

**A CRITICAL SOUTH AFRICAN RESPONSE
TOWARDS A MODERN HANDCRAFTED DIALECTIC ARCHITECTURE**

The design of a collaborative skills development facility in Durban

By

C A M E R O N F I N N I E

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requirements for the degree of Master of Architecture to the
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Dissertation Document

2012

COLLEGE OF HUMANITIES

DECLARATION - PLAGIARISM

I,, declare that

1. The research reported in this thesis, except where otherwise indicated, is my original research.
2. This thesis has not been submitted for any degree or examination at any other university.
3. This thesis does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.
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Signed

.....

“While most buildings springing up in cities all over our modern world are still conceived in the human imagination, they are realised through a series of intricately connected architectural, industrial and economic ‘systems’. This state of affairs is partly due to the enormous pressures brought to bear on architects and construction companies to produce a variety of multi-functional buildings under strict deadlines and budgetary constraints. As a result, there are very few traces of human intervention – in the form of craftsmanship – in many new commercial and industrial buildings. By contrast, the signs of the systems and machines that make these buildings are everywhere apparent. Human intervention in the architectural process has shifted from conceiving, crafting and assembling, to conceiving, assembling and managing; machines and technology have, by and large, replaced the autonomous processes of art and craft so that the creative authority is now vested in the hands of a few specialists.”

Andrew Makin cited in Art and Justice (2009:37).

“Twentieth century architecture was dominated by steel and the big-business values that came with it; the twentieth century promises to be far more diverse, combining traditional, industrial and yet-to-be-invented materials in unexpected ways that make the most out of their varied potentials rather than encourage the adoption of standardised solutions.”

Richard Weston (2003:35).

III **DECLARATION**

I declare that this dissertation is my own unaided work. All citations, references and borrowed ideas have been duly acknowledged. This document is submitted in partial fulfilment of the requirements for the degree of Masters in Architecture at the Faculty of Social Studies and the Built Environment, University of Kwa-Zulu Natal, Durban, South Africa. None of the work has been previously submitted for any degree or examination in any other University.

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15 March 2013

Date

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V DEDICATION

This is dedicated to my parents who have given me endless support. Thank you for allowing me to fulfil my aspirations throughout my years as an architectural student and keeping me motivated (*and sane*) with your steady words when I needed them most.

Which was often.

You both mean the world to me.

Thank you for everything.

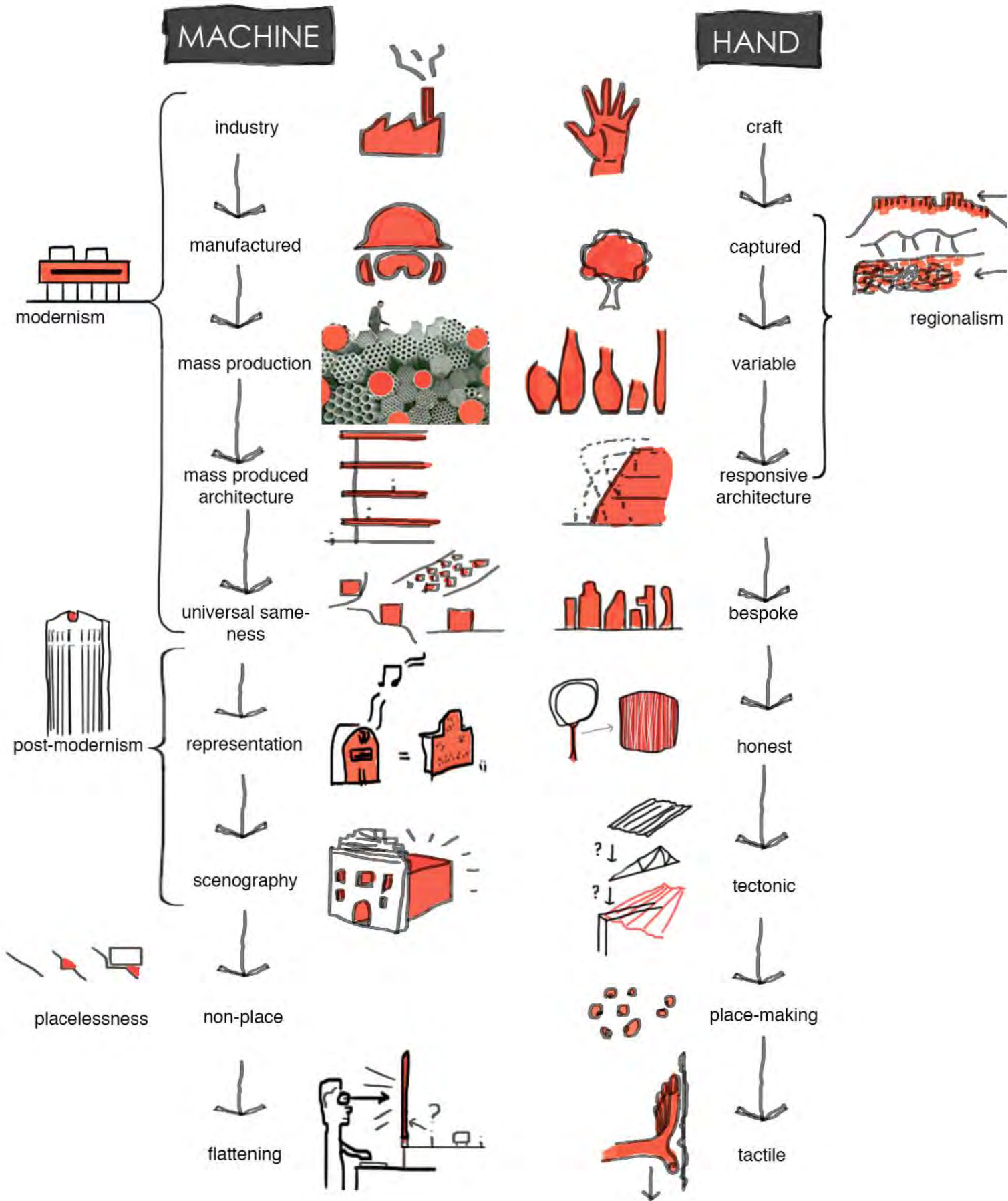
VI ABSTRACT

Since the turn of the 20th century, industrialisation and technological development of the machine has brought about mass production of almost everything from spaces, food, environments, experiences, and architecture. The dominance of **machine**-based processes has diluted the experience of the hand-made environment, once rich with tactility, quality, honesty, and craft; by means of reproduction and standardisation (Frampton, 1983). This has inevitably created a “*universal sameness*” (Augè, 2008:xii) which spans the globe and reiterates what Ricouer (1961) declares as the formulation of a ‘*Universal Civilisation*’. Modern Architecture, which is formulated exclusively through machine construction methodologies, has also influenced a sense of “*placelessness*” (Frampton, 1983:26) whereby the built environment is facing a surge of monotonous machine generated interventions.

Within a predominately machine built environment, there are, however, concurrent calls for a reflective engagement of **Craft** (Pallasmaa, 2005). Although craft has not disappeared, there is a weakening of one’s connection to an ‘*existential ground*’ (Pallasmaa, 2009) through the advent of the machine and its ability to render mass-produced environments that are not necessarily honest to its place and its inner workings (Pallasmaa, 2009, Sudjic, 2008). A more directly hand-made crafted architecture could then, by definition, have the ability to respond and reignite one’s existential ground and strengthen one’s relationship with the built environment. This could then have a direct influence for one’s reconnection and experience with architecture in the progressive yet inhumane machine-built environment so evident in the Modern world today.

This dissertation sets out to explore where architecture is positioned within the 21st century of universal technique, standardisation, industrial processes and contemporary consumer culture. A dialectical method will set the discourse of the research, which is made up of 3 components. The *thesis*; being architecture as a **Machine**, the opposing *antithesis*; being architecture as **Craft** and the *synthesis*; being architecture as a **dialectic modern handcrafted**. This dissertation seeks a unification of machine-built and hand-made technologies through machine processes richly layered with craft, that may well perpetuate a progressive and responsive **modern handcrafted dialectic** architecture in South Africa. This research could then be implemented towards the design of a collaborative skills development facility in Durban.

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Fig_1.0 : Authors mind map demonstrating the effects of the machine and hand on architecture.

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PART ONE
THEORETICAL FRAMEWORK

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PART ONE
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IX

DEFINITION OF TERMS

ARCHITECT : noun.

- A person responsible for the design of buildings. Also historically involved in the supervision of construction.
- A person concerned with the realisation of particular ideas and or projects.

Originates : Greek : *arkitekton* – “*arki*” : chief and “*tekton*” : builder or carpenter

Old English : “*heahcraeftiga*” : high crafter.

Etymologically, “Architect” originated from the words “Chief builder” and was also considered as a *high crafter*. In terms of this dissertation, the term *architect* refers to the notion of a *high crafter*.

BUILD : verb. (built) *past and past participle*.

- to construct or put parts / materials together.
- Incorporation of something to make it a permanent fixture onto an existing structure or system (*build in*)

When the word *build* appears in this dissertation, it is done to reflect the process of machine-based method of production; the distinction of *Built* as opposed to *Made*.

CRAFT : noun. (craft-ed) *verb*.

An action of producing, constructing or making; concerned with skills of the hand.

Originates : Old English : “*craeft*” : power, physical strength or skill.

Dutch : “*kracht*” : strength.

When the word *craft* appears throughout the dissertation, reference is made to the making of something, utilizing the skills of the hand. (See **make**)

DIALECTIC : noun. (Dialectical) *adjective*

- “*the art of investigating or discussing the truth of opinions.*”
- “*enquiry into metaphysical contradictions and their solutions.*”

Originates : Greek : “*dialektike*’ ” : (tekne’) (art) “*the art of debate.*” The term “dialectic” was referred to as “*various methods of reasoning and discussion in order to discover the truth.*”

The dialectical method of reasoning is done by stating a thesis (a reaction), an anti-thesis (counter-reaction) and resulting in a synthesis (the unification of the two). A dialectic method constitutes a progressive and positive process driven approach by means of a productive

interchange, where both sides are taken into account simultaneously, and the resultant is an evolving integration of both sides. In terms of the dissertation, the term *dialectic* refers to the notion of a progressive cohesion of two parts to form a synthesis. To form a dialogue, a mutual conversation, concerned with a simultaneous appreciation, not just one side.

EXISTENTIAL : noun (Existentialism) mass noun (Existentially) adverb

- A human notion of existing
- The notion of “*being-in-the-world*” (Heidegger, 1971:147).
- “*condition of existence*” (Kierkegaard, 1855, www.etymonline.com)
- *Existentialism* refers to the theory concerning ones existence as individual person; responsible for their own existence and developments through life.
- “*A genuine artistic and architectural experience is primarily a strengthened awareness of self.*” - Pallasmaa (2009:132)

INDUSTRY : noun. (Industries) *plural*.

“*Economic activity concerned with the processing of raw materials and manufacture of goods in factories.*” This suggests that certain raw materials can undergo a series of processes by industrial means to create a product.

Originates : French : “*industrie*” : diligence or skill (1530's) trade or manufacture (1560's) and systematic work (1610's).

MAKE : verb. (Made) *past ad past participate*.

- To form something by combining parts / materials together.
- To prepare, compose or arrange

As derived from the etymological stance of the word *craft*, the word *make* deals specifically with the notion of being initiated by the *hand*. Furthermore the act of “*make(ing) up your(ones) mind*” reflects the inherently human nature of the word *make*. Therefore, when the word *made* appears in this dissertation, it is done to reflect the process of hand-based method of production. As included in the properties of *craft*, the word *make* differentiates itself from the word *Built*. This is not to be confused with the noun *Make*, which signifies the model, manufacture or trade name for a particular product.

MATERIAL :

CAPTURED MATERIAL or RAW/NATURAL MATERIAL :

- *Raw*, or primal refers to the initial, first hand experience, ones own unique encounter with materiality, place or memories.
- *Raw material* consists of identical subject matter from where it was captured, or obtained and remains the same composed molecular structure as its finalised form, or product.
- Defined by its primal, natural rawness, its true and most basic state.
- Captured, or raw material is in alliance with a crafted technique. For example; Wood and stone. As opposed to manufactured material, which is built or manufactured by a machine.

MANUFACTURED MATERIAL :

- The production of something on a large scale, often built and assembled through a process with aid of machinery. For example; Steel and glass.
- A mechanical means of production.

Although the etymology of the word suggests that *manufacture* began as a hand derived means of production, only in recent times has the word been used to describe machine-based process. Therefore, when *manufactured material* appears throughout this dissertation, it is associated with that of production of materials through machine processes.

Originates : Latin : “*manus*” : hand and “*factura*” : a working. Hand working.

PLACELESSNESS :

- A position in which a place is subjected into bearing exact characteristics of anywhere else, for example, when sites are merely flattened – irregular to regular, as opposed to the *cultivation* of the site in the form of stepped terraces.
- The notion of “*absolute placelessness*” (Frampton, 1983:26) occurs when site specifics, or peculiarities of a site are overridden by a repetitive universal ideal.
- A forced unresponsive generic model.

REPRESENTATION : noun. (Represent) *verb*.

- An attempt to be similar to something else by duplication, replication or reproduction. Architecturally speaking, this can be described as an attempt to imitate a particular style or material, but generally fails due to the existence of an

original with to compare. Society, by some means, can often distinguish between the *real (original)* and the *fakes (representation)*.

- Frampton (1983) suggests that there is also a “[...] *Consequent distancing from a more direct experience of the environment.*” (Frampton, 1983:29)
- Architectural representation, in the scope of this dissertation, is the form of architecture that *represents* rather than *reflects*. It refers to that of a ‘*scenographic portrayal*’ (as defined below).

Originates : Latin Early 15th Century - “*image*” or “*likeness*”.

SCENOGRAPHY :

- It must be noted here that the dissertation is not concerned with stage design or stage sets, as the word is derived for.
- Rather, the word ‘*scenography*’ here refers a form of Architectural ‘*Scenography*’ (Frampton, 1983:27) and is essentially a distorted stage design where recycled styles are used to provoke a sense of false nostalgia through the use of *facadism*, envelope driven design, or the *representation* as an architectural tool.
- ‘*Scenography*’ (1983:27) inevitably misleads the true experience of the work, as opposed to an ‘*unmasked*’ tectonic architecture, thus described by Frampton (1983).
- It could be argued that ‘*Scenography*’ is an accurate description of what Venturi (1977) terms as the “*decorated shed*” (1977:17), a subjugated a cheap unconsidered stripped out interior wrapped in a decorative, not necessarily functional, envelope.
- A masked or concealed form of architecture where the process is evident; steal, beg and borrow from elsewhere, anywhere, to recreate a shallow representation of the original and a general dismissal of local characteristics, as opposed to a tactile architecture which celebrates a certain tectonic structure.

TECHNOLOGY : noun. (Technologies) *plural*.

- Considered as the practical application of scientific knowledge.
- Regarded to as a “science of the mechanical and industrial arts.”

Originates : Greek : “*tekhnologia*” - “*tekne*” and “*logia*” : “*systematic treatment.*”

TECTONIC : noun.

- *“Building or constructive arts in general.”* A form of art that arises from the elegant arrangement of architectural elements in a building fabric.
- Bötticher (1852) defines the *Tektonik* within architecture is *“the activity that raises this construction to an art form [...] This functionality adequate form must be adapted so as to give expression to its function.”* (Bötticher (1852) cited in Frampton, 1987:27)
- An honest architecture that displays its inner workings and materiality. It is contrasting to architecture exhibiting a *‘scenographic portrayal’* (Frampton, 1983:27).

Originates : Greek : *“tek”* : to make . *“tekton”* : builder or carpenter.

UNIVERSAL CIVILIZATION :

- A concept derived by Ricouer (1961) and cited in Frampton’s *Critical Regionalism* (1983:16), which suggests that society, in today’s modern climate, has been oppressed by an overarching conceptual paradigm of *Universalization*. Whilst simultaneously progressive in its means, *“constitutes a subtle destruction, not only of traditional cultures, [...] but also [...] the creative nucleus of great cultures.”* (Ricouer (1961) cited in Frampton (1983:16).

(Sources, if not directly referenced : oxford dictionary and etymonline.com)

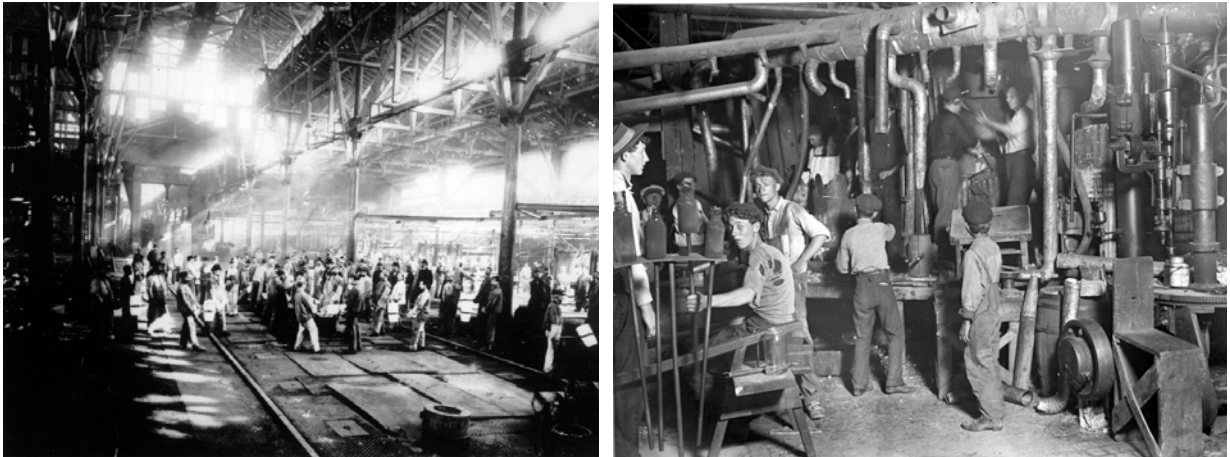
CHAPTER 1.0
1.0
INTRODUCTION

This chapter deals with the research background as well as the critical questions reviewed in the investigation of this dissertation topic; furthermore it details the approach taken with regard to the research carried out. It states the research problem and the hypothesis, which sets out the direction in which the investigation follows and elaborates on key issues.

1.1 RESEARCH BACKGROUND

1.1.1 INTRODUCTION

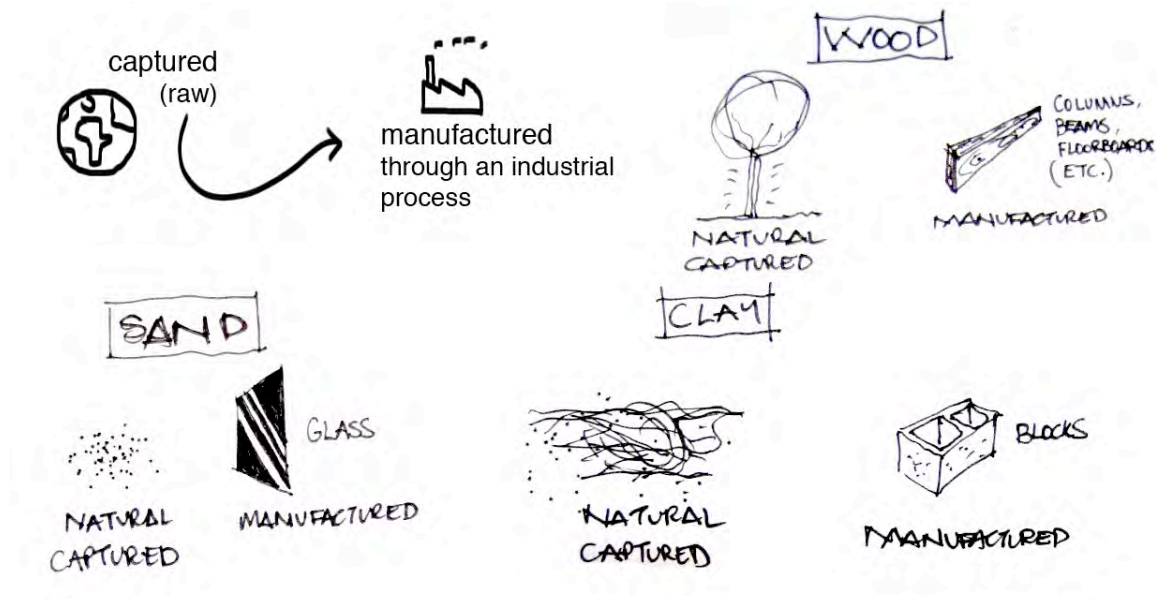
“From the Eighteenth century onwards, Factories have been markers: of revolution, technical and social, of innovation, in design and in process, of their moment, politically and economically.” Gillian (2003:8).



Fig_1. 1 : & Fig_1. 2 : Typical Factory environments in the 19th century.

Civilization has been preoccupied by *“instrumental reason”* (Frampton, 1983:17) ever since the age of Enlightenment, and through modernity (being modern) has attempted to distance itself from history and tradition as being atypical to a particular place (Frampton, 1983). In the 18th century, the advent of the machine, through technological advances of the first Industrial Revolution (1750) and into the second Industrial Revolution relatively soon thereafter (1850), fundamentally necessitated the formation of new building typologies. Machines were capable of producing materials that could both span and last longer than any other material in existence. This was developed into the production of Railway stations, mass housing, departmental stores and inevitably the most crucial type being that of large scale factories. Factories brought the importance of innovation by machines, which could manufacture the most amount of product, at the fastest rate, at the lowest cost, and the lowest price (Gillian, 2003). Although these may not necessarily be negative attributes, the movement into industrial processes and mechanised forms of production, fashioned a general disregard for context and social factors (Sennett, 2008). The mistreatment of human qualities through poor working conditions meant that workers were often kept unhappy, unhealthy, unmotivated, and uninspired by the space within which they worked (Gillian, 2003, Sennett, 2008). In addition, it was clear that the factory environment was not conducive towards basic human needs, as it was designed purely for machine production (Refer to Fig_1.1 & 1.2).

The machine essentially set the tone for quality control as it could reproduce at a greater rate and of a standard quality which almost impossible to obtain with a human-only workforce (Sennett, 2008). Production time was a major factor for the replacement of human-only production lines, and assembly teams, with machines (Gillian, 2003). However, it was not until the turn of the 20th century, where the merger of mass production and the “*new fascination with the machine*” (Gillian, 2003:8) and its workings, inspired various types of manufacturing processes.



Fig_1. 3 : Examples of captured, or natural materials, which undergo a process to become a manufactured material.

The majority of materials that are manufactured through machine processes are devoid of influence, responsibility and honesty from which the original material was obtained (Benjamin cited in Leslie, 1998) (Refer to Fig_1.3). The experience of the material arrives into the possession of the factory worker as arbitrarily as it arrives; there is often no connection to the harvesting and the implementation of the material. These monotonous industrial processes of the “*factory drill, de-skills operators*” (Benjamin cited in Leslie, 1998:7) and the actual experience of building or creating has been subjugated due to industrialisation, leaving people isolated from a tactile notion of making. Steel was the ubiquitous material because of its ability to be reproduced everywhere, however, it did however “*facilitate the dilution of skills*” (Gordon (1988) cited by Weston, 2003:28) of workers. The material also eased the transition from human based production to machine based production as it required a minimum of crafts skills and it enabled further aspects of mechanical production to occur (Weston, 2003). Through the scrutiny of manufacturing processes, the standardised material is reproduced to exhibit the exact qualities of surface, finish, malleability, vivacity and even

colour, as the previous component. Again, production time played a major role in this controlled environment of production and its rows upon rows of standardized mass-production lines.

“Moderns have held a positive attitude toward technology because machines, science claims, will free us from the drudgery of place-bound tyrannies.” Moore (2001:437).



Fig_1. 4 & Fig_1. 5 : Typical nature-inspired fabrics demonstrating the general decorative aesthetics of the Arts and Crafts movement.

A reaction to the advent of industrialisation was formulated through The Arts and Crafts movement, which was prosperous between 1860 and 1920. It was regarded as an anti-industrial movement that celebrated the notion of human tactility with products over machine-based processes. Essentially created as an aesthetic and natural counterpoint to the machine and its ability to mass-produce various elements of design. Suggesting a newfound process of making, which opposed the machine, built techniques, which often utilised artificial materials, such as steel and glass. Sudjic (2008) notes that William Morris was an influential promoter for the Arts and Crafts movement and designed nature inspired fabrics and designs, which was a reaction to the machine, a form of resistance of the inhumane nature of application by a machine (Refer to Fig_1.4 & 1.5).



Fig_1. 6 : The Arts and Crafts movement, towards the later part of the 19th century, had profoundly influenced almost everything from architecture, art, photography, craft, stained glass, embroidery and almost all other forms of design in existence at the time. Architect Eden Smith, Toronto.

However, although the Arts and Crafts movement was formulated merely as a decorative counterpoint to the means of machine production, architects around the world, consciously or subconsciously, began to manipulate form and celebrate material, paying homage to the idea of craftsmen and craftwork (Refer to Fig_1.6). Morris believed that the secret to producing significant and expressive design was by enjoying the pleasure in the labour of the work (Benjamin cited by Leslie, 1998, Sudjic, 2008). The philosophy of traditional handcrafting was emphasised by being true to material and accentuating quality over quantity, and process over product by the notion of making.

A counter-reaction was illustrated by the formulation of the Bauhaus movement, which was inevitably the inauguration of Modernism, which distinguished itself against Arts and Crafts by evolving into a style of simple form making, anti-ornate, strict, and ordered. However, although society may have progressed in today's world, Doxiados (1983) reminds us that the unsympathetic reality still remains that we are still designing for machines, and not humans, as argued by Le Corbusier's '*machine age*' (Doxiadis, 1963) (Refer to Fig_2.1.7). Furthermore, this has resulted in the differentiation of scale and more importantly the divorce between architecture, the built environment, and man, perhaps due to the invasion of either moving or parked vehicles in what was predestined as open public space (Doxiados, 1963). The built environment was originally built by man, for man, and the influx of machines in today's modern age, primarily the influence of technology, has forced society to slowly depart from the notion of a true notion of "*being-in-the-world*" (Heidegger, 1971:147).



Fig_1. 7 : Two pioneers in the machine industry come together. Mercedes Benz Advert photographed in front of Le' Corbusier's Weissenhof housing scheme.

1.1.2 MOTIVATION / JUSTIFICATION OF THE STUDY

“Architecture can only be sustained today as a critical practice if it assumes an arrièrè-garde position, that is to say, one which distances itself equally from the Enlightenment myth of progress and from a reactionary, unrealistic impulse to return to the architectonic forms of the preindustrial past. A critical arrièrè-garde has to remove itself from the optimization of the advanced technology and the ever-present tendency to regress into nostalgic historicism or the glibly decorative.” Frampton (1983:20).

“How to become modern and return to sources; how to revive an old, dormant civilisation and take part in a universal civilisation?” Ricouer cited in Frampton (1983:17).

Modern challenges have appeared in a rapidly urbanizing society with the increase in population, pollution, and various environmental issues, which have essentially created incurable maladies that has, primarily through machine production, placed enormous stresses onto the Earth's natural resources (Girardet, 1992). Mass produced materials and technology, along with the influence of popular consumer culture, has also lead to mass-produced spaces highlighting the exploitation of culture through inauthentic gestures and experiences. The experience of modern architecture has, arguably, lost its grip on the essence of place (Frampton, 1983, Pallasmaa, 2005). This mechanistic epoch is due to architecture succumbing to the representation of a modern, product-based mind-set, which contemporary society has converged to in a form of instant gratification (Pallasmaa, 2005). As cultures are adopting western views of globalized consciousness, the displacement of education, knowledge, and more importantly, tradition is growing and is creating a platform of standardisation and loss of authenticity (Augè, 2008). This forces social awareness to be heavily influenced by the influx of information technology (Augè, 2008).

Although the rapid technological advances in the Western World are solid factors for the current state of *“industrial, mechanised and materialist consumer culture”* (Pallasmaa, 2009:12), it has also prompted the anticipated disconnection of hand and mind. Where the weakening of one's existential ground is at risk of falling into a realm of *‘placelessness’* (Frampton, 2983:26) or *“universal sameness”* (Augè, 2008:xii). This influx has adverse effects on both the production of architecture, through means of a conveyor belt approach (packaged, delivered and assembled on site) as well as an architecture that is shut off from humanity and displaces one from *“being-in-the-world”* (Heidegger, 1971:147). The existential

experience of architecture is falling victim to the hedonistic influx of machines and their ability to “*flattening one’s senses*” (Pallasmaa, 2009:97) and has caused a disjuncture between a tectonic and representational architecture. It is for this reason that architecture needs to understand the paradigm where reproduction and representation are becoming progressively more ambiguous and the possibility of reassuring ones place in the world, or existential ground, is at threat. This dissertation therefore, is motivated by the need for architecture to enforce the notion of “*being-in-the-world*” (Heidegger, 1971:147) through implementing a craft based methodology in the architectural process. By definition, this would bring about a crafted architecture, which is designed, made, and lived by and for humans, which could then retain, respect, and form a coherent existential grounding for society.

The notion of returning *back to basics*, whilst remaining modern is the key to attaining an “*arriere-garde position*” (Ricoeur cited in Frampton, 1983:20) by remaining true to place and refusing to accept decorative nostalgic space as authentic portrayals of reality. Furthermore, the dependence of machines and technology is allowing designers to be in favour of producing unanticipated design created by machine calculation, extrapolated onto a screen into the unknown and unrealized realms of the human mind, as a replacement of human creativity and decision. A more considerate and crafted means of architectural production, as a non-generic process of making could adjust the weakening of one’s existential ground.

There should be a consistency with the reality of where we are and where we live; celebrating the notion of place and people through the process of magnifying local creativity. Augè (2008) also declares that if the world sees itself as a progressive consumer culture, it is speaking very clearly of only one side of the scale. By proposing a dialectical methodology, to be formed as a collaborative process of connecting the machine and the hand, the dissertation will attempt to create a symbiotic relationship between industry and craft within a South African context. A dialectic between machine and human design processes where one enriches the other, and as Ots (2011) declares as an architecture of “*betweenness*” (Ots, 2011:35) that “[...] *does not suggest compromise, but rather a third way that is a middle way with no concessions*” (Ots, 2011:35). South Africa could be the platform for the fusion of machine and hand made architecture; a bridging of two very different, but relevant, architectural languages - not exploiting one another, but rather creating a respectful synergy that responds to both modalities.

By individually deconstructing the influence of the machine and craft on architecture,

a critical understanding of their influences could be obtained. The research will then assess a catalytic blend of machine built architecture and its processes, along with hand made architecture and its own processes to reveal an impending dialectic relationship.

1.2 DEFINITION OF THE PROBLEM, AIMS AND OBJECTIVES

1.2.1 DEFINITION OF THE PROBLEM

In today's modern consumer culture, society is considered to be living within what Ricoeur (1961) refers to as a "*Universal Civilization*" (Ricoeur 1961 cited in Frampton, 1983:16), where society is oppressed by an overarching conceptual paradigm of "*universal sameness*" (Augè, 2008:xii). Modern society has ultimately evolved into an "*urban species*" (Girardet, 1992:1) based on consumption in the search for modernity and is often automatically assumed that modernity is a sign of superiority and to be considered *modern* in this progressive climate is to be interacting with the variety of technological gadgetry that is "*designed to improve the quality of life*" (Moore, 2001:11). In today's post-industrial society, the assumption of being *modern* could be demonstrated by the reliance on machines and technology to replace the actions originally done in person. Modern living also tends to "*reify (or 'thing-ify') moral concepts as places.*" (Moore, 2001:11). In essence, the world is "*drowning in objects*" (Sudjic, 2009:5) and today's society exists within a "*universal Civilisation*" (Frampton, 1983:17) as an "*urban species*" (Girardet, 1992:1) where the conception of mass production, greed, and the advent of the machine can be held accountable for this particular situation.

As a result of industrial processes from the turn of the 20th century, mass production has also affected almost every environment, experience, and act of daily life and often exists only as a means of economic benefit to those in control (Moore, 2001). Mass-production of the built environment is intensifying at an unprecedented rate and is inevitably affected by the ease in which replication and '*representation*' (Frampton, 1983) can be achieved. According to Frampton (1983) the flood of '*Universalization*', through modernity and advanced technology, has inevitably triggered two paths of architectural models. One being "*high tech*" (Frampton, 1983:17), which has fully embraced modernity with the use of optimised technology and machines to showcase materials and structure. The other being the "*compensatory façade*" (1983:17) as a means of masking '*Universalization*', this path could be otherwise regarded to as architectural *sceneography*' (1983:26).

This is heavily influencing the specific peculiarities of a particular place or location, tradition, and removing the notion of a responsive and handcrafted architecture (Pallasmaa, 2009). For example, a competition entry for a building destined to be in Kentucky, USA could be directly implemented in Durban, South Africa (Refer to Fig_1.8). (Source : [hwww.emporis.com/building/88onfield-durban-southafrica](http://www.emporis.com/building/88onfield-durban-southafrica))



Fig_1.8 : A competition for a skyscraper in Kentucky USA went dry and resulted in the winning entry being imposed in Durban, South Africa. 88 Field street. Helmut Jahn.

1.2.2 AIM

This dissertation aims to blend the progressive nature of machine production and the honesty of handcrafted processes through exploring their differentiating, and synonymous, means of design and construction. It intends to investigate the catalytic synthesis of **machine**, (product based) and **hand-made** (process based) architecture through a dialectical method of cooperative processes. Furthermore, it aims to establish how architecture is experienced in the modern age of technology and how the authentic and tactile experience of making through crafting could be harnessed to form a coherent dialectic Architecture within the South African context.

1.2.3 OBJECTIVES

The application of modern ideals on an unsuspecting local climate is often observed as an optimistic “*top-down*” proposal. Therefore, to identify an appropriate and responsive means of architectural application, this dissertation will address a more sustainable “*bottom-up*” approach through a catalytic blend of machine and hand made processes. The objective of this study therefore, is to uncover to what extent machine built and handmade processes can play a role in creating a responsive South African architecture. How can architecture engage a mutual coherence between being machine “built” as well as hand “crafted”, to meet on an

existential ground? Through research into the evolution of machine and hand made architecture a critical analysis will be constructed.

The outcome could provide suggestions and formulate guidelines for a non-generic model to be implemented. The study will assess and address the opportunities and constraints through case and precedent studies, historical analysis, interviews and surveys. This dissertation intends to explore the research problem through a dialectical method, broken up into 3 parts; *Machine*, *Craft* and *Dialectic*, and in its discourse endeavours to:

THE EVOLUTION OF MODERN ARCHITECTURE AND WHERE CONTEMPORARY ARCHITECTURE IS CURRENTLY :

- » Examine the fundamentals of **machine** built architecture, exploring the effects of the machine globally as well as the influences on the South African context. Furthermore, how society has been subjected into a '*Universal Civilization*' and what can be done to engage, rather than oppose, the phenomenon? By exploring today's paradigm shift of representational environments for universally modern times by investigating '*Non-places*' (Augè, 2008), '*Placelessness*' and '*Scenography*' (Frampton, 1983).

WHAT HAS BEEN NEGLECTED :

- » Investigate, in contrast to mass production, the processes of **craft** and how that process could be translated into an architectural intervention. Investigate craft and the notion of an existential ground that is brought about by the presence and importance of humans in the process of making. And inevitably, uncover to what extent handmade and craft methodologies have an influence on the built environment.

WHAT CAN BE DONE :

- » Differentiating *manufactured* (machine built) and *captured* (obtained raw / natural) materials, and attempt to establish the means for a **dialectic** between the two, to combine the various attributes found in both to form a coherent tactility and honesty in Architecture. Finally reviewing the potential for dialectic architecture to move towards a dialectical method that celebrates both universal and local technologies to render an honest, relevant, and responsive architecture in South Africa.

1.3 SETTING OUT THE SCOPE

1.3.1 DELIMITATION OF THE RESEARCH PROBLEM

The researcher understands the greater subject body this dissertation could contain and also acknowledges that the scope of this dissertation will have a larger social impact, however this will not be the focus of the literature.

A dialectical method will be implemented and the delimitation of the literature will be broken up into three headings: The *thesis* being the Machine, the *anti-thesis* being Craft and the *synthesis*, being the dialectic.

The *thesis* will investigate the nature of machine-built architecture, but will delimit the scope to the notion of product-based architecture and its development by investigating machine-built architecture from the turn of the 20th century onwards. There are various departure points for theories in Postmodernism, however it will be investigated through the concept of architecture as representation, which is then delimited to include only that of ‘*scenography*’, it will not endeavour to research Renaissance theories of art, measurement, perspective and style.

The *antithesis* subchapter focuses to deal with the complex theory of Phenomenology which will be delimited to contain that of Existentialism, (as defined in the definitions of terms). This will be observed through Pallasmaa’s (2009) concept of the ‘*Thinking Hand*’, which entails the existential grounding of humans and accentuates the human hand through crafting processes in a predominately modern technological era within which we live.

