer Krygers,* 1896, bronze statues on sandstone plinth, Pretoria, Church Square (retrieved from the public domain https://en.wikipedia.org/wiki/Statue_of_Paul_Kruger,_Church_Square).

Figure 2
***Ciment-fondu* balusters, the Palace of Justice, Pretoria Church Square (photograph by N.J. Clarke).**

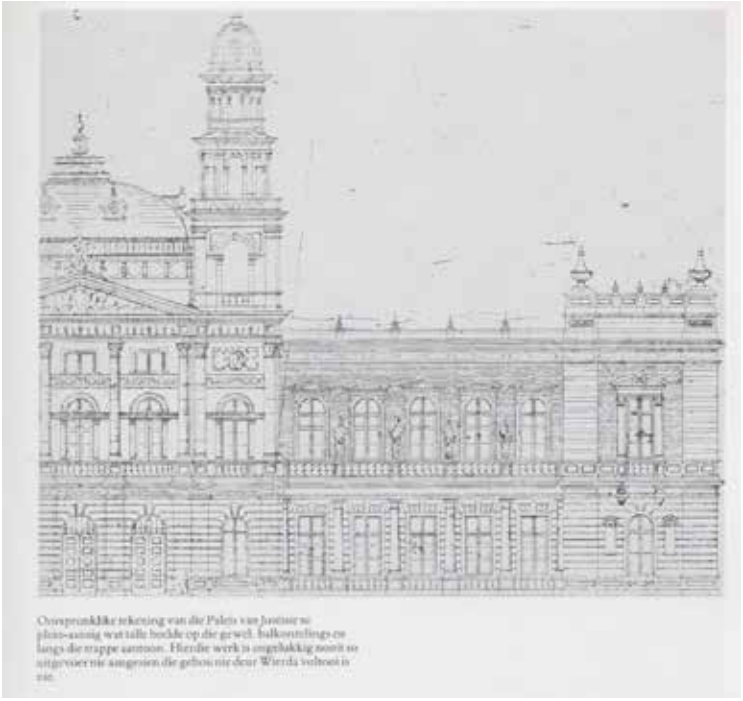

Figure 3
Sytze Wierda, *Elevation of the Palace of Justice*showing intended sculptures on the façade (source: Holm 1997: 37).

Figure 4
Anton van Wouw, *Mercury*, Café Riche, Pretoria Church Square (retrieved from the public domain https://commons.wikimedia.org/wiki/File: Cafe_Riche_ChurchSquare_Pretoria_027.jpg).

Figure 5
Anton van Wouw, *Stone Owl*, Café Riche, Pretoria Church Square (retrieved from the public domain http://www.artefacts.co.za/main/Buildings/bldgframes.php?bldgid=6744).

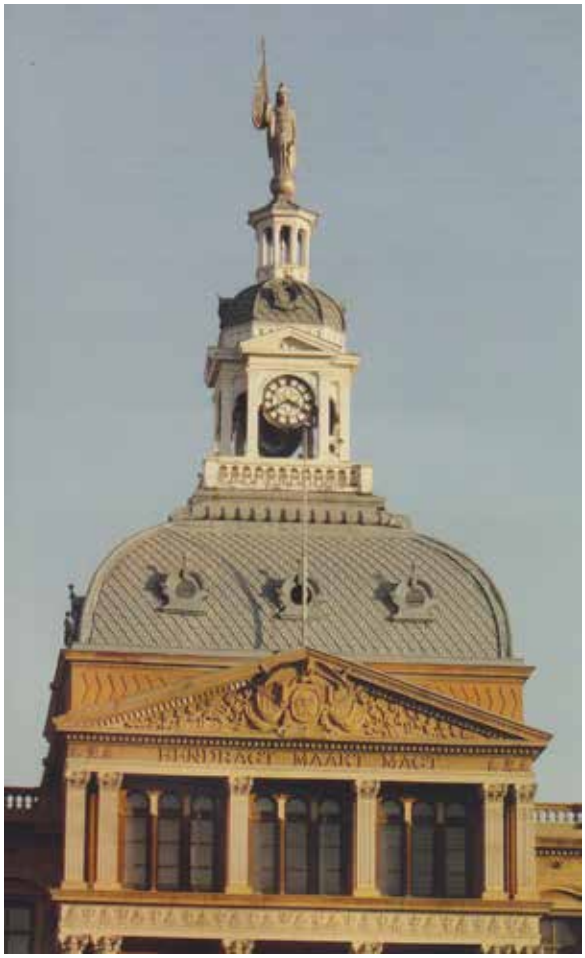

Figure 6
The Old *Raadsaal* pediment and bell tower showing the sandstone copy of the Z.A.R. coat of arms with the words *Eendragt maakt magt*, the imported clock and bronze statue of a woman
(Source: Clarke in Bakker, *et al* 2014: 212).

Urban space as object with social relationships

The idea of defining the physical model of exterior space in the built environment is not new and others have compared the object that is urban exterior space to interior architectural space (Grobler and Le Roux 2006: 47). Trancik (1986: 19) metaphorically compares figural volumes of external spaces to outdoor rooms.

Lefebvre (1991: 88-9) calls for an approach that would analyse not the things in space but space itself. However, he warns that once the concept is grasped that space is a thing or an object to be analysed, space should not be seen as merely a floating medium for the diversity of objects that it contains. Precisely because it has content, it contains and dissimulates social relationships. A space is thus not a simple abstraction but a set of relations between things (objects and products). The dominant tendency under capitalism is to make a thing or object into an absolute commodity. Space is cut up into pieces, which fragments space and enumerates the things or objects in the space. Marx's great achievement was the successful unmasking of things in order to reveal social relationships, because in reality a thing never quite emancipates itself from activity, from use and from need, thus from a social being. Lefebvre argues for an analysis of space with the view to uncovering the social relationships embedded in it (Lefebvre 1991: 81-2).

Each monument or building viewed in its surroundings and context, in the populated area and associated network in which it is set down, is a part of a particular production of that space (Lefebvre 1991: 118). The crafting of a space with objects around it is as important as the crafting of the objects in space.

Figure 7
Church Square, Pretoria in its current urban context
(source: Google maps, overlay by the author).

The processes of crafting architectural and urban space

Architects are trained to be aware of the spatial consequences of their designs. In architecture interior space is either carved or moulded. If one considers that it is similar to the moulding of a plastic medium such as clay, or the carving of a plastic medium such as wood or stone then the physical manipulation of space, places it in the realm of the plastic arts. Accordingly, space is seen as a plastic medium and the making of space as craft.

A famous example of carved interior and exterior architectural space is the rock-hewed churches of Lalibela in current-day Ethiopia (figure 8). Eleven churches were carved from above out of a single piece of rock during the twelfth and thirteenth centuries. These monolithic churches are lower than natural ground level and are accessed by stairs and narrow passages. The more conventional creation of architectural interior space is by framing and shaping it with architectural elements (figure 9).

In urban design open space between building mass is generally known as urban space. It is also a spatial consequence of architectural design and can be resultant (haphazard) (figure 10) or intended (designed) (figure 11). Trancik (1986) describes the problem of resultant or lost space as the inadequate use of space, which afflicts so many urban centres today. Discussing the Boston waterfront as example (figure 10), he blames this loss of space on the automobile, zoning and the effects of the Modern Movement in architectural design, during which urban renewal schemes required the demolition of vast areas of cities to make way for highways and developments to the detriment of traditional, tightly-knit urban communities and continuity (Trancik 1986: 15). He contrasts this loss of spatial enclosure with medieval urbanity, where there was a close connection between life inside buildings and activities on the streets (*Ibid* 10).

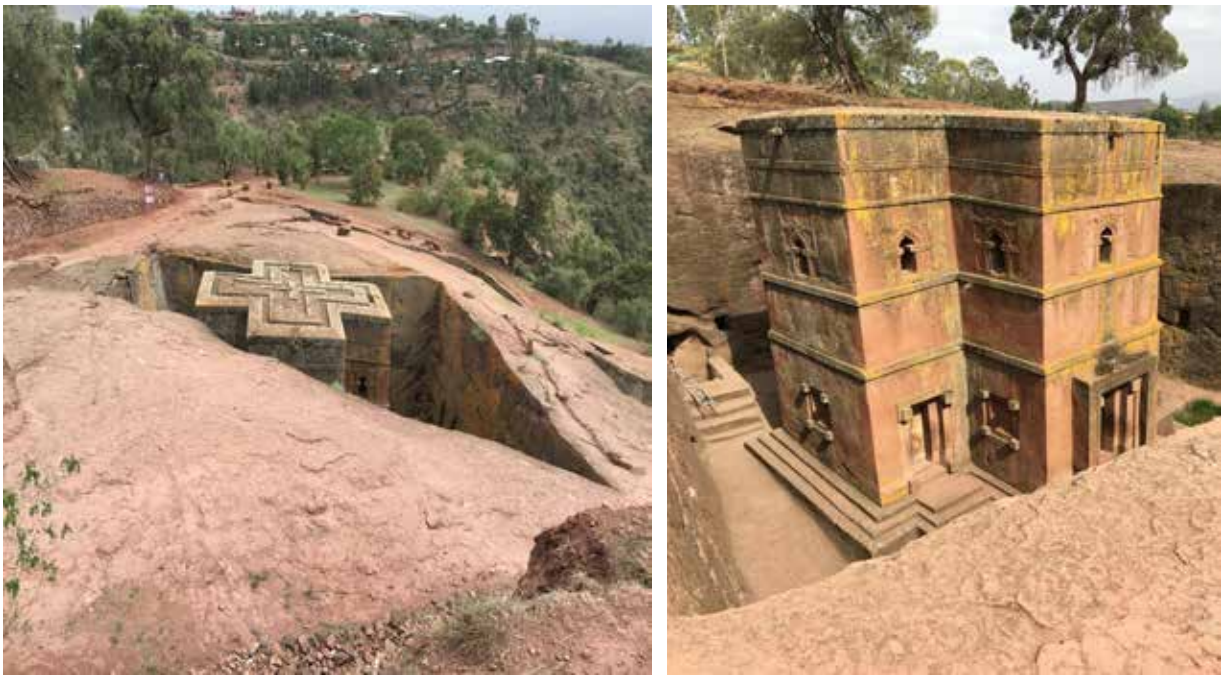

Figure 8
Church of Saint George, Lalibela, Ethiopia
(photograph by the author).

Figure 9
Charles Dominique Eisen, *Vitruvian Primitive Hut,* 1755, engraving for frontispiece of Marc-Antoine Laugier's *Essai sur l'architecture*
(retrieved from the public domain https://en.wikipedia.org/wiki/The_Primitive_Hut).

He also compares the standards for the integration of architecture and urban spaces as set by the patrons and builders of the Renaissance with the structure-less voids of cities today (*Ibid* 17). Trancik uses the term "carving out" metaphorically when referring to the creation of urban space. This relates to the thesis of this article that urban space as plastic medium can be "carved" or moulded. The term will be used with the same metaphoric liberty in this article to denote a process of creating urban space.

Church Square in Pretoria (figure 11) by contrast, is an example of intended or designed urban space, which will be discussed in more detail in the next section.

Figure 10
Fort Point Channel, Boston
(retrieved from the public domain http://cache.boston.com/bonzai-fba/Original_Photo/2007/10/18/1192711590_4139.jpg).

Figure 11
Church Square
(retrieved from the public domain https://businesstech.co.za /news/general/105329).

Urban open space is thus similar to architectural space in its creation in that it can be either carved or modelled in three dimensions. Historical examples of where open urban space was created by carving it out of the existing urban fabric are Haussmann's Paris (figure 12), Mao's Tiananmen Square (figure 13) and Hitler and Speer's proposed Germania in Berlin (figure 14). These examples required the demolition of parts of the existing urban fabric in order to carve out open areas according to a master plan, superimposed over the existing. The more frequent creation of urban space is enclosing three-dimensional open space from the sides using two-dimensional architectural surfaces. In each case both urban space and architectural detail give the area its character. Both methods of creation will be discussed in the following section.

Carving out urban space

Emperor Napoleon III commissioned the renovation of Paris as part of his public works program in the mid nineteenth century. Georges-Eugène Haussmann was Napoleon III's prefect of the area around the River Seine and director of the program from 1853 to 1870. At the time Paris was overcrowded, unsanitary and still characterised by its medieval town layout. The renovation entailed the demolition of built-up areas and the relocation of tens of thousands of people (Trancik 1986: 6) to make way for the now well-known wide boulevards, parks and urban squares that characterise the centre of Paris's physical appearance today. New sewer, aqueduct and fountain networks were constructed. Although there was strong opposition to Haussmann's work, his projects continued until 1927, long after his dismissal in 1870. Haussmann not only carved out large open spaces in the existing urban fabric, but his architecturally regimented façades that faced onto the boulevards and screened the late medieval city form, were controlled

Figure 12
Medieval streets before Haussmann's intervention (left) and Haussmann's first Boulevard, Rue de Rivoli in 1855 (right) (retrieved from the public domain https://en.wikipedia.org/wiki/Haussmann%27s_renovation_of_Paris).

by government decree (Kraehmer 1978: 34). The carved out streets also afforded quick military access to disband crowds in times of social unrest (as those that took place in 1789, 1830, and 1848) and allowed light and air into these working class areas (Trancik 1986: 5).

The term "carved out" is less appropriate to describe the creation of Mao Zedong's Tiananmen Square. The terms "broken out" or "stamped on" is probably more accurate to denote the destruction of *hutongs* or traditional courtyard houses and the forced displacement of entire communities to create this vast open space intended to showcase military power in pre-television China, all of this right next to the historic Forbidden City (Sudjic 2005: 106).