The *synthesis* intends to focus on the literature described above, and will utilize theories discussed throughout the literature review. By simultaneously developing positives from machine and craft based processes, a critical response towards a handcrafted modern tectonic architecture could be achieved. This dissertation will not set out to generate a universally applicable set of rules and guidelines, as it stresses an architectural methodology that is derived as a fundamentally specific response to a particular context.

1.3.2 STATING THE ASSUMPTIONS

This dissertation assumes that over-exposure to technological advancement is resulting in a level of standardisation, and sameness within the architectural realm. Furthermore, it is assumed that the mechanised, automated, and consumerist society (as a by-product of

technology) is weakening ones tactile connection to the world, disconnecting one from an existential, lived experience of reality in space and place. This is clearly illustrated when considering how databases such as Facebook or Twitter are slowly replacing the physical act of communication. Modern societies fixation on all things virtual is directly affecting the corporeal environment in which we experience the world.

1.3.3 HYPOTHESIS

This Dissertation postulates that:

The consumerist nature of today's modern world, and our societies' obsession with mass production is negatively affecting the lived experience of architecture. The built environment is being desensitized by the sterile and hostile nature of machines in order to mass-produce (not create) spaces and places. This has a direct effect on the ideologies of existentialism leading to a sense of *placelessness*. The notion of craft, on the other hand, adopts a grass-root approach whereby the idea of an authentic representation of place becomes an imperative design consideration, resulting in a richer, more relevant, tactile, and humanitarian interface. By adopting positive principles of both modalities, architecture can position itself in the human realm of the machine-age era.

If architecture were to search to be a more 'real' tectonic of a '*direct representation*' (Frampton, 1983), whereby the building 'make-up' stands for what it is doing, then a collaborative dialogue between technique and craft might be a means of achieving a dialectic architecture. This, by definition, would bring about an interactive dialogue that would allow architecture to have more of a '*built*' experience (Heidegger, 1971) about it, bridging us closer to the notion of an *existential ground*.

1.3.4 KEY QUESTIONS

1.3.4.1 MAIN QUESTIONS

Does the quality driven, tactile, and bespoke nature of craftsmanship have a future in our predominantly machine-built, quantity driven environment, and what would the benefit be of employing the principles of craft within the architectural realm? Furthermore, how can machine and craft technologies develop into a collaborative tectonic architectural response that facilitates the principles of both modalities and directly responds to its particular context?

1.3.4.2 **SECONDARY QUESTIONS**

ARCHITECTURE OF MACHINES & REPRESENTATION

- » How has the advent of the machine and industrialisation affected the experience of the built environment?
- » To what extent does '*Non-Place*', as a by-product of technology, and '*Scenography*', as a form of architectural representation, affect the built environment in the modern world based within a '*Universal Civilisation*' ?
- » To what extent has the influence of the machine suppressed ones existential ground?

ARCHITECTURE AND CRAFT

- » What are the key principles in the processes of craft and to what extent to they exist today?
- » Can these craft based building principles be promoted and explored in an architectural process?
- » How can the processes of craft, the craftsman and craft-making be reflected in the built environment within what Ricoeur (1961) terms as a '*Universal Civilisation*' ?

A DIALECTIC ARCHITECTURE

- » In a largely machine built environment, can the processes of craftsmanship be implemented to form a collaborative architectural methodology?
- » Can the fusion of hand-made (Process driven) and machine built (Product Driven) building methodologies create a variable building methodology for architecture produced in South Africa? Furthermore, to what extent can a dialectical architecture exist in what Ricoeur (1961) terms as a '*Universal Civilisation*' ?
- » Furthermore, can a contemporary South African architectural approach encourage both mass-produced commodity/product-driven processes as well as bespoke hand made/process driven processes?

1.4 THEORETICAL AND CONCEPTUAL FRAMEWORK

A dialectical approach necessitates focus on both parts simultaneously, namely a *thesis* and *antithesis*, and in this dissertation refers to *Machine* and *Craft* modalities. Therefore the literature review in this dissertation is structured along this foundation of three parts; the *thesis* (Machine), the *antithesis* (Craft), and a considered interpretation for a possible resolution as a *synthesis* (Dialectic). The theories used in this research will be Critical Regionalism, Phenomenology, 'Non-Place' (Augè, 2008), *Placelessness* and *Scenography*. This dissertation will keep Kenneth Frampton's theory of Critical Regionalism as a fundamental base from which the research develops and will form the background to the research problem.



Machine built architecture: mass-produced buildings with repeated building elements, and repeated environments within. This creates a monotonous machine built tectonic and results in an architecture that is shut off from its context. Often requiring added machinery to counterbalance unconsidered environmental aspects, such as heating and cooling.

Fig_1. 9 : Los Angeles. **Fig_1. 10** : Durban, South Africa.



Hand crafted architecture : variations of bespoke, hand crafted buildings and elements create a rich hand made tectonic. Although the example above is arguably modern, the result is an architecture that is responsive to its climate, considerate to its context (scale, massing, façade treatment, placement etc), but more importantly, it allows users to regulate their own environment.

Fig_1. 11 : Carabanchel housing, Spain.

Thesis : MACHINE

By understanding where architecture has evolved from, since the turn of the 20th century, through machine-based processes, mass produced parts, and industrialisation, architecture today is positioned within a global culture of representation, consumption, and the experience

of the loss of existential ground through flattening (Pallasmaa, 2009). This positioning could help identify the experience of contemporary architecture. This notion of the loss of existential ground, highlighted by Pallasmaa (2005), is also investigated by referring to relevant examples of 'Non-places' (Augè, 2009), which exist in today's current architectural building typologies (Refer to Fig_1.9 & 10).

Anti-thesis : CRAFT:

The theory of phenomenology is delimited by the concept of an Existential ground through making, and is used as a springing point for the juxtaposition of global issues of the machine, industrialisation, and standardisation, and the local issues of tactility and hand-made processes. Furthermore, by investigating craftsmanship and re-introducing one's *existential ground* (Pallasmaa, 2009) within the built environment, a dialectic conversation between global and local techniques could potentially render a more responsive and unmasked architecture. The process of architecture (the notion of making), the human senses, material, and the tactile (tectonic) nature of architecture will be highlighted. Benjamin's (1998) understanding of craft as an object highlights the true essence of phenomenological understanding concerning process and human experience within that process (Refer to Fig_1.11).

Synthesis : DIALECTIC

As discussed, this dissertation focuses on a dialectical method of argument, an approach which endeavours to respond to both Global and Local issues, industrial and craft and product and process. This part of the dissertation will endeavour to formulate an inclusive architecture as opposed to an exclusive architecture – resulting in a process driven architectural mind-set as opposed to a modern product based mindset.

1.4.1. CRITICAL REGIONALISM

“Critical Regionalism necessarily involves a more directly dialectical relation with nature than the more abstract, formal traditions of modern avant garde architecture allow.” Frampton (1983:26)

Foster (1983) refers to Critical Regionalism as a “*critical mediation of the forms of the modern civilization and of the local culture, a mutual deconstruction of the universal techniques and regional vernaculars*” (Foster, 1983: xi). Although the theory of Critical

Regionalism is not new; its principles of creating an intricately woven fabric that displays the combined influences of the progressive machine and the local hand-made, are becoming more relevant in today's modern consumer society.

Critical Regionalism was a reaction, much like that of the Arts and Crafts movement between 1860 and 1920, to top-down principles which constituted a universal formula of the modern movement and the scenographic style of Postmodernism. These theories addressed the issues experienced in the world as a whole, not necessarily with those of a particular context, as they were witnessed to be imposing universal values. The physical materials of a building should become the fibres that represent a sense of time, place, and reality. Lefraivre (2003) acknowledges Frampton's (1983) notion of architecture being rehearsed as a bottom up approach by referring to the word *regionalism* and how it transmits local qualities, such as light, landscape, place, and the particular tectonic which exists as a peculiar structural aesthetic (Lefraivre, 2003:24). Frampton (1983) also suggests that the inherent honesty of "*specific culture of the region*" (1983:26) has been neglected. Day (2004) further critiques modern architecture for its tendency to alienate the occupants by forming unsophisticated and utilitarian buildings (Day, 2004).

The theory of *Critical Regionalism* and its formulation of various points towards a more responsive tectonic architecture forms the basis from which this dissertation takes place. It integrates justifiable design generators such as local identity, place, cultural meaning and the value of a particular tectonic over a scenographic representation.

1.4.2. PHENOMENOLOGY

"A genuine artistic and architectural experience is primarily a strengthened awareness of self." - Pallasmaa (2009:132)

In today's context, Phenomenological principles in architecture as well as the notion of a connection with existential ground through architecture, remain relatively unobserved. According to Pallasmaa (2009), architects working today live in an "*intellectualised world*" (2009:69) and should reach for meaningful working relationships with those who work in the "[...] *real world of materiality and gravity*" (2009:69), which could be described as the relationships between architect and builders. Phenomenology is used as an underlying theory throughout this dissertation and places particular emphasis on an existential ground through making, by using the "*Thinking Hand*" (Pallasmaa, 2009), as a motivation for honest

tectonics within architecture. According to Pallasmaa (2009) the “[...] *the connection with the processes of making continue to be seminal*” (2009:69) and is reflected in this dissertation through connecting with one’s Existential ground which acts as a conceptual standpoint that celebrates the notion of human existence through, and with, architectural design.

As noted in the definition of the terms, the word *architect* was derived from the words *archi* (chief) and *tekton* (builder) it would be evident that architecture was once a revered art that was considered, conceived, and built by the human hand. Therefore, by revisiting craft-based methodologies in the design of architecture, the built environment and those whom inhabit it, could benefit from the input of human processes in a predominately machine built environment.

“As today’s consumer, media and information culture increasingly manipulate the human mind through thematised environment, commercial conditioning and benumbing entertainment, art has the mission to defend the autonomy of individual experience and provide an existential ground for the human condition.” Pallasmaa (2009:148).

1.4.3. NON – PLACE

“The place / non-place pairing is an instrument for measuring the degree of sociality and symbolization of a given space.” Augè (2008:viii)

‘Non-Places’ (Augè, 2008) have, although not an absolute definition of particular places, been derived as a by-product of technology and machines; it tends to question the integrity of spaces which are only realistically formed as by products of technological advanced building types around the world. The growing effects of ‘Non-Place’ (Augè, 2008) have reached a critical point in today’s ‘*post-digital age*’ (Roke, 2009:10) of technology and rapid information transfer that is “*both changing and staying the same*” (Roke, 2009:13).

The use of ‘*non-place*’ theory will be used to establish where contemporary architecture exists today. Furthermore, by differentiating what is real and fake, authentic and non-authentic, in the “*post-digital age*” (Roke, 2009) a critical understanding of the contemporary condition of consumer culture and mass-produced spaces as it relates to the built environment.

1.4.4. DIALECTICAL METHOD

As defined in the Definition of terms, this dissertation will use a dialectical method to construct an argument for the collaboration of machine built architecture and crafted/hand made architecture, and a proposed synthesis of the two. The use of the word *dialectic* constitutes a dialogue by means of a logical and formulated cross-examination that will endeavour to formulate positives attained from either side of the debate to inevitably form a collaboration between the two.

1.4.5. SUMMARY

By understanding these theories and their combined effects on the built environment, a critical source could be constructed to define the condition of contemporary architecture. These theories are considered relevant to the design of a dialectic modern handcrafted architecture in the context of South Africa. This dissertation aims to use these theories to give a broad overview of mechanical technique together with an understanding of the role of craft and the potential reflection of this process in an architectural intervention. Several of the points identified assist in shaping parallels to the key principles towards the dialectic relationship between machine built and hand made architecture. The delimitation therefore sets the manner in which the literature review in the main body of this dissertation is portrayed.

1.5 RESEARCH METHODS AND MATERIALS

1.5.1 RESEARCH METHODS

In order to increase the understanding of the research problem and its subsequent issues, research has been done to form a collection and analysis of information. The research contained in this document is gathered systematically and the methods used in the process of collecting the research data incorporate the empirical method and qualitative research methods. These have been achieved by means of analytical and descriptive methods such as historical research, philosophical research, reviews, research synthesis, interviews, and case studies. The research approach for this dissertation consists of two sections:

Primary Sources:

The primary research requires the collection of data by the author. The data is analysed and conclusions are formed to delineate the problem statement of this dissertation – with focus on generating a dialectic architecture. The following research methods will be used in order to accumulate and formulate data for the analysis for the potential dialectic approach to architecture of South Africa. Due to the content of the research, the aim of the research methods is to have an equal amount of physical and virtual (email) data captured, by focused interviews, and case studies. Primary research carried out will form part of the qualitative data whereas the qualitative data will be obtained by visiting the relevant case studies and areas of research.

Focused interviews: These will be endeavoured to be done in person. The interviews will be concerned only with South African architects, as this dissertation strives for a critical South African response. The research hopes to achieve a basis from which both the Northern and Southern hemispheres are represented. The architects are chosen specifically for their dealings with the blending of machine and hand-made architecture. Their competence of producing quality architecture that exudes their zealous interest in the context within which they build, can be described in a similar discourse as the makings of a crafted architecture and the considered human-ness of architectural design. See Appendix A for typical questions to be asked.

Architects to interview :

Andrew Makin. Designworkshop (dws), Durban, South Africa.

Designworkshop are a practice devoted to the positive transformation of society through considered design and responsive architecture within the South African context. Dws exercise an efficient and considerate use of materials, both standard off-the-shelf or of bespoke parts, along with a handcrafted yet modern, touch. Although many projects exude properties discussed in this dissertation, some of which will be highlighted throughout the literature review; the key case study will be the Constitutional Court. The programmatic and history of the built environment will not be the forefront of the research, the idea of a *handcrafted modern architecture*, and the factors which help achieve this, will be explored.

Richard Stretton. Koop Architects, Durban, South Africa.

Not content on architecture alone, KOOP specializes in a conscientious design ethos within all precincts of design. From interiors to furniture and product design, the practice radiates a

sustainable approach to all of their projects. The researcher intends to investigate the process behind the architecture – exploring the methods that were ensured to keep a socially, economically, and environmentally sustainable project alive well past their involvement. The work done at Dalton reserve will form part of the case studies considered.

Case studies: This section will be focused primarily on a directly responsive architecture that explores both modern and local attributes. The buildings chosen are rooted into the context of South Africa yet display a modern, global outlook. These are further defined by the responsiveness to resources, skills, and technology available. Adapting and engaging with the particular context, the projects do not force a pastiche’ represented version of a “South African” architectural tectonic, but rather display a fundamental respect to place, society, time, and particular contextual constructs. Whilst both projects are considered to be within the constructs of a *‘Universal Civilisation’*, they display the notion of a regional modern architecture, which directly responds to the peculiarities of a particular place or space. Both buildings exhibit various recipes for binding machines and people together, this dialectic approach to architecture will be the fundamental principles drawn from the studies; the notion of process driven architecture.

Secondary Sources:

This will form the majority of this dissertation and the information will be obtained by examining various media by different authors. The empirical studies gained from the above resources will form part of the literature review chapter whereby the author will construct a series of arguments for and against the problem statement. Therefore the information collected will be tested by the primary sources and data analysis. These will deal with key topics and questions, which will relate to the research problem and precedent studies. The information will be gathered by reviewing books, journal articles, and academic papers written by various authors; video / movies, television broadcasts and the World Wide Web; raw data from precedent and case studies, interviews etc. The analysis of specific case studies will be done in Chapter Three, whereas precedent studies will be observed throughout Chapters Two, to ensure an understanding of the built environment and its relevance within the literature obtained. The analysis and data will be gathered to determine a construction of a conceptual and theoretical framework to provide a background for the relevant tools required for a dialectic collaboration facility.

Following the analysis of the research information, key international examples, and

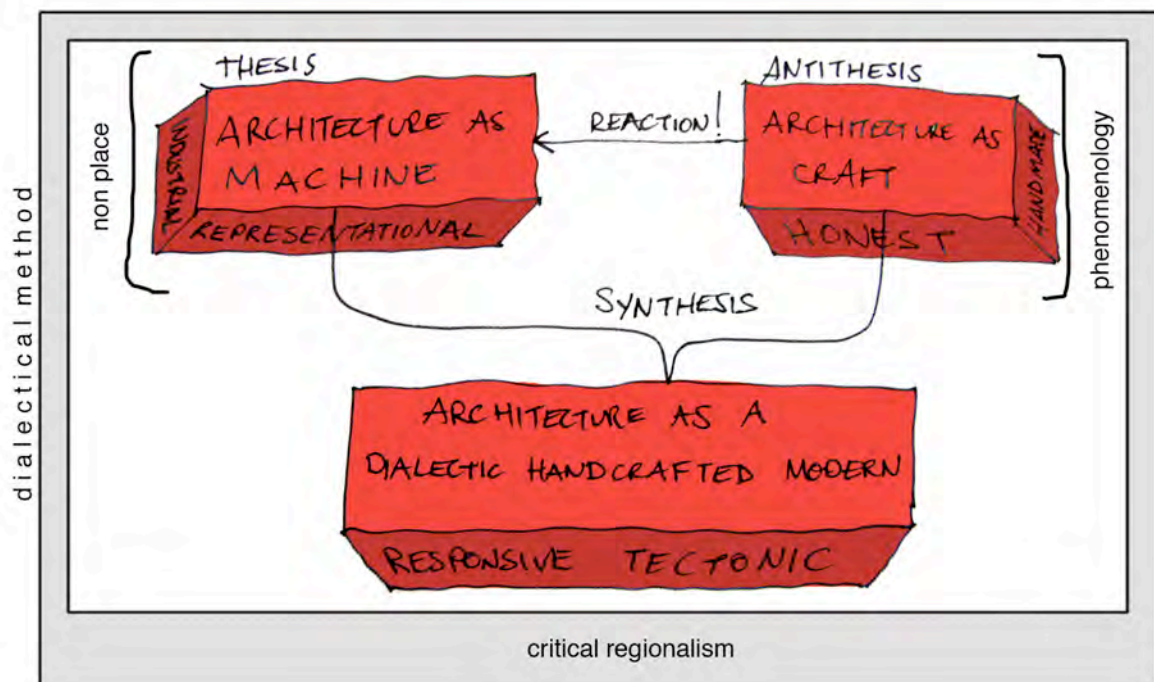
data collection, as well as an investigation of key concepts and theories relating to the topic of a dialectic architecture, relevant architectural principles are determined and noted in the conclusions and recommendations of the study.

1.5.2 RESEARCH MATERIALS

Information gathering will refer to library and electronic resources, measurement techniques in the field of architecture, statistics, and other means of communication.

The research materials used, as references will include various media: books, journal articles, and academic papers by various authors; video / movies, television broadcasts and the World Wide Web; raw data from precedent and case studies, interviews etc. Individuals interviewed are primarily the architects of the case studies selected, but they will be questioned about relevant and theories considered within this dissertation. A variety of research materials are covered to give fair comment on the research problem. The research materials gathered are in the form of hard copies and digital copies, including images, photographs, and sketches.

1.6 DOCUMENT OUTLINE



Fig_1. 12 : Project outline.

Exploring the extent to which architecture has been subjected to the machine and craft,

through notions of *process* and *product*, will be delineated throughout the research to position it within the contemporary '*Universal Civilisation*' within which we live. This dissertation suggests the use of a dialectic method comprised of three parts; the *thesis* (the machine), an *anti-thesis* (the hand) and a *synthesis* (a suggested unification).

The *thesis* is analysed by evaluating the effects of the machine on architecture from the turn of the 20th century to the post-digital age (Roke, 2009) of computing in today's modern world. This *thesis* could be constructed to investigate where modern architecture both evolved from and where it is currently positioned within a contemporary consumer based environment. An *antithesis* is evaluated by the investigation of craft based methodologies of making whereby the notion of human-made and human lived environment is considered. The theories and ideas that are considered will endeavour to develop the final part of the dialectic, *the synthesis*. The overarching aim of this dissertation is to find a medium where architecture can be placed within the spectrum of global "hi-tech" machine built and local "low-tech" hand-made technologies. The research endeavours to create a synthesis that celebrates a tectonic of celebrating skills and technology, from a global perspective, to produce a tectonic architecture that is rooted, and responds to, the local context. The research will aim to develop a manifesto of principles that can be considered for the blending of progressive and traditional architecture that only from this position can communicate in the form of an honest response for a dialectic global and local architecture.

1.7 CONCLUSION

In concluding chapter 1 of this dissertation, the researcher has set the parameters and guidelines (by means of research methodology, theoretical and conceptual frameworks) within which the research can take place. The conceptual framework have also been established and will be carried out through the Chapter two where primary and secondary research will be undertaken through Chapters Three and Four. The constructed sources of information will endeavour to be a beneficial justification, within the structure set out in this chapter, to inform and guide the design for future collaborative facilities, focussing on a dialectic relationship of machine built and hand made architecture.

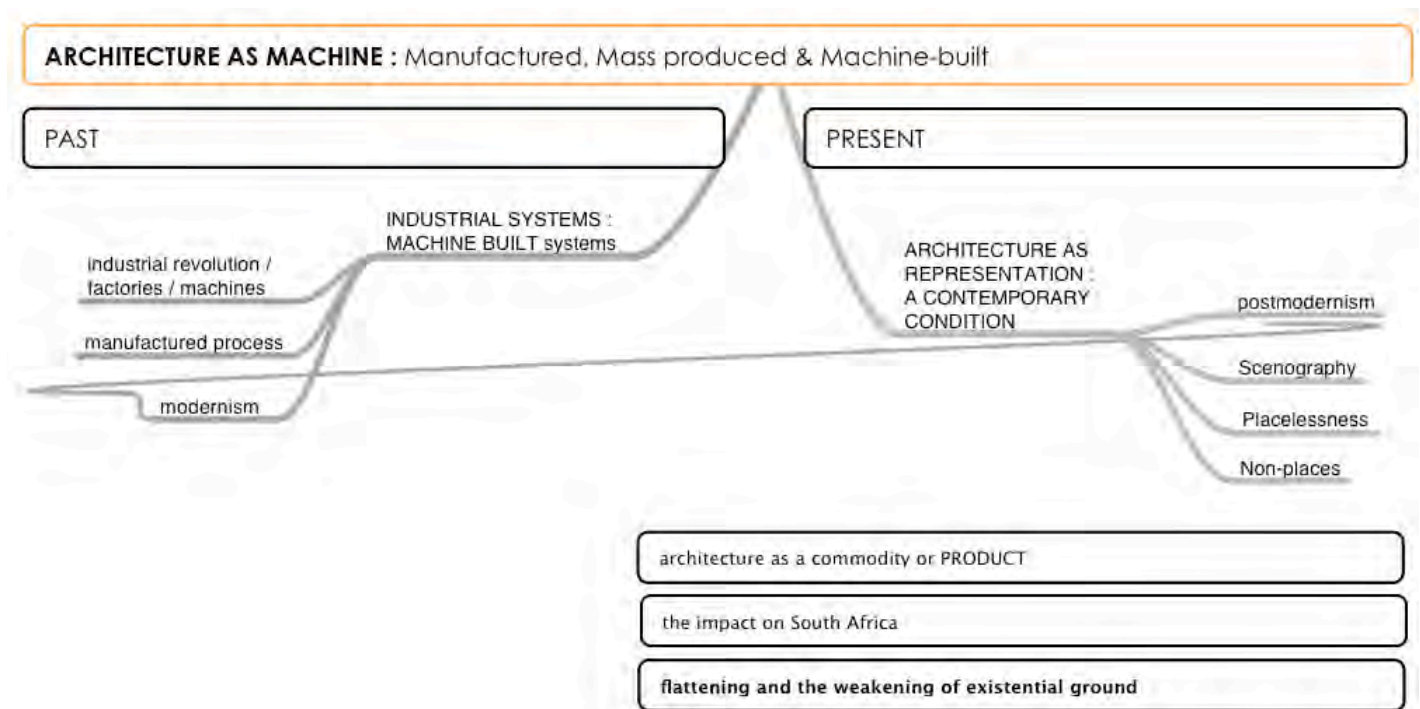
CHAPTER 2.0

2.1

ARCHITECTURE AS MACHINE :
MANUFACTURED, MASS PRODUCED & REPRESENTED

2.1.1. INTRODUCTION

This section deals with architecture and its relationship with the machine and in its discourse endeavours to uncover the origins of machine-made architecture as well as position architecture in today’s contemporary society. Architecture is therefore deconstructed into two parts; the relationship of *architecture as machine-built* through industrial systems and processes, and the second including contemporary *architecture as representation* (Refer to Fig_2.1.1).



Fig_2.1. 1 : Flow Diagram outlining the structure of *Architecture as Machine*

2.1.2. ARCHITECTURE AS MACHINE-BUILT : INDUSTRIAL SYSTEMS

2.1.2.1. ARCHITECTURE AND THE MACHINE

“The Sparse geometries of the twentieth century Modernism were, in large part, driven by Fordian paradigms of industrial manufacturing, imbuing the building production with the logics of standardisation, prefabrication and on-site installation. The rationalities of manufacturing dictated geometric simplicity over complexity and the repetitive use of low cost mass-produced components.” Kolarvic (2003:53).

In Detroit 1913 Henry Ford pioneered a factory that was derived entirely around a continuously moving production line of both machine and human input (Gillian, 2003) (Refer to Fig_2.1.2). This was a breakthrough in the age of production and stood as a testament of things to come; order, cleanliness, standards, health and safety checks, security, quality control, and bookkeeping had formulated a new shift in industry. Necessitating absolute control and a precise spatial arrangement of the built environment, the strictness and rigidity of the machine also dictated to people working in the factories, as they themselves became parts of the production line. In addition, the firmness that was brought about through control and standardisation was inevitably reflected in the production of architecture of the time (Gillian, 2003). Architecture engaged with the automotive industry through means of manufacturing in the form of mass production. The ability of mass producing cars essentially formulated the rigid, geometric methodologies for modern architecture and these were then capable of being built off site and assembled from the conveyor belts, similar to production of cars, in kit form. (Frampton, 1983, Gillian, 2003). The innovative use of Henry Fords Model-T was justified by Wright (1901) and used the strategy to sell the idea of the *assembled house* with a *“new simplicity, “a machine made simplicity”* (Wright cited by Henderson, 2011).



Fig_2.1. 2 : A pioneer in mass production, Henry Ford innovated a manufacturing process that moved along a rolling assembly line. This revised production times of the Model T Ford from over 12 hours to just under 3 hours (Gillian, 2003).

Modernism stripped ornamentation and nostalgic references of styles from the past through progressive technologies, which enforced architecture that could span great distances through steel and reinforced concrete, as well as curtain walling which could entail large expanses of glazing. As these elements could be mass-produced, it created a sense of universal sameness. Furthermore, in his bold utopian vision for order, Le Corbusier (1923) responded to the progressive production by stating that architecture should focus on maintaining better conditions for motor cars and growing populations, even declaring that a house should act as a “*machine for living in*” (1923:60) (Refer to Fig_2.1.3). According to Le Corbusier (1923) architecture was to be transformed by ‘*constructing, living and conceiving*’ (1923:62) mass-produced houses. This enabled the house to be manufactured off-site, under the supervision and strictness of a controlled environment and assembled, much like a puzzle, on site. There was little room for fault as the precision and manufacturing techniques superseded the mistakes often made by human error (Moore, 2001, Sennett, 2008).



Fig_2.1. 3 : Montage of Le Corbusier holding a model of Unite D’Habitat. A mass produced Architecture formulated through Prefabricated units that would then “slot” into a concrete framework.

As modernism relied on standardisation from door handles to whole façades, the notion of a product-formed architecture evolved with a mechanical, mass-produced, and standardized technique of building. The mass production of architectural components and the ability for rapid replication by the machine gave way to a new form of prefabricated architecture. The introduction of new technologies and material uses were universally accepted as concrete, steel and glass (curtain walling) structures where hastily erected. Standardisation, universal

technology and modularisation generated a monolithic architectural model spanning the modern world (Gillian, 2003, Frampton, 1983). As the architecture was a symbol of progression, the dominant style was translated worldwide, sometimes misrepresented, diluting regional characteristics. Machines were engineered as solutions to represent hope and promise (Henderson, 2011). Wright (1901) condoned the machine and suggested how the machine processes could be reinterpreted as the repetitive quality of mass production can bring design to a much wider audience. However, the design of mass production must be of high standards as its aptitude could be diluted if it falls into the trap of becoming money driven consumer commodity or product. The replications of its style were repeated around the world, irrespective of place and also extended into almost every form of design. The vestiges of the prominent Modern architectural movement are still evident today, although often misinterpreted (Refer to Fig_2.1.4).



Fig_2.1. 4 : With help from the machine, modernism suggested the *cleaning-up* of the old architecture of the past by creating clean, new, and ordered architecture.

Roke (2009) and Ghirardo (1996) reiterate that within the upheaval, the “*utopian and often mechanically reliant visions*” (Roke, 2009:11) of this modern technology were equally revered, as they were feared. The essence of Modernism was arguably a reaction to social problems and although little regard was paid to its location, the interface of humans, the

architecture was guided by the invention of machines; a reaction or an expression of its time. The machine, and its practices, had a major impact on the formulation of architecture. This impact came twofold, through *needs* and *wants*; which formulated a divide between survivalist and overindulgence in Modernism.

The *needs* came from the after-effects of the Second World War, as a large extent of Europe had been destroyed, there was a *need* for housing. Modernist machine-based methodologies were utilized to house people as quickly and as cheaply as possible (Ghirardo, 1996). In contrast, the style was embraced as an experimental expression as a form of *want*. The technology and processes available then gave rise to an architectural expression of its time whereby architects wanted to use the strengths of the machine. The use of mass production, standardisation, and a machined preciseness was expressed. However, in the 1920's, Richard Neutra explored machine-made aesthetics somewhat differently to his peers (Refer to Fig_2.1.5).



Fig_2.1. 5 : In Lovell's Health House, Neutra explored the industrial nature of production through various means, whereby the atmosphere of the house was created through the considered use of technology. This could be demonstrated by its construction technique, the factory assembled windows and the Ford Model-A headlights installed in the main stairwell. From afar the building seems to be masonry, however it is a lightweight steel frame with gunite (sprayed on concrete).

According to Frampton (1983), a more direct architectural representation of technology and material has been redeveloped further as a “*high tech*” (Frampton, 1983:17) architecture, otherwise known as *Late Modernism* or *Structural Expressionism*. This movement advocated

geometric and structural architectural forms that celebrated structure through exposed materiality. The architecture was an experimentation of technology, structure, and materiality which had only been invented at the time and was focussed predominately on hollow steel sections, therefore much like Modernism, it was an expression of its time. This movement was incorporated by the likes of Richard Rogers, Norman Foster and Renzo Piano in the 1970's (Refer to Fig 2_1.6). However, Frampton (1983) suggests that there has been divergence between 'high tech' architecture and that which utilizes "[...] a 'compensatory façade' to cover up the harsh realities of this universal system" (Frampton, 1983:17) which essentially generated an architecture of representation (Refer to Fig 2_1.6).



Fig_2.1. 6 : A blend of both 'high tech' and representation can be observed in Pompidou centre. Although most of the expressed tectonic is structural, there are parts that are not and are merely representational. Richard Rogers/Renzo Piano.

2.1.3. ARCHITECTURE AS REPRESENTATION : A CONTEMPORARY CONDITION

2.1.3.1. REPRESENTATIVE ARCHITECTURE

“Moderns have held a positive attitude toward technology because machines, science claims, will free us from the drudgery of place-bound tyrannies.” Moore (2001:437).

Although Modernist theories of Architecture were said to have essentially disregarded the notion of place altogether by celebrating technology to achieve certain cultural goals, Post-modern theories embrace place and disregard the universalising of technology (Moore, 2001) (Refer to Fig_2.1.6, 7 & 8). It was a means of re-ornamenting often through imitation by pastiche’ and false representations and the supposed *“wearing of masks”* (Jameson cited by Owens, Owens, 1983:111). The notion of a *“postmodernist representation”* (Noble, 2008:73), or Scenographic portrayal, formulated masked architectural interventions (Noble 2008, Venturi, 1989). Whilst Modernism had privileged technology over place, Post modernism returned to representation, masking the constructional logic within. This has rendered the overindulgence in Shopping malls, airports, casinos, gated communities, banks, office blocks, within a wave of redevelopment, *“packaged exploitation in a landscaped industrial park”* (Lipman, 2003:xiv).



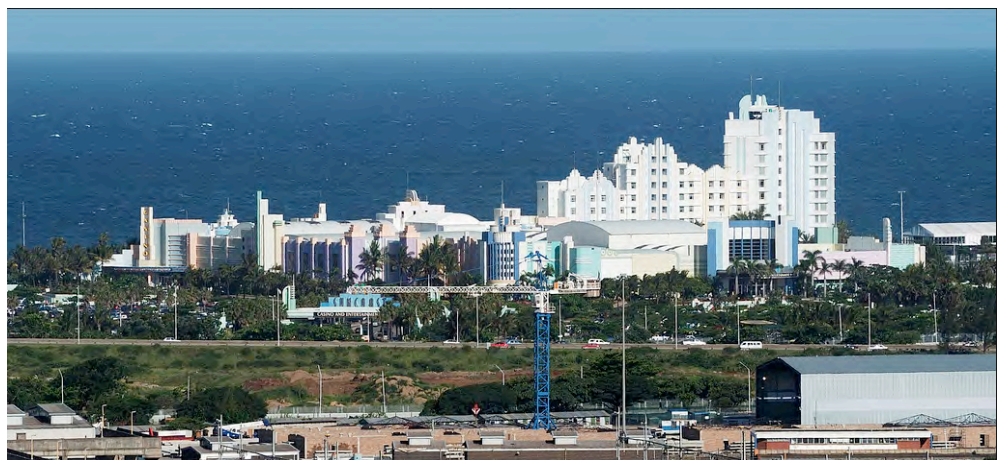
Fig_2.1. 7 : The introduction of industrial processes of materials and machinery enabled the design of modernist skyscrapers, worldwide. Durban, SA.



Fig_2.1. 8 : Postmodernism opposed the modern movement, by falling onto representational method of form making. Garden Court Building in Durban, South Africa. **Fig_2.1. 9 :** A Possible reference to a jukebox which was current trend at the time?

“Postmodernism is a reaction to the modernist censoriousness. It ‘plays’ with classical and gothic details, which were forbidden by its stern parent, and so empties them of their last vestiges of meaning. This is not a rediscovery of history, but its dissolution.”
Scruton cited in Jencks (1997:203).

In the 1960's several authors commented on the negative environmental impact of modernism, as a form of aesthetic, social and ecological perspective. Their arguments for change initiated a postmodern phase in architecture, which soon spread across the industrialised world (Frampton, 1983, Ghirardo, 1996). Topographical and economic landscapes were certainly altered in the 1970's by the substantial shift in population movement, violent upheaval, and partisan clashes. Money became a transparent element therefore allowing people to move capital quickly, the beginning of a more *Globalized* world. Postmodernism is regarded as a stylistic or representational approach to architecture, which *“should be understood first in the context of what the movement opposed, and second what it affirmed”* (Ghirardo, 1996:8). From the 1970's into the 1980's, the economic boom polarized income. The abundance of cash allowed for an investment in Culture (Girardet, 1992), leading to a new building type, the cultural shopping centre as well as the birth of the spectacle (Girardet, 1992). Careless architectural form making through a representational façades (Frampton, 1983:28) distinguished excessive and unchecked urban growth. This formulated numerous versions of the Venturian *“decorated shed”* (Venturi, 1989:17), a cheap unconsidered stripped out interior wrapped in a decorative, not necessarily functional, envelope, where the energy consumed to build and support the pseudo-façade could be used more sustainably elsewhere (Refer to Fig_2.1.10).



Fig_2.1. 10 : Sun Coast Casino, Durban is an example of envelope driven design as a scenographic portrayal or representation of Art Deco in Miami, but is merely a façade wrapped around a shed. *Casinography*, perhaps?

Augè (2008) describes how place is determined by localisation of culture, in both space and time, and how places have become disconnected and distorted into versions of exhibition or demonstration, otherwise known as spectacle. Culture is moving away from the honest workings of a particular place and is often exploited as a tourist trap where the information conveyed about historical events and traditional culture excites, horrifies and gratifies, much like a theme park experience (Augè, 2008).

Contemporary architecture is falling victim to commodification, not only as a representation of an authentic experience. Often, the victim is local identity, culture and heritage, which develops into a packaged product – commercialised and exploited for financial gain (Lipman, 2003). Justice Albie Sachs (2005) notes Charles Correa's influential disagreement with a practice of employing an international style embellished with local and regional constituents to form an 'authentic' represented ideal, increasingly popular with the 'architecture' of Casinos in South Africa (Refer to Fig_2.1.11).

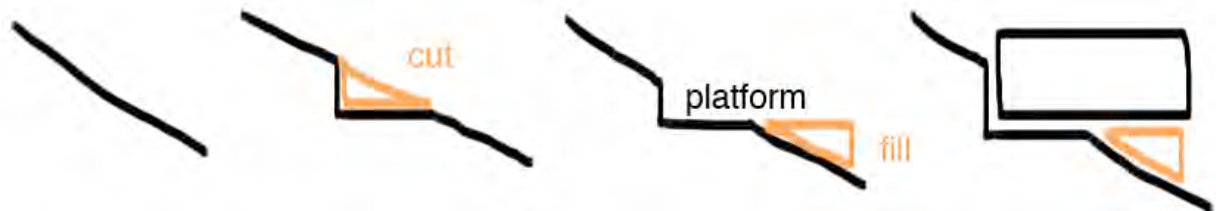


Fig_2.1. 11 : A representation of culture, history, heritage, tradition, and construction. Sibaya Casino, Durban.

In Pallasmaa's view“ [...] *architecture turns similarly into mere aesthetics when it departs from its originary motives of domesticating space and time, an animistic understanding of the world, and the metaphoric representation of the act of construction*” (2009:115). The view of an 'aesthetic representation' correlates with Frampton's (1983) suggestion that the notion of place is sometimes merely represented as a *scenographic* portrayal (1983). The prevalence of themed spaces which use an overarching model to contain people in a controlled environment, projects the user into a particular state, rendering them consumed by the

experience and environment around them. Lukas (2007) declares “one of the most telling aspects of theming is its seeming naturalness” (2007:5) Themed spaces are now commonplace, a representation that exploits popular culture as its fundamental basis of expression.

The state of homogeneity or sameness has, through technology and the machine, created a sense of ‘placelessness’ (Frampton, 1983:26). Frampton (1983) states that “In an attempt to counter this loss [of place], the tactile opposes itself to the scenographic and the drawing of veils over the surfacing of reality” (1983:29). A tectonic architecture has a “celebrated structure” (Frampton, 1987:), as opposed to Scenographic architecture, which uses false façades or variations of the “decorated shed” (Venturi, 1977:17) concealing one from its true character, tactility and existence.



Fig_2.1. 12 : A cut and fill exercise creates a sense of placelessness as it does not directly respond to the site. The extent is visible through its impact in section, as a platform, in relation to the topography.

Frampton (1983) expresses his apprehension of “absolute placelessness versus cultivating the site” (1983:26) where many sites are merely flattened from irregular to regular which, as a modernist ideal, uses heavy land moving equipment, such as bulldozers and cranes (Refer to Fig_2.1.11). As this allowed regularity throughout every site, it could be regarded as yet another version of standardisation and an attempt at gaining control of the environment. This has resulted in a cut and fill exercise; platforms are cut into the banks and the extracted sand/rock is used to stabilize the ground in front. Convenient, extruded and standard platforms exposed the ideas of “placelessness” (Frampton, 1983:26) as every site now has the same parameters within which to work. Again, a general disregard of contextual frameworks and environment. Architecture should relate to the site in such a way that the same building could not be represented again on any other site.

“A variegated global influence swaps local colour.” Augè (2008:xv).



Fig_2.1. 13 : Air-conditioning ducts accessorize a building in the hot and humid environment on the east coast of South Africa, Durban.

The influence of the machine through control and standardisation is further demonstrated by the disregard to climate by many architects who build, according to Fathy (1986) “*solar furnaces*” (1986:8) (Refer to Fig_2.1.13). Large multi storey buildings encased with steel and glass are decorated with air conditioning units to solve the problem of over heating and are exerting climatic concerns than can be measured by excessive energy consumption (Fathy, 1986). This is yet another variation of control by standardising entire environments and forms another version of boxing people in cubicles within the monotonous mirrored slabs where ‘*Universal techniques*’ (Frampton, 1983:27) come into being. Air conditioners, as Frampton (1983) states, are at the centre of “*placelessness*” because they operate continuously “*irrespective of local climatic conditions*” (1983:27). Before the advent of climate controlled spaces people would socialise outdoors. Now they remain inside, shut-off in atomised, mass-produced compartments. Machines have introduced a compartmentalised way of living that is devoid of social interaction with the outside realm. A ‘*Universal technique*’ (Frampton, 1983:27) dominates, ensuring that site and light specific conditions are neglected, undermined by fixed windows and air-conditioning (Fathy, 1986).

People describe large cars as “*gas guzzlers*” (Papanek, 2009:xvii), yet never consider contemporary homes from the same perspective; spare rooms, unused appliances and holiday homes amount to the same (Papanek 2009, Sudjic, 2009). Rising energy costs of air conditioners, heaters, and lighting make these “*space guzzlers*” irresponsible and “*no longer feasible*” (Papanek, 2009:vii). Consumerism is a modern condition, which needs consideration, as “*waste [is] the negligence of privilege*” (Sennett, 2008:110).

2.1.3.2. NON-PLACE



Left : Fig_2.1. 14 & Fig_2.1. 15 : Predetermined Non-place, circulation, consumption and communication. Umhlanga, Durban.

Right : Fig_2.1. 16 & Fig_2.1. 17 : Adapted Non-place, circulation, consumption and communication. Warwick, Durban.

The concept of a *'Universal Civilization'* has been explored further by Augè (2008) who suggests that the space created by our hedonistic and modern consumer culture has created *'Non spaces'* (Augè, 2008) which focus on the exportation and importation of things, including people. Airport lounges, Internet cafés, ATM's, motorways, and transportation hubs are examples of this. These production-line spaces are expressed through variations of *"circulation, consumption and communication"* (Augè, 2008:xxii) and therefore evolve into *'Non-places'* (Augè, 2008) with the addition of people and are, in effect, the variation of products of modern consumer culture (Refer to Fig_2.1.14,15,16 & 17).

“Contemporary architectural theory tends to neglect either the human domination of nature or the human domination of humans.” Moore (2001:21).

Augè (2008) writes how development has thickened along coasts, rivers and main roads. Many Ancient civilizations have established their cultures and tribes around a large body of water as it brought with it trade and protection, and more importantly: natural resources, such as arable land and a means of obtaining food (fish) just by virtue of its proximity. Ancient cultures used proximities and distances to establish themselves. Topography and landscape today play a lesser role, places are now defined by their links to the outside world, the networks to airports, transport interchanges and cultural sites, and the ease of transfer between the two, between here and there (Augè, 2008:xii). Modern society has been displaced from their surroundings, as one can witness with the relationship with the public transport industry in London as people gauge distances by time instead of actual displacement, their notion of where they are, physically, is distorted because of it (Refer to Fig_2.1.18 & 19).



Many Londoners may know how many minutes it may take to get from one place to another but not necessarily how far it is in terms of an actual measured distance. Their place in the city has been completely abstracted by the transport system of the underground. **Fig_2.1. 18** : (Left) shows the actual displacement or distance between destinations on the underground (Note how the Thames river is omitted here – another displacement of reality). **Fig_2.1. 19** : (Right) Displays the tube map for the underground with dotted lines showing where it is quicker to actually walk the journey, rather than change tube lines.

“I don’t believe in genius loci. The exchange of information is so rapid today. You cannot not be influenced by what’s happening elsewhere.” Jacques Herzog of Swiss Architectural firm Herzog and De Meuron (Source: <http://www.hughpearman.com/articles5/herzog.html>)



Fig_2.1. 20 : When global and local collide, Globalisation engulfs local culture. To a major degree, contemporary living has been influenced by how an individual can be put into contact with the rest of the world, irrespective of their geographical location, and “ [...] live rather oddly in an intellectual, musical or visual environment that is wholly independent of his immediate surroundings” (Augè, 2008:viii).

Although cities of the same stature are noticeably more interconnected than ever before and they are defined by “ [...] their capacity to import and export people, products, images and messages” (Augè, 2008:vii) it means however, that social classes are stretching further apart in certain parts of the world. This is due to the need/lack of machine based technology, the Internet and Information technology (Augè, 2008). Communication technology is making the world, virtually, smaller and plays a major role in the diminishing of borders and boundaries (Refer to Fig_2.1.20). Furthermore, is now said to be commonplace for Westerners to use their cell-phones as one would a desktop computer because of the rapacity of technological advances (Augè, 2008). People can converse and email each other without actually knowing where the recipient is and one’s geographic position for communication today is almost irrelevant. It has changed the way we live, work and perceive the world as a whole and is due to the technological advances of the machine and although it might not matter because of how the way people work and live today - the interaction and separation of people has been severely altered.

A manufactured space, which is capable of completely removing one from their immediate context, without physically doing so, is often done through representational techniques that present something entirely contrasting to what it actually is, or where it is. These techniques have been used in tourism industry, which is essentially derived from consumers, and ideally frames the notion of *placelessness*, *non-place* and *scenography*. These techniques will be explored further by investigating the *Authentic Fakes*; both globally in *Disneyworld Florida* and Locally in *Sun City*.

“The fantasy of travelling to a place that is authentic without leaving town is appealing to consumers. These inauthentic places become pathetic substitutes for the real thing.” Ots (2011:83).

2.1.3.3. THE GLOBAL AUTHENTIC FAKE : DISNEYWORLD, FLORIDA

“It is not only interested in erasing the real by turning it into a three-dimensional virtual image with no depth, but it also seeks to erase time by synchronizing all the periods, all the cultures, in a single travelling motion, by juxtaposing them in a single scenario.” Baudrillard (1996, Liberation Newspaper)

Disney-World evolved as an escapism venue by summoning people from the tired city life to experience a fresh world and was a response to the massive boom of the tourism industry at the time (Ghirardo, 1996:45). A milestone of consumption, The Disney-World Complex is an escape act from the fallen state of society and self and it has essentially created an idealized vision of American capitalism and political history (Ghirardo, 1996). The issues that Disney-World deals with, with regards to public space, are highlighted in three words: *“spectacle, surveillance and control”* (Ghirardo, 1996:3). By spectacle, according to Baudrillard (1996), through means of *“entertainment (distraction) and distanciation (distance)”* (Baudrillard, 1996).



Fig_2.1. 21 : Mickey & Minnie Mouse in the Magic Kingdom.

The development is planned along a journey of various stimuli and plays (*preys?*) on the predicted susceptibility of people. The entire Disney complex revolves around controlled spaces for consumption and for spaces in which people are to be segregated in specific ways; monitored or controlled. Materials are implemented to avoid erosion, kitsch and are generally plastic, for a reason; it must look the same tomorrow as it did yesterday (Ghirardo, 1996:45). Disney capitalized on its cleanliness and attentiveness to familiar things; the visitors are drawn to the endless smiles and celebrations seen within the park. Disney, as Augè (2009) declares is, “*where image and fantasy reign triumphant*” (Augè, 2009:xvi). An attempt to represent cultures, places and atmospheres from all around the world, people feel as though they are travelling in hyperspace, from Europe to China to Asia and back to America. In reality Disney is a grand example of the epitome’ of consumer culture withheld inside a decorated shed, with a 3-dimensional scenographic portrayal, into a prime selling point (Refer to Fig_2.1.22).



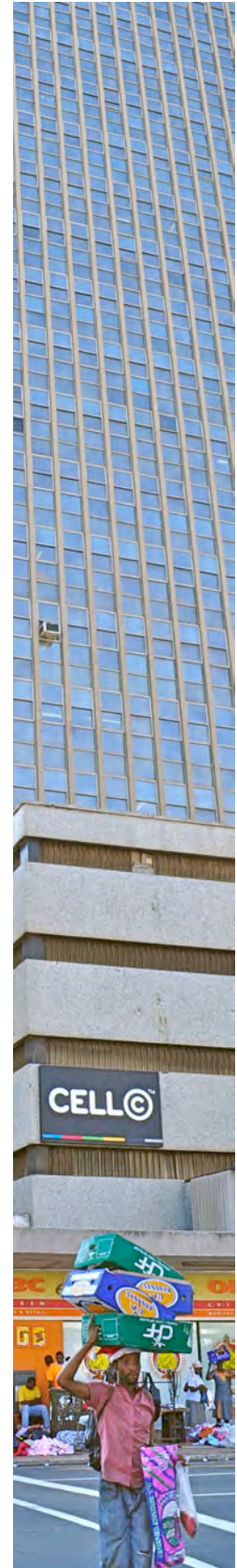
Fig_2.1. 22 : Representations of Real places, in Epcot centre, Disneyworld. Italy, Japan, Mexico, Morocco, Norway.

A crude example for symbolizing the obsession for simulation culture and perfection is certainly a reference point for where and how society exists today. Architects, such as Michael Graves, latched onto the idea of Disney and its appeal for people to recognize familiarities in the built environment (Ghirardo, 1993, Augè, 2009). Disney has played a vital role in changes in public space planning today – as it often revolves around spectacle, surveillance and control. It could be assumed that the Disney World complex has grown on the ideas that the Modern Movement portrayed as suggestions were that technology could transcend nature, ushering in an age of affluence and rationality (Ghirardo, 1993). Disney also reveals a Post-modern promise that has come from the withdrawal from modernism, by suggesting that technology will allow us to escape the physical world and the unpleasant conditions of society (Ghirardo, 1993). The notion of Disney World as sceneography is, although it may be regarded as a consumer-based entity laden with heavy consumption and an aspiration for nostalgia, the fact remains that it is still a populated man-made fantasy.

2.1.4. THE IMPACT ON SOUTH AFRICA

Lipman (2003) suggests that South African cities have merely become a “*mechanism for processing consumers*” (Lipman, 2003:16). Modern, machine type cities demand consumption and control whereby a human interface was for vertical towers and modern technology (Makin, 2012). Frampton (1987) cites Arendt’s notion of “*Space[s] of human appearance*” (1987:25) its importance for integration. One can observe in many cities in South Africa that it is been understood by the municipalities that “punters” in the city which; gather, chat or stroll through the day, are not valuable assets for a successful running of the city as they delay money being spent and are regarded as “*non-productive*” (Lipman, 2003:16). Once a place of thriving community gathering and socialising, the oppressive Apartheid planning laws forced cities in South Africa to essentially restrict the potential for people to gather. This essentially forced a vacuum from the cities whereby sprawling low-density development was displaced from Central Business Districts around the country (Lipman 2003, Cooke 2012, Makin 2012). (Refer to Fig_2.1.23)

The leftover spaces in the city could be argued as local versions of enforced ‘*Non-places*’ as they exist in reality as a public vessel for social gathering but have been rendered ‘use’less through uninhabitable and unsociable design. Lipman (2003) concludes that apartheid planning dictated all forms of social interaction and racial divides are the remnants of re-integrating people into the city. (Refer to Fig_2.1.24 & 25). As assumed that South African municipalities suggest that gatherer’s “waste” valuable spending time when they are catered for, this is in contrast to the bustling cities such as Tokyo, London or New York. These cities are dealing with the other side of the spectrum by allowing and catering for mass pedestrian traffic, both in the form of moving and stopping.



Fig_2.1. 23 : Modern buildings often resemble each other, a notion of placelessness, undefined by their local context. Not dissimilar to stacked boxes, which were built to contain and protect. Durban, 2012.



Fig_2.1. 24 & Fig_2.1. 25 : The city seems to discourage humans wanting to gather around buildings by placing hard surfacing, fierce planting to protect gardens, spikes and fences. The connection to particular buildings, in the context of South Africa, is almost as if the city's goal is for maximum discomfort which deterred stopping, gathering, socialising, and loitering. (Lipman, 2003).

Although Modernism could be argued as an exclusive practice of architecture eliminating any sense of a particular place (Frescura, 1992), Lipman (2003) declares that this was not the only outcome. The other, less glamorous, version of modern architecture and development in South Africa constituted the remnants of the “*Avant Garde*” (Lipman, 2003:xiv) living, as it forced displacement from the CBD though the “*segregated Township, the suburb of the individual, of social isolation*” (Lipman, 2003:xiv). This was a parallel to the “modernism” that was flashed around the world as the latest style as an architecture of aspiration. According to Frampton (1983) ‘*Avant Garde*’ modernism was a response to the needs and wants of society at the time.

Architects at the turn of the 20th century were grappling with the new architectural issues through needs and wants, whereby industrialisation, standardisation, mass production, housing, and technological advances were increasing at an unprecedented rate (Lipman, 2003). Prefabrication in South Africa has based itself too as a *need* or a *want*, as displayed by the Zenkaya house, which has picked up on the notion of mass-producing contemporary architecture in a South Africa context (Refer to Fig_2.1.26).



Fig_2.1. 26 : Mass produced Architecture through Prefabrication. Zenkaya house, South Africa, 2012.

As we can assume, machines are responsible for the majority of the built environment we bear witness to today and therefore the experience of those spaces have a certain 'machined' quality to them. However, it is often that the process of architecture (or the making of architecture) has been sealed off from the users; its tectonic is often not evident. Architecturally, reproduction has not only been through vertical layering of identical floor plans, but also in a form of misrepresentation of architecture from one place to another. This has rendered a situation has evolved which has evoked a sense of '*placelessness*', whereby the reproduction of elements and experiences, are absorbed by a universal model of '*sameness*' that essentially disregards direct relationships to site-specific conditions and context. A form of scenographic portrayal, as opposed to a '*direct representation*' (Frampton, 1983), is exploitation into a universal paradigm, the same, here, there and elsewhere (Auge, 2004). The use of mass-produced veneer and fake surface treatment is incongruous in the architectural form making of pastiche' surface appearance, or *Scenography*, devoid of meaning, history, tradition, culture, context, materiality, and people, is objectionable in today's resource-deprived world of today. (Frampton, 1983, Eeden, 2004).

Lipman (2003) reiterates by commenting on the state of the built environment found in South Africa, where local peculiarities have been pushed aside due to the obsession with borrowing ideas from Universal ideals. Versions of Tuscany, Old English homesteads and even Venetian canals are erupting all over the country "*always elsewhere, not at home*" (2003:xi) (Refer to Fig_2.1.27 & 28).



A local version of reproduction of experience could be found within the Point development in Durban, the artificial canals, reminiscent of those in Venice, are predominately empty, but are often frequented by gondola's. Is this an honest representation of context and place? **Fig_2.1. 27:** The canals in Venice, Italy. **Fig_2.1. 28:** The canals in the Point development, Durban.

“We are in the thrall of faked-up materials: imitation timber veneers on flabby chip-boards, counterfeit “marble” surfaces complete with mica chips to add so called sparkle, stock bricks that crumble to the touch, concrete mixed in casually unchecked proportions – particularly vis-à-vis its cement content. [...] Much, if not all of this – and more – is like so many of our societal values; shallow, short-lived, seemingly glitzy, tinsel.” Lipman (2003:xi).

According to Frampton (1983) often the built environment falls victim to a masking or false representation that omits the notion of tactile and tectonic architecture. The notion of architectural *Scenography* that draws “[...] *veils over the surfacing of reality*” (Frampton, 1983:29) echoed by Lipman’s (2003) sentiments as he essentially replaces the word “*veils*” with “*tinsel*” (2003:xi). Within the context of South Africa, Architectural responses could bear the qualities which Frampton (1983) refers to as “*Arriere-garde*”, which essentially ties itself equidistant within the spectrum of *past*, ancient and historical architecture before manufacturing and a post-industrial and the progressive modern architecture in the *future*.

2.1.3.1. THE LOCAL AUTHENTIC FAKE : SUN CITY, SOUTH AFRICA

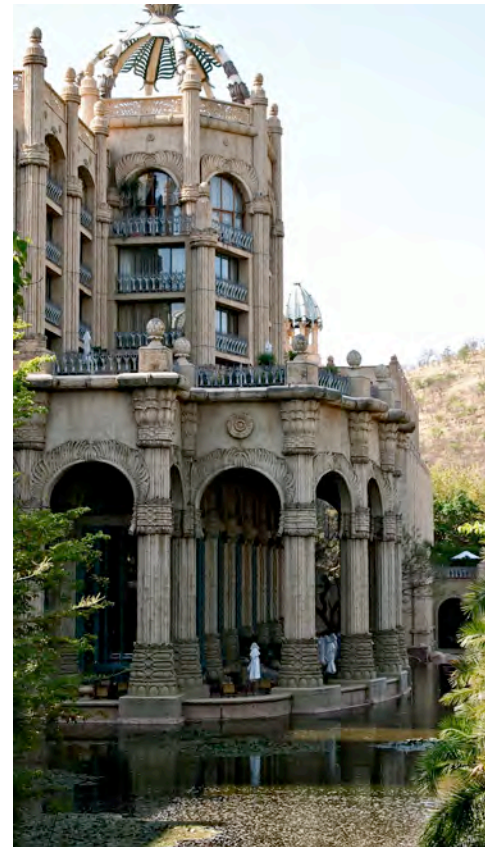
“Local history and culture are negated to create background décor that stimulates tourist consumption.” Eeden (2004:56).



Fig_2.1. 29: “Authentic” representation in the foreground with the real veld-scape context as the backdrop.

The development of a man made ruin called “Sun city – Africa’s Kingdom of Pleasure” (www.sun-city-south-africa.com) was conceptualised as an “authentic” entertainment destination destined to be “a large scale combination of Disney fantasy and Las Vegas glitz” (Eeden, 2004:55). The development was originally positioned within an independent state just outside of the Northern borders of South Africa in the area once known as Bophuthatswana, due to gambling restrictions in South Africa. The ‘architecture’ of Sun City was derived with the assistance from films made about Africa, which imposed a stereotypical portrayal of African culture (Eeden cited in Lukas, 2009). Ironically though, an American Architectural firm, Wimberley Allison Tong and Goo, brought about Sol Kerzner’s vision of mythical Africa, thus underscoring the backbone to the banal representation of African architecture over the true contextual and historical background to the site. For example, the identity of the local Shona people was deemed not glamorous enough to be portrayed as a utopian entertainment centre, therefore the decision to manufacture a building in the form of a ruin was decided upon (Eeden cited in Lukas, 2007:115).

The portrayal of a ruin lies deep within the historical references of European leisure gardens, which used ruins to communicate the idea of a *Lost World* or *Lost Village*, which immediately sparks nostalgic references, as if to have gone through the passage of time (Eeden, 2004) (Refer to Fig_2.1.30). The landscapes are “re-present [ed]” (2004:55) in a particular way to evoke a reaction, often nostalgia, much like a theme park, and displace people from what they are actually looking at. The realm of fantasy overwhelms the visitor as they begin to believe the narrative is real, “a spectacle” (Eeden, 2004:55, Augè, 2008). Techniques for motivating the passage of time are explicitly used to let the visitors know that this development in fact has been standing for years, almost as “in keeping with the taste of pleasing decay in the eighteenth century” (2004:55).



Fig_2.1. 30 : The man-made palace/ruin.

Sun City was the first, authentic fake, of which many buildings in South Africa replicated, not particularly by style, but rather as a scenographic representation. The emphasis is often placed on the admiration for colonial discovery and its *triumphant* past – an “*appropriation of territory*” (Eeden, 2004:56) - as staged versions of *authenticity* often revolve exclusively around money-driven building typologies (casino’s, leisure / entertainment centres etc), exploit local qualities solely for financial gain and essentially pollute our natural and built landscape. Furthermore, institutions of this nature often dilute the local topography, identity, cultural and climatic conditions found within its immediate context. These critical place-defining factors are, at best, controlled and manipulated to convey an ideological outcome, often using representational techniques to evoke a false sense of reality and nostalgia. This resulted in a distorted sense of reality and essentially the exploitation of their “*natural ambiance*” (Eeden, 2004:55).

Much like Disney, *Sun City* is not only about processing consumers into an “authentic” representation within a controlled, yet fake, environment for “*escapist hedonism of pop culture*” (Kesting and Weskott, 2008:9), but also sets the scene for a specific type of consumer attraction. Eeden (2004) speaks of the “*picturesque*” (2004:55) being an often forgotten, yet important factor for the success of the entertainment centre. The origin of the word *Picturesque* was derived as an aesthetic quality in the late Eighteenth Century England and quite literally refers to something being “*like a picture*” (2004:55). *Like* or represented, or a reproduction of the original. In addition, this process resonates with Pallasmaa’s (2009) notion of “*flattening of ones senses*” (2009:97) into a reduction and manipulation of ones sense of reality. The surreal spatial qualities engulf the user and are derived by two narratives; the one being the colonial discourse in which the development bases its “architecture”, and the other being the devices or “*visual mechanisms*” (Eeden, 2004:55) used by many theme parks worldwide (Eeden, 2004).

2.1.5. FLATTENING AND THE WEAKENING OF EXISTENTIAL GROUND

“Modernity at large has been obsessed by vision and has suppressed tactility.”
Pallasmaa (2009:94).



Fig_2.1. 31 & Fig_2.1. 32: Do these images read as “tactile”? An Ipad and the Telkom building in Durban.

We are now witnessing that within the “*information, computer or post-industrial age or the ‘digital revolution’*” (Roke, 2009:11) within which we live, the virtual sphere is encroaching our everyday physical lives by means of branding, advertising, campaigning and even subliminal messaging. The use of computers “*tends to flatten our magnificent multi-sensory and synchronic capacity of imagination by turning the design process into a passive visual manipulation, a retinal survey*” (Pallasmaa, 2009:97)(Refer to Fig_2.1.31). As the virtual world passively attempting to replace reality; computer screens have replaced books and so too have pens and pencils been replaced by computer keyboards and mouse’s. Pallasmaa (2009) argues that a major catalyst for this phenomenon of “*flattening of the senses*” (2009:97) is the overstimulation of “*mechanised, automated and electronic equipment and gadgets, with their invisible workings and functions*” (2009:81). Furthermore, the variety of one-dimensional screens ever-present in the modern world, in effect merely “*screens the reality*” of experiencing the world (Augè, 2008:xviii). According to Moore (2001), one of Frampton’s (1983) 6 points towards a Critical Regionalism states that it opposes “*the tendency in an age dominated by media to the replacement of experience by information.*” (Moore, 2001:16).

One can assume that the modern world is undoubtedly accelerating at an unprecedented rate because of the rapid advancement in technology and machines; such as the computer and the promptly expanding local and global transport systems. Mass production has evolved from a physical means of producing into very simple yet powerful technique of a computer. The notion of mass production can be readily assigned to the commands of *copy* and *paste*, which can be assumed as the contemporary version of the factory, based mass production technique. We can assume therefore, that as a society, which exists within the “*post-digital age*” (Roke, 2009), the notion of copy and pasting has become habitual, and has inevitably been brought about by progressive technology of the machine (Refer Fig_2.1.33).



Fig_2.1. 33: A rhetoric artwork depicting the *third industrial revolution* which suggests mass production of almost everything through the use of digital technology.

These non-human functions and processes are known to affect “*imagination, invention and self identity*” (Pallasmaa, 2009:81). Roke (2009), agreement with Pallasmaa’s notion of *flattening*, cites Thomas Friedman’s *The world is Flat*, by referring to the accusations of “*flatness*” that was supported and brought about by the “*post digital condition*” (Roke, 2009:11). However, the idea of flattening could be explored further by the overlaying of ideas and technologies to form a rich and “*dynamic reality of the post-digital age*” (Roke, 2009:11).

According to Pallasmaa (2005) the process of architecture today is affected by distancing through technology, from the building site and the actual design and construction of architecture. This has also resulted in a giant leap in physical scales, buildings are getting bigger, as Koolhaas (1995) defines as “*bigness, or the problem of large*” (1995:a), where buildings achieve a scale “*beyond a critical mass*” (1995:a) and are essentially, consciously

or sub-consciously, reducing quality of design and space to a universal sameness; exhibiting one-way glass, immense verticality, air-conditioners and are devoid of human scale. Influenced by Globalisation, “bigness” claims the “*death of public space*” (Koolhaas, 1995) (Refer to Fig_2.1.32). As buildings are growing in scale at an unprecedented rate, larger footprints and floor-plates continue to increase, as buildings achieve this *critical mass*, where an individual cannot identify with the building, where does this place human interaction with interior and exterior? As many modern buildings, which often represent giant mirrors or “*solar furnaces*” (Fathy, 1986:8), are increasingly evident in cities and demonstrates the necessity of producing the most amount of product (floor space – for even more production) in the least amount of time (construction techniques) and at the lowest cost (mass produced materials such as concrete steel and glass components). This is a result of product over process. How does this affect human-to-human contact, let alone the perception of the built environment on the individual? This disconnection can be observed from building to building, building to person, person to person, and questions how the built environment affects ones sense of themselves, within the radically progressive nature of living in the world today. Pallasmaa (1996) declares that the downfall of our experience with environmental, cultural, and other humans should be held responsible by the ever-present temperament of technology, whereby its governance for the manipulation of human experience is perpetuated into a flattened state. Furthermore, this entails the impact technology has on the volatile nature of human emotion, being a primary indication of our humanity (Pallasmaa, 1996).

“To touch the world is to know the world.” Leslie (1998:6).

Existentialism suggests that existence precedes essence (Pallasmaa, 2009). The existence of the machine age was the celebration of convenience above all other (Gillian, 2003). The essence however, is the disconnection relating to the individuals themselves and the disconnection of people to physical social gathering. This disconnection has weakened the “*experiential ground*” (Pallasmaa, 2009:12) for human growth, connectivity, community and education. However, this can be dealt with positively by appreciating technology as merely a medium, or a tool.

This dissertation is not appealing for a resurrection of craft, or the reversal of machine based processes and automation. However, the following subchapter attempts to reflect on the influence of the crafts and essentially the Arts and Crafts movement and the ideals it brought into the world of architecture.

CHAPTER 2.0

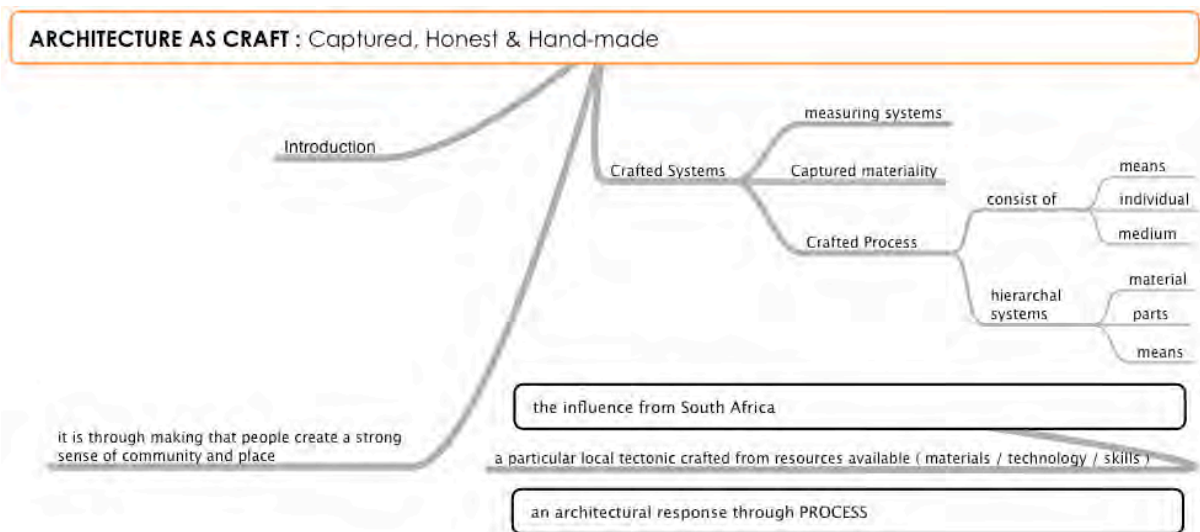
2.2

ARCHITECTURE AS CRAFT : CAPTURED, HONEST & HAND-MADE

2.2.1. INTRODUCTION

“The greatest dilemma faced by the modern artisan-craftsman is the machine.”
Sennett (2008:81).

The perception of *Architecture and Loss of Craft* (Shafiei, 2011) is not a recent article of debate, as the perceived loss of craft in architecture has been grieved for generations. The back and forth of movements, both for and against the machine, has been witnessed since the turn of the 19th century. The industrial revolution sparked an outcry, which then lead to the formation of the Arts and Crafts movement, which then lead to the Bauhaus, and inevitably the commencement of Modernism, which then formulated a shift into Postmodernism. However, it is the loss of *“craftsmanship as a way of life”* (Sennett, 2008:9), at the dawn of the industrial age that has been severely altered (Sennett, 2008). This could be due to the advent (and need) for machines and their technological advancement so evident in the *‘post-digital age’* (Roke, 2009). It is with these progressions that have inevitably formulated a blurring of the boundaries of industry and craft. In order to understand craft in today’s modern society, this section of the dissertation investigates the history of craft and hand-made processes, and to explore its relevance in today’s *‘universal civilization’*.



Fig_2.2. 1 : Flow Diagram outlining the structure of *Architecture as Craft*.

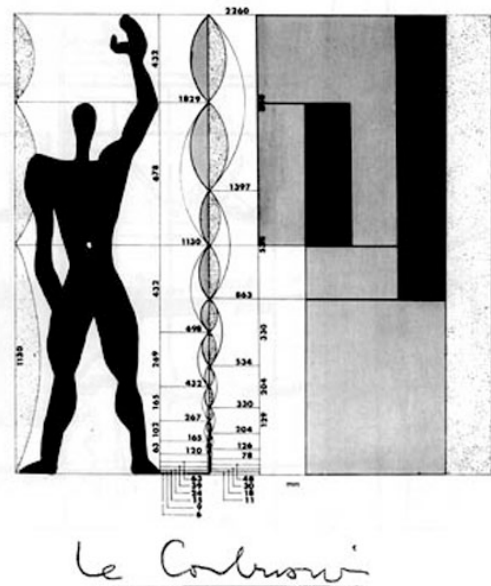
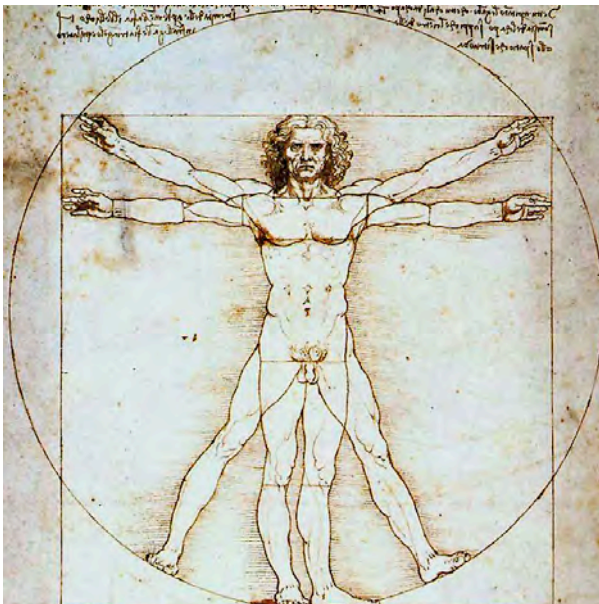
2.2.2. CRAFTED SYSTEMS : HAND MADE

2.3.2.1. MEASURING SYSTEMS

“One of the problems of the 20th century [...] is that there is less and less time for craft. Yet buildings which lack craft just don’t seem to have any love in them.” Glenn Murcutt (cited by Drew, 2001:70).

These buildings, which Murcutt refers to, do not exhibit a human interface, the notion of being made, the gentile delicate touch of a human, shaped and made by the human hand. Foster (1983) refers to Critical Regionalism as a *“critical mediation of the forms of the modern civilization and of the local culture, a mutual deconstruction of the universal techniques and regional vernaculars.”* (Foster, 1983:xi). Day (2004) complements Foster’s (1983) thoughts on Critical Regionalism by visiting his thesis which discusses how Globalization has, in effect, deprived western society of its rootedness in local environs and sense of place because of the domination of modern architectural principles for living (Day, 2004).

“Primitive man used his own body as the dimensioning and proportioning system of his constructions [...] Skill was learned through incorporating the sequence of movements refined by tradition, not through words or theory.” Pallasmaa (2005:60).



Fig_2.2. 2 & Fig_2.2. 3 : Leonardo's Vitruvian Man and Le' Corbusier's Modular man stand side by side.

The imperial measuring systems forced architectural form to be realised through the dimensions taken off a human body, measured in inches and feet (Pallasmaa, 2009). Vitruvius man, Fibonacci series and golden section were proportioning systems used by imperial measurement resulted in architecture influenced by proportions that were measured off, and designed to, suit the human body (Refer to Fig_2.2.2). This provided a more human scaled presence to a space, façade and inevitably influenced the built environment. It was not a machine or computerized measurement, nor was it easily translatable. The architecture therefore could be considered as one-offs, as it was human-measured and appealed to a local human scale. As explored in the definition of terms of this dissertation, the etymological definition of the term “*architect*” was once regarded to as the “*chief craftsman*” (etymonline.com) and the architectural profession itself was once regarded to as a form craft (Pallasmaa, 2009). To understand the shift from architecture being referred to as a form of craft was then ultimately regarded to, as Le’ Corbusier’s (1923) declares as architecture being “*a machine for living in*” (1923:60). Le Corbusier (1943) formulated the *Modular Man* (Refer to Fig_2.2.3) through mathematical formula’s, geometry, the human form, and architecture into one single proportioning system. This, he believed, would remedy the course of architecture as it would fix proportions and create harmonic measure to the human scale. This universal measuring system was to be implemented in the design from door handles to cities, and could be further applied to machines, industry and mechanics.