"If too much public space can be a bad thing, then China's Tiananmen Square is the worst offender" (Ford 2014). Wall and Waterman (2010: 115) regard the fourth largest square in the world paradoxically as "the opposite of a public space. Tiananmen's totalitarian scale dwarfs the individual and forces them to feel subservient to the power of the state. It is a space best suited to parading troops and weaponry, not to active citizen participation in the daily life of a metropolis."

Although Hitler's Germania would never see the light of day, the colossal neo-classical urban master plan would have meant the demolition of large built-up areas in Berlin. Hitler wanted to build a whole new city over Berlin and was determined to ignore the existing urban fabric. A thirty meter-long model of the new north-south axis (figure 14) was on permanent display in Speer's office. The axis was defined by a six kilometre long open urban space or boulevard, which was a parade ground more than a street, with the Great Hall on the northern end of the axis, a triumphal arch more than twice as tall as Napoleon's in Paris in the middle and a railway station, a restatement of the city gate, at each end (Sudjic 2005: 34-5). The Great Hall was like a hinge that changed the direction of the axis and shifted the great boulevard to

Figure 13
Tiananmen Square with the Forbidden City in the background, Beijing, China (retrieved from https://2.bp.blogspot.com/Cu5LpOfzADU/ T8zmoKtApQI/ AAAAAAAAAtU/3zO4WCOy7wM/s1600/tiananmen-square-in-beijing-cn.jpg).

Figure 14
Germania, a model of Hitler's plan for Berlin under Speer's direction (retrieved from the public domain https://upload.wikimedia.org/wikipedia/commons/4/40/Bundesarchiv_Bild_146III-373%2C_Modell_der_ Neugestaltung_Berlins_%28%22Germania%22%29.jpg).

the west as it crossed the Spree. The east-west axis incorporated the Unter den Linden and the Brandenburg Gate which are both slightly to the south of where the Great Hall was to be built.

Hitler was obsessed with the Roman Empire and the cross axes of Germania were inspired by the cross axes of Roman cities. Hitler wanted to build his own Rome and the new Chancellery in Voßstraße, his new palatial headquarters, was designed by Speer to intimidate foreigners and impress Germans. Hitler's office was moved to the new Chancellery in 1938 and a miniature version of Germania's north-south axis bisected the marble hall looking over Voßstraße, ran through the centre of Hitler's study, sliced the garden at the rear in half and terminated in Hitler's greenhouse. The east-west axis was reflected in the route running from the ceremonial entrance and the Court of Honour to the Chancellery reception room (Sudjic 2005: 36). It reminds of Louis XIV's bedroom at Versailles, which was positioned at the crossing point of two of the most important roads in France. The creation of a replica axis in the Chancellery suggest that Hitler and Speer saw themselves as being a representation of the same authoritarian ideas about power. After the German defeat the Russians finally demolished the remains of the building and used it to quarry stone for their war memorials in Berlin (Sudjic 2005: 45).

Creating urban space by enclosure with architectural elements: Church Square

The competition to design the new Capital Brasilia was won by planner Lucio Costa. In describing the origin of his plan he said:

> It was born of that initial gesture which anyone would make when pointing to a given place, or taking possession of it; the drawings of two axes crossing each other at right angles, in the sign of the cross. The sign was adapted to the topography, the natural drainage of the land and the best possible orientation; the extremities of one axial line were curved to fit into the outlines of the area to be urbanised (Kraehmer 1978: 68).

In employing a cross axial design Costa was using one of the oldest devices of urban design, which is the second method of creating urban space and also how Pretoria's Church Square was created. Open space making is not the creation of space in the true sense of the word, because the space is already there, but it implies the containment of that space through the planned placement of solids. The creation of urban space out of natural landscape happens with urban settlement when crafted architectural elements that separate inside from outside are placed in a ensemble that can be planned and designed from the outset or can develop through an organic process of changing space-shaping architectural form. The choice of location of an urban settlement may be solely on the basis of the specific local conditions (landscape and geography), which will vary from place to place. Pretoria was settled in a valley formed by two long, parallel ridges. It was the abundance of water from the Fountains Valley and its subsequent flow along the Apies River that generated more permanent settlement in the area by the Boers at the end of their Trek (first image of figure 15). The natural features of the landscape and its central geographical location in the middle of the *Zuid-Afrikaansche Republiek* (hereafter Z.A.R.) were directly responsible for the creation of Church Square.

After the geographic location is chosen, a level surface is created, because human beings' sensory equipment demands visual stability. From the level ground plane all architectural construction is supported, along with the climatic and other geographical conditions of the site. The topographical character of the level plane affects the form of the building that rises from it and the ground plane can be manipulated to define outdoor space and buffer against undesirable elements (Ching 1979: 36). The plane surface is a deliberate structural means to negate the irregularity of existing topographical conditions.

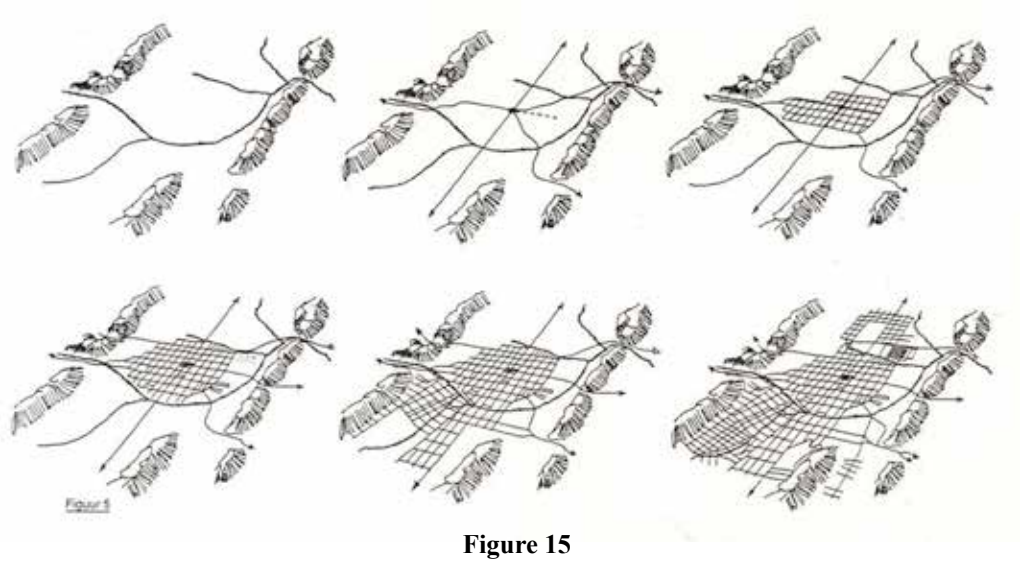

Figure 15
Pretoria place making from natural landscape to town
(source: Jordaan 1989: 27).

In the case of Church Square in Pretoria, Marthinus Wessel Pretorius himself determined the position of the Square on a terrain that was fairly low-lying and already relatively flat. He did this in conjunction with Erasmus, who was against the establishment of a Capital there but not opposed to the establishment of a *Kerkplaats*. Members of the church council and Devereux, Skinner and Jan Visagie, who was secretary to Pretorius, (Rex 1956: 53) also assisted with the choice of location and helped set out the original Church Square, together with the first erven around it and the streets leading into the Square, namely Church Street and Market Street. This implies that they must have had some knowledge of land surveying (Rex 1956: 61). Pretorius instructed that the terrain should be extensive to make provision for outspan and camping facilities during *nachtmaal* gatherings, when many wagons and tents would stand around the square (figure 16). The area around the first church, which was inaugurated on 22 February 1857 by Reverend van der Hoff, was the natural meeting place of the farming community, not only for *nachtmaal* and religious occasions but also for social and political gatherings and trade. The first houses arose followed by simple trading establishments, a school and thereafter the government building (Kraehmer 1978: 8).

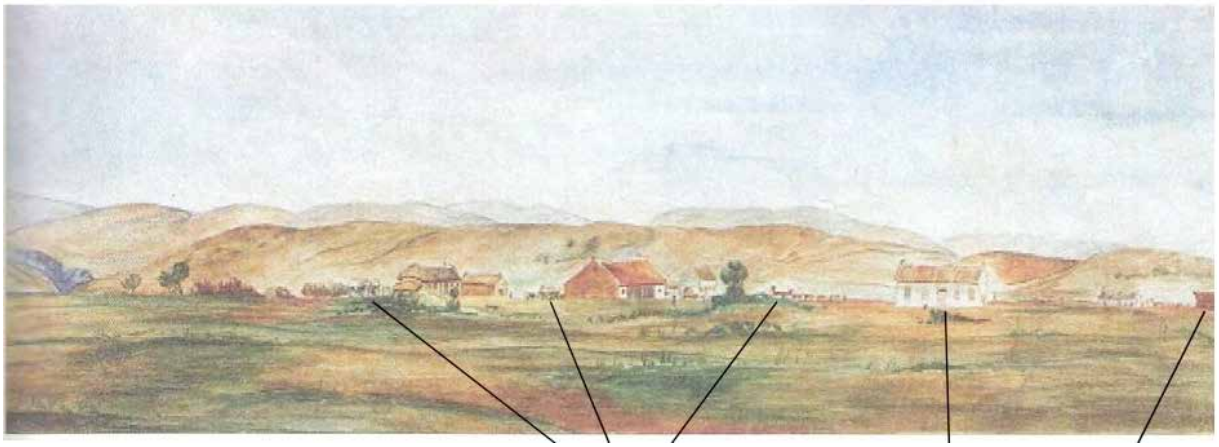

Figure 16
Marianne Churchill, *Church Square, Pretoria* 1857 Watercolour
(retrieved from the public domain http://repository.up.ac.za/bitstream/handle/2263/11714/Pta-07-01.pdf?sequence=1&isAllowed=y).

The second image of figure 15 shows a cross axis. Its intersection locates the first church in the valley between the ridges but it is not an accurate indication of the streets, because these streets never intersected, but rather provided access to Church Square on the north, south, east and west sides (figure 17). Although the presence of the natural landscape is still overwhelming in figure 16, a rigid grid had already been placed over the landscape (third image on figure 15 and figure 17).

The tendency that humans have to geometrise their surroundings is visible in each example of crafted space discussed above, regardless of whether the space was carved out or enclosed from the sides. Martienssen (1964: 3 and 6) postulated that thinking humans envelop their activities in a framework of visual stability, which is why they have this geometrising tendency, which they express in known dimensions. This human aspect plays such an essential part in the process of open space creation that it is warranted to pause for a while at this point and explore the concept further.

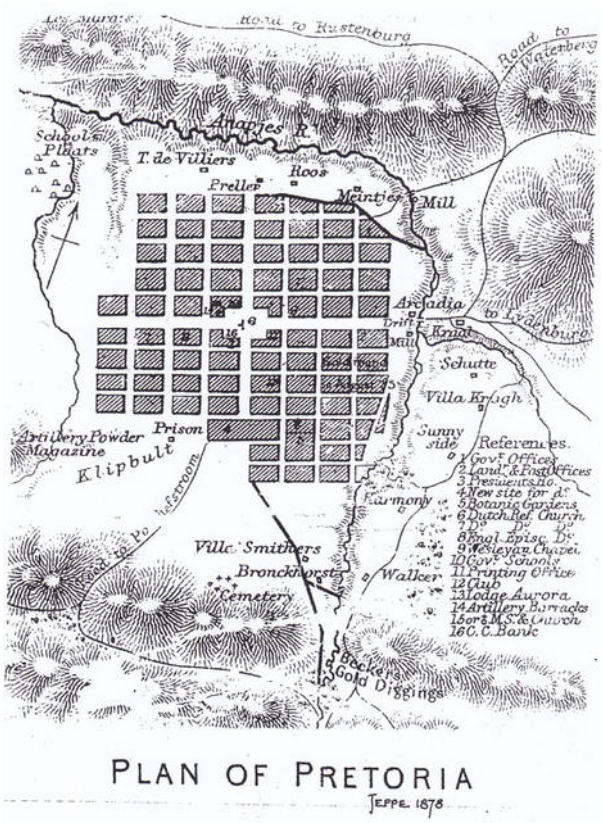

Figure 17
Carl Jeppe, *Plan of Pretoria,* 1878 (source: Van der Waal Collection)

Mathematics: the measure of all things

Mathematics had its roots in Ancient Greece in traditional metaphysics. It formed part of the historic development of philosophy until it was gradually emancipated from its roots (Lefebvre 1991: 1). In the seventh century BCE philosophy did not exist but there was epic poetry. There was no history, but myth was used to relate to the past and the concepts of the universe were unclear. In the sixth century BCE Philosophy started in Miletus. Thales and Anaximander were the first to discover a new world of natural science and philosophy but they were still bound by ancient mythological ways of thought (Brumbaugh 1970: 26). Anaximander introduced into Greek philosophy the idea that there is a law governing all events in the universe (Doxiades

1972: 15) and he expounded a mathematical theory of the universe. The Milesians recognised the sphere of physical reality and in addition thereto, that the world was made up of numbers, which had real relevance to human interests and problems, since these abstract ratios and figures gave science the tools it needed for understanding nature (Brumbaugh 1970: 34). There was no limit to the power that number and ratio had in order to penetrate the innermost nature of things (Brumbaugh 1970: 39). Pythagoreans thought the centre of the universe was fire, but most others thought it was spherical, thus referring to the earth (Doxiades 1972: 15). We find that ancient Greek writings too referred to the strong influence that mathematical laws had on everyday life and thought.