Rapid development through the 20th century enforced the imperial measuring systems to be diluted as it was not easily translatable cross-continent, nor was it mathematically accurate. Globally, the shift from imperial to metric was a decision made to enable countries from all over the world to trade and communicate within one language or system of measurement. The introduction of metric measuring systems standardised dimensions could be a possible suggestion for the monotonous nature of architecture in the modern world.

2.3.2.2. CAPTURED MATERIALITY



Fig_2.2. 4 : Bamboo in its natural, uncaptured state

Fig_2.2. 5 : Bamboo incorporated into the design of the Great Wall house, Beijing, China. Kengo Kuma, 2002.

As stated in the Definition of Terms, the definition of captured or raw material refers to a material that consists of identical subject matter from where it was captured, or obtained, as its finalised form, or product (Refer to Fig_2.2.4). The raw material remains raw until it has been transformed, or crafted (Refer to Fig_2.2.5). The distinction thus, between manufactured products versus raw material is that manufactured material is manipulated through industrial processes which inevitably produces a finished product, whereas a captured material remains raw until hand crafted. Within the industrial society of today, the notion of craft has essentially been altered, as “[...] *machinery takes over the production of artefacts on a mass basis.*” (Frescura, 1992:NP) which has resulted in mass-produced materials and mass-produced architecture.

*“Craft is a *techne*’ as it takes raw nature and transforms into useful utensils and tools by means of a carefully pre-conceived and reasoned intelligence.”* Porphyrios cited in Ots (2011:60).

The Greek word *Techne*’ means purely to “*make something appear*” (Heidegger, 1971:159) and Heidegger (1971) believes that it does not necessarily concern itself with the definitions of art or craft. However, the notion of *techne*’ has been suppressed by the advent of modern machines (Heidegger, 1971).

Craft fundamentally involves raw material, as the material will be manipulated often by hand into a different form its prior self. It is not a radical change in its pure molecular

composition (Collingwood, 1938). As noted, the notion of making is intrinsically linked to that of the process of the hand enforcing one's connection to an existential ground (Pallasmaa, 2009). Henderson (2011) quotes Sennett (2008), by stating, "*Making is Thinking*" (2011:4) and suggests that once the hand and mind become separated, the task of the craftsman is distorted. In addition, without human interaction, technology and machines are rendered useless (Moore, 2001).

2.3.2.3. CRAFTED PROCESS

"Craft matters because it is not only the fundamental building block of the creative industries, but is a process that brings together the hand, the head and the heart in order to engage with, explore and interpret the world around us." Eden (2010:
www.edenceramics.blogspot.com/2010/03/does-craft-matter.html)

The formation of Guilds, to protect and incorporate craftsmanship and artisans alike, were guided by the three fundamental stages of craftsmanship, namely; the Apprentice, the Journeyman and the Master (Collingwood, 1938). Over the course of roughly 7 years the apprentice would need to show the ability of replicating how the master worked, to be able to progress to being a journeyman. From there, over the course of 5 to 10 years, the journeyman's quest to become Master would through be a process of demonstrating a full competence to design, build and complete entire jobs on their own, as well as the capacity to simultaneously run a workshop. This process would then often see the retiring of the previous Master (Collingwood, 1938). Collingwood (1938) suggests that the essence in Craft making is the ability to adapt and make tools, organize bodily functions and the ability to think about materials in new innovative ways. The notion of craft making, guilds and stages of craftsmanship have been completely neglected through the "*post digital age*" (Roke, 2009). According to Pallasmaa (2009), in modern times the apprentice based architecture model has been shifted and has placed even more distance between the architect and construction.

"Crafted objects [...] provide a model of authentic experience, the experience of a person imprinted on to the objects that he or she brings into being, and tapestry offers a model of authentic memory, the weave of past and present experience and utopian possibility." Leslie (1998:11).

The act of story telling is intrinsically related to the notion of craft and craft-making (Benjamin cited in Leslie, 1998) as it essentially demonstrates the similar means of how stories are

“weaved” much like a carpet or basket and “*through travel, craftsmen have experience of the world and a world of experience*” (Leslie, 1998:5). The essence of both story telling and craft cannot be further removed from the ideas of mass-reproduction and industrial process (Leslie, 1998:6). Benjamin’s view on craftwork and story telling are inseparable as he examines the use of the hand, the eye, and the mind, simultaneously (Leslie, 1998:6). In addition to the hypothesis of the tactility of experience that Benjamin comprehends, Pallasma (2009) also demonstrates that the hand is also an object and it is intrinsically linked to the eye, the brain, and language (2009:33).

“*the time of the machine, not the time of the hand, determines production*” (Benjamin cited in Leslie, 1998:8).



Fig_2.2. 6 : A crafted process – from raw material to functional material.

“*Every good craftsman conducts a dialogue between concrete practices and thinking.*” Sennett (2008:9).

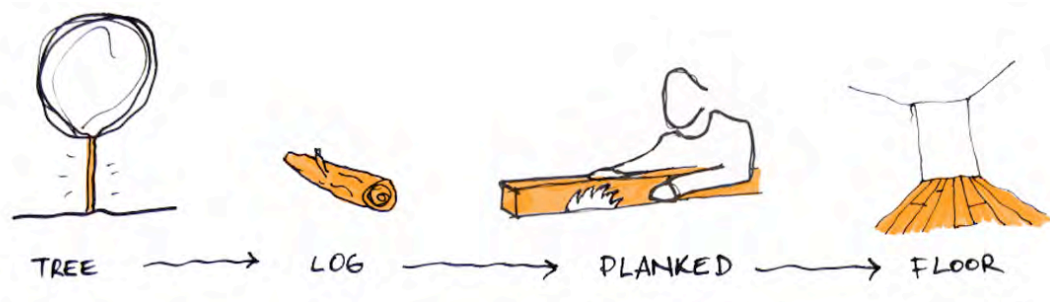
Craftwork is comprised of three parts. The *individual*, being the craftsman or craft worker. The second being the *means* defined as the “*things that are used in order to reach the end*” (Collingwood, 1938:15), but not only limited by ‘*things*’, the *means* includes the method, the tools and the process (Refer to Fig_2.2.6). And lastly, the *medium*, being the substance or material used as a catalytic middle element. The *medium* carries the link the between the *individual* and the *means* and is often referred to the material at hand which receives manipulation from the *individual* by certain *means* (Collingwood, 1938, McCullough,1996).

Collingwood (1938) notes that a specialized skill could be referred to as a certain technique, and that craft has a predetermined outcome. This is in contrast to art, which has only the means, or process, to dictate the end point. Although both craft and art utilize the same elements, it is from opposite ends from which they commence (Collingwood, 1938). Craft is predetermined. The product is thought of first, prior to the *means*, whereby the craftsman knows, in the initial stages before he starts, what the outcome or end product should be. In

execution, or the doing or making, the *means* obviously comes before the product. Whereas art starts with the *means* and relies on that process to dictate its product or endpoint. (Collingwood, 1938). This is a fundamental distinguishing characteristic between art and craft, but more importantly the potential, yet fundamental, link between craft and machine. Where the process of the machine is similar to the process of craft, as the end point is where the process begins.

According to Collingwood (1938), Craft can be broken up even further, through the hierarchical systems of Craft, which are essentially a multi-layered system. They can be isolated into three categories; *materials*, *means* and *parts*. The systems are discussed below:

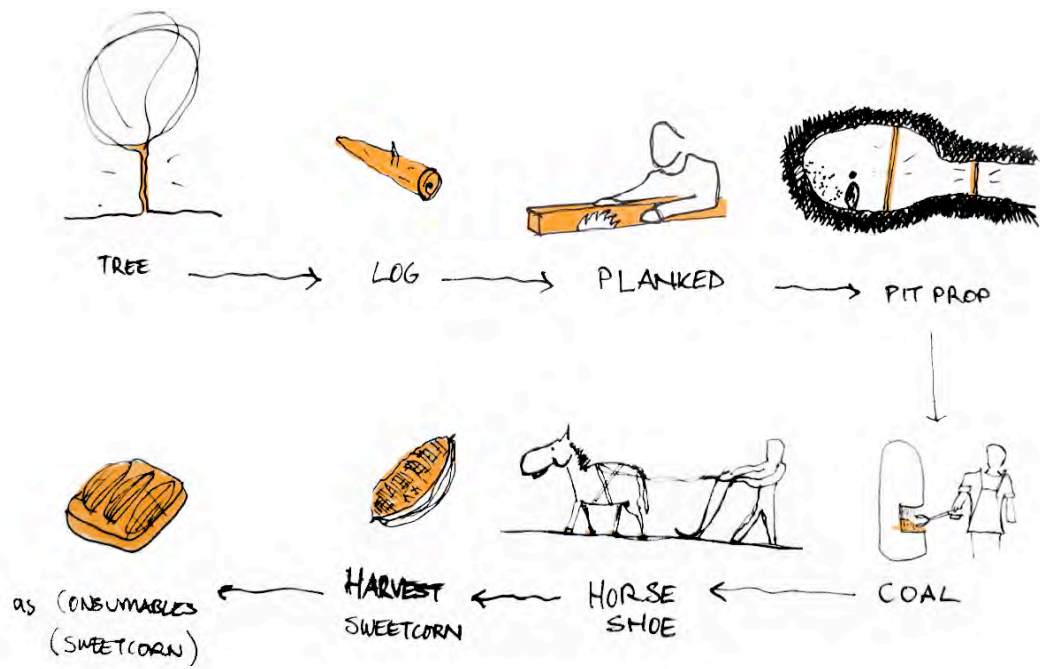
Materials : Raw materials undergo a series of stages from its raw conception to its final use between various crafts. “*The raw material of one craft is the finished product of another.*” (Collingwood, 1938:16). For example; the nurturing of raw trees by a silviculturist are then the felling of these raw trees by a lumberjack. These raw logs act as raw material for a timber yard and saw mills, again, the planks are then raw material for a joiner. (Collingwood, 1938) (Refer to Fig_2.2.7).



Fig_2.2. 7 : Sketch displaying the notion of the hierarchy of *materials*.

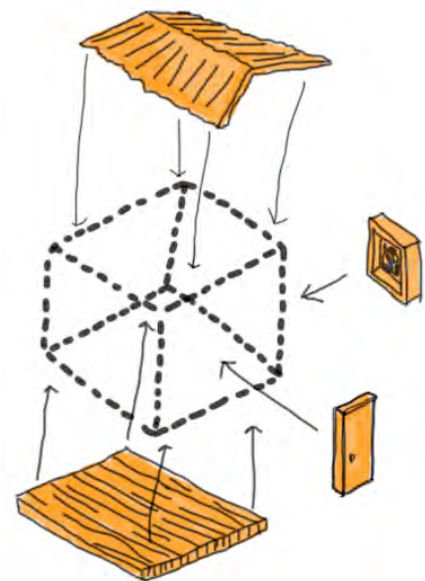
Means : Although the raw material could be extracted at any stage for what ever reason, it can also be used as fuel for other processes to happen. Craft supplies an endless cycle. For example; the wood from the timber yard is used as supports (Pit-props) in a mine, which aids in the harvest of coal. The coal is then used in a blacksmith’s workshop to make horseshoes, which allow then horses to harvest corn. The corn is then transferred to a shop as food a consumers. (Collingwood, 1938) (Refer to Fig_2.2.8).

**A CRITICAL SOUTH AFRICAN RESPONSE
TOWARDS A MODERN HANDCRAFTED DIALECTIC ARCHITECTURE**
The design of a collaborative skills development facility in Durban.



Fig_2.2. 8 : Sketch displaying the *means* of transformation of *materials* and their various uses.

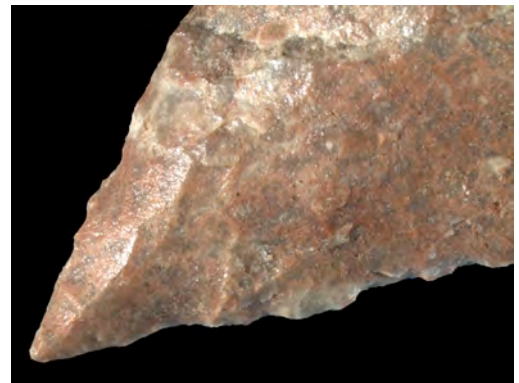
Parts : As seen in the construction industry, specific work is outsourced to specialists in their fields. These particular skills and expertise are assembled as an autonomy of parts to create a unified whole, “A bringing together of the parts.” (Collingwood, 1938:17). For example; a professional team is brought in to perform the floor finishes whilst another team resolves the windows and another completes the roof (Refer to Fig_2.2.9).



Fig_2.2. 9 : Sketch showing the *parts* that make up the greater whole.

“The designers purpose is to be in harmony with the material. The craftsman has the advantage that at every stage of work his material is in his hands to feel and command. In industry, the material is constantly subordinate to some pre-planned law and machinery and once the job has begun its difficult to make changes.” Wirkkala cited in Pallasmaa (2009:56)

In contrast to the hundreds, if not thousands, of people condensed into modern industrial buildings, the workshop in medieval times was where craftsman lived with their families, therefore the distance between work and living space was minimal (Sennett, 2008). Craft and craftsman were celebrated for their instinctive methodology and ability for *“using tools, organizing bodily movements, thinking about materials that remain alternative, viable proposals about how to conduct life with skill.”* (Sennett, 2008:11). Leslie (1995) reveals, in Benjamin’s *“Theory of the object in the Industrial Age”*, the idea of crafting and making, which are described as *“authentic experiences”* (Leslie, 1998:5) and are the demonstrated by *“the process of memory”* (Leslie, 1998:5) (Refer to Fig_2.2.10).



Fig_2.2. 10 : Craft and its history to all intents and purposes stems from prehistoric man and his need to survive. It was this necessity that was in essence the birth of handcraft skills and so too came new hand made technologies. Prehistoric man in South Africa had a sophisticated manner of making tools and an impressive inventory was maintained.

Craftwork is celebrated through the *‘Thinking Hand’* (Pallasmaa, 2009) or *“the hand that feels and marks its objects; authentic knowledge of the world is envisioned as a ‘grasping hold’ of the world”* (Leslie, 1998:5). It is though the embodied existence of the creator with his craft that allows a connection to one’s existential ground (Leslie 1998, Pallasmaa, 2009) (Refer to Fig_2.2.11). Craft is a celebrated form of making, which is distinguished for being created by the hand, held in the hands and therefore lends itself to the fact that it is an extension of the

artist (Pallasmaa, 2009). At first the art starts small becoming a constituent of the individual, limited only by what the user's hands and mind can portray and create (Refer to Fig_2.2.12).

Pallasmaa (2009) reminds us that the hand “registers and measures the pulse of lived reality” (2009:117). Objects made by the hand can be regarded as one offs as they are distinctly covered in the characteristics of the maker (Pallasmaa, 2009, Sennett, 2008). The importance of the hand can be expressed by the act of giving oath, or fingerprints as “evidence of my identity, the hand stands for my entire persona” and “Grasping the truth, seizing the future; the hand is a political organ.” (Pallasmaa, 2009:31; Leslie, 1998:6).



Fig_2.2. 11 : Engrossed with the process at hand, a craftsman forms his pottery with careful consideration.

Fig_2.2. 12 : A craftswomen works her trade on a “one-off” basket in the Drakensburg, Kwa-Zulu Natal.

The paradigm shift, in which industrial processes have replaced artisan processes has been witnessed the world over (Leslie, 1998). According to Pallasmaa (2009) “[...] the connection with the processes of making continue to be seminal” (2009:69) and that architects working today, whom live in an “intellectualised world” (2009:69), should reach for meaningful and honest working relationships with those who work in the “[...] real world of materiality and gravity” (2009:69). Without being supported by physical models, site visits and embracing reality with a notion of existential ground, architecture is facing monotonous machine generated interventions that have little to no regards to one's sense of “being-in-the-world” (Heidegger, 1971:147). Considered design should be incorporated in every aspect of the project; especially in construction, where work that is too repetitive and monotonous “kills ambition, self esteem, pride and [...] the craft itself” (Pallasmaa, 2009:63) (Refer to Fig_2.2.13 & 14). Poorly motivated workers show evidence of this in their work (Sennett,

2008). This calls for a collaborative effort and a dialectic relationship between architect and builder/crafter/sculptor, as it allows them “[...] to internalise their work and perform supremely at the limit of their professional capability” (Pallasmaa, 2009:63) - thus celebrating the individual skills and professionalism that various teams bring to projects.

2.2.3. THE INFLUENCE FROM SOUTH AFRICA



Fig_2.2. 13 : A typical example of a mass produced bollard manufactured in South Africa.



Fig_2.2. 14 : A bollard found in Durban demonstrates the extent to which a crafted, “one off” method of producing can be achieved.

According to Jahangeer (2001) the architectural debate is forming, not between the East and West to any further extent, but is actually forming between the North and South. This is particularly due to the circumstances that have been formed between completely different contexts, with regards to climate, history, rules, and regulations, which inevitably is due to colonisation (Jahangeer, 2001).

The nomadic tendencies of indigenous African peoples in South Africa were adapted to follow seasonal change for resources and allowed for a sustainable relationship to develop between resource and consumption. (Frescura 1992, Makin, 2012). The fundamental reason for this was that many rural areas in South Africa never experienced the industrial revolution in their local economy (Frescura, 2009). What this meant was that, by responding directly to the local context and climate, the indigenous structures were forced to utilize whatever materials found at hand in innovative ways (Frescura 1992, Cooke, 2012).



Fig_2.2. 15 : A traditional Zulu beehive hut in Kwa-Zulu Natal, South Africa that directly responds to climate, context. It is resourceful and straightforward to construct and take apart if required to move.

The rural dweller does not require a sense of permanence, as seen in many corresponding dwellers in Europe, thus structures were either dismantlable or dissolvable (Frescura, 1992). The hand made dismantlable structures could be dismantled and carried, whereas the dissolvable structures used materials that inevitably came from the earth and dissolved back into the earth when dwellers left the area (Frescura, 1992). The structures were closely linked to the connection of an existential ground with its *dwellers*, as the structures were made by people and it was through this process of making that created a strong sense of community (Frescura, 1992). The notion of process, between people, making and built structure, is a fundamental part of the conception of *dwelling* in traditional building techniques which gives rise to an existential ground unattainable from machine based processes (Heidegger, 1971) (Refer to Fig_2.2.16).

Within the contemporary practice of architecture today, the notion of a product, or a finalised entity, dominates the act of social processes (Frescura,1992). Social being the act of which humans interact with each other, using various processes and means to achieve an end goal or a product. The isolation of architects from guilds in the 16th century meant that small groups of skilled practitioners began to design buildings with little understanding of the notion of making architecture. This top-down approach to architecture has transpired to the use of machine-based architectural processes since the 1920's and has further interfered with the interface of humans with the built environment (Frescura,1992). Furthermore Makin (2012) suggests that urban growth should evolve “[...] *through creativity, innovation and productivity* [...]” (Makin, 2012:68).

A CRITICAL SOUTH AFRICAN RESPONSE
TOWARDS A MODERN HANDCRAFTED DIALECTIC ARCHITECTURE
The design of a collaborative skills development facility in Durban.



Fig_2.2. 16 : Although at first glance it could be regarded to as just a surface treatment, another version of scenography perhaps, it is a fundamental response from the community. Both in the form of dress and architecture, which are indistinguishable from each other. They are integrated through meaning and identity and the adapted vibrancy of colour unites the communities. Therefore it is a form of process application, with a direct representation of depth and meaning, not just a *scenographic* portrayal. Ndebele architecture. Kwa-Zulu Natal

Wolf and Wolf architects have developed a process of using sand from the local vicinity as a building material in Hermanus, called Earth Blocks, which were hand made on site (www.wolfandwolf.com). These blocks delivered a very low carbon footprint and are a positive process for much-needed job opportunities in the local area (Refer to Fig_2.2.17, 18). In South Africa “*there is a growing need to move away from technology and choose products manually powered, a return to artisan crafts*” (www.wolfandwolf.com).



Fig_2.2. 17 & Fig_2.2. 18 : A sustainable hand-made building material, hand made on site using local sand and 5% cement/concrete stabiliser : Job creation, low carbon footprint, fire resistant, and creates a recyclable building material with no pollution.

According to Frescura (1992) analyzing either product or process in isolation is inaccurate, as they must read as parts of a cooperative whole. Architectural design should not suffer under any of these circumstances as the process is celebrated and not necessarily just the product. An *existential ground* would accentuate the role of the human within the context of architectural design and construction. Cultural traits of traditional hand made architecture of folk, engaged with meaning, character and texture, have become monotonously slick forms, machine-built materiality and easily translatable from continent to continent, devoid of time and of place. These cultural traits consist of material invention; skills and local technique, or an immaterial one; rituals, spiritual or deity (Augè, 2008). Work of architects, anthropologists and historians has, since the 1970's, endeavoured to rectify the built landscape of the influence of the International Style on architectures past (Augè, 2008).

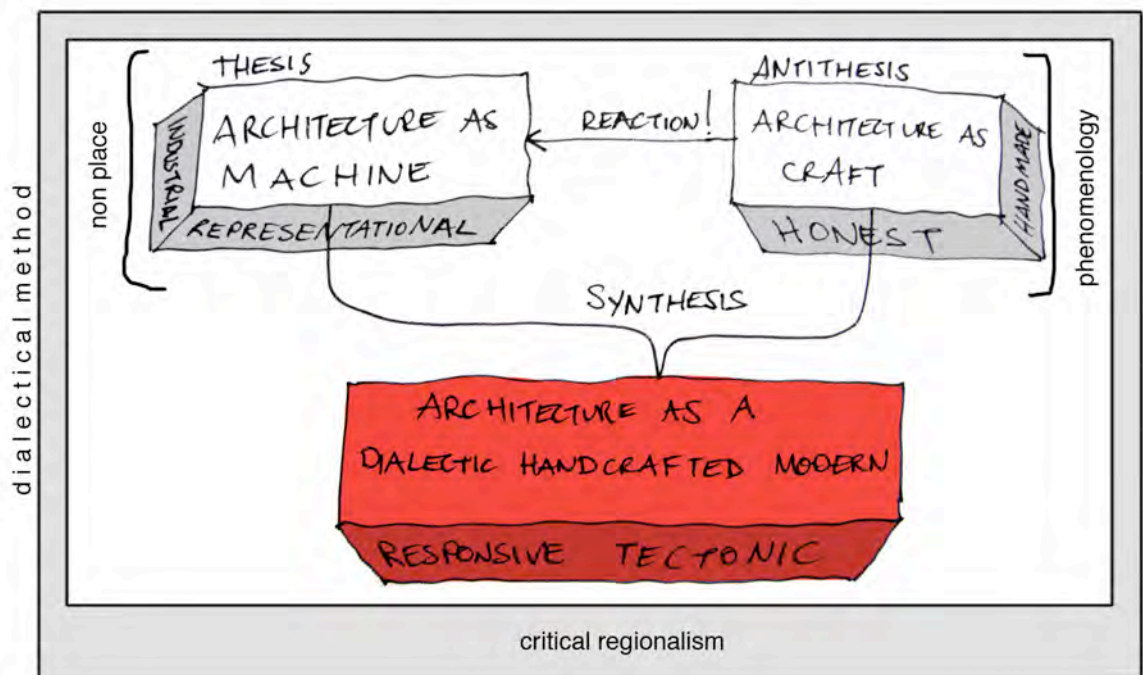
CHAPTER 2.0

2.3

ARCHITECTURE AS A MODERN HANDCRAFTED DIALECTIC

2.3.1. INTRODUCTION

As defined, the rationale for a dialectic involves three stages of development; a *thesis* – being Architecture as **Machine** which gives rise to a reaction, an *antithesis* – Architecture as **Craft** and a *synthesis* – which refers to the resolution of the two. The aim of a dialectical method or approach is to remain mutual and essentially resolve the disparity through rational debate. The dialectical method is undertaken by examining issues independently, and then simultaneously, to evaluate (synthesize) the range of perspectives into an all-inclusive and relevant framework (Refer to Fig_2.3.1).

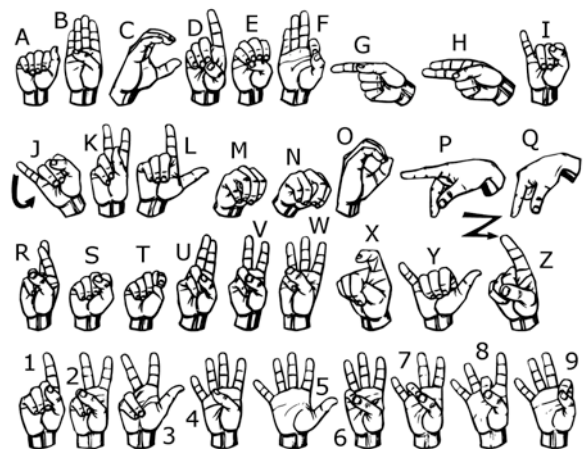


Fig_2.3. 1 : Abstracted Dialectical method.

2.3.2. A RESPONSIVE DIALOGUE

“As buildings lost their plasticity and their connection with the language and wisdom of the body, they become isolated in the cool and distant realm of vision. With the loss of tactility and measures and details crafted for the human body – and particularly for the hand – architectural structures become repulsively flat, sharp edged, immaterial, and unreal.” Pallasmaa (1996:20).

The understanding of language is necessary as this section stresses an architecture created by implementing a dialectical method or approach. Language forms conversations, which allow for the interchange of information. The World is made up of Languages; verbal, hand (sign), machine languages and even “architectural” language. Communication in the form of verbal exchange is a phenomenon which appears throughout the World but was completely undermined in 1939, by Sir Richard Paget. Paget developed a sign language of 500-600 signs, performed by one person with their hands, fingers and arms, but these efforts can potentially produce a staggering 700,000 signs (Refer to Fig_2.3.2).



Fig_2.3. 2 : The great potential the hand has over the mouth for gestural communication and essentially *“makes the human hand overwhelmingly more versatile than the mouth”* (Pallasmaa, 2009:43).

Although there are many ways of expressing oneself; through conversing, dance, art, painting and the likes, the dissertation is concerned with the languages of hand and machine:

Hand Language : Varies throughout the world, as far as noting that where one “sign” may be acceptable in some cultures, it can be regarded as derogatory in others. Themes of hand and its uses have been discussed further in sub heading 2.2 *Architecture as Craft*.

Machine language : There are two types of machine language; analogue and digital. The digital language was essentially developed with coding, in the form of positives and negatives, yes and no, zero's and one's. With digital coding, there is no inherent gray area, which principally results in precise action from mathematical formula for decision-making computing. A computer is capable of reading machine language only and is done through complex coding.

Architectural Language : Architecture can be acknowledged as a form of language as it can be assigned with strong meanings for a responsive and considerate architectural design. A building could be read as a word, repeated as a *statement perhaps*, which could then be read in conjunction with its surroundings, or *context* (Jahangeer, 2008).

“Something organic that grows out of the ground. This is the narrative, not merely of architectural style, but the narrative of the timelessness of the land you're building on. Let the land speak to you.” Benjamin (2011, UKZN).

An architectural intervention has the ability to achieve great unique depth that could be highly responsive of specific qualities that particular site and its context gives off. A process of revealing what is there was highlighted by a lecture given by Issy Benjamin, titled *“Intelligent design”* (2011, UKZN) and suggested an *“Architecture of Narrative”*. This has inspired the notion of how architecture should listen, feel and engage with the site and essentially *“let the site tell you what it wants”* (2011, UKZN). Benjamin (2011) demonstrated with an explanation that the methodology and systematic nature of considering a certain places peculiarities could give meaningful and justified depth to any scheme. Allow for a dialectic relationship where architecture responds and relates to its surroundings, to set up a conversation with its context. An architectural conversation between international and local ideals could be illustrated by referring to Aalto's critical understanding of materiality at Villa Mairea. From a distance the building resembles a pure white modernist boxes, however, the material reveals its true colours on approach. The clean-cut white cube transforms into an uneven and rough white lime-washed brickwork, “[...] *more Mediterranean vernacular than Machine-Age modern*” (Weston, 2003:180). This building displays a rich conversation layered with global trends at the time and balances materiality and craftsmanship to achieve a sense of place (Refer to Fig_2.3.3 & 4).



Villa Mairea. Modern ideals responsive to local context. **Fig_2.3. 3** : The pure white flat white box echoes the machine made modernist ideals of geometric order, which is then complemented by light timber inlays. **Fig_2.3. 4** : However, on closer inspection, the wall is actually lime-washed brickwork: uneven, rough, and full of local character.

2.3.3. TECTONIC ARCHITECTURE

“The tectonic remains to us today as a potential means for distilling play between material, craftwork and gravity, so as to yield a component which is in fact a condensation of the entire structure. We may speak here of the presentation of a structural poetic rather than the representation of a façade.” Frampton (1983:28).

It must be reminded that, as defined in the definition of terms, the word *Tectonic* is derived from the Greek words “tek” (“to make”) and “tektion” (“builder”) (www.etymonline.com). This dissertation inevitably strives for a collaborative tectonic architecture, whereby architectural processes should allow the construction to rise as a form of art from the elegant arrangement of architectural elements in the building fabric (Frampton, 1987:27) (Refer to Fig_2.3.6). Furthermore, a tectonic architecture allows for the compositions of the materials to stand for what they are, but more importantly, stand as a demonstration of the skills of the builder (“Tekton”). By doing this, the gives the potential for builders to become more valued for what they do, inevitably being called in for their specialist skills. To create a tectonic architecture a material should be allowed to stand for what it is throughout the process and means of making, yet still remain evident in its final form (Refer to Fig_2.3.5 & 6). Honest materials therefore omit the need for surface treatment, and are left to change and mould into their surroundings, to resume as a part of the context from which they came.

It could be suggested that through building or creating by “bringing forth” (Heidegger, 1971:159), would allow for a *tectonic* which is evident throughout the entire process and its completion, as this would bring about a dialogue of ‘building’ (Heidegger, 1971). The

characteristics of nature are revealed through human or natural powered tools (eg: wind powered) but are divorced through machine based technologies, which are only concerned with the control of the environment, echoing the notion of *'placelessness'* (Frampton, 1983, Heidegger, 1971).



Fig_2.3. 5 : The formulation for the conceptual abstraction of basketry into a design for a handcrafted-architectural tectonic. **Fig_2.3. 6 & Fig_2.3. 7** : Each panel is hand made and different to the next. Mass production through hand-made craftsmanship. Spanish Pavilion for Expo Shanghai 2010, Enric Miralles Benedetta Tagliabue.

A dialectic modern handcrafted architecture could be implemented through forming a conversation between the *"Thinking Hand"* (Pallasmaa, 2009) and the processes of the machine in modern methods of construction. This could be achieved by including Heidegger's (1971) critique on technology, as it suggests that, through *'enframing'* (Heidegger, 1971) or *'flattening'* (Pallasmaa, 2009), technology and the machine have restricted the ability to experience and respond to one's environment, whereby modern technology has exploited nature as a resource, rather than being explored sustainably (Heidegger, 1971). However, with this understanding, one can use the machine as a driving

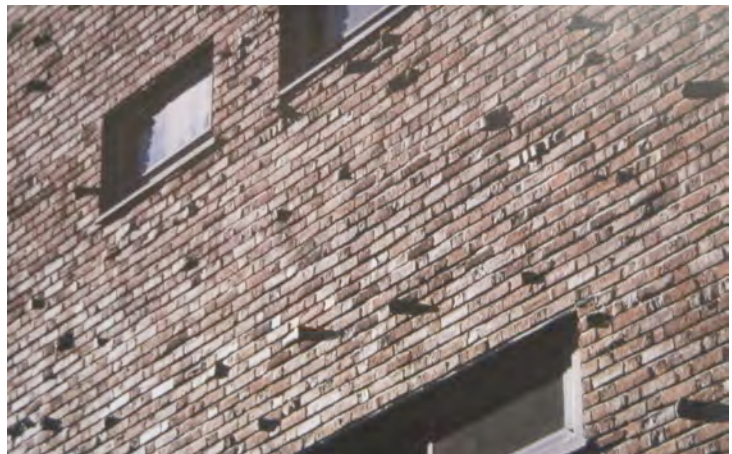
tool, rather than be dictated by it. Heidegger (1917) further suggests that by searching for primal natural truths, one could be closer to the notion of an existential grounding, and believes that technology limits us, rather than permits us, to fully experience the world around us.

2.3.4. MATERIALITY



Fig_2.3. 8 : An art installation revealing the natural material of timber contrasting to its represented effect as veneer. A retort to the authenticity of direct materiality from real to a manufactured representative material. An awareness of materials and their various processes are vital for a dialectic handcrafted modern architecture. They should be dealt similarly to that of crafting and craftsmanship, whose nature is not generic or purely uniform, therefore it follows that the building will lend itself to being more specific to a certain tectonic because of it. By definition, materials that fade, change and adapt, due to the exposure to certain climatic conditions, are the result of being placed where they are and should be celebrated for this reality (Refer to Fig_2.3.8). Whereas those that do not, are merely static and give off no indication of where they might be situated (Murcutt cited by Drew, 2001). The pure white colour palette of typical modernist buildings is scrutinized by Weston (2003) as he suggests that architects had an obsessive relationship with the *appearance* of the architecture rather than its *constructional substance* (2003:118). In addition, Weston (2003) suggests that it was in order to believe that the machine age had an ability to “conquer time” (2003:118) whereby materials were not allowed to show signs of ageing.

In today's society, materials, "[...] *used in architectural forms no longer have to have this strong connection to their place of origin, they can be moved easily from location to location, resulting in a response that is much more varied and eclectic*" (Farrelly, 2007:26). A house located in cold Alaska can be exactly the same as one in hot Florida. This has resulted in a lost opportunity for architecture to respond to the notion of place. Frampton (1983) argues, the essential strategy within the framework for "*Critical Regionalism*" is to "*[...] mediate the impact of universal civilisation with elements derived indirectly from the peculiarities of a particular place*" (1983:20). The '*peculiarities of place*' are fundamental stepping-stones whereby society can celebrate, rather than represent, an architecture of honesty and relevance within the progression of the '*Universal Civilisation*' within which we live.

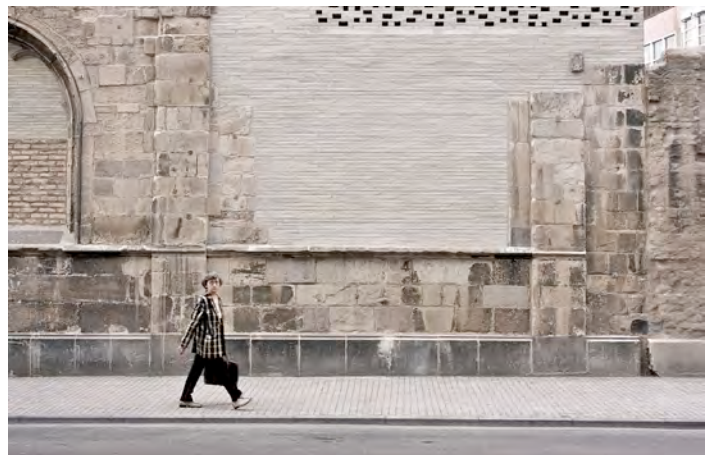


Fig_2.3. 9 : A highly modulated façade encompassing individual bricks that are placed in a slightly different position from the next and the architect enforced that even the most non-uniform bricks were to be used. MIT Baker House, USA. Alvar Aalto.

Architecture should allow for the materials to "*speak for itself*" (Semper, 1989 cited by Weston, 2003:60) and encouraged to suit its particular climate and context. Louis Kahn (Cited by Wurman in 1986, cited by Weston in 2003) suggested having a dialogue with a material to find out what it wanted to be whereby a rhetorical conversation allowed the material to have a *voice* and stand up for itself as well (Refer to Fig_2.3.9). Therefore an experience of architecture can be respected whereby as long as the materiality is rooted to itself and its physical realm it then has the ability to highlight an existential ground within a particular built environment.

“The moment the look dominates, the body loses its materiality.” Irigany (cited by Owens, 1983:70)

According to Zumthor (2010) the importance of the perceptive quality found in local materials, that are rooted in time and context, are increasingly relevant in a rapidly advancing society of today, are imperative towards achieving the notion of place (2010:25). As echoed in Ancient times and more commonly appreciated in rural developments, the materials found in the local vicinity were the building blocks that people would utilize; because it is all they had access to (Frescura, 1996). The rural builder uses his own surroundings as a palette from which to draw from, a *“ready quarry”* (Frescura, 1996). Traditional hand-crafted architecture is almost non-existent within the context of today’s consumer society of production and excess, as this type of building is considered synonymous with rural and developing countries regardless of its quality (Frescura, 1996).



Fig_2.3. 10 : A blend of old and new. Regeneration aided by a responsive material composition. Museum in Ologne, Germany. Peter Zumthor.