Form, order, architecture, beauty and the human body

One of the things that Western thought owes to the Pythagoreans is the awareness that form and structure give things their individual identities (Brumbaugh 1970: 30). Pythagoras believed that it was the difference in the shape of particles that could explain their qualitative differences, such as those between earth and fire (Brumbaugh 1970: 34). The concept of form and the Greek word *eidos,* which finally came to express that concept, have a complicated history. At first *eidos* meant the look of a thing or the face of it. In mathematics *eidos* was almost a synonym for schema or shape and it referred to mathematical structure. The idea of good form was important in athletics and dancing to suggest that form is a standard of value. Plato and Aristotle tried in different ways to bring these two senses of form, the mathematical and the ideal, together (Brumbaugh 1970: 31). The Platonic conviction includes that one must penetrate beneath the superficial appearance of nature and seek out the ideal, universal reality (Joubert 1998: 118). It was easy to link numbers with shapes and objects using a mixture of imagination and abstraction. Some members of the Pythagorean School tried to build the physical world out of spatial points (Brumbaugh 1970: 34).

Baker (1996: 242) declares that the synthesis of the metaphysical numerology of Pythagoras, Platonic doctrine of ideal form and Periclean order was embodied in the Parthenon. The Greek numerological structure of the universe was an ordering system according to which the artistic composition had to be organised (Joubert 1998: 95). Furthermore, viewing symmetry as an ordering system and considering nature's preference to symmetry can also be ascribed to Pythagoras, who was a gem-engraver. Pythagorean order had three aspects: political, religious and ethical (Brumbaugh 1970: 39).

In the first century BCE Vitruvius, in his *Ten Books on Architecture*, confirmed the Greek design methodology and identified the fundamental principles of architecture as order, arrangement, eurythmy, symmetry, propriety and economy and he refers to durability, convenience and beauty (Joubert 1998: 95). This classic perception of beauty and classic design methodology formulated by the ancient Greek philosophers, served as the dominant Western premise for architecture until the latter half of the nineteenth century. The language of classical architecture was codified so that beauty could be created or recreated. Because harmony was produced by mathematical relationships, sensory satisfaction could be ascribed to algebraic ratios. It was also discovered that this mathematical structure is identical to the constitution of natural phenomena, including the human body. It was concluded that man-made artefacts of a similar construction would constitute perfection. Proportion represented by the golden section was established as the foundation of a classical design methodology and considered a prerequisite for attaining man-made beauty (Joubert 1998: 16-7).

During the Renaissance this Greek belief that man-made beauty was only attainable through the correct application of symmetry and proportion (Joubert 1998: 21) was reappraised and the status of proportion was reaffirmed. The importance of right proportion had been a central theme in Greek architecture (Brumbaugh 1970: 38) and during the Renaissance the classical proportioning systems were reinstated as the exclusive means of organising the pictorial content on a canvas (Joubert 1998: 95). Renaissance theory and practice stated that the proportions of architecture must echo those of the human body (Joubert 1998: 24).

Similarly the Purists in the beginning of the twentieth century equated the Parthenon with Einstein's calculations since both endeavour to fulfil the same basic human desire: the need of our minds to conceive equilibrium (Einstein) and the need of our senses to perceive it (Parthenon) (Joubert 1998: 101). There is visual harmony inherent in the edifices of Greek antiquity. The Greeks believed that an object was beautiful only when the correlation between its function and formal appearance has been perfected.

Geometry in urban design

The geometrising tendency of thinking humans is present in all urban layouts whether they follow a rigid grid pattern or not. The word geometry means "measure of the earth" and this concept can be traced back to Egyptian cities. The hieroglyph *Niwt* (figure 18), consisting of a cross within a circle and believed to be the earliest symbolic representation of a city (Kraehmer 1978: 68), derives from the crossing of the south to north flowing Nile River, the bringer of water and life, with the daily passage of the sun god Ra from east to west. The sign seems to replicate the Egyptian view of an idealised cosmic form here on earth. Nekhen built around 4,000 BCE contains the oldest known traces of a city laid out orthogonally at this crossing point. The city plan predates by 3,000 years the layout of Miletus by Hippodamus, the father of the orthogonal city plan (Folkers 2010: 26).

Apart from using geometry in the composition of their architectural ensembles, the Egyptians also measured flood lines of the Nile and the change associated with it. The laying of squares upon the earth had, for the Egyptians, a metaphysical dimension and the activity of measuring the earth became the basis of natural law as it embodied the archetypal forms of circle, square and triangle (Lawlor 1989: 6).

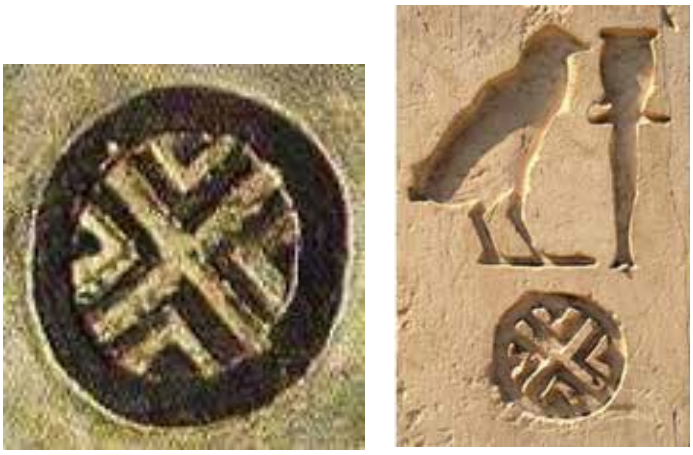

Figure 18
Hieroglyph *Niwt* representing city
(retrieved from the public domain http://erenow.com/ancient /the-complete-cities-of-ancient-egypt/6.php).

The ancient Greeks inherited the study of geometry from the Egyptians. Anaximander's idea that there is a law governing all events in the universe inspired the legal concept of the polis, the Greek city-state of which every individual was unconditionally a subject (Doxiades 1972: 15).

In the seventh Century BCE site planning did not exist. Anaximander was the first to consciously observe architectural space in the sixth century BCE and the first attempt to organise space, by dividing the space into ten parts, is found in the Ionic order (Priene agora). In this century we also find full application of the twelve-part system in the Doric order (Miletus), which continues into the fifth century BCE (Doxiades 1972: 21). In the fourth and third centuries BCE ten-fold division in the Ionic order and a twelve-fold system in the Doric order are still present and in the third century BCE, there is an unusual eight-fold division in Priene in the precinct of the Egyptian gods. This is an exception, where 45 and 90 degrees were used, which means that division was into eight, probably because it was a foreign cult and not purely Greek. In the second century BCE the twelve-fold system in the Doric order is still prevalent but in Ionia the first example of axial site planning is found, which leads the historian into the Roman period (Doxiades 1972: 22).

Site planning as progenitor of urban design, is found in Ancient Greece, but there are no Greek documents on the subject of architecture in existence, although it is known that such books were written by the best architects of the time. Vitruvius's *De Architectura* makes no specific reference to a system of site planning, which, by the Roman times was no longer in use. Vitruvius only mentions forms and shapes relating to building construction.

As briefly mentioned above the art of town planning in Greece probably began in Athens but the architect to whom ancient writers ascribe the first step was Hippodamus of Miletus (c. 407 BCE) who has been dubbed the father of city planning. He seems to have worked in Athens and in connection with Athenian cities, under the auspices of Pericles. Aristotle tells us that Hippodamus planned Piraeus, the port of Athens (Haverfield 1913: 10).

Prior to the use of the Hippodamian system all Greek cities had been laid out in accordance with the traditional system and they give the impression of having no comprehensive plan (as in Athens). Bergquist (1967: 3-4) confirms this with her findings: early Archaic structures were characterised by a lack of intention, isolated structures lying at the borders of the area with no orthogonal relations either to each other or to the enclosure. Middle Archaic examples were planned and composed by orthogonal means which were not too strictly applied and although late Archaic examples had a clearer composition, it was still not achieved through consistent and systematic relations.

Aristotle contrasted the new Hippodamian system or gridiron plan for organising the layout of a city with the traditional system. The Hippodamian, or grid plan, as introduced for the first time in Piraeus, became the basis for subsequent Greek and Roman cities (Haverfield 1913: 10). A characteristic of Greek town planning was that the grid was often rigidly imposed over the topography, creating steep streets and steps. The Greeks copied the grid as design system, probably because they believed that it was what separated civilisation from barbarism (Haverfield 1913: 6). Finally the Greeks believed that man is the measure of all things. This concept was given visible expression in the organisation of the human environment: man himself was the centre and point of reference in the formation of architectural space (Doxiades 1972: 20).

The cross axis was embodied in Roman town planning as well, as was briefly mentioned in the section on Germania above. Centuriation refers to a land measuring system used by the

Romans in their colonies in which the landscape was divided into four quarters. The *decumanus maximus* was the first line to be sighted with a *groma* (surveying instrument). The *decumanus* was the widest street, forty feet wide (in the case of Augustan colonies for veterans.) The *kardo maximus* was then sighted with a *groma* and laid out at a right angle to the *decumanus*. It was twenty feet wide (in Augustan colonies). A centuriation stone (figure 19) marked on top with lines at right angles and the letters KM and DM stood at the centre of the centuriated area, at the crossroad. Jordaan (1989) compares the layout of Pretoria (figure 15) to that of a Roman colonial settlement.

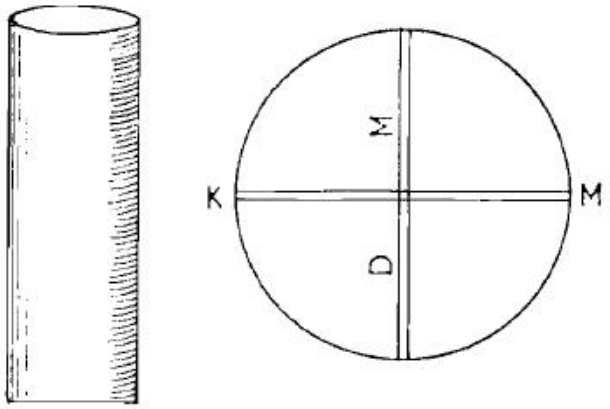

Figure 19
Roman Centuriation Stone
(retrieved from the public domain http://www.fig.net/resources/ monthly_articles/2012/january_2012/fig_3.jpg).

Many traditional urban plans contained the cross axis within an external, often rectangular form defining the outer boundaries of the settlement (Kraehmer 1978: 68). Roman streets have seldom survived continuously to modern days and Roman town planning perished with the western Empire, but it has none-the-less profoundly influenced the towns of mediaeval and modern Europe and America. Early in the thirteenth century classical rectangular planning was being revived, albeit with certain modifications. Frederic *Stupor Mundi* probably copied Roman originals, which he had seen in northern Italy, when he built the Terra Nova in Sicily on a chessboard pattern early in the thirteenth century. In 1231 Barcelonette in south-eastern France was built with twenty square *insulae* and the Bastides and Villes Neuves of southern France and towns like Aigues-Mortes (1240) were built on similar geometric plans (Haverfield 1913).

During the Renaissance Leonardo was a pioneer in the field of cartography, particularly in the production of accurate city maps. His map for the town of Imola, produced during his time in Florence around 1502, is thought to be one of the first geometrically precise town plans. Leonardo came up with a system of proportion whereby city streets had to be at least as wide as the houses were tall.

With colonial expansion, geometric town planning was taken to the New World. In the seventeenth century the Spanish Crown issued an entire body of urban planning laws as part of the Laws of the Indies (*Leyes de Indias),* for its American and Philippine possessions. The laws dictated that principal streets were to be laid out in a grid pattern, with arcades and plazas designed to provide shade in hot climates. The planning and urban design policies of the British colonies followed certain principles, one of which was like Haussmann's plan for Paris (figure 12) and which advocated cutting through and demolishing old city centers to make space for new

construction and boulevards. The Dutch did not have a similar settlement code but the use of a grid pattern is a distinguishing feature of all Boer towns and Pretoria with Church Square in its centre is no exception (figures 15 and 17). Holm in Fisher (1998: 59) describes the *Voortrekker dorp* as based on a simple standard model, well understood by both planners and users, with its regular design lines of order imprinted on the land and the wild landscape.[2]

From this section it has become clear that there are general prevailing ideas in the crafting of urban space as well as certain variants that play a role in its production. A structural analysis of urban space reveals that geometry is a generic element in urban design but that in each case there are variants and deviations in the geometric layouts that were conditioned by local factors.

The crafting of Church Square reveals social and spatial relationships and the powers of church, state and law

In the first half of the article the creation of urban space is described as a homogenous and isotropic space of classical Euclidean or Cartesian mathematics, but in fact social space and especially urban space emerged through far more diverse structures (Lefebvre 1991: 86).

Rapoport (1982: 137) argues that a cultural landscape is the result of many artefacts grouped together in particular relationships (figures 1-6) and that this is what gives them a clear character (figure 7). Cultural landscapes are the result of decisions of innumerable individuals, which suggests the presence of shared schemata among particular groups and once the schemata are known, such landscapes have meaning in terms of group identity and can be instantaneously read.

Even though Church Square as urban space has not been as clearly defined in the 1857 painting of Marianne Churchill (figure 16) when compared to the same space today (figures 7 and 11), it is already a work or a product as defined by Lefebvre (1991). The landscape still dominates the image representing the urban space in 1857, but there are already signs in the landscape that designate relations of production and property. Lefebvre (1991: 84) states that nature is the raw material from which these spaces are produced. The more a space enters into the social relations of production, the less it partakes of nature. To illustrate this in the context of Church Square one has to consider the dialectic relationship in space between town and country.

The *Voortrekkers* initially settled on farms and not in towns, but Boer towns developed to serve the farming community and were either government sponsored or church towns (Floyd, 1960). The members of the *Nederduitse Hervormde Kerk* (Dutch Reformed Church) were widely dispersed on farms and congregated every quarter for the *nachtmaal* service held over several days. Their quarterly visit to town also gave them the opportunity to trade their wares in town and supply the market with agricultural products. The result was a criss-crossing of the Z.A.R. countryside. It was the relationship between town and country that had given birth to the space that is Pretoria's Church Square. Lefebvre (1991: 78) indicates that historically it was the growth of productive forces of craft, industry and agriculture that created the relationship between town and country. This new social order was not inscribed in a pre-existing space and the space that was produced was neither rural nor urban, but the result of a newly engendered spatial relationship between the two. Church Square as social space reveals that the networks of exchange and flows of raw materials and energy fashioned the space and were in turn determined by that space (Lefebvre 1991: 85).

Figure 20
Church Square during the quarterly *nachtmaal*, circa 1870, photograph (source: Engelbrecht, *et al* 1952: 29).

The photograph in figure 20 taken of Church Square during the quarterly *nachtmaal* shows the visiting farmers from the countryside in their ox wagon spanned out around the first church in town. It provides a clearer depiction of the combination of natural, cultural and market space created by the productive forces of craft and agriculture.

Returning to the painting in figure 16 the church and the dwellings appear together in the pictorial space as vernacular architecture and similar in scale and importance. Lefebvre (1991: 83) says of the peasant dwelling that it embodies and implies particular social relations. The dwelling shelters a particular family that belongs to a community, region and country and is a component part of a site. The dwelling is a work and a product even though it represents a type and it remains part of nature, so it is an object intermediate between work and product, between nature and labour and between the realm of symbols and the realm of signs.

The mid nineteenth century painting coincides with an important development in Western countries of a new practical reality called "industry", which was being translated into theoretical thought as "political economy". Lefebvre (1991: 80) defines political economy as a combination of industrial practice, history and sociology, which in turn coincided with the emergence of Positivism. The impact of industry only really became apparent on Church Square in 1886 when gold was discovered on the Witwatersrand. With gold tax flowing into the coffers of the Z.A.R. the once bankrupt Republic could finally erect the Government building, or Old *Raadsaal* as it later came to be known, in an imposing Italian Renaissance Revival style to replace the first simple thatch government building, which was completed in 1866. Dutch immigrant Sytze Wierda designed the new building in 1888 and construction was completed in 1891. The first church burnt down as a result of a lightning strike in 1882 and a new Gothic church designed by Tom Claridge was built in its place in the centre of the Square in 1885. Wierda also designed the Palace of Justice and construction began in 1896. Figure 21 illustrates what Church Square as work or product looked like in 1900 and places the three buildings that represent the powers of State, Church and the Judiciary in their urban context. The residential buildings and vernacular style, which were so visible in the early painting (figure 17), have disappeared and completely new social relationships now dominated the Square.

Figure 21
Church Square during the military occupation of Pretoria showing the second church by Tom Claridge in the central position of the Square, with the Old *Raadsaal* on the left and the Palace of Justice on the right, both by Sytze Wierda (source: Allen 1971: 223).

In 1899 Church Square together with the church was sold to the Government of the Z.A.R., under the condition that the church should be used for educational purposes. The second Anglo-Boer War (or second Freedom War) (1899-1902) meant a complete change to the social relationships, use and ownership of Church Square as urban space. The second Gothic church was demolished in 1904 and the title deed contained a stipulation that no church could be erected on the Square again. A cast-iron fountain donated by Samuel Marks was placed in the centre of the Square. With the Union of South Africa in 1910 the Union Buildings were erected on Meintjieskop in order to replace the function of the Old *Raadsaal*. In the same year the ground plane was levelled out further to accommodate the tramline and the design of Vivien Rees-Poole for the ornamentation of the Square was implemented (figure 22).

The monumental ensemble containing a statue of Paul Kruger and four Boer soldiers (figure 1) was placed in the centre of the Square in 1954, as a final political memorial to the past. 3 Bank buildings and the Post Office established their positions as form-giving entities and remain in force today. The only one of the original symbols of power still in use is that of the Law, in the form of the Palace of Justice.

Figure 22
Church Square after 1910.
(retrieved from the public domain http://able.wiki.up.ac.za/images/a/a3/Kerkplein_5.jpg).

Conclusion

When one considers that plastic art entails the physical manipulation of a plastic medium, one that can be carved or shaped in three dimensions and one considers that space too can be carved or shaped in three dimensions by the people who make our cities and buildings, then the creation of space is placed within the realm of the plastic arts. Although craft is traditionally associated with a skill to make something by hand, our contemporary relationship with technology requires a more inclusive definition and therefore Craft is defined as the art of making things, whether they are chairs or cities. For the purpose of this article the making of space, particularly urban space, is investigated. The aim is to reveal how space was made, by whom it was made and what this tells us of the societies that it was made for.

Lefebvre argues for an approach where space as an object to be analysed, is not seen as merely a floating medium for the diversity of crafted objects that it contains, but one where it is acknowledged that precisely because space has content, it contains and dissimulates social relationships.

There are two methods by which the physical entity that is urban space is crafted. Firstly urban space can be carved out. This requires the demolition of parts of the existing urban fabric according to a master plan. Haussmann's Paris (figure 12), Mao's Tiananmen Square (figure 13) and Hitler and Speer's Germania (figure 14) are examples that illustrate this process. The second and more conventional method of creating urban space is enclosing three-dimensional open space from the sides using two-dimensional architectural surfaces. The crafting of Church Square as urban space followed this second method. In each case both urban space and architectural detail give the area its character.

Geometry is a generic element in the crafting of urban space. This coincides with Martienssen's (1964: 3, 6) notion that thinking humans' sensory equipment demands visual stability and that they have a geometrising tendency, which they express in known dimensions.

A more specific investigation into this geometrising tendency as applied in urban design commences with Egyptian cities. The hieroglyph *Niwt* is seen as the earliest symbolic representation of a city and it replicates the Egyptian view of an idealised cosmic form here on earth. It took a few centuries for site planning and the conscious observation of architectural space to develop into the organisation of space as practiced by the Greeks. Hippodamus of Miletus and his grid plan, as introduced for the first time in Piraeus, became the basis for subsequent Greek and Roman cities. The cross axis was embodied in Roman colonial town planning and if Roman town planning perished with the western Empire, it did influence the towns of medieval Europe (rectangular planning was revived early in the thirteenth century) and in the colonies and modern America.

The article approaches the question from two different sides. On the one hand a structural analysis reveals the physical characteristics of urban space and general prevailing ideas in open space making and on the other hand a the non-material characteristics of urban space, which is associated with historical, social, political and cultural meaning is revealed through visual analysis of the space.

Church Square is a work or a product as defined by Lefebvre. It developed over time from natural space but entered into the social relations of production through agriculture and cultural practice. The dialectic relationship in space between town and country is increasingly prevalent from the analyses of visual representations (paintings and photographs) of Church

Square over time. The origin of Church Square lies not in the Square itself but in the Z.A.R. countryside. It is also the forces of production in the countryside that caused change in the urban landscape. The vernacular dwellings that appear with the Church in early images disappear with industrialisation to make way for structures of the powers of Church, State and Law. Finally, only the Palace of Justice remains in use as representative of the power of Law. The Church was demolished in 1904 but the Square still bears its name and although the Old *Raadsaal* still claims it once proud space, the functions of State did not remain in that building for long.

Notes

1 Retrieved from https://en.wikipedia.org/wiki/Plastic_arts.

2 For a comparison with other pioneer settlements in South Africa see Haswell (1979: 687).

3 For the history of Kruger's statue and its highly political journey to Church Square, see Labuschagne (2011).

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The Capability Approach as a foundation for craft self-help enterprises in South Africa

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Many rural craft initiatives in South Africa have as their core objective the alleviation of poverty. A popular assumption is that personal income or wealth is the primary solution to alter social deprivation. Economist and philosopher Amartya Sen argues that capabilities refer to the ability to choose a life one has reason to value. Capability deprivation minimises the choices people can make – poverty, thus, is reframed as a form of capability deprivation. What the capability perspective does in poverty analysis is to enhance the understanding of the nature and causes of poverty and deprivation by shifting primary attention away from means (such as income) to ends that people have reason to pursue, and, correspondingly, to the substantive freedoms to be able to achieve these ends. This article discusses how income poverty is but one of various capability deprivations which curtail the success of some craft self-help enterprises. Furthermore, it suggests a way to evaluate how well people are doing – be it an enterprise or an individual, which ideally would result in an interaction of a rise in standards of living and an improvement in the quality of life.
Key words: deprivation, capability approach, substantive freedoms, evaluation

Die bekwaamheids-benadering as grondslag vir ambagsopleiding
Etlike ambagskuns-initiatiewe in Suid-Afrika het as uitgangspunt die bekamping van armoede. Die algemene veronderstelling is dat persoonlike inkomste of rykdom die belangrikste oplossing is om sosiale veragterliking te bowe te kom. Amartya Sen, 'n ekonoom en filosoof, redeneer dat bekwaamhede betrekking het op die vermoë om 'n lewe te kan kies wat iemand van waarde kan ag. Die keuses wat mense kan maak, word uiters beperk indien hulle hulle nie kan bekwaam nie – armoede word dus hergestruktureer as 'n vorm van gebrek aan bekwaamheid. Wat die bekwaamheidsperspektief tydens die analiese van armoede doen is om die ontstaan sowel as die redes vir armoede en beperkte bekwaamheid te verstaan deur die fokus van middele (soos inkomste) na doelwitte wat mense nastreef, en die dienooreenkomstige selfstandige vryhede om sulke doelwitte te verwenslik, te verskuif. In hierdie artikel word geredeneer dat inkomste-armoede slegs een van vele bekwaamheids-beperkings is wat die welslae van selfhelp ambagsinitiatiewe kortwiek. Dit stel ook 'n manier voor om te bepaal hoe goed mense vaar – hetsy 'n sake-onderneming of 'n individu, wat ideaal gesien,'n interaksie tussen 'n styging in lewensstandaard, sowel as 'n verbetering in lewenskwaliteit tot gevolg sal kan hê.
Sleutelwoorde: bekwaamheidsgebrek, bekwaamheids-benadering, selfstandige vryhede, evaluasie

Historically the formal sector was primarily instrumental in absorbing potential employees in South Africa but this is not the case anymore. On the contrary, jobs have been shed. According to the Quarterly Labour Force Survey of Statistics South Africa released on 01 June 2017 (Lehohla 2017), the unemployment rate in South Africa increased to 27,7 % in the first quarter and more retrenchments, especially in the mining sector, are expected. The expanded unemployment which includes those who wanted to work but did not look for work stands at 36,4 % and youth unemployment contributed 38,6 %. This is approximately 9,3 million persons who did not have work but wanted to work in the first quarter of 2017.[1] Unemployment figures are as high as 60% in some rural areas. Approximately 500 000 youths enter the employment market annually (the median South African age is 25.9 years) and currently sixty percent of the workforce are under the age of 30.[2] The result is an ever-increasing deficit in employment required by a growing population versus available employment of around 48%.

As of mid-August 2017, the population of South Africa was 55, 491, 886 million, based on the latest United Nations estimates. Out of approximately 15 million working South Africans 3.8 million are termed skilled; 7 million are semi-skilled and 4.3 million are low-skilled.[3] Nicholas Kruger (2016), CEO of the World Economic Forum, claims that the inadequately educated workforce is due to the Fourth Industrial Revolution, which is, in part, due to fast-paced technology progress combined with other socio-economic and demographic changes, which will further transform labour markets and could lead to over five million job losses.

Even though inventions and new technologies spring from and reside in the human mind, technology transfer depends on contact between people. Technology and innovation can help to improve living standards; increase productivity; generate new industries and employment opportunities; improve public services; and create more competitive products in world markets. Instruction in craft technology can be described as technology which is devised to promote the practicing and mastery of skills, that is, ways of doing things, as well as techniques to enable the application of such skills. Examples are elementary printing methods, fabric dyeing, knitting, wood carving and metal work.

Out of approximately 30 million potentially economically active people, a staggering 20 million (plus) are reported to be without sufficient or appropriate work-related skills training. Out of necessity people turn to survivalist methods (such as hawking, subsistence farming and vending), which merely provide minimal means to keep the unemployed and their families alive. Crafts often fall into this category. Lack of experience and skills, shortage of financial resources, social barriers and lack of access to markets are entry barriers that keep survivalists out of the micro-economy category. Expanding the informal sector of the South African economy and more specifically self-employment and micro and small enterprise initiatives are identified as the primary hope in expanding alternative employment opportunities, but, in reality, these initiatives are not gaining the required traction for significant impact.

Many rural craft initiatives in South Africa have as their core objective the alleviation of poverty. A popular assumption is that personal income or wealth is the primary solution to alter social deprivation. The author supports economist and philosopher Amartya Sen's argument that, in analysing social justice, there is a strong case for judging individual advantage in terms of the capabilities that a person has. Whereas the role of income and wealth is undeniably important when policy analysis is considered, these have to be integrated into a broader background when describing success and deprivation in terms of social justice. This article links poverty to capability deprivation, rather than merely low income, where income poverty is one of the variables that constitute deprivation – poverty, thus, is reframed as a deprivation in the capability to live a life of choice, and development is seen here as an expansion of capabilities. The article proceeds with a discussion of the importance of individual agency, followed by an explanation of how substantive freedoms impact on a person's potential capabilities and deprivations. The last section of the article suggests a way forward. After approximately 20 years of having observed and participated with crafters in self-help enterprises, the author suggests benchmarks for a more sustainable future for rural crafts.