Franck and Lepori (2007) suggest that contemporary architecture today has the ability to readjust to the ever-changing circumstances of today’s modern and globalised world. One example is to re-evaluate the way materials are used and the means of their production. This could be viewed as taking the origins of craft-making and inputting them into the technologically advanced age of engineering and machines of today, which allows the persistence of materials to remain true to their own characteristics and experiential qualities (Franck & Lepori, 2007:77) (Refer to Fig_2.3.10).

“[...] history in both a geological and agricultural sense – becomes inscribed into the form and realization of the work.” (Frampton, 1983:26).

2.3.5. A MODERN HANDCRAFTED ARCHITECTURE

“Traditionally buildings were built, now they are increasingly assembled; whereas materials were once worked, or at least adjusted on site and finished on site, now they increasingly come as pre-formed components or assemblies which admit little or no modification – and certainly not the kinds that can be effected outside a specialists fabricators workshop.”
Weston (2003:149).

One could argue that the consideration for detailing once given by craftsman has been lost within the modern architecture of today, as Weston (2003:149) suggests that the decrease in attention to detailing occurred with the advent of industrialisation, where architecture became a production-based domain. Alvar Aalto demonstrated an understanding of machine-built elements that satisfied economic restraints, however, as they would be used and lived by humans, often felt that they needed a more human touch (Weston, 2003:137). Aalto’s architecture is thought to encompass a *“network of touch”* (Baird cited by Weston, 2003:137) whereby elements that are directly negotiated by the human hand are carefully considered (Refer to Fig_2.3.11,12,13). The detailing of typically machine-made elements, such as door handles, hand rails, and columns were explored further by Aalto, frequently softened by the offsets of wood or leather which evoked a warm human feel to the design (Weston, 2003).



Examples of Aalto’s considerate design elements that aimed towards a balanced human encounter with typically machine made components. **Fig_2.3. 11** : The custom door handles designed from Mason Louis Carre’ in 1959 encompass a leather bound grip. **Fig_2.3. 12** : The detail of the Handrail at the Finladia Hal explores a machine made handrail wrapped leather in the areas where it will be in contact with a human hand. **Fig_2.3. 13** : The columns Villa Maireia are wrapped with Rattan and are warm to the touch and create a sense of human consideration.



Resourcefulness of materials can be implemented in various ways. For example, from left to right.

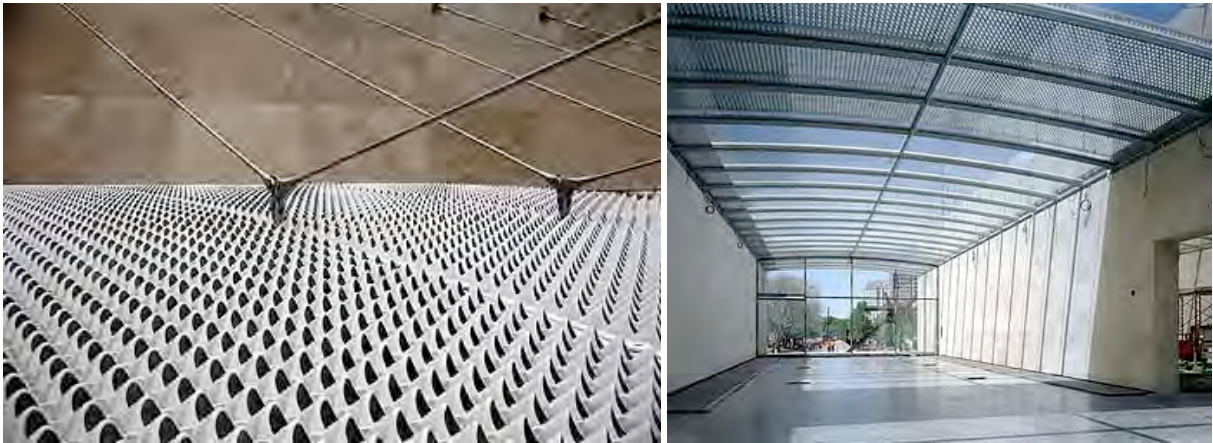
Fig_2.3. 14 : Facades : using recycled carpet tiles. Rural Studio, Carpet tile house, Masons bend, Alabama, USA.

Fig_2.3. 15 : Building material : by re-using old potato crates. Onix Studio, Netherlands.

Fig_2.3. 16 : Building elements : by re-using rope for louvers. Isay Weinfeld, Casa d'Agua, Sao Paulo, Brazil.

By adapting Roke's (2009) "*bricoleur*" method of approach, a responsive and resourceful architecture could be achieved. By utilizing materials at hand, found on site could potentially be an economic saviour for the cost of new materials and essentially deter from potentially useable material to be destined for the rubbish depot (Refer to Fig_2.3.14,15,16). This process could result in an innovative way of being sustainable from the ground up. Weston (2003) suggests that materials found on site and that are directly related to the projects tectonic have a sense of "*belonging or 'dwelling'* " (Norberg-Schulz (1980) cited in Weston 2003:101). For example, sand obtained from the excavation on site could be utilized in the mixture of bricks which would inevitably signify a true essence of place, whereby the true essence of the site will always exist as it is literally the bones of the project. The structural and aesthetic of the dwelling becomes and remains at the same place. Pallasmaa (2009) notes how Louis Kahn demonstrated this technique by using local Volcanic ash in the concrete mixes for the Salk Institute in California which enabled a matte silk and skin-like quality to its surface (2009:103).

Furthermore, as argued by Jahangeer (2008) and Moore (2001), the concept of *Place* is brought about by inhabitation of humans and evidence of their technology "*acting upon nature*" (Moore, 2001:10) or space, to create place (Moore, 2001) and according to Jahangeer (2008) "*People in space make place.*" (2008, Public Art Seminar).



Fig_2.3. 17 & Fig_2.3. 18 : The cast aluminium sunshade, above the glazed roof, was designed to eliminate the need to artificial lighting by allowing controlled natural light into the gallery space below. Nasher Sculpture Centre, Dallas, Texas, USA. Renzo Piano Building Workshop.

A modern version of craftsmanship could be demonstrated by Renzo Piano's architectural approach, as it is not dissimilar to the workings of craftsman; a repeated shift back and forth creating a *"circularity between drawing and making and back again"* (Pallasmaa, 2009:66). The interchange between physical building, drawing and thinking displays a reality where it is significant to keep a balance between machine built and hand made processes. This is another reason why Renzo Piano has renamed his studio to *Renzo Piano Building Workshop*, to express the relationship between apprentices, crafters, builders and architects as being one of a dialectic; each bringing their individual talents to the table, working together as a symbiotic whole (Refer to Fig_2.3.17, 18).

"How does one determine a balance between the Taylorist efficiencies of mass production that digital procedures excel at and the idea of uniqueness, or covetable one-off products?" Walter Benjamin cited in Roke (2009:13).



Fig_2.3. 19 : At just over 100sqm, a strong but simple structure encases a flexible public space that has been built with locally sourced timber and various panels of translucent polycarbonate, a relatively inexpensive modern material. This resulted in a construction time of 10 days. Church, Urubo, Bolivia

As discussed throughout the dissertation, creativity far outweighs monotony, and although mass-production has both dismissed and provided jobs worldwide, it remains as a cost effective means of production. However, a more innovative and constructive springing point should be attained. Arrangements of similar parts (building elements / joinery etc) should allow for adjustments to be made synonymously with spatial requirements and functions. For example; identical windows can be specifically positioned to render the experience within a space to be directly inspired by its immediate position. In other words, instead of rows upon rows of windows, the experiential qualities of the interior spaces could be rendered unique, by locating them in specific positions. By recycling materials, buildings and spaces, instead of re-creating new ones, an architecture of resourceful and responsive means could contribute to a dialectical method of production. (Refer to Fig_2.3.19)



Fig_2.3. 20, Fig_2.3. 21 & Fig_2.3. 22 : An example of a pure dialectic architecture that blends global and local techniques, albeit a bridge, this highly flexible and responsive project has essentially created a sense of place for the local community. Machine built structure and crafted panels and interiors are celebrated in the making of the bridge that not only functions as a school, but also as a collection of once opposing, communities. Bridge school, Xiashi, Fujian Province, China. Xiadong Atelier Architects.

The make-up and quality of Architecture should be, as a result of its place and context, made from elements that surround it, bearing a perceptive quality of materials and climate, and potentially aestheticize the technology and skills available to create an architecture of relevance, elegance, honesty and responsibility. Rather, by understanding the local constructs within which they work, a dialectic handcrafted modern architecture could be obtained. By using “off the shelf” materials and products in innovative ways that excite and intrigue as much as bespoke parts, or “one-offs”, to form a responsive architecture, a certain “constructed-ness”.

By exploring the technological advanced age through a dialectical process could reveal a new methodology for architecture to respond to the modern world, whilst still remaining honest, relevant and responsive to its context (Refer to Fig_2.3.20, 21 & 22). Architecture has the inherent properties of being *built* and *made*, demonstrating the value in both machine production as well as handcrafted uniqueness that would inevitably enforce an all-inclusive process, a situation rendered impossible without close interaction and collaboration. Thus creating a dialectic that will benefit entire communities by including their members in the development of particular projects with the capacity to uplift their skills, become recognized for them and open opportunities for further contracts. It is an inclusive means of designing and producing architecture.

CHAPTER 2.0
2.4
CONCLUSION

Through technological advances in the turn of the 20th century, the advent of the **machine** resulted in production that was able to both quantify and qualify within a certain range of variables. **Mass production** and its effects on today's modern consumer society have been fundamentally determined through the ever-growing hedonistic and idealistic temperament of standardisation and control over output production time and profit. The flows of machine-only processes were developed to produce a much faster and higher turn over of products than any amount of human workforce ever could. It could then be assumed that this inevitably resulted in a mass production of culture, heritage, experience, and architecture.

However, architecture can play a vital role in this situation. By evoking the natural world and a sense of place, crafted, quality driven architecture should be re-introduced in today's world of machines and standardisation. In other words - sameness. Architecture should reflect a direct reaction to its context, climate and the moment that it is built (Frampton, 1983). A positive solution to influence the negative aspects of architectural sameness and misrepresentation could be obtained by a relationship drawn between the processes of machine-based manufacture with the hand-made, bespoke nature of crafting.

As discussed, within our '*Universal Civilisation*' the notion of hand-made production, or craftsmanship, is losing its place in a progressive consumer culture (Leslie, 1998:5). **Craft** has been discussed as a changeable, bespoke and varying type of production that celebrates an **existential** relationship with human manipulation and processes. The so-called fingerprints of the crafter are evident in the final pieces and these slight peculiarities of human impurity that reveal the process, they are signs of the crafters means to an end (Sennet, 2008). This relationship should be implemented into architecture by formulating a methodology that allows particular skills of craftsmanship to have the opportunity to be involved the manufacturing and design process. An architecture which expresses humanity.

The ideas and reality of a local architecture are being subjected to follow the progressive ideas of modernity and the machine, and inevitably the '*loss of craftsmanship*' (Shafiei, 2011) is due to modern design and construction techniques and as a result, has formed a contextual and environmental anonymity (Day, 2004). According to Frampton (1983) contemporary architecture today, along with its effects on local economy, environment,

cultural, and social identity, should be realised through the rejection of Globalization (Frampton, 1983. Day, 2004).

Whilst resisting technology and the machine altogether could be an option, the problem is in fact only extrapolated. The bigger issue is due to misunderstanding or the reliance on machines. This issue was discussed by Wright (1901) as he suggested that William Morris' stand against the machine, through the Arts and Crafts movement, could have had a very different outcome if he had reinterpreted the newfound technology as an opportunity, rather than as a threat.

This dissertation seeks to mediate the dialectic of these two opposing forces; to create a modern handcrafted architecture that remains grounded by both product and process. The loss of existential ground through unidentifiable social and local processes is the gap for which this dissertation asserts its place.

CHAPTER 3.0
3.0
EMPIRICAL RESEARCH

3.1. INTRODUCTION

This chapter presents research into case studies that are specifically chosen to underline the reality of a dialectic modern handcrafted architecture in South Africa. The highly collaborative processes, witnessed in both projects, ensured a deeply responsive project with high standards of workmanship and craftsmanship, and relevance and honesty to its context. The ability of architecture to unite people of various skills and backgrounds is a powerful resource that could be used to influence the natural and/or built environment. These qualities are exemplified in the case studies.

The analysis for the purpose of this dissertation will limit the various complexities found within the project to focus on the processes incurred to develop the physical built environment. The case studies were specifically chosen to highlight the potential for a handcrafted modern architecture in both an urban and rural environment. Therefore the case studies were analysed towards an awareness and attention to detail where the blending of *global* machine-made technique is amalgamated with the flair of hand-made *local* craftsmanship. Qualitative research was undertaken through visiting the buildings and in conjunction with author's photographs and other published literature a critical analysis was constructed. A semi-structured interview with each of the architects, namely; Andrew Makin (dws) and Richard Stretton (Koop), has also helped clarify certain aspects of the case studies.

By using specific parameters, the information acquired is delimited to be relevant to the dissertation topic through evaluation of, namely: *contextual response and architectural response, machine built and crafted elements, materials and construction techniques, and honesty and integrity*. The case studies demonstrate qualities of a dialectic modern handcrafted architecture and how it can be achieved on both a large scale in an urban environment, and small scale in a rural setting.

3.2. URBAN : CONSTITUTIONAL COURT : HILLBROW, JOHANNESBURG : DESIGNWORKSHOP AND URBAN SOLUTIONS

3.2.1 BACKGROUND

The first case study is the Constitutional Court of South Africa in Johannesburg, designed by a collaboration of young dedicated South African architects; omm designworkshop (Durban) and Urban Solutions (Johannesburg). An international competition was held for Architects and Urban Designers to design the home for the new Constitutional Court of South Africa. The site was to be upon Constitution Hill, which was formally a high security prison and fort. The winning entry was chosen by a varied panel; including Judge Albie Sachs and architects Charles Correa and Geoffrey Bawa. The building reflects the rich symbolism of South Africa's political past and acts as a milestone for the progression of the country's democracy. A protector of the people's human rights, the building epitomizes the narrative for a progressive democratic society in South Africa (Masojada Cited by Law-Viljoen, 2005).



Fig_3. 1 : A blend of Modern International style laced with locally handcrafted interventions.

The buildings' expansive and complicated brief inspired the relatively simple looking appearance and its strikingly modern form works with the local context of the surrounding metropolis by enveloping various topographic level changes, orientation and movement corridors throughout the site. The architects have created an example of a real and authentic South African Architecture by keeping the balance between local and global as a constructive conversation between one another. The new building, akin to the constitution it houses, is rooted in the country, its peoples, and speaks of many local cultures. The maturity of recognising place and the consideration of a *critical regionalism* is displayed, consciously or subconsciously, by the decisions made from the procession of the project. These decisions were deliberate, as the architectural concept has been expressed through form-making, materials, history and the notion of place layered with site-specific qualities.

3.2.2 INTEGRATION OF THE MADE / BUILT FABRIC

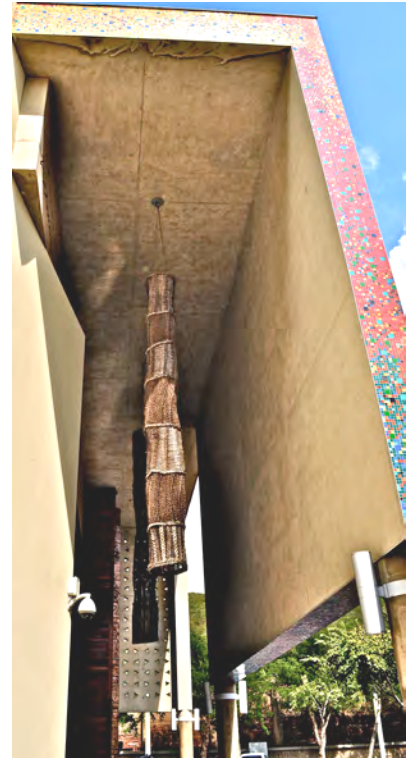
The involvement of local industry is highlighted by the formulation of a competition within a competition. This was formulated and curated by the architects themselves, to commission artists to partake in the project whereby particular parts of the building were left for artists using their skills and experience, to enhance. This gave rise for an opportunity for local artists and the surrounding community, to put their mark on the building, and gives great depth to the built fabric, full of meaning and memories of the society. This way of integrating a hand-made crafted process allowed local craftsman and artists to contribute within the industrial and standardised processes found in typical building construction. The competition brief composed of large scale interventions, such as almost the entire western facades sun screens, as well as small scale interventions such as the mosaics and small bronze cast nosing's for stair treads. The competition also included displays of in-situ or applied artwork, sculptures, mosaics, paintings, beadwork and craft, however, for the purpose of this dissertation, the research will be limited to elements picked up within the entrance façade, the foyer and the sun screens.

3.2.2.1. THE ENTRANCE



Fig_3.2 : A spectacle of complex layering of concepts: Mosaics outline the entrance portico edge. A reflection of the existing trial block staircase positioned in the glass capped with the inscribed entablature of the judge's handwriting. Semi-screened ground floor partitions meet the 6 metre high handcrafted wooden doors with the bill of rights hand carved insets. Delicate rose window glass inlays in the colours of the national flag. All of which is encased in a modern concrete shell, a true blend of international style and local meaning.

Due to the architects' meticulously considered details of the building, the deliberation for people, the experience from the approach, the passing and the entering of the building, the quality of architectural expression is at the forefront of the design. The building is conscious of human interaction from their various points of view. The western façade is modern yet it is of a human scale, it is tactile, and is indicative of the functions housed within the various parts of the building. In contrast to many modern buildings around the world, where the outside realm is completely shut off, the Constitutional Court allows a mutual experience from both inside and outside (Refer to Fig_3.4). The entrance portico is made aware by a monolithic downstand concrete portal that acts as shelter from the elements, much like a verandah in a typical residential building (Refer to Fig_3.3).



Fig_3. 3 : To break up the monotonous machined precision of the concrete downstand, mosaics are inserted to encase the envelope of the façade with a vibrant and tactile human quality.

The raw concrete is then softened by large colourful words and bordered in mosaics. *'The Constitutional Court'* is pronounced in each of the eleven national languages found in South Africa and is written in a font, which was formulated uniquely for the court, by a Durban based designer Garth Walker and was inspired by writing found within the existing prison building and surrounds.

The mosaics, conceptualised by artist Andrew Lindsey, add a sense of vibrancy and sensitivity to the façade. Again, the notion of hand and machine play a role in the formulation of even the smallest details of the building, which help compose a human interface throughout the project. Moreover, the 8 metre high front door, which was part of the artists competition, has the bill of rights hand carved into it, in sign language, and considered details such as Braille found on the actual door handle, to allow blind people to interact with the building as well. This reminds one of the inclusiveness that is strived for both within the constitution, as well as the appreciation of the building towards people. This is a sign that this is a building made by and for people. Above the front door is a modern version of a traditional entablature, inscribed with the writings of the judges: *'Human dignity, freedom, equality'* (Refer to Fig_3.2). The architects had the judges write these words down, which were then translated into a process of laser cutting into shutter board, which was then engraved with a rod into the concrete, another true blend of a modern hand crafted architectural detail.

Underneath the entablature is a 6 metre high glazed wall, allowing light to penetrate deep into the space, but it is also screened with louvred doors on the ground floor (Refer to Fig_3.4). This creates the opportunity to open up the ground floor when needed, but still allow for a screened sense of privacy once inside the foyer. This detail is another variation, systematically revealed by designworkshop, where the design is made properly the first time and then repeated.

The curved concrete entrance reception wall is another example of a handcrafted modern architectural detail, bringing the user into the building and acting as the entrance focus point. Triangular glass infill's are punctured into the curved wall and create a contrast to the heaviness of the concrete. Certain infill's are in the colours of the national flag and echo the experience of the stained glass rose windows of old English Cathedrals (Refer to Fig_3.5).



Fig_3. 4 : The screened ground floor allowing glimpses into the foyer



Fig_3. 5 : The curved concrete wall punctured with delicate glass insets of the colours of the national flag.

3.2.2.2. THE FOYER



Fig_3. 6 : The foyer encapsulates the conceptual framework of the building, serving justice under a tree.

The principle concept used in the building highlights a unique branch of African culture, which suggests that in order for justice to prevail, court sessions should transpire under a tree. The concept is driven throughout the building, the play of light and shadow, inside and outside. However, the epitome of the schemes conceptual background is strongly spelt out in the entrance foyer (Refer to Fig_3.6).

Makin (Cited by Law-Viljoen, 2005) justifies that the function of the foyer is to form a space for the meeting and greeting of people, an introduction, a handshake, to welcome people into the court. This space signifies the conceptual layering of the entire project, as it is from this space from which the rest of the building is explored. The quality of the space is defined by the overarching concept of *justice being served under a tree* and this particular experience is encapsulated throughout the entire scheme. The existential essence of *being* and experiencing the sensual qualities of sitting under a tree are acknowledged by the various architectural details found in the space. Layered with the spirit of being under a tree; the

large multi-faceted columns in the volume of the foyer perform as stumps of trees to support the canopy of the roof scape (Refer to Fig_3.7). The columns are slanted and scattered throughout the space like a forest of trees and, much like the entrance façade, are softened by mosaics. Some are pronounced as *earth* columns (depicted by red and brown mosaics) and some *sky* columns (depicted by green and blue mosaics), depending on which way they are orientated. The architects have skilfully arranged the columns in such a way that they appear to be different, when however, they are actually all similar (Refer to Fig_3.8). The strategy of designing one element well and repeating it, is utilized with the columns, whereby a mass-produced, yet crafted architectural element, appears to be unique by placing them in various positions (Refer to Fig_3.6). They have two arrangements; one arrangement places the square end into the ground, with the round end into the roof, and the other is the exact opposite.



Fig_3.7 : The random roof windows create an abstracted dabbled (north) light which moves through the space. This also shows the primal materiality of the architecture, raw face brick and off-shutter concrete. An awareness to allow the materials to stand for what they are.

Fig_3.8 : The repetition of the columns inside the foyer enforce the experience of being within the density of a forest.

The experience of being under a tree is also abstracted into irregularly placed slit windows in the ceiling to allow dappled North orientated light to penetrate deep into the space (Refer to Fig_3.7). Bricks from the existing Trial Awaiting block evoke a notion of historical background. Specific art and craftwork is placed in amongst this space as abstract reminders of the relevant and coherent nature of a democratic society in South Africa.

3.2.2.3. THE SUNSCREENS



Fig_3.9 : Glistening in the sun, the screens display etched stories from the community.

Fig_3.10 : Western Sunscreens. A highly modern yet tactile façade.

The sunscreens (part of the artists competition) were conceived as a mode of solar protection for the infill of the greater part of the western façade (Refer to Fig_3.9). The commission was awarded to the designers Patrick Rorke and Lewis Levin for their design of small square sunscreens. These were to be positioned alongside the Great African steps, which formed part of an existing pedestrian route where human traffic and the opportunity for social integration played the most important roles (Refer to Fig_3.10). Individually, the screens are one of the smaller interventions that were commissioned but once placed together, they also formed the largest. Conceived as parts of a greater whole, acting not only as solar protectors for the fierce western light, the sunscreens that resemble art in the form of wirework and beadwork, where each screen is different to the next (Refer to Fig_3.12). Placed at seemingly random intervals, these similar yet individual screens are etched with memories of the surrounding community and together they, much like beads, tell a story. As the western light activates the screens, shimmering in an assortment of colours, they

continue to remind one of the historical and political happenings of the site (Refer to Fig_3.11).



Fig_3. 11 & Fig_3. 12: The design of the sun screens echo that of the formulation of the handcrafted artwork found inside the gallery. The building suggests an awareness of where elements are, and will be, placed within it.

3.2.3 MATERIALITY



Fig_3. 13 : A view of the foyer, showing the various use of primary, exposed materials; concrete, in the form of tree stump columns and roof canopy, and reclaimed brick from the awaiting trial block.

According to Justice Albie Sachs (2005), the Constitutional Court is a supreme example of a true South African Architecture because of its relevance to place. The architects achieved this by responding to and investigating “*site-specific, climate-specific, light-specific solutions and to use materials that were local, indigenous, connected to the site. They did not look for high-tech, abstract, formalised solutions. They went for the organic rather than the formal.*” Justice Albie-Sachs cited by Law-Viljoen (2005:27). (Refer to Fig_3.13)



Fig_3. 14 : Bricks from the existing trial block of the prison used to re-enforce the notion of history and meaning

Materials are the essence in which architecture can speak as they enhance emotive and physical engagement with people. Concrete plays a major role in the project, and as Makin (2005) suggests, in the context of South Africa, it is reasonably inexpensive, simple to construct and ensures job opportunities for a wide range of skilled practitioners (Makin (2005) cited by Law-Viljoen, 2005). The essence of untreated cast concrete was utilized for both its “*primal rawness*” and the ability for it to be of “*precise refinedness*” (Makin cited by Law-Viljoen, 2005:59) much like a meticulous machined quality (Refer to Fig_3.13). Materials become physical analogies of formal and informal, light and heavy by weaving the concrete, once the material of choice for many Modernist architects, as if it were manipulated by the hand, forming a dialect of hand and machine formed materials and spaces.

The materiality of the Court is dealt with in a distinctly mature yet playful manner and is the crux within which the manner and disposition of the project overlap; where the built fabric comes alive. Materials are often contrasted against one another, to highlight distinguishing characteristics embedded within the various materials used. Rough and smooth, colourful and plain. Often left in their rawest state highlighted by the treatment, or non-treatment of the concrete and the use of the Awaiting Trial block bricks, untreated and dry-stacked, as an interlaced composition of old and new. The exposed and untreated condition gives the sense of a South African locality, the notion of a hand made environment of raw buildings made from harnessing material from the earth. This is reminiscent of the primal tone which rammed earth walls possess and the tectonic similar to that of the making of wattle and daub panels. The architects, with the utmost respect, exhibited an understanding, awareness, and progression of materials, as it is their distinct characteristics that constitute atmospheric and existential qualities were left untouched.

A key material exhibited throughout the entire project was that of Light. The use of light as an element is not a new concept, Le Corbusier (1920) included light and shade, walls and space as the four key elements of architecture. Light as a free natural resource has been utilized in the Court to enrich the experience of space. Light-specific decisions were encompassed from the very early stages of the design. Often filtered from the North, which resulted in a building that truly encompasses its context, not only as a physical presence, but also as a responsive transient experience for people both inside and outside its walls.



Fig_3. 15 : The play with light in the foyer reflects the intention to blur the relationship between inside and outside.

3.2.4 SUMMARY

“What I think the design of the court does is to build on the traditions of early Modernism with a great emphasis on light, flow, movement volume rather than mass, and the importance of craft and the human hand. [...] the African, South African, quality comes through in the openness, the inside-outside character, the transparency of justice under a tree.”

Justice Albie-Sachs cited in Law-Viljoen (2005:42).

Details from the macro to the micro scale demonstrate how the architects have achieved a balance between *local*, through responsive local contextual parameters, and *global*, as a sophisticated modern architectural response. The involvement of artists and craftsman, from the early stages of the design, truly showed the finesse and delicacy that can be achieved in contemporary architecture today in South Africa. The building as a whole speaks of the languages of South Africa and it is clear that every decision was made with devotion to the location and culture it signifies. The building is highly considered and the design exhibits the presence of the diverse local cultures found in South Africa. It has not referred to an overused ethnic representation, but has rather displayed a dignified African-ness of progressive honesty that sits comfortably within both local and global styles, standards, and principles.



Fig_3. 16 : The Great African steps, winding up the western façade’s memory laden sunscreens, induces a sense of contemplation and reflection.

3.3. RURAL : DALTON RESERVE : MOOI RIVER, DURBAN :

KOOP ARCHITECTS

3.3.1 BACKGROUND

The second case study is The Dalton Compound situated in **rural** Kwa-Zulu Natal (South West of Wagonsdrift Dam, Escourt) and was designed by a Durban-based architectural firm; Koop architects. The project won the Afrisam-SAIA 4 Sustainable Architecture award in 2010, a competition that seeks projects that are derived from four principle criteria. The project must be: *paradigm shifting, involved with the upliftment of people, endeavour to partake in the rejuvenation of the planet and exhibit qualities of placemaking performance.* Demonstrating a responsive and fundamentally resource enriching conceptual framework, the intervention is deeply sympathetic to its context and users. Koop deployed a fully integrated system, outside of the standard construction industry, which included off-site design and on-site manufacturing, which inevitably created jobs for people in the local community through upskilling. Locals learnt skills to build the project and kept them employed after the construction of the project. A crafted yet modern architecture, assembled on-site by a team of local builders, demonstrates the reality of a dialectic architecture, whereby the utilization of machined systems in conjunction with hand-made elements can develop into a true bridging of industry and craft in South Africa.



Fig_3. 17 : Various buildings form a village-type atmosphere within the compound.

3.3.2 PROCESS : THE AUTONOMY OF PARTS

The Dalton project was to be developed in stages, layered similar to the working processes of a machine, which constitute parts made for the complete functioning of the whole. In the first stage the most fundamental parts were addressed. Allowing for the ease of movement throughout the site, by re-aligning roads and creating links into the wider community base, meant that it was rendered serviceable. The resolution of particular issues, such as dealing with excessive grazing and sorting out water drainage, allowed basic functions to be carried out on the site. The dilapidated stone buildings found on the site were then made habitable by re-roofing. This allowed a crucial functioning of the administrative portion of the site to be achieved.



Fig_3. 18 : It was a prerequisite to get people within the site itself by integrating the project into the wider community base.

A team of people were trained, on site, to remove all alien trees from the area. This process required machinery to be bought by the reserve, which could then also be utilized for future development. The timber, retained from the site, was used to build a Solar kiln. The plans were downloaded from the Internet, and this was implemented. The disused timber drying and handling yard existed on site. The Solar Kiln enabled raw timber to be sustainably dried out for use as future building material for the rest of the project.

This then gave rise to the following 5 key architectural principles, maintained and issued by Koop, for the development of the site :

- » **Materials** were to be **sourced** on the property, wherever possible,
- » **“Design it so we can build it”** (Koop design, 2010:7) was the instruction to the architects from the client,
- » Design with **conventional building** forms,
- » Use **formerly populated sites**,
- » **“Only build once”**. The methods of construction should not warrant finishing by another team.

These principles dictated the tectonics of the project and were imperative in the process of *design through making* for a responsive hand-made architecture to be implemented on site. The architectural approach was then explored as a series of simple, repetitive, and easy to learn/teach construction techniques.



Fig_3. 19 : The reservoir house during construction, demonstrating the relatively simple and robust structural system used.

The development at Dalton is conscious of where it sits, within a rural environment and responds to this in various ways. The form-making and architectural language of Dalton is clear, approachable, and respectful of its local context and architectural vernacular. Historical reference to the early settlers of rural farms in Kwa-Zulu Natal was deconstructed into the manner in which raw materials with deconstructable parts were dealt with. By blending both manufactured and captured materiality, the formation of a rich vernacular of Wattle and daub and prefabricated imported housing kits came into being. The architects responded to this by reintroducing the integrity of materiality found deep in the history of the site. As opposed to a *top-down* approach of flattening and re-building, essentially creating rural versions of “*Non-Place*” (Augè, 2008) and “*placelessness*” (Frampton, 1983:26), Dalton adapts to best suit the local vernacular, environment and climate, restrictions and opportunities, by maintaining an honest relationship with its context and local community to preserve a sustainable future.



Fig_3. 20 : Through making, a carpenter harnesses and develops newly acquired skills.

The notion of *Build it once* was clearly employed earlier than the project was even conceived at Dalton, as the existing buildings were positioned in the correct orientation and location within the site. This was justification enough for the architects to follow suit. As the site is

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situated in a primarily rural context, footprints of existing buildings acted as guiding points; the limits actually strengthened the urban plan.

By ensuring flexibility throughout the scheme, the autonomy of parts, evident right from the very beginning of the project, allowed for a sustainable project to perpetuate its own energy and enable job opportunities for the future functioning of the site. Within the very early processes local work opportunities for over 200 people, from the surrounding area, were catered for. Many of who arrived unskilled and were provided with work opportunities before-, throughout-, and post- construction.



Fig_3. 21 : The existing stone plinth of the reservoir house offsets the lightness of the barn-type building floating above, yet remains quietly assertive in the midst of such an open landscape.

This meant that the entire process was driven by locally sourced materials, where possible, and locally trained people on site. Therefore the architecture was developed from the resources it stands on and within and built by people who live in the area. The architects also conceived the development to be that of a village, interconnected by various spatial configurations giving the development a deep sense of place within such an extensive landscape.

3.3.3 MATERIALS, METHODOLOGY AND THEIR MEANS

As the building methodology was to be developed outside of the typical construction industry, it gave the project an opportunity to be directly responsive to its context. Although going against precedent to not include privatised construction procedures, the project was to be well structured and, rather than hinder the design process, “*catalysed innovation on many levels*” (Stretton, 2011:11). Koop designed a timber and steel frame construction system, which was modified by rigorous back and forth development from studio to site. The process was experimental and creative as the projects credentials relied on close collaboration of designers and implementers (builders / carpenters on site), through a dialogue (much like a dialectic) where one enriches the other, a constructive hands-on approach from both sides.



Fig_3. 22 : The architects were able to achieve longer spans by using steel gusset plates to brace the structures, which were essentially put together like a *mecano* set. This is one of Koop Architects principles of Design; treat architectural construction like big pieces of furniture. (www.koopdesign.co.za).

CRAFTSMAN

Much like trained craftsman in the past, those that worked with materials throughout the build gained such knowledge, that by the end of construction they had managed to achieve a level of skills that allowed them to either maintain their services on site or use them to acquire work elsewhere. A series of mentorships have taken place since the finalisation of the project, such as the chefs in the kitchens to the woodworkers in the workshops, all of which have been through an *up-skilling* process. However, although every measure was undertaken to ensure holistic construction from the site, on the site, wet-trade and services were outsourced but were “*compelled to fit into the culture*” (Stretton, 2011,11) of the construction team on site.



Fig_3. 23 : Collingwood (1938) identifies three hierarchical systems of craft: *Materials, Means* and *Parts*.

Due to the skills available, complex construction techniques were absent and both the client and the architects understood the need for simplicity. The attractiveness of this way of building is that the methodology of construction is relatively easy to install, cost-effective, time saving, and of a handcrafted quality which is very difficult to obtain using traditional building industry procedures. The tectonic at Dalton celebrates another way of mass-producing; hand-made mass-produced structural members which are economically, environmentally, and socially beneficial.

MATERIALS : Timber

Sourced and harvested on site, and greatly evident throughout the entire project, from robust structural means to high-end furniture, timber is the primary material found at Dalton.



Fig_3. 24 : Timber in its various forms, from left to right : Robust Structure and bespoke joinery. Cladding and screening. Interior design and furniture.

Timber planks for structural use were cut in slender sections to minimise waste (typically 30mm, 40mm, and 60mm) and were implemented by using a straightforward and repetitive

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structural timber system. The construction techniques gave rise to the elegance and the delicate nature of the structures on site. The structural connections are left visible, an honest way to display the inner-workings of the architecture and structure. The architecture at Dalton is that of a tectonic; honest and proud of what materials are used and the way they are put together. These on-site processes that the timber was subjected to essentially dictate the over-arching architectural aesthetics of the project.

“The reward to the builder is almost immediate and engenders a culture of fine craftsmanship.” Stretton (2012:11).

MATERIALS : General

As with the architectural principles in place, materials were limited to a particular palette. This meant that materials readily available on site needed to be processed in a creative and sustainable way to reduce impact on the site. Inevitably this bounds the architecture to the land on which it sits and blends flawlessly into its context.



Fig_3. 25 : Technology and construction dictate architectural aesthetics at Dalton.

Masonry, in the form of recycled stone and raw plastered brickwork, was the material of choice to complement the extensive use of timber, as it gives the essence of permanence,

thermal advantages and identity. These qualities are eagerly strived for in rural areas (Frescura, 1992). Offsets of colour-bonded steel sheets are used as infill panels on the exterior and pre-painted panels line the interiors, both of which are used to “*eliminate the tendency of follow-on trades to cover up ill-considered work*” (Stretton, 2011:11).

The entire process of construction at Dalton echoes Collingwood’s (1938) notion of crafted materials which are seen to act as raw material for the next person and so on. The materials used in the construction process often remained in their raw state, therefore the manner in which they are put together throughout the building process had to be done with utmost care, as this was to be the final finish. According to Pallasmaa (2009) the notion of taking pride in the work one does, gives the builder / worker / craftsman something to work towards; a goal to work towards at the best of his ability as he knows his work will be on display when he is finished. This is opposed to work that one understands will be finished by another trades person.



Fig_3. 26 : The material palette used for the Barn. Existing stone marks the previous buildings footprint. Colour bonded steel sheets are used as infill sections. Raw plastered brickwork blends into the colours found in the landscape. Bespoke joinery designed by Koop and built on site

3.3.4 THE MECHANICAL WORKSHOP



Fig_3. 27 : The workshop, in the process of completion, stands as the workhorse of the development.