Individual agency

Karl Marx had a foundational concern with "replacing the domination of circumstances and chance over individuals by the domination of individuals over chance and circumstances" (quoted by Wells 2012: 3). There is force in the claim that people themselves are responsible

for the development and change of the world in which they live. In terms of responsibility and whether others should take responsibility for influencing individual lives, self help fits well into the mood of the present times. Samuel Smiles coined the phrase "self help" in 1859. Smiles (1968: 11) states:

> Even the best institutions can give man no active help. Perhaps the most they can do is to leave him free to develop himself and improve his individual condition. But in all times men have been prone to believe that their happiness and well-being were to be secured by means of institutions rather than by their own conduct. Hence the value of legislation as an agent in human advancement has usually been much overestimated.

Smiles (who was a physician by profession and belonged to the class of labourers and artisans of society rather than the aristocracy) lived in a society that was largely governed by "thought versus action" and professed that liberty must rest upon the solid foundations of individual character, which is the only true guarantee for social security and national progress. Professor of business ethics James O'Toole (1993: 56) refers to enormous inequalities in Britain at the time, with the ratio of richest to poorest incomes as high as one hundred thousand to one. Smiles (1968) notes that in British society, "self-made men" proved themselves worthy of respect as they earned their place in society by being industrious and useful. Hence the concept of self help.

Smiles (1968) insists that self help is concerned with more than how to be a good capitalist. Seen within the context of the capitalist (mid-Victorian) Britain in which Smiles lived, he refers to the poor as having an opportunity to alter the fabric of society and being afforded a stimulus denied the "complacent" rich and the well-born (aristocracy). He found merit in conciliation between the state and the individual person, because he expressed strong belief that the emergent middle class (made up of lower-middle and working-classes) was "making over British institutions and British society in its own image" (Harrison 1968: 267).[4] Self help was not presented as a creed of class, but as the secret of national greatness. However, during the 1880s one-third of London's population were purportedly living below the subsistence margin. The question arose whether the poor were able to help themselves under those conditions. He concluded that self help was only possible if the state raised the minimum conditions of life.

Despite state aid then as now, there is no substitute for individual responsibility – any social responsibility that replaces individual responsibility is counterproductive. There are arguments that dependence on others is ethically problematic, practically defeatist in sapping individual initiative and effort, and also erodes self-respect, leading to loss of motivation. Cognisance should be taken that the degree of state involvement influences the degree of freedom experienced by its citizens. Citizens' freedom is compromised in proportion with state involvement because state decisions determine their destiny to a lesser or greater degree. It follows that state involvement in social development causes dependency on its development programmes. State involvement must, therefore, be managed to secure an acceptable trade-off between dependency and freedom.

Sen (1999: 288) similarly argues that central to development is individual agency. This is a person whose achievements can be judged in terms of own values and objectives – a true participant in economic, social and political actions. Individual agency is suggested as a solution to the growing problem of employment – people need to accept that they will be responsible for creating solutions for the generation of personal income. However, responsible lives are dependent on having certain basic freedoms. Personal, social and environmental circumstances impact on the ability to meet obligations and responsibilities. If social support is employed to

expand people's freedom, this can be seen as an argument *for* individual responsibility, not the contrary (Sen 1999: 284).

Substantive freedoms

South Africa has constructed policies based on aspirations shared by developed countries of the world. It also boasts a progressive Constitution, inclusive of a Bill of Rights. Yet, South Africa experiences impoverishment, illiteracy and a lack of skills to a degree associated with developing countries. Most rankings of countries or economies are based primarily on Gross Domestic Product (GDP), which is a simple and useful measure of a country's economic activity. It refers to the sum of all the goods and services produced and sold in a given year. GDP is important, but the limitation is that it measures the quantity of economic growth but not the quality.[5]

One of the most influential capability metrics currently used is the Human Development Index (HDI) developed by Sen and Mahbub ul Haq in 1990. It contains three criteria for consideration, which are weighted equally: longevity, literacy (as in years of schooling), and Gross National Income per capita (Wells 2012: 16). Although a truer reflection of human well-being than per capita income, it still falls short. The World Economic Forum compiles a list of ratings according to criteria that indicate the standard of living of a group more accurately than GDP or HDI. These criteria include data with a social-support bias such as life expectancy, educational attainment, unemployment figures, as well as adjusted per capita income. According to these criteria, South Africa is regarded as having a medium level of human development. This rating, however, is not a true indicator of the quality of life enjoyed by all South African communities. Quality of life, in terms of development, goes beyond the personal physical resources or income of a person and includes independent or substantive freedoms.

Thus, a better measurement of human development should reflect substantive freedoms. These substantive freedoms can be measured by extensive international criteria that reflect a country's ability to create an environment that is conducive to international competitiveness and the flourishing of enterprise. The International Management Development (IMD) assesses the relationship between a country's national environment and the wealth creating process. In this regard, economist Stéphane Garelli (2004: 730) opines: "A nation's environment hinders or supports this process through its policies". A national environment is defined by outcomes of the interaction of four competitiveness factors, namely: economic performance, government efficiency, business efficiency and infrastructure (which includes basic infrastructure, technological infrastructure, scientific infrastructure, health, environment and education). A national environment that sustains world competitiveness, and by implication a flourishing society, is underscored by healthy performance in these four sectors, as well as factors reflected in more than 320 assessment criteria (Garelli 2004: 731). Given the natural endowments that South Africa possesses (such as coastlines, harbours, arable land, minerals and infrastructure, to name a few), it has underperformed consistently when measured and compared with other countries.[6] This points to a serious lack, or breakdown, of substantive freedoms in real terms, which Sen (1999: 38-40) describes as follows:

1. Political freedom (including civil rights) – subsists in opportunities that people have to determine who should govern and on what principles, the freedom/right to scrutinize and criticize authority, the freedom to experience an uncensored press, freedom of political expression, or the choice to vote for various political parties.

2. Economic facilities – these refer to the opportunities that individuals enjoy to utilize economic resources for the purpose of consumption, or production, or exchange. The scope of these depends on the resources owned or available for use, as well as conditions of exchange, such as relative prices and the working of the markets. (Free trade and production can help to generate abundance and public resources for social facilities).

3. Social opportunities – subsist in social arrangements to provide education and health care, prevent or eliminate deprivations like starvation and undernourishment, reduce morbidity and premature mortality, promote literacy and numeracy. Such arrangements increase the individual's ability to live well and promote effective participation in economic and political activities. For example, illiteracy can be a barrier to both political participation and participation in economic activities that require production according to global specifications.

4. Transparency guarantees – subsist in a presumption of trust as well as the freedom that people can expect when dealing with each other under guarantees of disclosure and openness. These guarantees have a clear instrumental role in preventing corruption, financial irresponsibility and underhand dealings.

5. Protective security is needed to provide a social safety net for preventing the population from being reduced to abject misery, and in some cases even starvation and death.

Substantive or instrumental freedoms advance the general capability of a person, which in turn drives development. There should be an interconnectedness between these substantive freedoms for development to be sustainable and thus, if one or more of these break down, the individual or group is at a disadvantage at the outset. Personal, social and environmental circumstances impact on one's ability to exercise one's responsibilities. A potentially responsible person who has been denied a basic education is largely denied the freedom to do various things for him/herself and for others. One could also say that without the substantive freedom and capability to do something, a person could not be responsible for doing it. Such determinants to freedom may be regarded as "capabilities" (discussed below) when social arrangements become social powers due to the advantage of good health, or when a person benefits from basic education. Consequently, the author suggests that there is a connection between capabilities and development, which are sustained by substantive freedoms.

Capabilities and deprivations

When physical chemist Charles Percy Snow (1965: 42) made the following statement around 50 years ago, he was convinced that the rate of social change, until then slow, would accelerate.

> This disparity between the rich and the poor has been noticed. It has been noticed, most acutely and not unnaturally, by the poor. Just because they have noticed it, it won't last for long. Whatever else in the world we know survives to the year 2000, that won't. Once the trick of getting rich is known, as it now is, the world can't survive half rich and half poor. It's just not on.

Snow held the disparities between the scientists and "non-scientists" of industrialised countries accountable for failure to expedite change and suggested that the combined benefits of the scientific and industrial revolutions would result in prosperity for the under-privileged in an unprecedented way. It is evident today that social and economic development is not the simple "quick fix" that Snow had optimistically anticipated would take less than one human generation

to effect. Not only have the poor remained intrinsically poor, but science and technology have not necessarily impacted on the capabilities of the lives of the poor to effect significant change.

Lack of income, or income poverty, is certainly part of capability inadequacy because income is such an important means to gain capabilities. And since enhanced capabilities tend to enhance productivity and earning power it seems indisputable that capabilities lead to earning power, just as income predisposes for capability enhancement (Sen 1999: 90). It follows that capability improvement must be a definite if not indispensable remedy for income poverty. When studying poverty, one might thus start with the distribution of income, but end with other factors – such as the actual standard of living, and ultimately the quality of life that people manage to achieve. These are inextricably intertwined with capabilities.

Capabilities

In framing a desirable social environment in which self-help craft initiatives might reside (and flourish), it is helpful to focus on how the "Capability Approach" acts as a means to evaluate welfare and as an analysis of a variety of social issues. Political scientist Ingrid Robeyns (2000: 3-4) refers to social issues such as well-being and poverty, liberty and freedom, development, gender bias and inequalities, justice and social ethics. Philosopher John Rawls, in his revolutionary work *A Theory of Justice* (1971), defined society's well-being as one in which social welfare is said to be equal to the well-being of society's least well-off member. Thus, Rawls aggregated social well-being across individuals.[7] Sen and philosopher Martha Nussbaum are together accredited with the origination of the capability approach to human well-being, which is based on Rawlsian philosophy. Robeyns (2000: 2) refers to Rawls as acknowledging that the idea of basic capabilities is important, but criticising it as a liberal conception of justice. As did Aristotle, Sen and Nussbaum shifted the focus away from what a person *has* to what a person *can do*.[8] Clearly a strong case can be made for judging individual advantage in terms of the capabilities that a person has.

Sen (1999: 74-5) describes capabilities as firstly, the freedom to choose a life one has reason to value. If the object is to focus on the individual's real opportunity to pursue his or her objectives, then one should consider not only the primary goods the person holds (such as income), but what is required in order to convert primary goods into the person's ability to promote his or her ends. Secondly, capabilities identify the relevant personal characteristics that govern the conversion of primary goods the person holds, into the person's ability to promote his or her ends. For example, a healthy person who is illiterate is often compelled to a life of manual labour and will battle with drafting an income statement or understanding quality control; an older person is more disadvantaged in a generally accepted sense even with a larger bundle of primary goods. And thirdly, capabilities are the alternative combinations of "various things a person may value doing or being", that are feasible to achieve. (These may vary from being adequately nourished to owning a business).

Having capabilities is a good start in framing a desirable social environment. Sen (1999: 75-6) suggests commensurate measurement of capabilities by the *realized functionings*, which can be seen as "being and doing" – being sufficiently educated and skilled and thus potentially employable; having craft skills which might convert into products. In other words, by what a person is actually able to do – a functioning can thus be viewed as an achievement, whereas a capability is the ability to achieve (Sen 1987: 36). In addition, measurement of capabilities can be assessed by the *capability set of alternatives*. In other words, by real opportunities available,

or by being able to utilise such opportunities. For example, even though craft prototypes are often produced after a period of training, it may not be feasible to convert those into saleable product ranges if appropriate markets are not found. Even if appropriate markets are found, pricing structures need to be appropriate and form part of a longer-term marketing and branding strategy.

Sen declines listing capabilities or functionings due to what he refers to as a democratic process to formulate such a list, whereas Nussbaum (2011: 33-4) lists various capabilities: 1) life; 2) bodily health; 3) bodily integrity; 4) senses, imagination and thought; 5) emotions; 6) practical reasoning; 7) affiliation; 8) other species; 9) play; and 10) control over one's environment.[9] By Nussbaum's own admission, for most countries her list of capabilities (as a whole) is unachievable – certainly for South Africa this remains a rather utopian threshold.

As well as being concerned with how well people are doing, the capability approach is used to examine the relationship between people and commodities. Some underlying determinants for capability failures, are, according to Sen (1999: 70-2):

1. Personal heterogeneities: Disparate physical idiosyncrasies (such as disability, illness, age or gender) give rise to diverse individual needs so that people do not necessarily achieve the same functionings from the same level of income;

2. Local environmental diversities: These include factors such as climate and proximity which may affect how far a person may stretch a certain income. For example, it is far more difficult for enterprises in remote rural areas to acquire materials or supply markets, or to produce crafts where electricity or running water is lacking;

3. Variations in social conditions: These refer to the provision of public services (education and security) and the nature of community relationships (class, ethnicity). An example is that often craft enterprises rely on affluent clients but due to a variety of reasons they have very little idea what affluent clients want or how to find relevant outlets for products;

4. Differences in relational perspectives: These refer to conventions and customs. For example, donor funds for female craft initiatives are often allocated to male community leaders who do not pass on the funds to those intended;

5. Distribution within the family: Incomes earned by one or more members of the family are usually shared by all, regardless of whether the beneficiary is an earner or not. A crucial parametric variable is thus intrafamily distribution of incomes, as there is a link between individual achievements and opportunities with the overall level of family income.

Having looked at capabilities and capability failures, we turn to deprivations, where deprivation can have different meanings.

Deprivations

Social scientist Claudia Haarmann (2000: 72) refers to a deprivation index, where housing, health, employment opportunities and monthly expenditure are scored to determine the level of appropriate social assistance for South African households. Indicators of deprivation are generally considered to be premature mortality, significant undernourishment (especially of children), persistent disproportionate morbidity, widespread illiteracy and other failures. Typically, deprivations are evident from low income or lack of income; inability to convert

income into functionings; illiteracy; innumeracy; lack of skills; lack of knowledge; hunger; premature mortality; subjugation of women; and neglect of children. It seems obvious that the identification of deprivations should lead to redressing these, but that is not always the case. Since income deprivation is central to other deprivations, let us focus on poverty, or low (or lack of) income.

Poverty as capability inadequacy or lowness of income

The capability approach shifts primary attention away from means (such as income) to ends that people have reason to pursue, and, correspondingly, to the freedoms to be able to satisfy such ends. This has a direct bearing on sustainability when considering craft projects intended to contribute towards overcoming poverty. Sen (1999: 90) avers:

> While it is important to distinguish conceptually the notion of poverty as capability inadequacy from that of poverty as lowness of income, the two perspectives cannot but be related, since income is such an important means to capabilities. And since enhanced capabilities in leading a life would tend, typically, to expand a person's ability to be more productive and earn a higher income, we would also expect a connection going from capability improvement to greater earning power and not only the other way around.

Poverty is a deprivation of basic capabilities rather than merely lowness of incomes for various reasons. Sen (1999: 87-110) suggests that there are deprivations that are intrinsically important, such as poor health (unlike low income, which is only instrumentally significant).[10] In addition, there are influences on capability deprivation – and on real poverty – other than lowness of income (such as old age or illiteracy) – income is not the only instrument in generating capabilities).

Low income and low capability are related, however, the instrumental relation between them is variable between different communities and even between different families and different individuals (thus, the impact of income on capabilities is contingent and conditional). This is important in considering and evaluating public action aimed at reducing inequality or poverty.

Observations

Germane to the author's pro bono involvement with craft self-help enterprises in the capacity of advisor, strategic planner, trainer, or mentor, was the reduction of poverty. But moreover, she was invited by groups to assist in transferring appropriate craft and business skills with the aim to establish successful, competitive enterprises that could function independently after a negotiated period of time. Many enterprises produced crafts for which she found markets locally and abroad, but many were unable to sustain customer relationships without assistance. In some instances, deprivations such as illiteracy and innumeracy stacked the odds against success to a massive degree and craft initiatives remained in the survivalist category. Sadly, independence became an illusion. Her research stretched over many years and revealed some interesting and possibly helpful observations and findings, which are discussed below (alphabetically).

- Aftercare: The ongoing involvement of a skilled practitioner is highly recommended in some instances but critical in others to ensure eventual independence;
- Benefit to the community: The capabilities acquired from craft technology training may eventually transcend the directly relevant skills, knowledge and experience associated with the training and also include capabilities that benefit the community as a whole.

- Craft technology training: Whether such training is expanded to include design ability or entrepreneurship, these are not sufficient to create an enterprise. Prototyping, product development and marketing are required to sustain a manufacturing enterprise in the long term;
- Existing craft skills: This puts some groups at an advantage, however, South Africa does not boast an abundance of indigenous or existing crafts;
- Expertise: Trainees do not automatically evolve into designers or entrepreneurs. Apprenticeships or mentorships are essential;
- Historical damage: Rural communities have often been historically damaged. A further breakdown of rural communities needs to be halted. There is reason to create employment in such communities, where people can shape their own destinies;
- Homogeneity: A sense of community, which may be attributable to homogeneity, seems to be a necessary component for a group to succeed as an enterprise. This does not exclude the possibility that various ethnic groups could constitute an enterprise, but perhaps smaller homogenous units can cooperate more efficiently within an enterprise;
- Individuality: There is often resistance to assume individual responsibility, thus participants feel more comfortable with group responsibility, resulting in a commensurate suppression of initiatives in leadership and decision making;
- Instability: A stable and safe environment is essential for self-employment and small-business management – often crime is rife in rural areas, and stable environments are few;
- Marginalisation: Poverty levels are exacerbated by marginalization in rural areas which results in lack of infrastructure, poor accessibility and large distances from larger, economically active centres;
- Meritocracy: Reluctance within some groups to distribute tasks apropos ability or preference and rather to divide tasks equally, demotivated some members and affected efficiency;
- Ownership: A sense of ownership is required if a group is to be sufficiently motivated to succeed. Values and goals need to be articulated at the outset and reviewed from time to time.

Where to now?

It is clear from the above that societal values have a direct bearing on the decisions that people make and the actions that shape their lives. Decisions and actions are largely governed by the range of choices available to people and these, in turn, depend on capabilities. When training programmes are considered in rural areas, communities need to determine their specific societal values. For example, if equality of income or equality of responsibility is regarded as a preferred value, then strategies can be employed that do not require a high level of innovation or entrepreneurship, but do require efficiency and good management. Again, if independence is regarded as a preferred value, then the concepts of innovation, entrepreneurship, marketing and competition should form part of the strategic plan for craft enterprises.

The causes of poverty and deprivation can be determined against checklists of what advances the general capability of a person. Community development, which is a social work intervention, can be combined with arts and crafts with a view to enhancing capabilities and achieving sustainable development.

Funders and managers of self-help projects often erroneously refer to craft technology candidates who have acquired technical skills as designers, and expect them to have mastered the necessary skills to design and produce product ranges within a short space of time. Such expectations are unrealistic and create unnecessary tension between funders/managers and trainers and trainees. As borne out in many conversations the author had with trainers and trainees, it takes time to know how to design and what to design, sometimes requiring apprenticeships that take years to complete. Academic and innovation advisor John Kao (1996: 163) aptly states, "It's not enough to be creative if you cannot execute. It's not enough to execute if what you make is something that people don't want. It's not enough to execute and be creative if you don't have the structures and culture to be viable long-term".

Research needs to be done to identify what can make an environment more conducive to entrepreneurship and competition in South Africa. Further research is required to determine the success or failure factors of craft initiatives. Factors to consider may include demographics, markets, training, products and marketing. Comprehensive documentation is required and could supplement existing craft databases.

Conclusion

Many people who leave rural communities in search of employment will not identify themselves with the product or service around which most places of employment are organized, with the result that they will experience a transitory element as the dominant characteristic of their work environment. On the other hand, if viable enterprises can be established in rural areas, such entities effectively become a community within a community. Intellectual property expert John Howkins (2001:12) states that creative products depend on technical skills, physical resources and environmental factors. Even in creative work, pleasure depends upon the conditions under which it is done. The importance of favourable conditions should not be underestimated in rural craft production, and everything possible needs to be done to encourage its success and promote creativity.

Howkins (2001: 94) refers to crafts flourishing in two separate markets: the art market, where crafts are regularly exhibited in galleries or sold on auction, and also in the tourism and leisure markets. Indeed, South African crafts tend to fit this description. Regardless of how a craft article is described, design and applied art critic Peter Dormer (1991: 124) reminds that this is an age in which things that are made for the masses are made well. Crafts therefore also need to be made well, even though they are exposed to the risk – not only in the making process, but perhaps in the end product too – of being made beautifully and yet not being sold. In this sense crafts represent the ability of the buyer to purchase unnecessary labour and it is the crafter's responsibility to reduce the margin of risk to him or herself by creating articles that are either so beautiful that they become virtually irresistible to potential buyers, or, within the parameters of their uniqueness, become coveted because they serve some kind of utilitarian or practical purpose. That implies that they should be well designed and well made.

Crafts can enable people to overcome the effects of capability deprivation, such as poverty and lack of skills, and thus proceed towards and attain a life of choice. Furthermore, the way towards a life of choice includes tried and true methods by which people can be empowered to have a say in what they do and how they do it. Individual capabilities invariably benefit the capabilities of groups or communities as a whole. Benefits could range widely from the conceptual (for example questioning one's personal values in order to benefit the group as a whole), to the physical, such as endeavouring to expand human capacity by passing on a thriving enterprise for the next generation. This could be an arrangement which can outlive its original members, and which can offer them the transcendent bond and security of membership. More importantly, capabilities can be passed on in this manner and expanded upon, leading to a life of choice.

Notes

1 Retrieved from www.politicsweb.co.za/politics/unemployment-rises-to-277-in-1st-qr-2017--statssa.html.

2 Retrieved from http://www.worldometers.info/world-population/south-africa-population/.

3 Retrieved from Stats SA presentation on skills and unemployment_16 September.pdf/.

4 Royden Harrison (1927 – 2002), whose thinking was deeply influenced by Karl Marx, was an academic writer and labour historian.

5 Rapid growth in the economy, for example due to goods that are produced unethically (say through child labour), or perhaps due to the sale of unethical goods (such as harmful drugs) do not necessarily indicate that society is better off. Drèze and Sen (2002: 72) refer to "unaimed opulence" which may result from an indiscriminate pursuit of economic expansion whilst widespread poverty, illiteracy, ill health, child labour, crime and starvation prevail.

6 In the 2017 IMD World Competitiveness Ranking, South Africa was placed 53rd lowest out of 63 economies – outperformed by fifty other countries, inclusive of Hungary, Slovak Republic and Romania; South Africa itself narrowly outperformed Colombia (IMD 2017).

7 Retrieved from The Human Development Index_ A History.pdf.

8 In his *Nicomachian Ethics*, Aristotle set out a definition of human happiness that is centred on what it means to live a good life – a life representing human excellence. From these writings the eudaimonic tradition of wellbeing studies was derived (see Ryan, Huta and Deci 2008).

9 Nussbaum focused her understanding of capabilities on human dignity, unlike Sen's focus on freedoms. In her list, governments and international institutions should strive to offer individuals capabilities at least to a threshold of "sufficientarianism" that specifies minimum requirements of justice.

10 An illustration of how instrumental capabilities other than income are in poverty reduction can be found in Japan in the mid 19th century. Japan had a higher literacy rate than Europe, when industrialisation had been occurring in Europe but not in Japan. East Asian economies, beginning with Japan in the Meiji Era (1868-1911), started with a massive expansion of education and later of health care, before breaking the constraints of poverty. Sen (2006: 111) avers that Japan's entire experience of economic development was driven by human-capability formation. This included the role of education and training, supported and promoted by public policy and by a cultural climate.

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When the crafts are entering the space outside themselves

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Using currency as a jewellery medium I have become fascinated with crafted objects as symbols within current socio-economic environments. My work comments on both the idea of nationhood, and the politics that regulate national borders. Through the simple jewellery interventions of cutting and forging minted state symbols, I question whether the hybrid identities of contemporary culture can be embodied in a single object. Likewise, my research considers the advance of technology in human genome counting and its implications for inclusion or exclusion. Collaboration has become an integral aspect of my work, allowing philosophy, craft and science to confer. Molly Nesbit once wrote "The arts are entering the space outside themselves, looking hard to the future". In recent years craft practices have reacted to the so-called 'social turn' and developed strategies to re-define a sense of collectivity and aspects of participation. Jewellery objects fulfil this role in the everyday, creating a space to meet the Other and each other. Objects that respond to the immediate socio-economic environment and its people will become increasingly important to contemporary craft discourse. In view of that, the emergence of Identity Politics in contemporary art in the late 20th century and its impact on recent art history provides a relevant context for object makers.
Key words: objects as symbols, jewellery, nation states, access, identity politics

Wenn das Kunsthandwerk Räume ausserhalb seiner selbst betritt
Die Faszination für handgefertigte Objekte als Symbole unseres sozioökonomischen Umfelds führt auf meinen Gebrauch von Währung als Schmuckmaterial zurück. Meine Arbeit befasst sich mit der Idee der nationalen Einheit, sowie mit einer Politik, die Landesgrenzen reguliert. Durch die einfachen Schmuck-Interventionen des Schneidens und Schmiedens von geprägten Staatssymbolen stelle ich in Frage, ob die hybriden Identitäten der zeitgenössischen Kultur in einem einzigen Objekt verkörpert werden können. Meine Forschung erwägt dabei den Fortschritt der Technologie in der menschlichen Genomzählung, insbesondere im Hinblick auf seine Bedeutung für Einbeziehung oder Ausschluss. Zusammenarbeit stellt mittlerweile einen wesentlicher Aspekt meiner Arbeit dar, sie ermöglicht eine Űbertragung der Bereiche Philosophie, Kunsthandwerk und Wissenschaft. Molly Nesbit schrieb einst "Die Künste betreten einen Raum ausserhalb ihrer selbst, scharfsichtig in die Zukunft blickend". In den letzten Jahren haben die Handwerkspraktiken auf die so genannte „soziale Wende" reagiert und Strategien entwickelt, um ein Gefühl der Kollektivität zu erheben und um Aspekte der Partizipation neu zu definieren. Schmuckgegenstände erfüllen diese Rolle im Alltag und schaffen einen Raum, um Anderen und einander zu begegnen. Gegenstände, die auf das unmittelbare sozioökonomische Umfeld und seine Menschen reagieren, werden für den zeitgenössischen Handwerksdiskurs immer wichtiger. Angesichts dessen ist die Entstehung der Identitätspolitik in der zeitgenössischen Kunst im späten 20. Jahrhundert und ihre Auswirkungen auf die jüngste Kunstgeschichte ein relevanter Kontext für Objektgestalter.
Stichworte: Objekt als Symbol, Schmuck, Nationalstaat, Einbeziehung, Identitätspolitik

Using currency as a jewellery medium I have become fascinated with crafted objects as symbols within current socio-economic environments. Symbols in metal, when forged under the hammer, become suggestive of shadows and take on qualities of signs in a state of change, able to evoke a sense of hybridity. Being a German citizen with permanent residence in New Zealand I specifically explore national iconic symbols. My work comments on both the idea of nationhood, and the politics that regulate national borders. Yet, rather than remaining constrained to an anthropological reflection on jewellery and its relation to the body of the wearer, I consider contemporary jewellery to be able to function as an analytical tool or instrument of identity politics. The two projects discussed in this paper therefore introduce the possibility for jewellery to be used as a medium of socio-political knowledge.