The workshop is the heart of the site as this was the innovation zenith, from the custom built solar kiln to dry gum, to the bespoke furniture range designed and marketed by Koop. The workshop was not limited, with regards to its production lines, to only the structural systems, as the joinery for the project were also assembled in kit forms to be implemented in particular buildings on the site.

“The demands of accuracy were high and the strict rules of consistency and discipline in carpentry were learned.” Stretton (2011:11).

The workshop has enabled workers to be, to all intents and purposes, classified as craftsman. Many of them arrived unskilled but through the processes implemented at Dalton, have progressed and they continue to make hand-made ranges of chairs and tables. The range acts as a way of preserving the manufacturing process, and this has inevitably provided job security for those in the workshops.

3.3.5 SUMMARY

In terms of this dissertation, Dalton is relevant due to its **blending of technology and craft** in a coherent and collaborative manner. Through architectural innovation and responsiveness, the project fundamentally addresses various problems found in rural South Africa by socially, environmentally, and economically sustaining resources, employment and food security on the site. Dalton has had a **positive impact** on the environment through full site rehabilitation on a much larger scale than just the constraints of the site alone. Dalton Trust has since formalised the Dalton Education Trust, which focuses on educational and upliftment programmes for the local community to be trained in a wide range of skills. The Education Trust has a much wider impact on the local community, as opposed to many misguided developments, which often focus entirely on themselves and generate economic benefits that cause strain on the context.

“The project proves that an investment in time can sometimes be a more valuable resource than financial capital.” Blignaut and Morojele (Cited by Stretton, 2010:38).



Fig_3. 28 : Regular visitors to the site in the foreground, as the barn gently watches on in the distance.

3.4. CONCLUSION

Subsequent to the research and analysis carried out at the Constitutional Court and Dalton Private Reserve, conclusions and comparisons have been derived which are centered on the theoretical framework set out in the literature review. Both projects, inadvertently or otherwise, displayed characteristics of both a critical regionalist approach, as well as phenomenological and existential theories by including a hand-made process based design approach into practice. The case studies were specifically chosen to demonstrate the reality of a dialectic architecture in both an urban context and a rural context in South Africa. Although the functions, scale, and restrictions are vast, the conceptual standpoints of both projects were very similar.

With regards to the premise of a modern handcrafted architecture, both case studies showed pure consideration towards a dialectic between industry and craft in South Africa. Although neither considered the use of *critical regionalist* and *phenomenological* principles and conceptual standpoint, it is evident that the architects endeavoured, consciously or not, to achieve the principles found in both theories. However, Dalton showed resistance to the common industrial motives found in South Africa by manufacturing processes found on site. This notion of *resistance* ties into the theory of a “*Critical Regionalism*” as a theory “*Towards an architecture of resistance*” of the domination of global tendencies (Frampton, 1983).

The contextual landscape has been treated with utmost respect in both case studies and has been fundamentally demonstrated in the reality of blending the machine and the hand to form a responsive and honest architecture, which reflects where it is situated. This was through celebrating local people and enforcing the notion of “*being-in-the-world*” (Heidegger, 1971:147) as they strive to form a coherent architectural approach in South Africa.

Contextual analysis

Both projects have responded to their immediate contexts very well.

The Courts urban context was celebrated by using existing pedestrian thoroughfares as strong generators for the design of the built environment. For example, the existing walkway along the western part of the site was declared as the Great African steps and to add a contemplative atmosphere, the western facades sun-screens story boards were implemented. Furthermore, within the court chamber itself; a low slung one-way window is

positioned to allow people in the court room to see the feet of people outside, blurring the relationship of inside and outside.

Dalton's key driver was its positive relationship with its context as an enabler of the rejuvenation of the planet. Dalton, as a whole, demonstrates that a damaged rural environment can be reverted back into a fully functioning precinct and essentially initiate and maintain its own resources towards a sustainable future. And although this system of making / building was particular to the site, it does not mean that the systems and methods could not be replicated elsewhere.

Scale

The buildings vary in scale but by utilising hand-made elements throughout the build, both projects achieve a sense of human scale and tactility. All parts are considered due to the conscientious team of people have put the buildings together. Although the evidence of human scale is made clear by the process of Dalton due to its context, the urban environment within which the Court sits, still manages to create an awareness of human scale. The Court delivers the reality of hand-made processes that can be achieved at an urban scale. Both buildings truly speak of a responsive and honest tectonic which inevitably responds to a human scale within both a rural and urban context.

Experiential Qualities

Both buildings exhibit human scale and have endeavoured to remain sensitive to its context and users. Dalton demonstrates a predominately hand made experience through its architecture as it was quite literally built from the site. The structure was hand made on site, whereas the buildingscape of the Court is primarily a surface treatment or application of craft and art. It is applied and is not necessarily part of the structure. However, the western sunscreens are a functional intervention and one could argue that there are parts of the Court which exhibits qualities of being crafted.

Integration

A fundamental principle observed through the research of the two case studies demonstrates how the architects achieved the radical architectural approaches by including others to assist in the design and works of the project. For example, at Dalton, the structural timber was restricted in size to the materials found at hand, which then required a collaborative process, from studio to site, to resolve. The Court incorporated the notion of the thinking hand and

human interface, through artist's competitions and incorporation of various scales of art formulate the response for an architecture of integration in an urban environment.

Job opportunities

Although both projects included employment opportunities throughout the build, Dalton has assured a long-term employment for the workers on site. Some may argue that the Constitutional Court only included artists in the build for a specific duty, and that the contract will be terminated once the work is done, however this is not dissimilar to the construction industry as a whole. This may be due to its urban environment and that the artwork is not an integral part of the building structure.

On the other hand, Dalton allowed work opportunities pre-, during-, and post-construction, and has even included a Dalton Educational Trust to encourage upskilling after the build. The local people integrated into the project have learnt valuable skills, which then they can then benefit from elsewhere, through building, and even teaching, in their own communities. The transferring of skills from person to person, skilled and unskilled, was a vital benefit in keeping with the various collaborative processes found on the site. The project, through various skills-development processes, construction methods, and learning about food security through sustainable growth, has enabled a responsive opportunity for a closed loop system perpetuated by its own processes.

Materials, Technology and Construction

At Dalton, a certain discipline was achieved by the criteria set out early and prohibited straying from the core ideal of the site and this has given rise to an honest and responsive architectural tectonic. Through a strong connection to the land, the architecture at Dalton is undoubtedly rooted in its context blending into the natural landscape, enabling environmental uniqueness that is celebrated through the architectural tectonics. The Court, because of its placement in an urban environment, meant that the construction industry could be easily implemented. The architects, however, still pushed the boundaries of typical construction techniques and derived particular elements of the built fabric to be unique to the court. For example, the angled columns and the slit roof lights in the foyer, the re-use of materials from the existing prison block, the curved concrete wall of the entrance and the many artists interventions positioned within the build.

CHAPTER 4.0

4.0

CONCLUSIONS AND RECOMMENDATIONS

4.1. INTRODUCTION

The research carried out in the literature review and empirical research attempt to address the hypothesis of this dissertation :

The consumerist nature of today's modern world, and our societies obsession with mass production is negatively affecting the lived experience of architecture. The built environment is being desensitized by the sterile and hostile nature of machines in order to mass-produce (not create) spaces and places. This has a direct effect on the ideologies of existentialism leading to a sense of placelessness. The notion of craft, on the other hand, adopts a grass-root approach whereby the idea of an authentic representation of place becomes an imperative design consideration, resulting in a richer, more relevant, tactile, and humanitarian interface. By adopting positive principles of both modalities, architecture can position itself in the human realm of the machine-age era.

If architecture were to search to be a more 'real' tectonic of a 'direct representation' (Frampton, 1983), whereby the building 'make-up' stands for what it is doing, then a collaborative dialogue between technique and craft might be a means of achieving it, by definition, that interactive dialogue would have more of a 'built' experience (Heidegger, 1971) about it, bridging us closer to the notion of an existential ground.

The Concepts and Theories set out in Chapter 1 of this document were utilized for containing the research material, and in its discourse set out to use these theories in various applications. The theory of **Critical Regionalism** was used to create a basis from which the research problem takes place. A counter theory of **Non-Place** was used to highlight contemporary architecture as a by-product of the machine. The accentuation of humans and the nature of craft were explored through the theory of **Existentialism**. A **dialectical method** was then utilized as a method of extraction which binds the research together.

4.2. RECOMMENDATIONS AND ANALYSIS

The research and analysis carried out in the literature review and case studies make an effort in suggesting a solution to the problem statement of this dissertation :

Does the tactile and bespoke nature of craftsmanship have a future in our predominantly machine-built environment, and what would the benefit be of employing the principles of craft within the architectural realm? Furthermore, how can architecture facilitate collaboration between machine and craft based technologies, and how does the architectural tectonic adopt and respect principles of both modalities?

The dissertation is essentially focussed on an optimistic understanding of the built environment. Not merely commenting on space production or place making, or even architecture, the extent in which the machine has influenced architecture and what can be learnt from traditional or local craft building methods have been discussed. The blending of processes by the machine (modern) and hand (craft) through considerate and creative making processes could reveal a new form of architecture. One which certainly celebrates human scale, as it is humans who make and assemble it, and would allow for a “*more continuous, inclusive practice*” (Roke, 2009:10).

The case studies have provided a real, physical background to the possibility of achieving a dialectic architecture both in an urban, and a rural environment. As described, the motivation for the research on the Constitutional Court was to highlight the stand in which the architects took with the building process, by preparing various blank canvas's for which artists and craftsman could be a fundamental part of the building process. However, whether or not it was considered, this process did not essentially set out to create long-term employment opportunities, which it may or may not have been possible to do. There is an inherent problem that exists as to how to keep long-term job opportunities alive in an urban environment. Where Dalton succeeds is that there are job opportunities created prior to the works, throughout the works and after the works completion. People are brought in throughout the process, to be taught skills in which they may either use on the site, or able to acquire work elsewhere. Where the common procedure would be to call in the building industry to build the works, the process at Dalton is a very unusual position to take in the usual methodology of architecture and has resulted in an bespoke architectural response. It

exemplifies how an architecture built through various processes can sustain job/work opportunities. How can this type of building process be simulated in an urban environment?

As far as the researcher can identify, there is very little research into the topic of a dialectical method for achieving a modern handcrafted architecture. However, where information was obtained, the machine was often seen as a problem and very few authors suggested solution. As Critical Regionalism has been used as base for the research, Frampton (1983) states his concerns regarding our *'universal civilisation'* but little attempt is made to solve to the problems he states. This has obviously hindered the research somewhat; and has proved to be difficult in finding solutions to overcome the situation society has found itself in. Therefore the dialectic chapter of this dissertation suggests examples as to how to critically respond to the materiality of architecture, through a more quality driven and honest means of processing architecture. This attempts to suggest the way architecture should be conceived in today's *'universal civilization'*.

4.3. CONCLUSION

"[...] being able so easily to dispose of things desensitises us to the actual objects we hold in hand." Sennett (2008:110).

This dissertation seeks to establish itself as an architecture of acceptance. Architects need to take cognisance of the effects that the modern world and corporatisation have on the built environment as *"big multinational networks grow strong"* (Augè, 2009:28) bringing the inevitability of using machines to mass-produce. Mass production and standardisation extends from door handles to entire buildings, neglecting the potential for a genuine architectural essence that responds and respects to its local environment and particular constructs (Frampton, 1983). Although this allows faster production times and cheaper resources than an entirely human workforce, it is a product-only driven approach. This calls for architectural quantity as opposed to quality.

Due to the rich diversity of history and culture found in South Africa, an opportunity exists for a significant and direct sense of place within the world, enforcing a connection to one's existential ground. This could provide a possible remedy to the surge of popular consumer culture that appears content with quantity driven and mediocrity.

This could be remedied by understanding the concept of a tectonic architecture. The celebration of how architectural elements and materials are treated and put together, allowing materials to stand for what they are. As opposed to the masking or the “*drawing of veils over the surfacing of reality*” (Frampton, 1983:29), the material is revealed to show its true state. Architecture should reveal the process of making instead of hiding inaccuracies of materials by covering them with another layer of workmanship. This could be a key generator for time and economic implications for a project by omitting second-time building work for finishes. For example, a Brick wall is built, then it is plastered, then it is painted. Can the energy, cost and time to re-work something that is already built, be used elsewhere? The honest work done at the Dalton Reserve, and the principle of “*only build it once*” (Stretton, 2011:11) is a working example of the reality of making this concept more applicable in architectural design. By celebrating materiality and tectonics, the process widens the scope for a more honest and responsive architecture. This honest expression of the way architecture is put together could be a route to follow in the production of dialectic architecture in South Africa.

In order to achieve this, architecture should consist of a dialogue between modern processes where mass production is used as a means of supporting economic systems and assembly time can be of benefit to the project at large. However craft based processes should be inserted as a conscious and considerate *existential grounding* to the project. According to Frescura (1992) analyzing either product or process in isolation is incorrect, as they must read as parts of a cooperative whole. Architectural design quality should not suffer under any of these circumstances as the *process* should be celebrated and not necessarily just the *product*. Architecture should be considered as a form of craft, whereby the structures are made by and for people. It is through the process of making that a strong sense of community, and place, is created. In other words, these by-products of the creative process would aid in achieving a conscious and considerate *existential grounding* to architecture, which then relates closely with its dwellers. This connection would form a relationship of architectural inclusiveness with them, whereby the architecture exists within themselves, and they then exist within the architecture.

4.4. RESPONSIVE DESIGN GUIDELINES

Whilst a dialectic architecture needs to be more focused on the process, or the *means* of architecture, the notions of upskilling, teaching, growing, and crafting should form part of this in the final product. By adapting what Roke (2009) suggests as a *bricoleur* type methodology whereby materials found/obtained in and around the site could be a potential generator for a responsive and tectonic architecture. For instance, in Durban, the port offers many opportunities to salvage unused materials; parts of ships, containers, dolloses etc. tectonic type architecture, where the process of making comes to the forefront. The process of making influences the design, not the other way around. This is the craft mentality that is picked up in Chapter 2.2. The notion of craft is similar to that of a machine type process, as the product is thought of first, and the means in which one goes around getting to that point comes second. One can then identify that there is a vital, untapped link between machine and crafted processes as both are concerned with Product first. As both machine and craft processes are dealing with a product, it should be reflected in the process of architecture, by means of allowing the products to form part of the process of architecture.

Architecture should endeavour to create a dialogue between machine and craft-based processes. The machine should be used as a positive attribute for economic factors, and the input of craft used as an inspiration for an '*existential ground*' (Pallasmaa, 2009) as an accentuation of the role of the human within the context of design and construction. This dissertation has endeavoured to create a mediation of these two opposing forces; to create a sense of a modern handcrafted architecture that remains grounded by both product and process.

RESPONSIVE DESIGN GUIDELINES FOR A

MODERN HANDCRAFTED DIALECTIC ARCHITECTURE

The following section is a set of responsive design guidelines which, based on the research, could provide one with a foundation for a modern handcrafted dialectic architecture.



Support Locality.



Design, think and create for People.



Respond to Site.



Considered mass Production.



Utilize light as a free material



Fig_4.1 : A locally sourced craftsman developing skills by working on locally sourced timber, on site. Dalton Reserve local, Durban.

- » **Support Locality** : By marking the architectural narrative of time and place that searches for honesty and relevance in today's *'universal civilisation'*, architecture can express its local context and climate. Linking industrial processes with crafted processes through articulation of locally found processes, materials, and workforce to form an honest working relationship. Fundamentally, architects, builders, contractors, and clients need to take cognisance of, and support, local constructs. Magnify local craftsmanship and skills, by deploying an subtle method of crafting mass-produced, prefabricated, off-the-shelf materials to produce high quality, bespoke architecture. Materials that exude the characteristics that are inherent when first obtained, enforces architecture to accept and expresses its location by standing for where it is placed. Importing materials from international sources, let alone from other provinces, dilutes the respect of natural and organic materiality found in the local vicinity. Refer to Fig_4.1.



Fig_4.2 : A true reflection of design which relates to the human body. Casa Batlo fireplace, Barcelona, Spain.

- » Think, Design, and Create, for and with people in mind: A process that both creates and utilizes local skills and materials available can create an awareness that the processes of craft-based practices only exist through human input. The intervention can only become richer, more relevant, tactile and humanitarian through a process of upskilling and allowing creative freedom to those outside of a specific design profession (trades/builders etc) within the built environment. This can aid in the creation of place, and a connection to an existential ground by engaging a considerably more human interface with its users. *Refer to Fig_4.2.*



Fig_4.3 : The architects carefully wrapped the roof slabs around the existing trees. A direct response to the peculiarities of the site. Electric Ladyland roof detail, Kloof, Durban.

- » Respond to site : Architecture also has the opportunity to respond and engage with particulars of a specific site. Topography, light, and, context should influence the intervention and relate in a peculiar way, to be relative to that exact site and responsive to that place. The flattening of the site to a standardised platform, the refusal to allow natural light inside by erecting mirrored glass buildings with standard fluorescent lighting, are factors that cause a sense of *placelessness* as they could easily be achieved and replicated on any site, anywhere in the world. The richness of an architectural solution is expressed in its reaction and responsiveness towards its context. *Refer to Fig_4.3.*



Fig_4.4 : Handcrafted mass production. Spanish Pavilion cladding. China.

- » Considered Mass production: This should be a considered process, whereby an insertion of a more considerate touch could render an experience of a handcrafted sensibility. Materials can be mass-produced, as to respond to economic motives, however, this can be designed and/or recycled to become a uniquely manufactured entity. This is the type of sensibility that is needed in architecture today, conscientious and responsive decision making processes. *Refer to Fig_4.4.*



Fig_4.5 : Peter Zumthor uses light as an architectural approach, a fundamental design generator for his experiential architecture, which is rooted in the notion of carving out caverns of darkness to create atmospheric space. This creates a dynamic ephemeral experience within a static environment. Light detail at Brother Klaus Field Chapel. Germany.

- » Utilize Light as a (free) material : The concept of light is essential for the perception of both the built and unbuilt environment as well as giving one the ability to both look and see (Jahangeer, 2008). What light also does, is allow one to see darkness, architecturally speaking, the glimpse of lights, or candles, glistening also informs one that there is life beyond and people are living there (Jahangeer, 2008). In other words, light indicates life, and utilizing this as a free material can aid in the creation of life driven architecture. *Refer to Fig_4.5.*

Therefore, the intervention should:

- » Utilize **considered** machine-built and hand-made processes within its built fabric.
- » Ensure an **honest tectonic** which is integrated into the design, by promoting materials as a generator for spatial quality, scale, and differentiation of functions.
- » Promote a **sense of place** by creating a safe environment for the people to exchange goods, services and emotion.
- » **Facilitate** positive and sustainable growth for local industries by offering a variety of rentable design/work-spaces of various scales.
- » **Respond** directly to site peculiarities (topography, morphology, history, climate, scale etc).
- » Allow for **adaptive reuse** by utilizing existing infrastructure and materials to form part of the project.
- » Enhance the **public realm** through an injection of a more human interface.
- » Support **local economy** by introducing a variety of functions not found in its vicinity.
- » Allow **materials** to become fully integrated into the projects tectonic.
- » Exhibit **human qualities** of tectonic and scale.
- » **Integrate** with its context.

A POSSIBLE INTERVENTION

“How does one determine a balance between the Taylorist efficiencies of mass production that digital procedures excel at and the idea of uniqueness, or covetable one-off products?” Walter Benjamin cited in Roke (2009:13).

Due to the rapacity in which the world is developing, there is a constantly shifting platform for architecture to place itself, where the balance between specific type buildings and hybridized all-in-one buildings, is blurring. The progressive nature of our world is moving at such a rate that one-type only architecture is almost redundant. However, interventions on the other side of the same spectrum attempt to incorporate too many functions in one building and little of what it was initially set out to resolve is achieved. Throughout the research, an inclination towards a collaborative workspace and skills development facility has been suggested, particularly through a dialectical method of engagement. This has set up the premise for the possible intervention and has established principles in which to do this. The design of a collaborative skills development facility will endeavour to provide a link between quality driven design and the general public. The celebration of industry and craft within the same

building fabric forms the argument throughout this dissertation and therefore aims toward an architecture that revels in the notions of captured (raw) and manufactured (built) processes that exude a responsiveness and honesty to its context. Furthermore, this dissertation has endeavoured to form a manifesto for creating a responsive and tectonic architecture that fundamentally depends on its context.

Within an Urban environment, the intervention could be in the form of a skills development facility that lends skills not found (or scarce) in the city. Possibly in the form of a post-industrial, pre-modern bespoke manufacturing facility, whereby the manufacturing of bespoke handcrafted items in an urban fabric through trade skills and building industry skills could be woven into the fabric of the city. Much like the artistry components that make up parts of the Midlands Meander in Kwa-Zulu Natal, or the Design District in Cape-Town, or 44 Stanley Avenue in Johannesburg. Durban is need of a collective district, which incorporates creative programmes into one intervention that is focussed on maintaining a high quality of product. This would form an open ended collaborative process, where artisans can communicate and become aware of each other because of their proximity.

Exploring the collaboration between machine-built and hand-made processes could possibly render a more cost effective, yet considerably more humane built environment. As discussed, the intervention should become a space for manufacturing and learning through apprentice-based practices. However, it is through making that a socially interactive dialogue should be promoted, as it is through **making** that a sense of community is created, **place** therefore becomes a by-product of this process. The potential for one's connection to an existential ground also increases. By creating a facility for both designers and the general public to interact and collaborate, it endeavours to create awareness about a more considered quality driven, rather than quantity driven, marketplace and built environment. By combining apprentice based workshops in the '*post-digital age*' (Roke, 2009), the facility will support designers, craftsmen and makers in a living / working society. A place that people are proud to be a part of. To create such a place, people need the opportunity to exchange goods, services, and emotion – a collective realm that stands against the domination of privatisation and "*Non-place*" (Augè, 2008). The facility will encourage the integration of creative's and the general public, whose interaction could then create a sense of togetherness, an enrichment of their surroundings as well as their own existential being.

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REFERENCES

UNPUBLISHED RESEARCH_

DISSERTATIONS / THESIS :

LEIBOWITZ, V. 2008. Making Memory Space : Recollection and Reconciliation in Post-Apartheid South African Architecture. Masters Thesis : RMIT University.

MAHAFFEY, L. 2009. Architecture of materialism : A study of Craft in design culture, process, and product. University of South Florida. Paper 2078

NOBLE, J. 2008. Architecture, Hybridities and Post-Apartheid Design. University of the Witwatersrand, Johannesburg.

PAPADIMATOS, P. 2005. Physical Computing : Using everyday objects as Communication tools. Masters Thesis. The Bartlett School of Graduate Studies, University College London.

ROKE, R. 2009. Bits and Pieces : Crafting architecture in a post-digital age. Masters Thesis. School of Architecture and Design, RMIT University.

ARTICLES :

KOOP Design. 2010a. The Afrisam-SAIA Awards 4 Sustainable Architecture – The Compound at Dalton Private Reserve. Brochure. Kwa-Zulu Natal : Koop Design.

HARRISON, R. 2012. Homebuilding recovery: How CAD stifles Solutions. www.newgeography.com.

MAKIN, A. 2012. Building Revolution in the City. Cited in Where its At : Disturbance design magazine for the Design Indaba in Cape Town 2012.

TALKS :

BENJAMIN, I. 2011. Intelligent Design. Lecture: University of Kwa-Zulu Natal.

JAHANGEER, D. 2008. Public Art Seminar : Creative approaches to Growing healthy cities. Durban : Kwa-Zulu Natal Society of Arts.

CONFERENCE PAPERS :

BUNNELL, K. 2004. Craft and digital Technology. Worlds Crafts Council 40th Anniversary : Metsovo, Greece.

LLOYD WRIGHT, F. 1901. The Art and Craft of the Machine. Chicago Arts and Crafts Society.

QUARRY, N. 1994. AS Hook Address : Royal Australian Institute of Architects.

ROAF, S. 2008. The Traditional Trap (2) : More lessons from the Windcatchers of Yazd. Passive and Low Energy Architecture Conference : Dublin.

VIDEO :

ENGLASH, R. 2007. African Fractals. www.ted.com/talks/ron_eglash_on_african_fractals.html

PUBLISHED RESEARCH_

BOOKS :

AUGÈ, M. 2008. Non-places : An Introduction to Supermodernity. United States of America: Verso.

- BARR, J.** 1970. The Assaults on our senses. Great Britain : Methuen and CO Ltd.
- BRAUNGART, M. ,MCDONOUGH, W.** 2009. Cradle to Cradle. Re-Making the way we make things. London : Vintage Publishers.
- CHING, F.D.K.** 2007. A Global History of Architecture. United States of America : John Wiley & Sons limited.
- CANIZARO, V.** 2005. Architectural Regionalism. New York : Princeton Press.
- COLLINGWOOD, R.** 1938. The Principles of Art. Oxford University Press : London.
- CORBUSIER, L.** 1920. The City of To-morrow. Cambridge : The MIT Press.
- DOXIADOS, A.** 1963. Architecture in Transition. Hutchinson of London : London.
- FARRELLY, L.** 2007. The Fundamentals of Architecture. Switzerland : AVA Publishing.
- FATHY, H.** 1973. Architecture of the poor : An Experiment in Rural Egypt. United States of America : University of Chicago Press.
- FAWCETT, P.** 2003. Architecture design notebook. Great Britain : Architectural Press.
- FRANCK, F & LEPORI, B.** 2007. Architecture from the Inside Out. London : John Wiley & Sons.
- FRAMPTON, K.** 1983. Cited in The Anti-Aesthetic - Towards a Critical Regionalism : Six points for an Architecture of Resistance. Great Britain : Pluto Press.
- GHIRARDO, D.** 1996. Architecture after Modernism. London : Thames & Hudson Ltd.
- GILLIAN, D.** 2003. Factory. London : Reaktion Books.
- GIRADET, H.** 1992. The Gaia Atlas of Cities. London : Gaia Books Limited.
- HEIDEGGER, M.** 1971. Building, Dwelling, Thinking. New York : Harper and Row Publishers.
- INGELS, B.** 2010. Yes is more. United States of America : Taschen.
- JENCKS, C.** 1997. Theories and Manifestos of Contemporary Architecture. Academy Editions. Great Britain.
- KOOLHAAS, K.** 1995. S, M, L, XL. New York : The Monacelli Press.
- KESTING, M & WESKOTT, A.** Unknown. Sun Tropes. Sun City and (Post-) Apartheid Culture in South Africa. Unknown.
- KLINGMANN, A.** 2007. Brandscapes, United States of America : Massachusetts Institute of Technology.
- LAWSON, B.** 2001. The Language of Space. Oxford : Architectural Press.
- LAW-VILJOEN, B.**
- 2005. Light on a Hill : Building the Constitutional Court of South Africa. Johannesburg : David Krut Publishing.
 - 2008. Art and Justice : The art of the Constitutional Court in South Africa. Johannesburg : David Krut Publishing.
- LEFAIVRE, L.** 2003. Critical Regionalism: Architecture and Identity in a Globalized World. London : Prestel.
- LIPMAN, A.** 2003. Architecture on my mind : Critical readings in design. Unisa Press: University of South Africa Pretoria.

**A CRITICAL SOUTH AFRICAN RESPONSE
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The design of a collaborative skills development facility in Durban

- LUKAS, S.A.** 2007. The themed space: locating culture, nation, and self. United Kingdom : Rowman & Littlefield Publishers.
- MITCHELL, W.J.** 1997. City of Bits : Space, place, and the Infobahn. United States of America : Massachusetts Institute of Technology.
- MOORE, S.** 2001. Technology and Place. United States of America : University of Texas Press.
- OTS, E.** 2011. Decoding Theoryspeak. United Kingdom : Routledge.
- OWENS, C.** 1983. Cited in The Anti-Aesthetic – The Discourse of Others : Feminists and Postmodernism. Great Britain : Pluto Press.
- PALLASSMAA, J.**
- 2005. The Eyes of the Skin. England : John Wiley & Sons limited.
 - 2009. The Thinking Hand: Existential and Embodied Wisdom in architecture. England: John Wiley & Sons limited.
- PAPANEK, V.** 1984. Design for the Real World. United Kingdom : Thames and Hudson.
- SENNETT, R.** 2008. The Craftsman. Newhaven : Yale University Press.
- SCHUMACHER, E.F.** 1973. Small is Beautiful : A study of economics as if people mattered. England : Sphere books Ltd.
- SUDJIC, D.** 2003. The Language of Things. England: Penguin Books.
- TUAN, Y.** 1977. Space and place : The Perspective of experience. United States of America : University of Minnesota Press.
- VENTURI, R. ,SCOTT BROWN, D. ,IZENOUR,S.** 1989. Learning from Las Vegas : The forgotten Symbolism of Architectural Form. United States of America : Massachusetts Institute of Technology.
- WESTON, R.** 2003. Materials, Form and Architecture. London : Laurence King.
- ZUMTHOR, P.** 2010. Atmospheres. Basel, Switzerland : Birkhäuser GmbH.

JOURNALS :

- COOKE, J.** 2012. ArchSA Journal of the South African Institute of Architects Issue 54. Cape Town : Picasso Headline.
- FRESCURA, F.**
- 2010. From Vernacular to High Design. Extending some aspects of “House Form and Culture”. Dialog Journal - Designing for People.
 - 1992. Process and Product in Rural Architecture : A Southern African Case Study. Open House International : Newcastle University. Vol 17, Nos 3 and 4.
- LESLIE, E.** 1998. Walter Benjamin : Traces of Craft. Journal of Design History.
- LOW, I.** 2011. Digest of South African Architecture. Cape Town : Picasso Headline.
- STRETTON, R.** 2011. Environmentally Responsible Design – The Dalton Compound. Kwa-Zulu Natal Institute of Architecture Journal Issue 1/2001 Volume 36 : Durban.
- MOORE, S.** 2001. Technology, Place and the Nonmodern Thesis. Journal of Architectural Education : MIT Press.

VAN EEDEN, J. 2004. Pretty as a Picture. Art South Africa Journal : Volume 3 Issue 4 : 54.

NEWSPAPER :

BAUDRILLARD, J. 1996. Disneyworld Company. Liberation Newspaper : Paris. Translation via www.ctheory.net/articles.aspx?id=158.

INTERNET RESEARCH :

www.etymonline.com

: Date of Access : between 24/06/2011 and 11/06/2012

www.technologyreview.com/communications/35097/page2/

: Date of Access : 24/06/2011

www.newscientist.com/article/dn16515-innovation-the-cellphone-economy.html

: Date of Access : 24/06/2011

www.southafrica.info/business/trends/innovations/drmath-090611.htm

: Date of Access: 24/06/2011

[www.sagoodnews.co.za/fast facts and quick stats/index.html](http://www.sagoodnews.co.za/fast_facts_and_quick_stats/index.html)

: Date of Access : 06/07/2011

<http://rosswolfe.wordpress.com/2011/09/09/industrialism-and-the-genesis-of-modern-architecture/>

: Date of Access : 07/07/2011

<http://researchbank.rmit.edu.au/view/rmit:7900>

: Date of Access : 17/03/2012]

<http://architecture.brookes.ac.uk/>

: Date of Access : 17/03/2012

<http://www.hughpearman.com/articles5/herzog.htm>

: Date of Access : 12/10/2011

www.ibiblio.org/wlp

: Date of Access : 23/03/2012

www.sun-city-south-africa.com

: Date of Access : 23/03/2012

www.aboutworldlanguages.com

: Date of Access : 23/03/2012

www.marxist.org/reference/archive/hegel/help/easy.htm

: Date of Access : 25/03/2012

[www.nationsonline.org/oneworld/third world countries.htm](http://www.nationsonline.org/oneworld/third_world_countries.htm)

: Date of Access : 17/10/2011

www.newgeography.com/content/002806-homebuilding-recovery-how-cad-stifles-solutions

: Date of Access : 05/01/2012

www.koopdesign.co.za

: Date of Access : 17/03/2012

<http://archinoid2.blogspot.com/2009/10/theory-of-theory-of-architecture.html>

: Date of Access : 15/03/2012

<http://news.discovery.com/history/stone-age-tools-africa.html>

: Date of Access : 15/03/2012

<http://edenceramics.blogspot.com>

: Date of Access : 15/03/2012

INTERVIEWS AND DISCUSSIONS :

MAKIN, A. 2012. Discussion on Design ethos and principles and design of Constitutional Court. (Interview at Circus Circus, Durban, Kwa-Zulu Natal) Personal communication, 7 April 2012.

STRETTON, R. 2012. Discussion on Design ethos and principles and design of Dalton private Reserve. (Interview at Koop Office, Durban, Kwa-Zulu Natal) Personal communication, 18 April 2012.

APPENDIX A

CAD Technology. Authors notes.

“The enlightened way to use a machine is to judge its powers, fashions its uses in light of our own limits rather than the machine’s potential.” Sennett (2008:105)

As the disconnection from reality, and the disconnection of the head and the hand, has often resulted in an inhumane built environment, when one designs by hand, the senses are already stimulated because of the feel and weight of the pencil or pen as it moves over the surface, a physical entity (Sennett, 2008, Pallasmaa, 2009). Fawset (2003) argues that *“design by drawing”* (2003:115) is a fundamental means in which to *“feel the size of building elements”* (2003:115) and certain dimensions, scales and spaces. In addition, the act of drawing could be assumed as a version of craft, as it is also an *“extension of the artist”* (Pallasmaa, 2009) and inevitably, the craftsman also has the ability to *“leave traces of themselves”* (Sennett, 2008:10) in their work.

To understand the potential for a dialectic architecture, the differences of architectural processes of the past, often derived from the drawing board, and those of modern times, often aided by CAD software need to be explored (Pallasmaa, 2009, Roke, 2009). Within the rapid evolution of technology in the 21st century, society cannot ignore the sophistication within which CAD has enabled the practice of architecture to be completely redefined (Fawset, 2003:114). However, according to Harrison (2012) CAD technology has resulted in some of the worst designed cities around the world. As there are rapidly changing variables to consider in architectural practice, can CAD technology rather aid architectural built form by benefiting both the architects work load as well as heightening ones experience of the physical build? Can the influence of a crafted process benefit the built environment in terms of re-introducing a sense of existential ground?

“It is the thought process that shapes the final product [...] not the way we choose to express it.” Murcutt (cited by Drew, 2001:70).

In today’s society, the words *“craft”* and *“digital”* have been perceived inaccurately; where *craft* is regarded to as *“amateurish making”* (Roke, 2009:10) and *“digital”* is now used to describe all elements involved in computing and to describe how computer-made work is manifest (2009:12). Although the notion of hand-made work is often seen as charming and inexplicably related to the skills of the maker, Roke (2009) notes how some of the more serious artistic realms (architecture included) see *craft* as falling short of the mark within progressive design and realistic design proposals because it contains various signs of human inaccuracies (2009:10). There is a loss of tactility and imagination within the design process that can *“weaken the haptic feeling of the designed entity in the computer-generated drawing”* (Pallasmaa, 2009:98). The idea of *Craft* has also undergone the same stigma and has been submerged by industrial means of product-based mentality as a more efficient means of process essentially resulting in a diluted standardisation across the board (Roke, 2009).

“As we look, the eye touches, and before we see an object, we have already touched it and judged its weight, temperature and surface texture” (Pallasmaa, 2009:101).

According to Pallasmaa (2009), architectural design, through conceptual stages, should be a *“fully haptic and multi-sensory and haptic reality of imagination”* (2009:59). In order to achieve this tactility, architects should feel and engage the materials being used through site samples constructed on site, as opposed to relying on the

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computer entirely as it “*creates distance between the maker and the object*” (Pallasmaa, 2009:97). As traditional drafting remains a human-based drawing exercise as the draftsman decides what pens, pencils and drawing surface to use, he decides how to go about the drawing process, resulting in what Pallasmaa calls a “*mimetic*” (2009:97) progression. The drawings and models exist within the same realm as the building will, whilst CAD drawing enables the “draftsman” to draw within a “*weightless and scaleless mathematical space*” (Pallasmaa, 2009:99). Inescapably the drawings can only coincide with the technology available, meaning that the user can only utilize the software’s pre-established set of symbols that have no “*analogical [or] haptic or emotional – relationship to the object of drawing*” resulting in a drawing of “*mediated construction*” (2009:97).

The variations of design processes witnessed in machine-built and hand-made are essentially due to the differentiation between physical experience or represented experience; physically by human-crafting/making/doing or a representational medium of human actions (as a repetitive automated process by a machine), or representational experience on a screen via a computerised system (Pallasmaa, 2009, Sennett, 2008). Machines have brought about many improvements to daily life and brought elements closer to individuals, such as various forms of medicine, transportation (humans and other), housing and food (Sennett, 2008). Furthermore, the use of CAD technology in the modern world has proved to have many benefits than drawing by hand, for example, its rapidity, it doesn’t tire and its capacity to compute and communicate far quicker than humans can (Sennett, 2008).

As discussed, the distinction between art and craft is essentially derived from the way the process and product is addressed, as they begin from either end of the spectrum (Collingwood, 1938). The process of machine begins with the product in mind, which directly comparable to the craft process. This link between machine and craft is a fundamental principle for a dialectic method of architecture. Therefore, the notion of working with CAD technology, in Architectural practice today, should be as *hands on* as possible, the notion of drawing on the computer should feel like the drawing by hand; the knowledge of process as it should feel like using a pen to draw lines and setting up construction lines. Although the actual process is altered, the thinking should not be any different. The computer is a tool, just as powerful as a pen and paper, and should always be regarded as one. One should be instructing, not be instructed.

Pallasmaa (2009) declares that many Architects today, instead of immersing in the role of “*chief craftsman*”, work in similar way that a lawyer would; sitting behind a desk vocalising instructions, using a computer for designing and communicating. (Pallasmaa, 2009).

Vast differences can also be associated with architectural solutions derived from the drawing board, physical drawing with the help of pens and pencils, and those derived from Computer Aided Design software (CAD), virtually with the help of a keyboard and mouse (Pallasmaa, 2009). (See appendix B for further notes from author on CAD technology). Although the machine has been described as an “*inflexible iron animal*” (Melville cited in Gillian, 2003:62) the paradigm shift into the “*post-digital age*” (Roke, 2009:10) suggests that society has transcended the impulsive and calculated forms, which seems disconnected to reality.

The ability to ‘walk’ around the site, through spaces, change colours/materials, heights, widths and even fundamental decision making can be made without having to leave the office. Furthermore, when operating a one-model drawing on CAD, where all drawings are compiled into one 3-dimensional drawing, the room for error is

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reduced significantly as apposed to traditional methods of drawing, as the co-ordination of drawings is consolidated into one file (Fawset, 2003). These small changes have aided in the quest to control the built environment and although the evolution of CAD software has many benefits, such as minimizing the amount of waste on site, due to structural load testing/BIM software's before the building is physically realised, so too have the aesthetics of the architecture changed.

The time once needed for the evaluation, testing, final amendments and even the distribution of drawings has been significantly reduced, however, with the abovementioned benefits of CAD technology, to what extent has the built environment benefitted?

History suggests that technology, and the advent of CAD, has not significantly aided in the collaboration between the professional consultants within the building industry (Harrison, 2012). There is an urge to allow CAD technology to dictate many decisions which hinder one's potential experience of the space, such as repetitive units for a typical housing block (Harrison, 2012). CAD technology, in most cases, is not being used in creative and innovative ways, as it was intended. The case is often magnified in architectural student's work, creativity is potentially hindered as opposed to what they may be able to conceive on paper, by what one knows how to create, or represent, on screen.

"No network connection at all – zero bandwidth – makes you a digital hermit, an outcast from cyberspace. The Net creates new opportunities, but exclusion from it becomes a new form of marginalization." Mitchell (1997:18).

Mitchell (1997) suggests that we, within the global society, now exist as "cyborgs" (1997:28) where all is lost with regards to ones experience in the physical world, as boundaries that were enforced by walls and perimeters aren't significant with the invention of the Internet. The Internet has become the new "architectural promenade" (Mitchell, 1997:24) where people come to meet daily, converse and socialise on a virtual meeting room (Mitchell, 1997). Our physical public spaces are at risk of becoming redundant, and although there may be presence of people within the space, the majority are on cell-phones, ipods and laptops, removing them entirely from their immediate surroundings, searching for contact with someone, somewhere, anywhere.

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PART TWO
DESIGN REPORT

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1.0 INTRODUCTION

1.1 ABSTRACT

The preceding theoretical research of creating a dialectic architecture, which responds equally to machine and craft based building methodologies, seeks to underline the reality of a rapidly increasing consumer-culture that appears to be content with standardisation and mass production. From materials, food, experiences, and the built environment, the processes and products of the modern world have negatively affected the user's lived experience of "*being-in-the-world*" (Heidegger, 1971:147). By promoting global over local, product over process, and quantity over quality, a series of modern by-products have been created, thus emphasising the notion of '*placelessness*' (Frampton, 2983:26), "*Non-places*" (Augè, 2008), and "*universal sameness*" (Augè, 2008:xii). The conclusion was drawn that these actions have disregarded a more crafted and considered design approach that is; responsive to place, culture, functions well, endorses longevity, and supports local skills and culture.

This chapter illustrates a notional client with their requirements and brief, options for site selection, chosen site analysis, and response, in keeping with the theoretical framework discussed in Part One of this dissertation. Therefore the aim of **Part Two** in this dissertation is to act as a design report that utilizes the aforementioned information to explore an architectural response, on a particular site, directed by a clients brief.

1.2 PROJECT DESCRIPTION

The research in **Part One** has denoted a particular *approach* to architecture, not necessarily a particular *building type*. It should endeavour to create a more responsive dialectic, or a positive balance, of both a machine made and hand crafted architectural paradigms within which we live today. Therefore, the building type chosen was to act as a metaphor for the time society finds itself in, which appears to be somewhat content with mediocrity, mass production and substandard quality. A collaborative skills development facility was chosen as it would be able to encourage collaboration, as the process of making, learning and appreciating quality driven design, craft, art, industrial design, graphics, branding, and hotdesking could be directly celebrated. It will function as an urban art centre, where teaching, making, and collaborative spaces are the core of its program.

1.3.1 The Clients Organisation



Fig_ii. 1 : The Creative Exchange : Where Design brews.

The Creative Exchange is a forward thinking Durban-based Company that seeks premises for a new business venture. Their aim is to promote quality, local skills, and handcrafted design in the built environment by creating a public facility for *making* and *selling*. The facility intends to unite public place and working studio spaces together in order for designers to respond and engage with the general public. In order to support collaboration, exchange of ideas, and skills development programmes, *The Creative Exchange* will act as a type of *making gallery*, whereby process and product are engaged and showcased at every stage of design. They are adamant that this type of arrangement is important if Durban wants to develop into a key source of creative design, instead of requiring import trade to exploit the marketplace with low costs, low value, and low quality manufacturing.

The company's ethos is to engage in a design dialogue geared towards improving the quality, as opposed to quantity, of the built environment. Their mantra endeavours to keep collaboration at its core by administering a transparent business approach by bringing about a sense of inclusivity. Bottom up "*both / and*" rather than an exclusionary Top down "*either / or*" situation. At the *Creative Exchange* one can buy quality product, watch a craftsman deliver his trade, and even partake in designing future projects.

1.3.2 The Clients Requirements

The main focus for the collaborative skills development facility is to accommodate two elements, namely, rentable work-spaces for creative's to occupy studio space, and to create a new form of public-space building in Durban. By joining these attributes, the Creative Exchange aims to focus on collaboration and responsive-trade, where designers can engage both with each other and the general public. The Creative exchange endeavours to accommodate both large-scale artists to one-man-bands and freelancers by means of rentable studio spaces, hot-desking, meeting rooms, and function spaces. Their objective is to acquire a site nestled in a light industrial area, preferably in the vicinity of good public transport links, existing infrastructure, and in an area that could benefit from a more public interface. Whilst adding a new form of public space in Durban, they have also specified that a catalytic urban design proposal should also be considered.

Their aims are to:

- » Showcase **quality driven design** work and skills to a wider audience, as opposed to quantity driven mass-produced 'design'.
- » Make a **creative-conscious society** by placing apprentice-based workshops, studio/display space, and trade space alongside with spaces for public gathering.
- » Promote and cater for a range of artists, craftsmen, and designers to **work** in the facility by accommodating studios of varying sizes, which can accommodate growth from a one man-band to an entire workforce.
- » Support **live-in residencies**, for creative's, in the form of loft arrangements.
- » Activate and enhance the built environment by creating pedestrian connections and liveable public environments.
- » Promote a **democratic urban environment**, where, instead of focussing on gathering motor vehicles, rather focussing on an opportunity to gather people.
- » Engage and benefit from an existing **light industrial mode of manufacture**.
- » Act as a **financial catalyst** for further investment into the city.



Fig_ii. 2 : The Creative Exchange's mantra

1.3.3 The Clients Brief

The Creative Exchange will need an *open office*, which promotes collaboration and will include rentable workstations and meeting rooms; a kitchenette, administrative rooms, and an event space will be needed for functions. *Workspaces* are needed for artists, craftsmen, and industrial designers shall be designed for manufacturing and making processes, therefore greater volumes than typical office requirements are needed. The design shall provide for various studio spaces to be allocated throughout the project, as well as the ground floor to stimulate street level activities. *Loft style accommodation* in the form of rentable one bedroom units and bedsits for resident artists. *Exhibition spaces* for showcasing various industrial design, art, and craft.

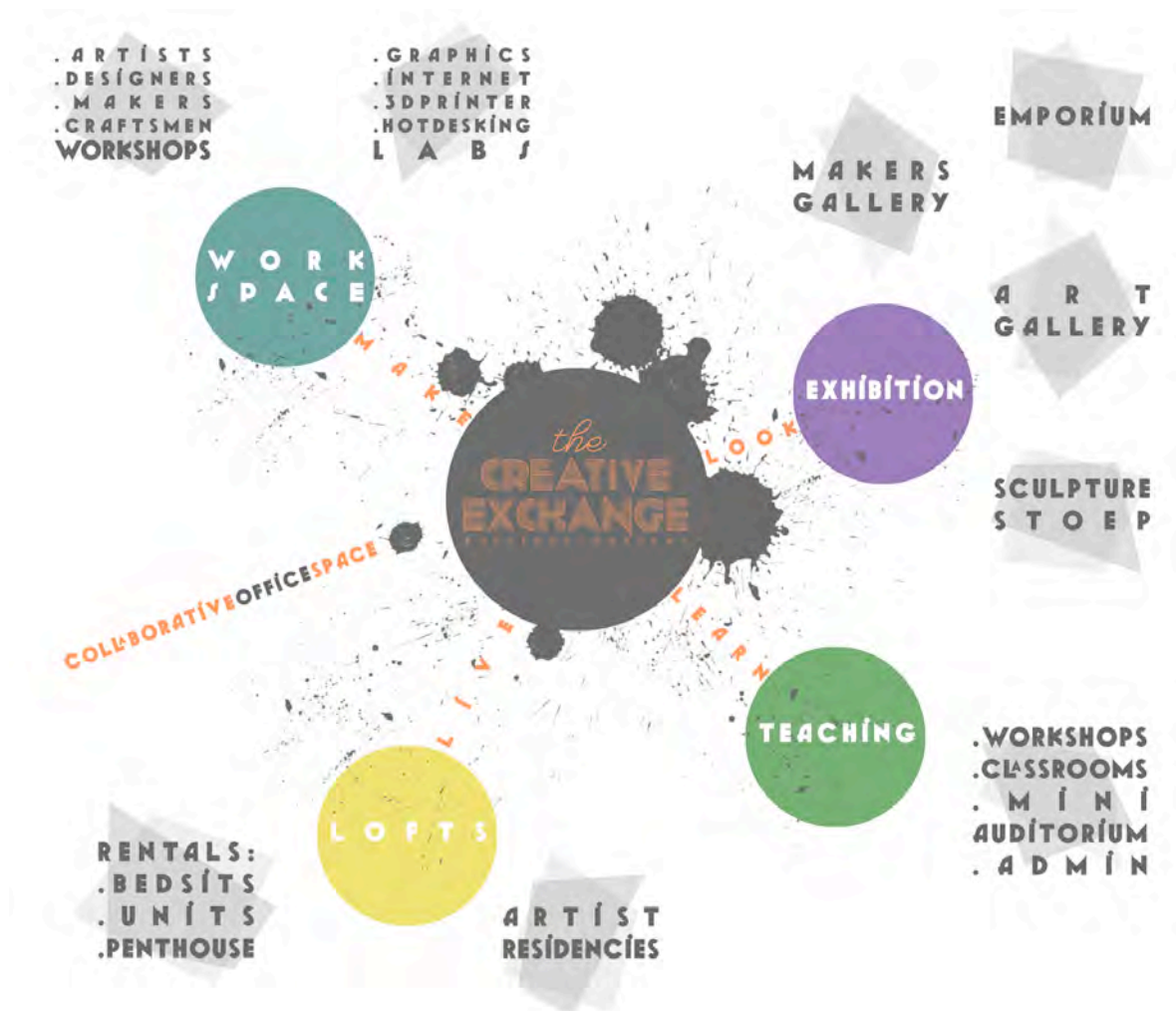


Fig.ii. 3 : The visual interpretation of the clients schedule of accommodation.

1.3.4 Schedule of Accommodation

Site Extent = 3300 sqm.

Total Building Extent : approximately 8000sqm

Studios : 8 x **Klein** (10-30sqm), 6 x **Medium** (30-150sqm), 3 x **Groot** (200+sqm) and 2 x **Anchor** (188sqm) . *Figures based on : Gregor Jenkin studio = 220sqm. Also, Main Street Life studios start from 33sqm and Arts on Main Double volume start from 80sqm (Maboneng Precinct).*

Creative Exchange Office space : 491sqm(1st floor) + 479sqm (2nd Floor) = 970 (Total open plan rentable hot desking space) *Figures based on : Open co working space = 1000sqm. Main change = @ R75/sqm for rent or R7500/sqm to buy (Maboneng Precinct).*

Parking requirements : 1 per 200 sqm (under 5000sqm) as per zoning.

Visitors : Hard surface off Street Parking on Florence Nzama, Morrison, and John Milnes Road. (60 parking's and 3 loading zones)

Basement : Residents & Staff (79 parking's – 10 disabled to comply with SABS 0400 regulations)

Floor by Floor Accommodation :

Floor 0.0

Public / Retail

- » **Makers exhibition** : @ 474 sqm including 2 artists spaces @ 30 & 42 sqm, and a teaching venue @ 75sqm.
- » **Design Emporium** : @ 542sqm – catering for 7 flexible shops @ 20-50sqm per shop.
- » **Vending space** : @ 250sqm – including 12 x 12sqm vending spaces & 70sqm dining hall.
- » **Bakery / coffee-shop** : @ 50sqm
- » **Administration / Office / Security / Management Space** : @ 50sqm
- » **Services** (ducts etc)

Floor 1.0 & 2.0

Public / Private

- » **Studio's** : in four sizes : Klein (@19sqm), medium (@43sqm), Groot (@79sqm) and one anchor tenant (@188sqm)

To cater for one man bands or big studios, artists / craftsman's paraphernalia have a space to both make and sell stuff. Large open plan spaces with adjustable louvres to cater for a wide range of uses, including leather working, calligraphy, graphic design, weaving, screen print, furniture/joinery design and upcycling.

- » **The Creative Exchange Offices** : @ 479sqm.

Suited for rentable hotdesking, and hot-meeting rooms, fitted with a communal kitech and break away spaces.

- » **Teaching** : 2 spaces of 79sqm each, fitted with separate AV store.
- » **Outdoor working space** @ 300sqm – for artists/craftsman.

Floor 3.0

- » **Loft Accommodation** : 10 artists bedsits @ 21sqm, 5 rentable one bed units @ 37 sqm & 1 penthouse @ 160sqm. *These figures have been based on : Main street life = studio loft @ 33sqm from R320000. Revolution house = 29 dbl apartments @ 60sqm from R550'000. Fox Street Studios (Black painted block) 4 units @ 200sqm from R1'300'000. Artisan Lofts (under construction) @ 70-200sqm (All maboneng precinct).*
- » **Art Gallery** : 487sqm.

Floor 4.0

- » **Roof Top Event space** : 487sqm.

These figures have been based on : Based on Arts on Main event space = 450pax. Main St. Life = 200pax. MOAD = 1000pax. Funding purposes, similar to that of 798 Art district.

- » **Roof gardens**, each fitted with Slimline Jojo tank (artists bedsits sharing), solar panels (electricity), raised planter bed for vegetables/flowers etc, and leisure deck space.

Other Requirements :

- Toilets (for studios and teaching blocks) including services & Ducts.
- Building to be fully wheelchair accessible to comply with SABS 0400.
- Passive sustainability and energy efficiency plant : local production of electric power and recyclable water processes / water reticulation / Jojo Tanks and roof gardens for growing vegetables and/or flowers.

2.0 SITE SELECTION AND ANALYSIS

2.1 INTRODUCTION

Durban is the 3rd largest city in SA and has the busiest port in South Africa. It is one of few natural harbours between Maputo and Port Elizabeth and is the 3rd busiest container port in the Southern hemisphere. Durban's population is 3.5million people and has been a major tourist attraction for many years and heavily relies on this industry throughout the year.

Globalisation and "*universal sameness*" (Augè, 2008:xii) have deepened the importance of "*place*" in a local context. New architectural interventions need to re-assess and adjust to the complexities found in the urban humanity and social life of the city. This intervention seeks to plug into the existing values of Durban and will attempt to give added worth to an area that is in need of enriching. Three sites have been chosen in and around Durban and have been analysed with a set of criteria to assess their strengths and weaknesses.

2.2 SITE SELECTION CRITERIA

As the intervention could be placed anywhere, the site criteria were used as a set of principles to measure against, these are the site selection criteria.

The site must :

- » Bear characteristics of ***Universal Sameness, Placelessness, and/or Non-place*** whereby effects of the machine or mass-production are visible.
- » Be in need of **revitalization**. Whereby a new productive intervention could ignite a precinct's potential for redevelopment; socially, economically, and environmentally.
- » Have **vacant built assets** for recycling of materials or re-use of infrastructure on site.
- » Be an environment that would benefit from a more **public realm** or **human interface**.
- » Be located in an area that will satisfy **working** and **living** opportunities.
- » Be situated in a vicinity that supports **manufacturing, building** and/or **making**.
- » Be within an area that has potential for **growth**.

2.3 SITE SELECTION

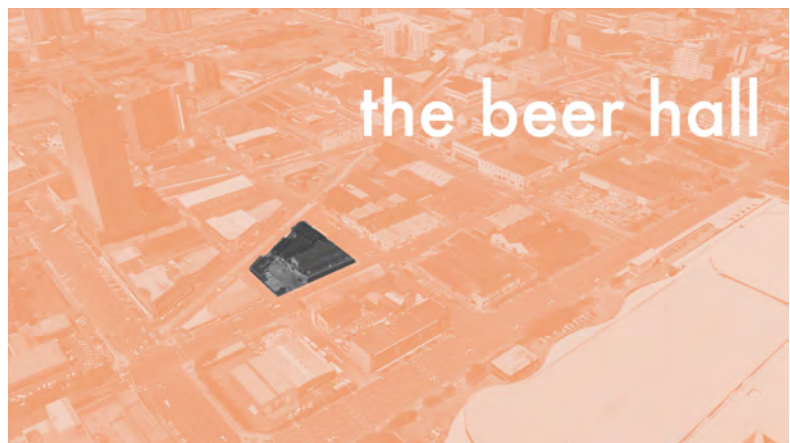
Three diverse sites were selected to display the potential reach of a collaborative skills facility from urban to rural. There were two sites chosen in urban areas and the other is in a rural area, the building typology would be derived from the needs of the different sites and would be determined by the existing structure of the site.



Fig_ii. 4 : Map showing the three sites, clockwise from top: Ashburton, towards Pietermaritzburg, and the two urban sites in Durban, the Beer Hall in the city and Wilsons Wharf in the Harbour.

2.3.1 Site Option One : The Old Beer Hall, Durban CBD.

“Cities are the most fertile fields of economic, social and cultural exchange and creativity. They are highly efficient and effective environments for the conversion of resources into opportunity and productivity. And therefore powerful contributors to achieving our human potential.” Makin (2012:65)



Fig_ii. 5 : The Beer hall in the context of Durban's Light industrial back yard of the CBD.

A proposed design district to promote and support local artisans, designers, and craftsman through adaptive re-use and urban reintegration.

+ PRO

- » Currently no public interface between the CBD and the promenade, therefore a possible public node between promenade and CBD could help tie elements together.

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- » An entry and focus point into the city from the M15 and the M4 from the North.
- » A dynamic semi Industrial back seat of the city in need of regeneration.
- » Revival of a lost asset though adaptive re-use.
- » Human interface / public realm desperately needed in the precinct and could benefit from an injection of people and possibly smaller start up commercial activity into the existing large scale, industrial factory-like urban grain.
- » Could sustain job creation in the city and plug into urban framework as the services are already there.
- » Potential to public realm to bleed onto Milnes way to activate its edge.
- » Building in the city combats "*Urban Sprawl*" - increasingly evident in South African cities.
- » Densities = people = proximities = connections = chance encounters = opportunities.
Proximities : ICC (200m), UNISA (300m), Beachfront Promenade (600m), Harbour (1km), Warwick Avenue (2km), Moses Mabhida (2,2km).

- CON

- » Over-run by cars (however, intervention could be a solution to this)
- » Dead space (However, this is a pre-requisite for site selection)
- » Problematic parking.
- » Precinct is heavily populated with car show rooms and banks, however, there is a possibility that with the new development in uMhlanga, the new Dube precinct or Bridge City, this could leave a void in the urban fabric that would need to be addressed.

2.3.2 Site Option Two : The Drums, Ashburton.

On the edges of both Durban and Pietermaritzburg, a peripheral site which offers a north orientated site, and spectacular views of the South African Countryside. Within an already existing light industrial area, the dilapidated house offers many opportunities for community engagement.



Fig_ii. 6 : The view of the dilapidated farm house from the N3 with the Drums to the North of the site.

+ PRO

- » Good opportunities for branding/signage/advertising, as the site sits alongside the N3 (main freeway which connects Durban and Johannesburg) and is roughly three quarters of the way between two urban precincts, Durban and Pietermaritzburg.
- » Good connections for import/export.
- » The Adaptive re-use of dilapidated sheds and infrastructure would reduce cost and aid in recycling of good building fabric.
- » The project could be dealt with in a similar manner to Dalton reserve (a case study in part one of this dissertation), whereby sustained, long-term, job creation in a rural area could be encouraged.
- » The site is within an existing manufacturing precinct. Within 1km of the building there are towing premises, air brake specialists and car repair shops.

- CON

- » Although Ashburton is off the main N3 free way, the reach of the development would be minor, as the densities for this type of development would not be sufficient to survive.
- » By building this far away from existing networks, the development would be contributing to urban sprawl.

- » There are weak public transport links in the area, and would realistically only cater for people in the area.

2.3.3 Site Option Three : Wilsons Wharf, Durban.

The site runs alongside the existing Wilsons Wharf complex which consists of a yacht mole, restaurants, Catalina Theatre, and craft market. The dilapidated site could incorporate an improved connection to the waters edge and resurrect its urban context.



Fig_ii. 7 : The site in its harbour context, alongside the existing yacht mole in Wilsons Wharf

+ PRO

- » The site is dilapidated and in need of rejuvenation.
- » In an industrial area therefore manufacturing (etc) will be supported.
- » Opportunities to inject into existing trading of Wilsons wharf.
- » Potential to engage the once public-ness of the harbour, as this used to once be Durban's front-of-house swimming and tourist strip.
- » The intervention could become a link with the existing Bat Centre and Wilson's wharf craft centres, and ultimately enhance the entire public realm of the precinct along the waters' edge.

- CON

- » Access. The site is cut-off from the rest of Durban due to the train track, although the intervention could be a catalytic change for the environment, the urban design scheme in itself would need to be greater than what the client is intending to pursue.
- » The surrounding urban environment is occupied mainly with large inhumane, industrial buildings along one side, and housing blocks on the other, both of which have a low human interface, which is not good for trade.

- » As the site is small, there is limited growth with regards to phasing development.

2.4 CONCLUSION

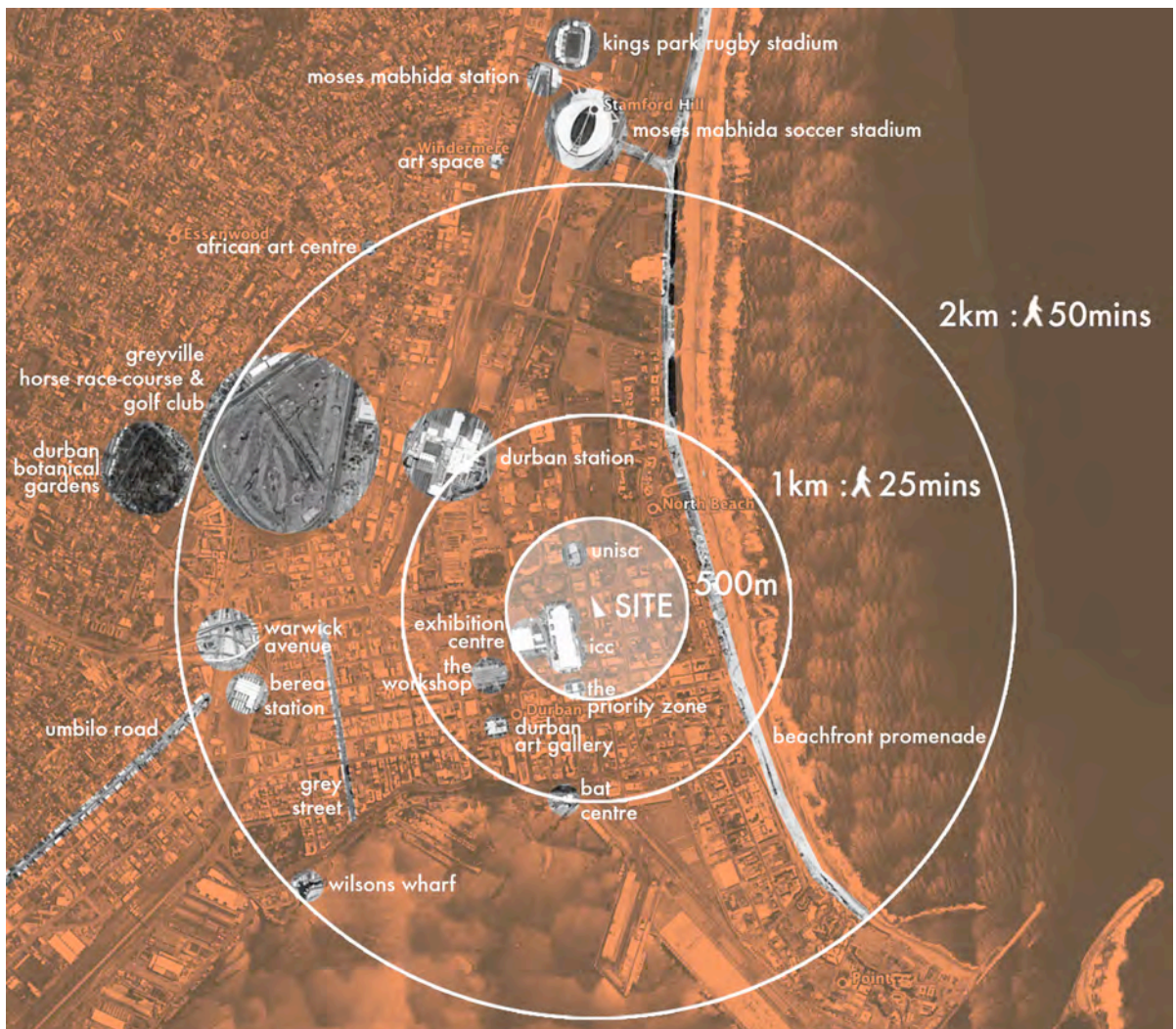
The programme and function of a collaborative skills development facility could inevitably be placed in any environment, but as this particular building type intends to merge various design realms, an urban setting (with its density, public transport and already functioning economy) would be more suitable. This building type is concerned with the blending of both craft (hand made) and digital (machine made) technology, therefore, design, craft and building skills are at the core of the scheme therefore the site would best be suited in an industrial precinct. The three sites above have their own individual characteristics and charm, however it is the beer hall, which proves to be the most successful, in terms of its potential to reach a wider audience and have a greater impact on the Durban community.

2.4 SITUATION ANALYSIS

2.4.1 Geographic Positioning



Fig_ii. 8 : World Locality plan



Fig_ii. 9 : Macro Situation Analysis and site positioning

The precinct is zoned as a light-industrial area and is often regarded as the industrial *back yard* of the city. The site is situated between the beachfront and the city, adjacent to the International Conference Centre (ICC). Fig_ii. 7 above indicates the site within its context as well as walking distances to particular parts of Durban relevant to its functioning. The site identified is the old Beer Hall on the corner of Morrison and John Milne Street and extends

North towards a nondescript car storage facility. This precinct offers many essentials for the success of the intervention. The most important being that it is an industrial area, an area of *making* or *production* and has always been accepted as such.

LINKING SPACE



Fig.ii. 10 : Situated between three major, unique, all inclusive, public places within Durban. In terms of linking public spaces in Durban, there is currently little connection between the beachfront and the city. The three main, iconic, all inclusive public places in Durban are; the new beachfront development, which has been recognized as an area of leisure, Warwick market, celebrated as both an informal and formal point of commerce, and Margaret Mncadi avenue (formerly Victoria embankment alongside the Harbour), which was once the public area and actually acted as the main beach boulevard in Durban in the 1930's, it now functions as an industrial area with very little design consideration for humans.

Although it could be said that these areas are the melting pots of various cultural backgrounds, the void inbetween is in dire need of a more *public* interface. A new form of public place could potentially tie these places together, and it could be argued that the area, and intervention identified, could act as a catalytic area regenerator. This could certainly bridge the gap between Durban's two main public spaces and become a positive step in creating a more human interface and environment in Durban.

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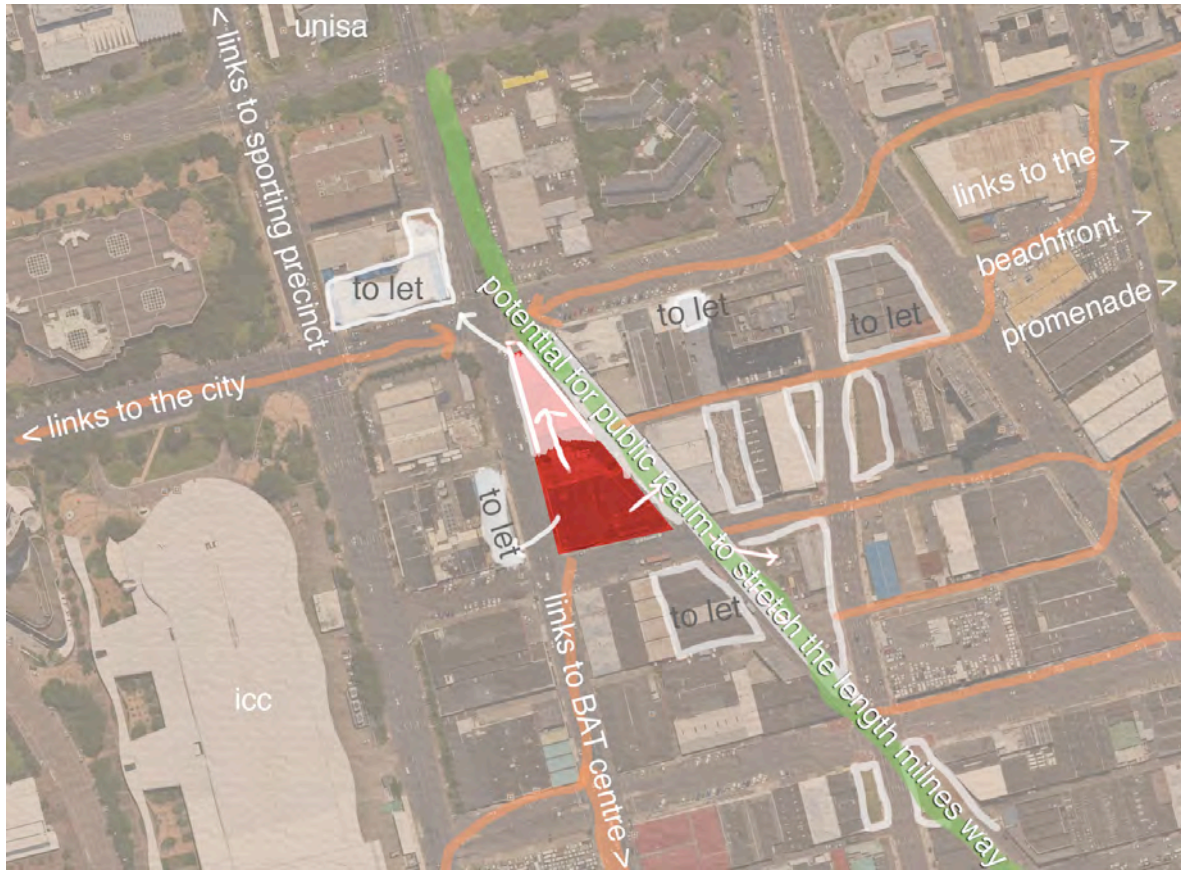


Fig.ii. 11 : Immediate potential engagement of intervention on its context

LINKING SITES



Fig.ii. 12 : The proposed intervention will look at joining two sites, Site A and Site B. The client has acquired the two sites; Site A – Wedge, and Site B – The beerhall. Together they make up a +- **3300sqm** footprint and a total building coverage of appr. **1580sqm**.

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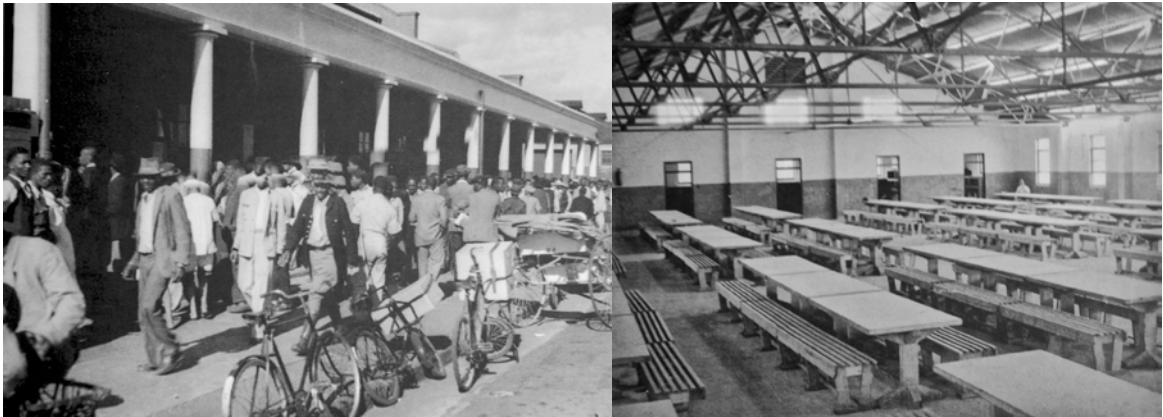
Fig_ii. 13 : Image indicating site A – The Wedge.

Site A : The wedge (approx. 580sqm) is a corner triangular site and is fully occupied by a single storey building which houses a car rental storage facility, namely *Dollar and Thrifty*, car rentals, and is privately owned (unknown). As the building is used as a storage facility and is of a nondescript architectural nature, the plan is to demolish the building, however, materials that can be retained for use, will be implemented in the new build.



Fig_ii. 14 : Image indicating site B - The Beerhall.

Site B : The Existing Beer Hall (appr. 1000sqm) comprises of two existing buildings which were erected in circa 1930 and was labelled “*Natives Rest*”, which accommodated a communal space for black labourers who worked in the city to gather socially after work. The old kitchen block and main eating space, and are both in relatively good condition, although, electric fencing covers the perimeter of its roof and the chimneys of the kitchen block have also been covered on the exterior. Architecturally, the building stands out from its context, which comprises mainly of industrial warehouse type buildings of low-rise steel portal frame, brick infill, and double pitched steel roofs. The strong character of the building is unaffected and this was a main draw card for using this site, as well as being one of the cities few remaining historically significant industrial buildings that played a relatively minor but important role in Durban’s apartheid history. See Fig ii.14 & 15 below.



Fig_ii. 15 : View of the colonnade circa 1930 before it was bricked in.