Figure 1
Zellmer, J. (2015), touring exhibition forged and installation at the Ashburton Art Gallery, Canterbury, New Zealand (photograph by the author).

Forged

Through the simple jewellery interventions of cutting and forging minted state symbols, I initially questioned whether the hybrid identities of contemporary culture can be embodied in a single object. This project developed into an investigation of migrancy, addressing experienced realities of identity and location. Immigrants to New Zealand, who were unable to obtain dual citizenship, were interviewed and photographed. Jewellery 'aids' materialized from cut and forged coin emblems, fitted with hearing aid material. They emerged as a response to the interviewee's situation and were specifically made for each participant, to whom they are being returned. The pieces are contextualized by portraits of the immigrants and 'passport' booklets presenting their transcribed interviews. The physical use of currency, passport imagery and hearing aid parts provided a direct link to relationships between national identity, capitalist economies and the sense of impairment.

The emergence of Identity Politics in contemporary art in the late 20th century and its impact on recent art history provides a relevant context to my work as a craft practitioner. 25 years ago, visitors to the highly controversial 1993 Whitney Biennial at the Whitney Museum of American Art would encounter "Daniel J. Martinez' work *Museum Tags: Second Movement (overture)* or *Overture con claque—Overture with Hired Audience Members*" as the first piece of art upon entering the exhibition. Martinez had broken up the sentence "I can't imagine ever wanting to be white" into five sections and printed them on the little metal museum tags worn to show that admission had been paid; normally stating WMAA. In a panel discussion at the Institute for Diversity in the Arts (IDA) at Stanford University[1] Martinez explained:

> It's structurally based on Ferdinand de Saussure's theory about the organization of language and how you can change meaning in language by changing the organization of language. It is an organization

> of an idea that is passive-aggressive. Visitors to the museum became part of the work because they had to wear one portion of the phrase. Identity is a construction, right? The same way gender is a construction or sexuality is a construction. So here, identity is in motion; it's constantly shifting and moving based on that particular set of words and based on the individual. Everyone who visited the museum got to perform in this construction that was changing depending on who they were with or what phrase they were wearing. But the phrase does test the limits of a civil society. [Many] didn't like the fact that I was changing the mechanism of the gaze or identity and race.

I believe that objects which respond to the immediate socio-economic environment and its people will become increasingly important to contemporary craft discourse. In recent years, collaboration has become an integral aspect of my research, allowing craft, philosophy and science to confer. The work I am about to discuss is a direct outcome of two of these collaborative efforts. There are various reasons why one might consider a collaboration and I have come to realise just how much the initial intent impacts on the final outcomes. In one instance individuals may meet, enjoy each other's company and decide to do something together. Clearly this undertaking is extremely open ended and can result in a struggle to bring to a worthwhile outcome. Alternatively, people might choose to participate in a framework specifically calling for collaboration; such as a commission work or a call for cross-disciplinary collaboration. Both of these latter scenarios provide a clear framework for collaborators, who tend to get involved based on shared interest, rather than allure, which in turn allows for a valid exchange and outcome. Then again, a group of people may be attracted by shared subject matter and decide to explore mutual themes through individual contributions towards a collective outcome. Not unlike the first example, this circumstance is also self-governed, but can be highly effective when combining existing research efforts from differing practices to present a shared subject matter across disciplines.

Above all I have come to understand that collaborating beyond art and craft disciplines provides new ways of seeing one's own practice and propels ideas into new territories; it is precisely for this reason that I want to unfold my work for the exhibition *forged* through Dr. Pravu Mazumdar's eyes. In a letter towards working together Dr. Pravu Mazumar wrote: *"*As a writer on topics connected with postmodern philosophy and political theory, I have been dealing with what I call "dispositives of identity" since several years. These dispositives, which compel us to assume an identity in order to be able to participate in the elementary algorithms of modern everyday life, include the passport, the coin, and, in a general mode, collective rituals like football, all of which function to give us the stamp of a national identity.*"*

Figure 2
Zellmer, J. (2010), scan of the author's passport (photograph by the author).

In 2015 Andy Lim from Darling Publications in Cologne published the limited edition book *forged* containing all interviews and a leading essay by Pravu, in which he describes what he observes (2015: 48)

> Johanna Zellmer's project involves symbols like the eagle, sawed out from coins, which are essentially related to national economies, and transformed into 'ornaments' suspended from the ears by means of the plastic tubing used in hearing aids. The metal symbols are perforated with the passport numbers of participants, who are to be seen in a series of photographs only as a left ear and a neck in profile." […] "In bright daylight, the perforation causes a projection of the passport number onto the neck, letting it come to view as digits of light in the shadow of the suspended metal. […] Thus the passport number, symbolising all the information gleaned from an individual and channelled into the archives of governmental power, is 'returned' symbolically to the surface of the individual. The passport itself is emptied of its conventional data and filled instead with transcriptions of the participant interviews. […] The project functions as a 'flow back' of non-standardised biographical data in the mode of documented interviews with participants, based on a set of common questions and focussing on their personal destinies with respect to the issues of national and cultural identity. […] Such a process inverts and neutralises the algorithms of reduction/identification at work in the techniques of filtering, isolating, measuring personal data so typical of surveillance practice, and returns the features extracted and separated from people back to their complex biographical surfaces. […] The national symbol on the passport has been removed, leaving behind a hole, inlaid with the rims of the coins which in their turn have been emptied of their symbolic content to yield the ear ornaments. […] A significant aspect of the project concerns the people participating in it, many of whom have chosen to retain a hybrid identity between their 'old' nationality and the residence permit for their 'new' habitats stamped into the still valid passports of their 'home' countries, where they grew up and with which they still identify to a certain extent. In a sense, people, […] in whose biographies the global dispositives of national identity can be said to have become dysfunctional […].

Figure 3
Zellmer, J. (2013), passport booklets and currency from the exhibition forged (photograph by the author).

Figure 4
Zellmer, J. (2012), during interviews
(photographs by Chris Reid).

For the purposes of this essay the following four excerpts (2015: 122) from the transcribed interviews are selected to give an insight into the nature of the research findings.

What were your reasons for leaving your country?

> […]Our son was born in 1984 and that was all good and then Chernobyl happened, the big explosion of the nuclear plant and we're quite disheartened really by the reaction of even the Greens in Munich who tried to sort of minimize the damage there and then. The minister sitting in front of the television and sort of ate the milk powder and you know, completely radioactive 10,000 tons of milk powder and he just used a spoon and water and said "Look, nothing happened." And the rain was coming down was radioactive; […] in the meantime we organised information evenings and also got our garden measured for radioactivity. And it was quite amazing; it was like you wouldn't be allowed to move in the garden without protective gear.

Do you know which symbol is used in your passport to represent its country?

> The eagle. I just remember some time - must be years ago - when I read that the eagle, the symbol in the parliament, it gets the better the times there was more food around, the eagle got fatter and bigger; the symbol in the parliament, they have a big eagle there and in the Weimar Republic they had one which was very skinny and in the sixties and seventies they had one which got bigger and bigger, it's quite interesting.....probably wouldn't be able to fly.

If you obtained another new citizenship, what were your considerations?

> I did actually and this happened last year on 3rd December; hmm listen, New Zealand puts a roof over my head, New Zealand puts a plate of food on my table; I feel that this is where I want to live and die. […] When people ask me "Are you a Kiwi?" - I often say the only time I will feel Kiwi is if I have a Kiwi passport. I think my Kiwi-ness is not determined by any other thing, you know, people will say "Oh yeah, you'll never be a Kiwi, because you weren't born in New Zealand". To me, I think that is a whole lot of rubbish, I define my Kiwi-ness by virtue of my passport, which is why it is really important for me to get that passport.

Do you identify with being ☐ New Zealander, ☐ Asian, ☐ Pacific Islander, ☐ European, ☐ Pakeha or ☐ Other?

> At this point in life I would probably say New Zealander, yes; if you're asking me how I identify myself, then yes, I am a New Zealander, but if you're asking me about what race I think I belong to than it would be Asian. And when I go overseas for study purposes, people ask where I am from; I do say I'm from New Zealand. Yes, it's very interesting how - even though one's personality, I mean nationality hasn't changed - but one's view of oneself has certainly changed. The thing is - I suppose part of that change is - also when you go back to your country of origin, people don't see you as you know the person you used to be any more.

Figure 5
Zellmer, J. (2017), dyed and printed PET Lanyards. Illumina flow cells; cut, drilled, fused and glued (photograph by Emily Davidson).

ACCess mATTers – Trio

Over the previous four years the Dunedin School of Art and the University of Otago have organised annual Science Series Art Projects, for which artists work with scientists from the University of Otago, individually or in small groups, to develop artworks relating in some way to the sciences involved. I first encountered Aaron Jeffs work in 2015 when he presented his

research for a potential Art & Light project collaboration. It was through this initial encounter that I started to consider the advance of technology in human genome counting and its implications for the inclusion or exclusion of migrants in our capitalist societies, nowadays so closely related to the American sci-fi movie Gattaca (1997). *The 2017 project* was offering a collaboration with Genetic scientists and deemed "Genetics" to be interpreted in a broad context, from epigenetics to the Pacific concept of whakapa. My decision to participate in this cross-disciplinary project has set in motion an emerging new body of work titled 'fused'. Three pieces from this ongoing work have been exhibited in the Otago Museum in Dunedin, New Zealand as part of the public exhibition *Art and Genetics*, which showcased the culmination of the many diverse collaborative projects after a period of six months. My work with Aaron Jeff's was titled *ACCess mATTers – Trio,* for which a commemorative coin from each of the three Eurozone nation states – Monaco, San Marino and the Vatican – was initially forged square and then flattened to resemble a credit card or tag stamped with genetic code.

Figure 6
Zellmer, J. (2017), four hot forged Commemorative Sterling Silver Euro coins (photograph by the author).

Jeff's knowledge and lab materials became instrumental in shaping this new work. The genetic code bears an acronym by Pravu Mazumdar, which run across the whole set of coins. Each coin card carries a heat treated slither of a used genetic slide. These metal cards are further paired with a fused glass card from cut and re-assembled flow cells, as well as a red lanyard with the starry symbol of the European Union. Fusing the flattened currency with the glass of genetic flow cells - now filled with a pair of eyes from a passport photo - offered an unexpected new alliance for the overarching concepts of nation states, access, objects as symbols and identity politics. The eyes are those of migrants, whose data will be captured on the small paper certificates that arrive with the coins, tucked inside their precious, now emptied satin boxes. Consequently these sets of encoded objects question the role of 'jewellery' in future political climates.

Figure 7
Zellmer, J. (2017), commemorative Sterling Silver Euro coin Honoré II - Prince de Monaco; forged, rolled and stamped; self-adhesive printed film; Illumina flow cell glass, fused and glued (photograph by the author).

Conclusion

Molly Nesbit, the award-winning emerging artist at the 2009 Venice Biennale, with reference to issues of sustainability in our times, once wrote "The arts are entering the space outside themselves, looking hard to the future". In recent years craft practices have reacted to the so-called *social turn*2 and developed strategies to re-define a sense of collectivity and aspects of participation. Capturing discourses and manifestations of social encounter have emerged as an essential part of craft practices, creating a space to meet the Other and each other. Jewellery objects fulfil this role in the everyday, enabling practitioners to place their work at the heart of contemporary discourses of participation. With this in mind I would like to return to the 1993 Whitney Biennial, in which Byron Kim showed his ongoing work Synecdoche. The work is comprised of a multitude of small panel paintings in beige, brown and pink hues, arranged in a grid pattern. While appearing as an abstract work of art, every panel represents a portrait of an individual's skin color. In fact, the portraits refer to persons belonging to Kim's immediate community, who are reduced in this work to small panels matching their shades of skin colour.

It is in this light that I am reflecting on the recent efforts by craft practices to re-define a sense of collectivity and aspects of participation; I am viewing these as being central for valid contributions to our socio-economic environment. In conclusion then surely, what ought to shape our craft processes in times to come are the physical human encounter and the experienced understanding of a specific place, its cultural and political characteristics and its community; allowing us, as Nesbit says, to look hard to the future.

Figure 8
Zellmer, J. (2017), dyed and printed PET Lanyard, commemorative Sterling Silver Euro coin Vatikan City *Ioannes Paulus II - World Day of Peace*; forged, rolled and stamped; self-adhesive printed film and illumina flow cell glass, fused and glued
(photograph by Emily Davidson).

Note

The following is an abridged excerpt from the panel discussion presented by the Institute for Diversity in the Arts (IDA) at Stanford University on May 6, 2013. The panel included the artists Kori Newkirk and Daniel Joseph Martinez and the curators Elisabeth Sussman and Connie Wolf. Jeff Chang, the executive director of the IDA, gave the introduction and moderated the panel, which frames the notion of post-identity through the lens of the speakers' experiences of the 1993 Whitney Biennial and its cultural impact.

Concepts such as social innovation, social media, social capital, social art or social design have become pervasive in the past years. Categories such as participatory art, relational aesthetics, community-based art, social design or craft as social practice have emerged. Craft artists and designers share strategies in order to critically investigate the making of and living with things, which means constantly reshaping forms of (post)human co-existence.

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Johanna Zellmer completed a formal apprenticeship as a goldsmith in Germany and a masters degree at the Australian National University Canberra School of Art. Her research interests are the construction of national identities and cross-cultural matters. Dr. Pravu Mazumdar discussed her projects in his keynote for *Schmuck* 2013 at The International Design Museum Munich; this text is published online. Her work has been exhibited in Australia, Korea, Germany, The Netherlands, Italy and New Zealand and is held in public collections internationally. She calls a small farm in Dunedin 'home' and works as lecturer and Artists-in-Residence Coordinator at the Dunedin School of Art.

Tsion Avital, *The Confusion Between Art and Design*: *Brain-Tools versus Body-Tools*, translated by Judy Kupferman (Wilmington, Delaware, USA: Vernon Press, 2017).

Tsion Avital is professor emeritus of philosophy of art and culture of the Holon Academic Institute of Technology, Israel. He also has a long association with the *South African Journal of Art History* as contributor, referee and international advisor.

The book under review is his second great opus. The first is entitled *Art Versus Nonart: Art Out of Mind* (Cambridge University Press, 2003), in which, as the publisher's introductory note states, Avital poses the question, "Is modern art at all?" And explains: "He argues that all of the nonrepresentational art produced in the twentieth century was not art, but rather the debris of the visual tradition it replaced. Modern art has thrived on the total confusion between art and pseudo-art and the inability of many to distinguish between them. As Avital demonstrates, modern art has served as a critical intermediate stage between the art of the past and the art of the future. This book proposes a new way to define art, anchoring the nature of art in the nature of the mind, solving a major problem of art and aesthetics for which no solution has yet been provided. The new definition of art proposed in this book paves the way for a new and promising paradigm for future art."

Since the last decades of the twentieth century art lovers and art historians have realised that something is rotten in the art world. The confusion arose because the modernist authoritarians of the art world decide arbitrarily what art is, without a sound basis of theoretical judgement. Then Tsion Avital rose to the occasion and in *Art versus Nonart* (2003) he formulated a theory of mindprints to distinguish art from non-art. Figurative art, the art paradigm that lasted for more than thirty thousand years had actually run its course by the first decades of the twentieth century. However, so-called abstract or nonrepresentational art could not become the new paradigm, because it is neither abstract nor art. In the present publication, *The Confusion Between Art & Design* (figure 1), Avital renews his stance on what art is, but broadens the scope of his research to argue about the differences between art and design and the reasons why these disciplines are generally confused.

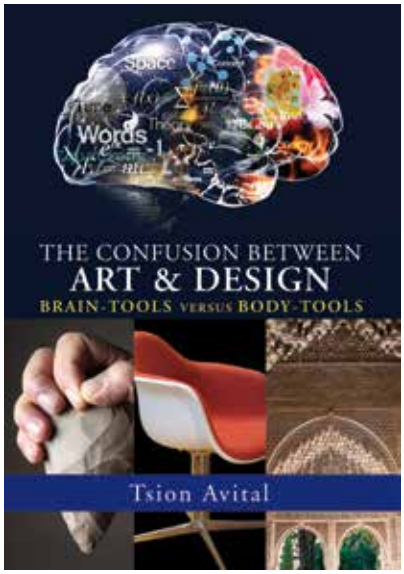

Figure 1
The front jacket design by Bob Orel includes upper and lower "mind collages" of representation in the book (courtesy of the publisher).

Both prehistoric and historic factors contributed to the confusion, but Avital's succinct diagnosis is "that the most dominant factor in the confusion between the two areas in the past hundred years is the total chaos reigning in modern art" (2017: 12). The founders of modern art, Kandinsky and Mondrian attempted to express the inner world without external content. They and their followers reduced art to its conceptual components: colour and form, thus achieving only a form of trivial graphic design.

To explain the difference between body-tools (design) and brain-tools (art), Avital postulates three levels of reality (figure 2). First order reality consists of perceptual nature and of all objects created by human beings, including those of design and technology which are mostly body-tools. Second-order reality or brain-tools consists of all images and symbol systems and their products. However, brain-tools are dependent on a third order reality, designated "mind-tools", which are structuring or organisational tools, which Avital calls "mindprints".

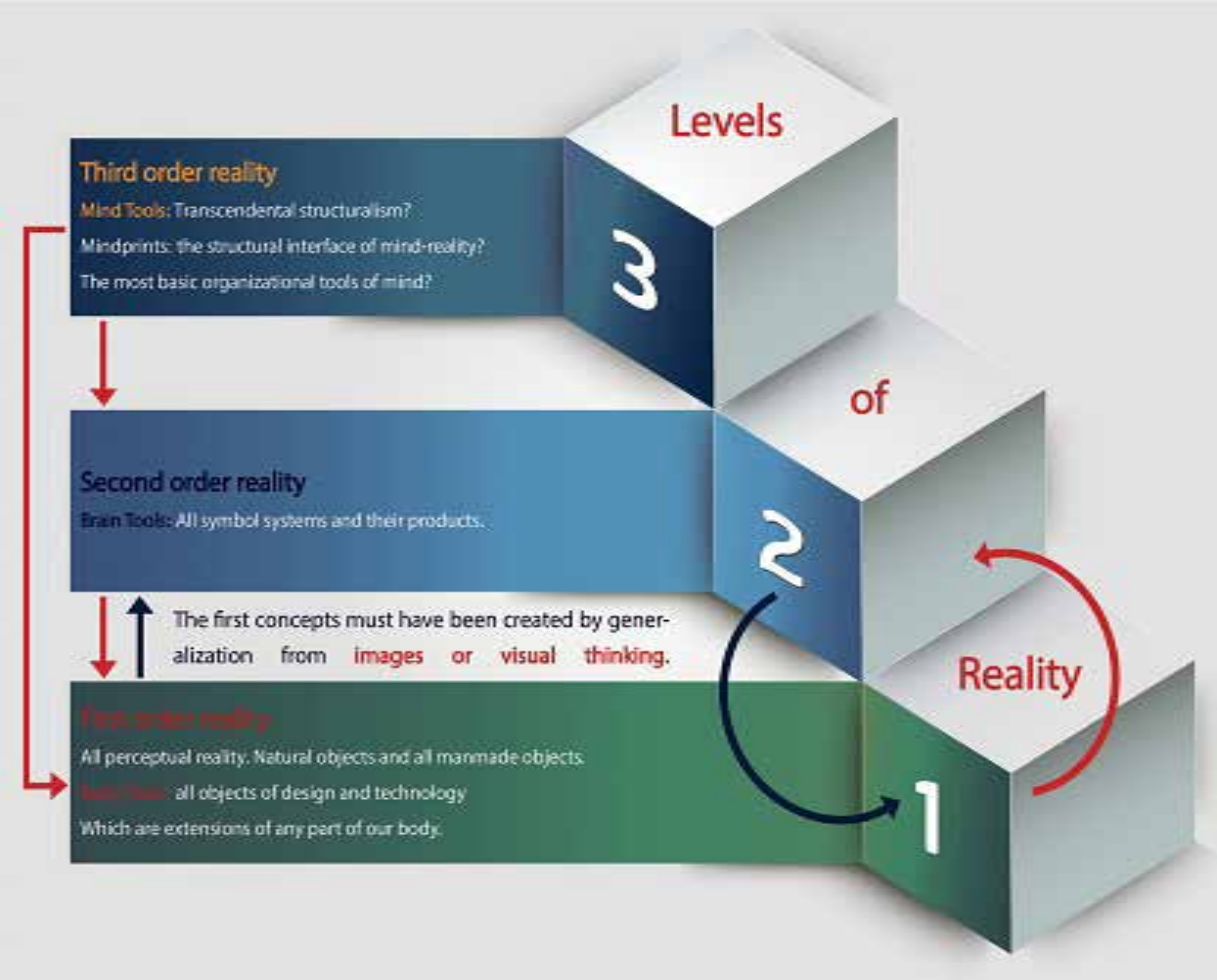

Figure 2
Diagram of levels of reality (courtesy of the publisher).

Design originated in tool-making for instrumental functions. The first type of tool is the body-tool, serving most often as an extension of some part of the body, a wide category that includes all tools and objects made by human beings. The most basic tools, hand tools serve as extensions of the hands. Secondly, there are receptacles that include an inner space, as well as connectors and containers. Thirdly, there are processors, a combination of cutting and connecting

tools, such as mortar and pestle and grindstones. Furthermore, clothing, gloves, hats, socks and shoes can be seen as extensions of the skin. The world of objects created by human beings, such as the products of industrial design, as well as architecture and fashion design, serve as a code in some sense and is saturated with meaning.

Brain-tools belong to second order reality and are all symbol systems: visual, verbal and formal. They are the precondition of body tools and in a larger sense they are the indispensable condition of culture and all of its domains, including design and technology. All areas of culture that use symbols belong to the world of brain-tools, comprising figurative art and sculpture, photography, science, philosophy, mathematics, logic, literature, poetry and drama, etc. It does not include the areas of design that are object orientated, nor any of the products of what is called "abstract art". The reason is that unlike figurative art one does not need a preconceived image for making an "abstract" painting that is created by smearing or spraying paint spontaneously or randomly. However, geometrical "paintings" by Mondrian, Malevich, Rothko, Albers, Vasarely and representatives of the "Op Art" movement are exemplifications of elementary or complex geometric shapes. Avital (2017: 108) explains: "These works are not art because these geometric shapes are not a *generalization or symbolization* of squares, rectangles, circles etc. but quite the reverse. They are special cases of the *concept* of the square, rectangle, etc. And so these paintings are distinctive examples of graphic design."

Avital (2017: 90) distinguishes clearly between art and design in a simple statement, that "design gives form to objects, whereas art gives form to symbols". Thus: "[W]hen we paint something in figurative art, we leave the world of objects and ascend to the world of symbols" (Avital 2003: 390), that is to the second order reality and higher.

By introducing the third-order reality, Avital (2017: 111) states: "*Culture is the totality of brain-tools and their products.*" These tools include "mindprints" which are explained in *Art Versus Nonart* and summarised in the section on third-order reality. It will suffice here to explain that they are the structural interface between mind and reality, explained as follows: "An artist unconsciously applies the mindprints in order to create *symbols*. In contrast, the designer unconsciously applies the mindprints in order to create *objects*" (Avital 2017: 112).

In Chapter 4, titled "Art versus design: A horde of contradistinctions" the author postulates 91 such distinctions – too many to summarise. Therefore I will quote only the gist of number 2: "The starting point of both the tool maker and the artist is a certain image. The difference is that while the tool maker uses the image as a template for the construction of any number of a specific tool or objects, the artist uses the image in order to make pictorial symbols" (Avital 2017: 204).

The last chapter deals with the confusion between art, design and icon in religious art. The purpose of the chapter is to discuss the art and design of the three monotheistic religions: Judaism, Christianity and Islam. The discussion shows that in these religions paintings and statues were not perceived by iconoclasts as works of art, but as idols and icons because such works were perceived as holy substitutes for the holy subjects described therein. The subjects as substitutes and not visual symbols or representations for them disqualify such paintings or statues as works of art. The magical use of figurines preceded monotheism by hundreds of thousands of years and the magical use of paintings preceded it by tens of thousands of years. The blurring between image and object stems from the similarity inherent in them. Monotheistic religions all forbid idol worship. The significance of art and design in the religious context is complex, especially if the basic distinction between art and design, which is based on the

distinction between symbol and object, is erased. Consequently, Avital (2017: 305) resolves the dilemma by stating explicitly that an object's holiness disqualifies it from being art, by stating that holiness and art are mutually exclusive: "*If it is holy it is not art, and if it is art it is not holy"* (Avital's emphasis).

Even this brief overview of the contents of *The Confusion Between Art & Design* should convince the reader that Avital deals with contentious issues regarding reality, art, design, mind, religion and various other themes. I can imagine that some art historians and art dealers will not be persuaded that so-called abstract art is not art at all, or that religious paintings and statues that induce worship are likewise not art, but substitutes for what is depicted. Architects that venerate their craft as a social "art" or designers who appropriate themselves the status of artists and refer to "the art of design", might wish to prove Avital wrong. That will be difficult to do. Whatever Avital postulates about art and design he argues elaborately and proves convincingly. The text is elaborately illustrated in colour, with the figures in all sections arranged in groups with captions and explanations that support references to works or relevant items. Indeed, the layout of the book is excellent and very modern in its approach to our visual sensibility.

Avital envisages a third book about culture, the issue he confesses that he evaded in the present book. In order to answer the question: "what is culture?" he anticipates that "an immeasurably deeper Odyssey is required than that required for writing my previous book and the present book" (Avital 2017: 370). It title will be *Mind and Culture in a Structural Key.* We have already had a glimpse in the third-order reality of mind-tools which refers to "transcendental structuralism", which – let us hope! – will initiate a new visual paradigm.

I recommend Avital's books to all intellectuals interested in culture, art and design. They should also be on the reading list of academics involved in the teaching of art and design and of their students. Besides, it is never too late for artists and designers to inform themselves about what constitutes their professions, as well as the differences between their professions.

Estelle Alma Maré