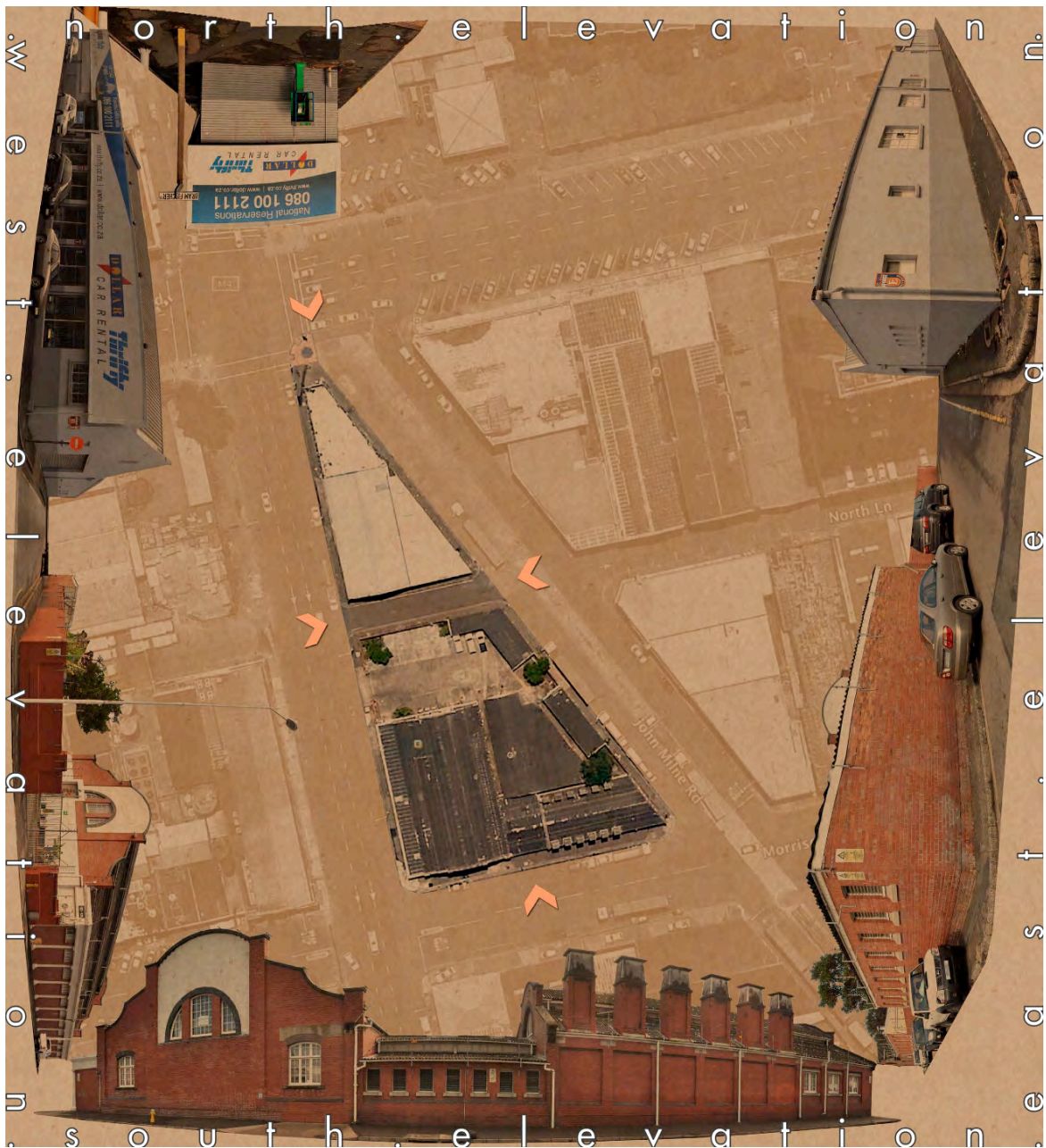
Fig_ii. 16 : Within the beer hall, rows of seats for the workers to have a beverage and a meal after work.

The building is now owned by the Durban municipality, is currently used as the art conservation facility in partnership with the Durban Art Gallery. The Art conservation centre was effectively a retrofit project undertaken by Durban City Architects in 2002, driven by the Durban Art Gallery. However, as the building was not designed to be an art conservation facility, there have been problems with maintaining proper art conservation practice. Following the author’s meeting with Jenny Stretton (Curator of the Durban Art Gallery) whom works within the facility, the following issues were raised : bora (termites in the ceiling boards), climate control (some of which is air-conditioned, however it is often non-operational), location (being near the harsh sea air) and size (facility is too small) were the biggest concerns. Furthermore, the original public interface of the building has been changed

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as the new function calls for a sheltered and environmentally controlled situation. The existing building will be retained as far as possible and the new function will attempt to reintroduce the space into a public building once again. The building is now listed as it is older than 60years and is protected by Amafa, which implies that within the construction and development of the building, all preventative measures shall be taken to preserve the building. Please refer to Fig ii. 16.



Fig_ii. 17 : Elevations of the Beerhall

2.4.2 Historical Analysis

Through time the area has remained as a manufacturing light industrial precinct, fastened to the Central Business District of Durban. At the turn of the 20th century, Milnes drain was built to drain the eastern vlei and drained into the harbour, near the bat centre. Still evident today, the drain makes an iconic diagonal cut through the rigid rectangular city blocks of Durban and still carries water. The following is a chronological analysis of spatial arrangements, massing, activities, and usage of the site from the late 19th century. All information contained in this section is courtesy of Bennett et al (1987).



Fig_ii. 18 : 1886 Site

1886 : George Cato, in 1850, designed the first city layout of Durban which encompassed 100ft (30+) wide to accommodate the turning circle of 16 oxen and a wagon. The block sizes were roughly 280m wide perpendicular to the bay (South to North), some deeper than others to provide for the natural curvature of the bay. Block sizes along the east west orientation varied due to contours and measured between 760m and 1160m. Victoria Park was established by 1866. (Bennett et al (1987))



Fig_ii. 19 : 1930 Site

1930's : Individual footprints, loose density, and no pavements leads to an incoherent city block formation. Roads are not visible due to the permeable edges through variations of buildings placement on plot. The building edges and plots are permeable, however there is no dominant routes or avenues through the precinct. Milnes drain forms part of the eastern vlei's (to the North of the site) drainage system and flows South into the harbour. The formation of drainage allowed roads and establishments to occur. The drainage route cuts diagonally through the site and is a noticeable factor for the street layout. (Bennett et al (1987))

Surrounding Building Types : mostly agricultural stores, warehouses, carpenters, and timber yards.

1940's – 1950's : Density increases as well as building footprints, although many sites are still vacant therefore blocks are still incoherent. Road systems become more visible and pavements are built. Milnes road becomes articulated.

Surrounding Building Types : Similar building types as above; stores, factories, warehouses etc.

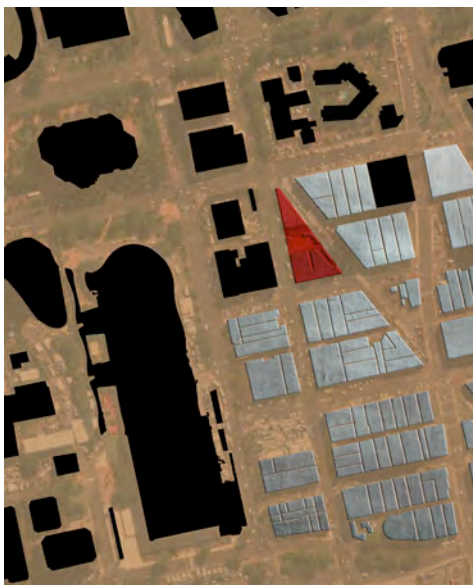


Fig_ii. 20 : 1960 Site

1960's : Footprints extend to the boundaries of the blocks which then becomes a more compact block, however individual buildings are still identifiable in some cases. This also brings a more coherent edge between building, pavement, and street. A vertical wall of hotels are built along the beachfront which, to some extent, blocks the connection to the promenade from the site. Milnes drain sets up a variable city grid and buildings are forced to adjust to the distinctive angle. The drain is covered and converted into John Milne Road. (Bennett et al (1987))

Surrounding Building Types : Factories, warehouses, offices, workshops, mechanics.

2.4.3 Current Situation Analysis



Fig_ii. 21 : 2012 site

Similar to that of the 60's, buildings pushed to the edge of the boundaries of the sites. General scale remains the same (+- 2 / 3 stories). Many Japanese Motor Vehicular distributors are in the area. The precinct is an environment that seems to be reliant on destination sales, and not necessarily passing trade, as many façade treatments and general urban environment is poor and uninviting. The predominant building functions in the area are mostly concerned with Motor Vehicular repairs, dealerships/showrooms, and storerooms. There are many Tiling premises and warehouses.

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Fig.ii. 22 : Surrounding Functions : Macro & **Fig.ii. 23 :** Surrounding Functions : Micro.

Referring to Fig.ii 19 & 20 above, the site is surrounded on its four edges :

North : Car Dealerships and Offices. Unisa. Sports Precinct. Moses Mabida (2km)

Towards Durban North (6km) & Umhlanga (15km).

South : Durban Transport Bureau. Import / Export Car storage.

Towards the Harbour (1,5km).

East : Tile dispatch premises. Book Store. Advertising Agency. Buildings to let. Long and narrow Alleys. Greenfield site. Wall of Hotels.

Towards the Beachfront (600m).

West : Yeast Factory. The ICC. The Hilton Hotel. The Workshop. City Hall.

Towards CBD and Warwick Market (2km).

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However, the majority of the built environment is left unattended, as unsightly rubbish, manufacturing by-products, broken pavements, and weeds are found strewn throughout the precinct. It shows a lack of consideration for the pedestrian and users of the precinct. Furthermore, many buildings in the area have windows and doors bricked in, and security in the area is one of the communities' greatest complaints. This could be because of the low pedestrian levels found in this area throughout the day, as noted in Fig ii. 21 & 22. Within 200 metres of the site, there are also seven (7) buildings and spaces to let (at time of publishing) and many empty lots (Refer to Fig ii. 22).

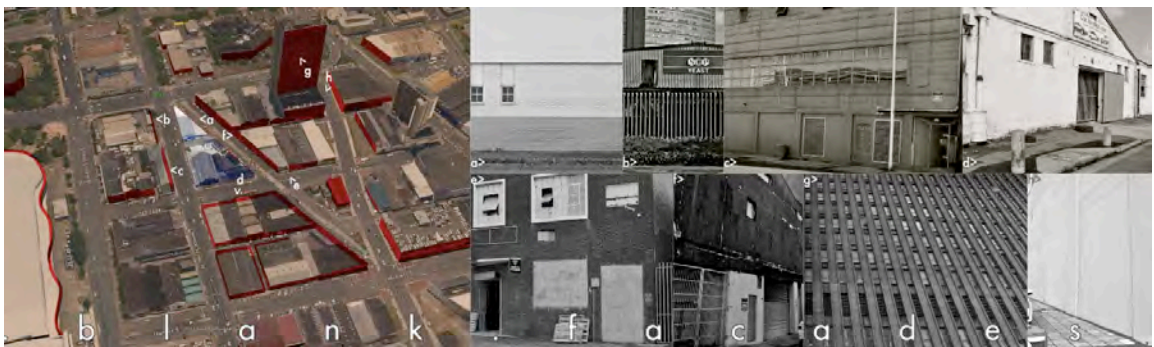


Fig ii. 24 : To Let / Not in use

static snapshot reveals low public interface in the area therefore there is a need for considering highlighted building edges for pedestrian activity



Fig ii. 25 : Static Snapshot



Fig ii. 26 : Blank Facades

2.4.4 Public Transport and Major Pedestrian Routes

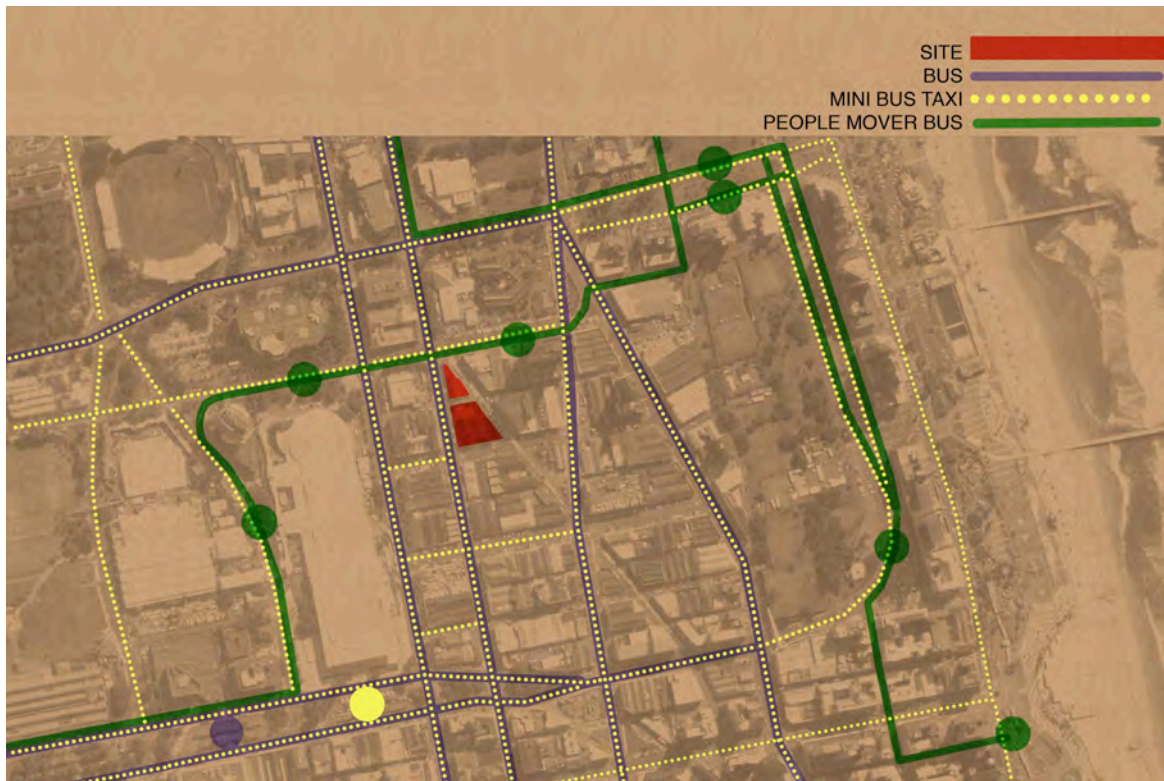


Fig.ii. 27 : Map showing transport routes in the precinct.

Due to the sites proximity to one of the *people movers* stops (50m), Durban Station (1,2km), Berea Station (1,9km), and Moses Mabhida Station (3km) the intervention is readily accessible to the public. Thousands of people pass through Durban Train Station every day, and the design of the facility needs to take cognisance of the pedestrian traffic that this complex generates. As noted in the pedestrian movement studies, the design will aim to create a link to the North (Sports Precinct & Durban North), South (Durban Harbour & Victoria Embankment), East (CBD & Warwick) and West (Green Field & Beachfront).

Located near the Warwick interchange which is often dubbed as the Heart of the City, is Berea Station which is responsible for the largest amount of people moving in and out of the city every day. This is due to its links to and from Durban, as well as the proximity to the markets where various trading from warehouse proportions to fresh produce, and almost everything in between, takes place.

Bram Fischer and Old Fort Road, which run along the Northern edge of the site, maintain the East-West corridor that serves as a spine that connect several points of interest from the N3 (the entrance into the city) to the beachfront, one of Durban's greatest public

asset. (add here is where things attach to it – ie: Durban Botanical Gardens, Umbilo road industrial, Warwick markets, Unisa, Kingsmead Cricket, ICC and Hilton Hotel, Exhibition Centre, The Workshop kinda, beachfront stalls, people gathering along it etc).

Both Stalwart Simelane and Florence Nzama run the North-South links on the western side of the site. Feeder routes from these points into the site will help create a vital link which brings different backgrounds into one place. Using forms of retail, trade, and public facilities, the centre will aim to be a catalytic intervention to spark investment and growth in this area.



Fig_ii. 28 : Macro study of traffic and pedestrian movement

2.4.5 Town Planning Information

Information attained from council in Durban in July 2012.

Beer Hall : 102 Florence Nzama (Stated as a 'Historic Building' by Amafa)

Wedge Site: 120 Florence Nzama

Both are zoned as General Business and have the following limitations :

- F.A.R and P.A.R : 8.0 (of which 50% can be residential) Not applicable coverage.
- Height : 59deg from opp side of road (use only 30m width of road if it is wider. if it is less than that use 59 deg from opp side of road). However, maximum Height of 110m

(or 5m setback, then 15m height, then has to go with the 59deg from opp side of road)

- Building lines: 4.5m from centre of road.
- Parking: Appendix 6 of regulations for parking's (For General Business) – if floor area exceeds 5000sqm, at least 1 bay shall be provided per 100sqm (maximum = 2sqm).

Dwelling : 1 or 2 Bedroom = 1 bay per unit (6mX4m).

Business : *General Office* = 5 bays per 100sqm. *Restaurant* = 10 bays per 100sqm.

Industrial : manufacturing, warehouse, dairies/bakeries/laundries, storage yards = 1 bays per 100sqm.

{motor dealership = 2 bays per 100sqm. Motor workshop = 4 bays per workbay. Motor spares & sales = 2 bays per 100sqm}

2.4.6 Long Term Development Plan for Durban

Information contained in this section is summarised from Imagine Durban:

The Long Term Development Plan (LTDF) for Durban is 50-year plan with a vision for making Durban the most caring and liveable city in Africa. It is a council-led project, which is in conjunction with the *Imagine Durban* project.

The plan has six avenues where they attempt to :

- » Create a **Safe** City
- » Promote an **accessible** city
- » Create a prosperous city where all shall enjoy a **Sustainable livelihood**
- » Celebrate our **Cultural Diversity, arts, and heritage**
- » Ensure a more **environmentally sustainable** city
- » Foster a caring **empowering** city

The city believes that a long term plan is fundamental in its prose as the actions we take now shall have a positive impact now and in the future. They have identified the following problems that the city may face in the future :

- » Climate change
- » Water shortage
- » "Peak Oil" – *which refers to the increasing price of oil that will become too expensive and the need will then focus on non-motorized transport within the city.*
- » Poverty and inequality

The City's aim is to focus on these future issues without compromising today's generation, but rather encourages them to look towards a more sustainable future.

3.0 DESIGN AND TECHNICAL RESOLUTION

3.1 CONCEPTUAL AND THEORETICAL ISSUES

3.1.1 Introduction

“Craft skills in the black South African population were severely damaged and restricted under apartheid but as the new SA blooms, craftspeople are returning to the streets.” www.durban.gov.za

Although it may be argued that there is also a new generation of public spaces found in Durban, such as the various Shopping centres (*Gateway, La Lucia Mall, Davenport Centre*), Casino’s (*Suncoast and Sibaya*) and Entertainment centres (*uShaka Marine World*). These centres are not fully *open*, as they are self-contained, standardised, and exclusive centres, whose environments reveal little to their geographic location and could be translated anywhere in the world. This intervention, therefore, seeks to introduce a public place to Durban that directly responds to the specific characteristics of place, connecting the beachfront, Warwick and Margaret Mncadi Avenue, as improving these links would greatly revitalise Durban in general.

By citing Scarpa (1990), advice is given by Weston (2003), whom recommends that when restoring or working with historical buildings, it is impossible to portray an equivalent in quality of materials, workmanship and spirit as the existing fabric. Therefore Weston (2003) suggests that the old must be retained and celebrated for being old, but the changes shall *“be made overt what is new and what is old ... [and] ... always providing that is respected, and ideally enhanced, the existing fabric”* (2003:121). Furthermore, successful adaptive reuse projects make the distinction as to what is new, and to what is old and because these projects are often due to economic constraints and historic significance, the way in which preservation of architectural heritage is undoubtedly controversial. Every project is different, which leads to different architectural approaches.

The dense urban fabric of Durban has little opportunity for new architectural projects to be implemented without demolition work. As discussed throughout part one of this dissertation, there is a new architectural paradigm which is emerging through the recycling of buildings. Physically and spiritually, buildings that have stood the test of time should be celebrated and

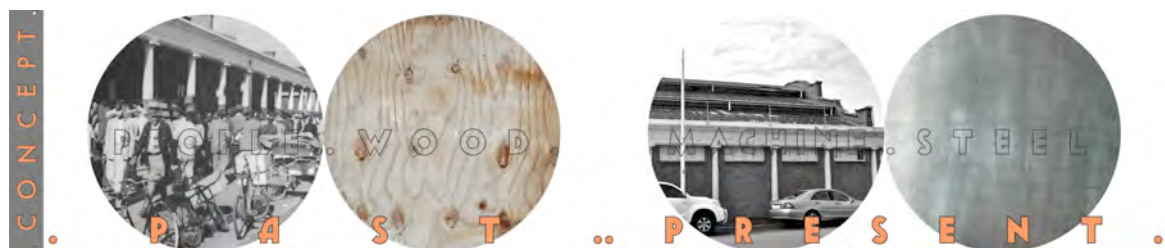
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explored, not just flattened to make way for another high-rise mirror. Many buildings of a certain age have often undergone a number of function changes, many of which bear little resemblance to what they were initially built for.

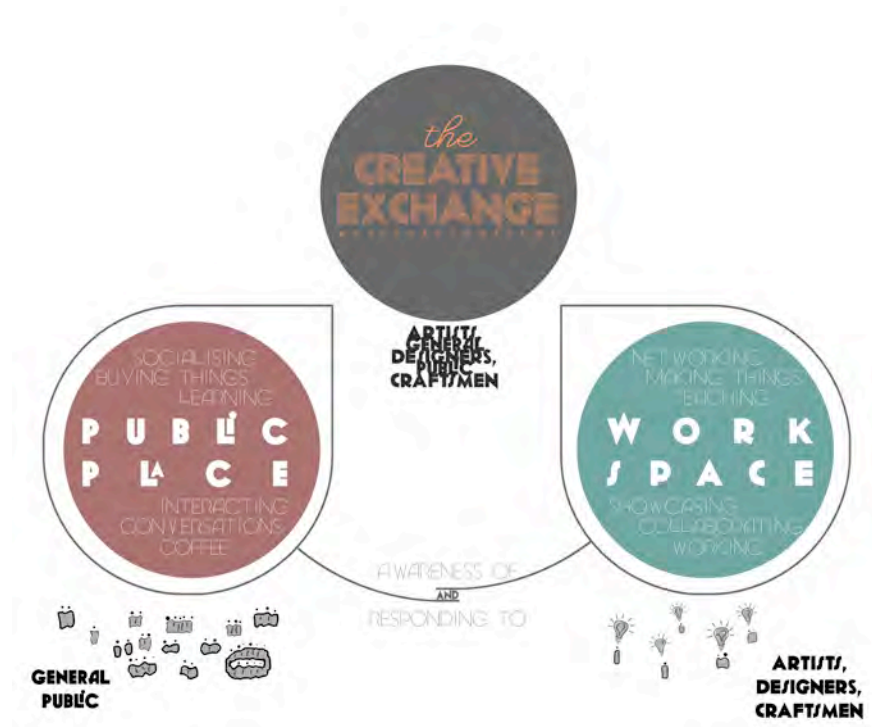
The Creative Exchange intends to eliminate **urban decay** through integrating existing with new, not through gentrification, but through creating a place that is considered for human interaction. The majority of **the existing building** will be kept as a reminder of the past as we progress into the post-apartheid democratic future in South Africa. The architecture exemplifies a sense of transparency, as stated in our constitution, to allow integration between inside and outside, private and public.

A responsive and engaging architecture through handcrafted quality design produced in an artisan way with the aid of machines - not the other way around. As poorly motivated workers show evidence of this in their work (Sennet, 2008), therefore the facility would endeavour to correct this by creating studios that can be altered to suit the needs of the situation. For example, screens and windows are manoeuvrable on each level and are not dictated by an overall building operating system, which ties into the notion of combating mass-produced spaces. This allows the individual to change their own environment to suit their specific needs at the time.



Fig_ii. 29 : In the past, the site responded to people, with the predominant material being wood. In the modern world, industries changed and the building is shut off to people and is surrounded by motor vehicles and steel.

3.2.2 Concept development



Fig_ii. 30 : Conceptual Diagram of the make up of *the Creative Exchange*

The aim of the centre would be twofold; to create a public place for people of various backgrounds to invest in quality produce, socialise, and learn. Two, develop a facility that houses various studio spaces that are focussed on design, building, and collaborating. Together, these make up the *The Creative Exchange*. For example, this could form part of a venue for educational exchange, whereby after school activities for children and young adults that could be integrated into apprentice-based programmes where they are taught skills by an older generation, and in return, the older generation could be introduced into the world of e-commerce and the internet. This could enforce a closed loop system where one enriches the other. This could also aid in obtaining employment due to the input from one another.

3.2 PRECEDENT STUDY

The aim of the Precedent study is to locate and focus on particular projects around the world that exhibit similar building types to, in this case the *Creative Exchange*. Whereby exploration into functions, characteristics, design, and technology can aid in the conceptual design process for the project at hand. The following precedents were selected to show the potential for a design district in Durban, from the macro scale of a precinct arrangement, to the micro scale of particular function and design of similar building types.

3.2.1 Precedent Study 1ne : 798 Art Zone



Fig_ii. 31 : Detail shots of the 798 Art zone, and a summary sketch.

Project : **798 Art Zone. 2002.** (otherwise known as *Dashanzi Art District* or *798 Art District*)

Location : **Beijing, China.**

Global - Building type and Function.

Often compared to SoHo or Greenwich Village in New York, *798 Art Zone* has revitalized the historically interesting Dashinzo factory complex into a thriving art district that attracts large numbers of local and international visitors throughout the year. Once opening in 2002, it has remained a world-renowned art-district attesting to be the home of china's progressive contemporary art scene. The district is blend of village and contemporary design scene, due to its walkability, density and prohibited motor-vehicular use, and its abundance in art galleries, bookstores, off-street trading, loft-living, publishing press, coffee shops, and various artist studios. One can find publishing firms, architectural practices, industrial design companies, photographic studios, artists/craftsman studio's adapted into an environment of urban culture and lifestyle. Fully accessible to the public, the district brings together experts of various design backgrounds and normal folk alike because it is known that many of its galleries and studio's remain free of charge. The district sustain themselves through hosting various profitable functions such as fashion shows and product launches. Many of the artists studio spaces are positioned adjacent to many of the galleries, therefore the complex is seen to promote a "working gallery" arrangement. The area has gradually developed into a highly sought after compacted work and live scenario, with the likes of Ai Weiwei, the world famous Chinese artist, curator, architect, and activist, known to live just outside the precinct.

"Old Factory + Community of Artists = Art District" | "Contemporary Art + Local Art = Unique Expositions"
"Reuse of Factory = Revival of area" | "Local Artists + Foreign Artists = Global Tourism"

History

In the 1950's the Dashanzi factory complex began as a military-industrial cooperation, which bridged the Soviet Union and newly formed Peoples Republic of China, as an extension to the "Socialist Unification Plan". The complex is officially known as *Joint Factory 718* which followed on from the Chinese standard naming procedure of having a number '7' as its suffix. The complex was set to cover 500'00sqm, of which 370'000sqm was to be accommodation and boasted inexpensive, high quality living arrangements for its workers. Furthermore, it contained many diverse social extra-curricular activities such as sport fields, dancing classes, literary clubs, and a hospital. At a time of high poverty rates and low quality working environments, the complex established a good working reputation in Beijing until its decline towards the late 1980's due to deterioration of state funding. By the 1990's the majority of the complex ceased production and more than 50% of the workers had been retrenched. The area was then vacated. This event coincided with the eviction of artists whom were living and working in run-down houses on the outskirts of Beijing. It began as a small number of artists studios renting space among 50 year-old decommissioned military buildings and an electronics factory compound. In 1995 the Central Academy of Fine Arts (CAFA) were looking for premises in the city and began a chain reaction for artists to migrate along with it, attracted to the cavernous factory spaces. Planning began in 2002 when artists and cultural organisations decided to divide, rent-out, and re-use the factory spaces in the district. This saw an increase in interest in the area, and steadily developed into galleries, art centres, studios, design companies, restaurants, and bars. Although the relationship between the existing landlord (a state-subsidized electronics compound) and the art/tourist community remains uneasy, due to rising living costs, the area still exists as one of the many thriving art districts in Beijing. The main building was designed in 1952 by a German based Architectural firm in Dessau, which was also the home of the Bauhaus school at the time. This arguably gave rise to the buildings identity derived of Bauhaus descent of *form follows function*, honest materiality and curvaceous interior volumes. The main building currently houses the *798 Space* art gallery and although it Northern Location, North facing saw-tooth rooflights were implemented to allow more natural light into the working spaces as they produced a softer light and casted less shadow. (www.798space.com)

3.2.2 Precedent Study 2wo : Maboneng Precinct



Fig_ii. 32 : Detail shots of the Maboneng Precinct, and a summary sketch.

Project : **Maboneng Precinct. 2010. (*Arts on Main in 2008*)**

Architect : **Daffonchio & associates architects.**

Location : **Johannesburg, South Africa.**

Local – Building Type And Function.

In cities all over the world, many districts have been neglected, often due to funding which then sees an increase in crime and urban decay, simultaneously creating a vacuum of people in the process. Found along Main Street in downtown Johannesburg is a development that has attempted to reverse the trend of urban decay. Aptly named the Maboneng Precinct, which is the Sotho word for “*place of light*”, seeks to regenerate the area and has promoted an optimistic way of life in the city once again by recognising value in old office and apartment blocks that are no longer in use. The Maboneng precinct has redeveloped the area into a functional part of the city as Jonathan Liebmann, the developer behind the project, proclaims that it is “*an enlightened community [...] looking for a connection to urban Johannesburg.*”

The project began with the purchase of an old warehouse in down town Johannesburg which ironically, was the first point of entry of alcohol into South Africa in 19XX, a similar building type to that of the Beer Hall. *Arts on Main* was created in 2008 with architect Enrico Daffonchio and has since attracted a new community seeking an Urban African lifestyle by promoting a city living, working, and trading lifestyle. The development has grown and now includes Main Street Life, 12 Decades Hotel, Revolution House, The Main Change and Fox Street Studios, all of which promote collaboration, entrepreneurship, city/urban lifestyle, and design. Internally, the precinct is layered with studios, apartments, galleries, coffee shops,

bars and various retailers as well as a bioscope, and the *Arts on Main market* every Sunday. Externally, the precinct boasts an impressive coffee culture, artist project spaces, and even a pavement dedicated to skateboard ramps. The world-renowned artist William Kentridge was one of the first tenants to acquire a new studio space in the precinct and other significant anchor tenants include the Goodman Gallery and the Goethe Institute. The precinct declares, “*the city is back!*” and has added value to the once declining area both economically and socially. (www.mabonengprecinct.com).

Building data :

Site area : 52,500sqm (Mixed-use inner city redevelopment)

Buildings :

Arts on Main – 6000sqm (Mixed-use urban redevelopment : contemporary art galleries & studios. Restaurant. Event Space)

Main Street Life – 16000sqm (Mixed-use urban renewal project. Retail, residences, workshops, art hotel and roof top event space)

3.2.3 Precedent Study 3hree : Caixa Forum



Fig_ii. 33 : Detail shots of the Caixa forum, and a summary sketch.

Project : **Caixa Forum. 2008**

Architect : **Herzog and De Meuron.**

Location : **Madrid, Spain.**

Architecture and response to existing buildings.

The Caixa forum’s cultural complex is a sympathetic reminder of the past and progressive anecdote for the future of Madrid. The Caixa Foundation acquired the unused site in 2001, formerly a 1899 PowerStation and negligible petrol station from the early industrial era, and converted into a cultural complex. The nondescript petrol station was demolished to make

way for a new public square to face the Paseo del Prado, one of the main boulevards found in Madrid. Of the existing structure, only the PowerStation's walls were classified, therefore the architects decided to lift the building from its existing stone plinth, allowing the building to *float*, transforming the undercarriage to reveal a hidden cave. By doing this, the building has the ability to draw people in from all sides, as the building floats, there is no need for one main entrance, hence its nickname "*the urban magnet*". The building houses two gallery spaces, a basement auditorium, administration, restaurants and the unusual lobby suspended between old and new. The building reveals its new chassis complete with polished steel and deconstructivist interiors of triangular and angled floor plates, material finishes, staircases, lighting, and spatial proportions. This brings a new level of architectural language to the existing building and the contrast with the historically significant powerstation allows the unique architectural languages to speak for themselves. The highly modern copper clad crown is offset against the brickwork of the PowerStation, complementing the distinctive architecture of *old* and *new*.

Although the additions encase the PowerStation from above and below, the existing shell is celebrated to create a coherent architectural gesture of urban incision and sculptural form making. Utilizing historically significant buildings in this way could be argued as a way of both *preserving* and *injecting* time into the overall lifeline of a building, as well as refreshing the character of the city. (www.herzogdemeuron.com)

Building data :

Site area: Building site : 1934sqm. Plaza : 650sqm.

Building Footprint : 1400sqm.

Building Dimensions : Length 44m. Width 37m. Height 28m.

Gross Floor Area : 11'000sqm.

Program :

2 main Galleries with a total of 1720sqm of exhibition space.

333 seat Auditorium, Lobby, Cafeteria, Shop, Restaurant, Offices

Multi Functional Rooms (presentations and other activities)

Workshop for conservation and restoration

Storage space for art work

Covered entrance plaza with a total of 1200sqm (open to all four sides)

Connecting plaza to paseo del prado.

Green wall installation with 600sqm of plants.

3.2.4 Precedent Study 4our : The BAT Centre



Fig_ii. 34 : Detail shots of the BAT centre, and a summary sketch.

Project : **Bat Centre (The Bartel Arts Centre). 1996.**

Architect : **Architects Collaborative cc assisted by RAP Studio.**

Location : **Durban, South Africa.**

Local and Function.

The BAT Centre is located in the small craft harbour of Durban's Magaret Mncadi Avenue (formerly Victoria Embankment) and rests alongside the Tug Basin. Built in 1996, it began as an urban-based community art centre whose aim was to reflect the cultural diversity in Durban through the promotion of local arts, craft, culture, and entertainment. Similar to *the Creative Exchange*, the project was an adaptive re-use development, which was once a space for naval training, and is now a haven for artists and musicians. Its focus is on creating exposure for disadvantaged and emergent artists through skills training, facilitation, and promotion by creating a public arena encouraging an experience of the arts.

The BAT centre has developed into an important landmark in Durban for the celebration of arts and culture and now exists as a complex of various functions. The main spaces in the complex are the artist studios, dance studio, music practice rooms, shop, exhibition galleries, a conference room, restaurant and bar. Auxiliary functions, such as a resource centre, computer shop, repair and training services, and offices for independent arts organizations make up the remainder of the facility. The main hall hosts entertainment such as concerts, conventions, drum circles, jazz evenings, and Zulu dancing. The facility offers views over the harbour and one can take them in whilst sitting in the restaurant where food from all over the continent is served. The facility thrives on locality as the BAT shop offers a comprehensive selection of African art and craft found mostly in Kwa-Zulu Natal. A music store and drum shop, which has many handcrafted drums for sale, accompany the focus on the promotion of

the arts. Although its position towards the eastern flank of Wilson's Wharf has been argued to be a major hindrance to number of visitors to the centre, the centre still remains as one of Durban's celebrated art attractions.

The architectural language is that of an African style; responsive consideration towards materiality and local skills, abound with colour and decoration, reflecting the playful nature of the identity of Durban. The façade is brightly coloured and decorated with murals and sculptures. The building utilizes a courtyard plan and encourages an overlapping of spaces and functions which then allows interaction between artists and the general public. The building's iconic barrel vaulted corrugated iron roof, which rests on the bowstring trusses of the existing building, fronts the harbour, whilst servicing is relegated to the back towards the city.

Program

- » Artist Workshops & Gallery
- » Retail & Shops
- » The BAT Hall - 500-seater auditorium (or 750 standing)
- » Offices for the BAT Hall
- » 70-seater conference centre, 40-seater function room and 100-seater dance studio (with sprung floors)
- » Lotto Rehearsal room and Music Room
- » Coffee shop, Bar, and Restaurant (and kitchen) and Terrace

3.2.5 Precedent Study : Mood board



Fig_ii. 35 : Exterior Mood board

An existing structure provides a base, identity and an honesty that evokes a sense of history in all that comes into its presence. The history and stories that are embedded in its architecture can be brought back to life through adaptive re-use. The cohesion, and considered differentiation, of 'old' and 'new' is achieved by employing a forward thinking

process within the construction industry that expresses old for old and new for new. As existing buildings, and its material make-up, display a particular tectonic and familiarity that expresses the time from which they were built, an introduction of new materials can aid in bringing its former life back. The new intervention can then alter the existing dynamics to bring about a shift in the social approach to this type of architectural hybrid. This creates the perfect backdrop for social interaction as it reaches out to a wider demographic who can relate to both old and new.

By catering for the gathering of people, the design could also enhance the public realm and reclaim public places back into the city once again.



Fig.ii. 36 : Interior Mood board

In order to create a space that combines the elements of 'hands on' craft with the digital creativity of many designers today, a flexible approach, in terms of spatial planning, is required. Forming part of a radically new building type, the 'digital factory workers' inside the working gallery should be given the choice as to how they want to work. The simplistic portal frame and infill construction allows for wide-open spaces for artists and craftsmen to work uninterrupted. This construction technique also ties into the industrial and strictly utilitarian architecture of the area, as the tectonics of the intervention evokes the once rich handmade nature of the precinct. Quality driven, site responsive workplaces are created by directing natural light into the space and is a major factor to transform not only the working areas for functionality, but the experience it as an art form within itself.

As collaboration is key to this venture, the transparency of each area is the core principle to bring about the whole ethos of this development and what it stands for.

3.2.6 Precedent Study : Conclusion



Fig_ii. 37 : Key photos of the precedent studies.

These precedents serve as justification for a different type of development in South Africa. The intervention proposed bears similar qualities to that of the Maboneng Precinct; an integrated urban neighbourhood that claims to enhance a quality conscious lifestyle.

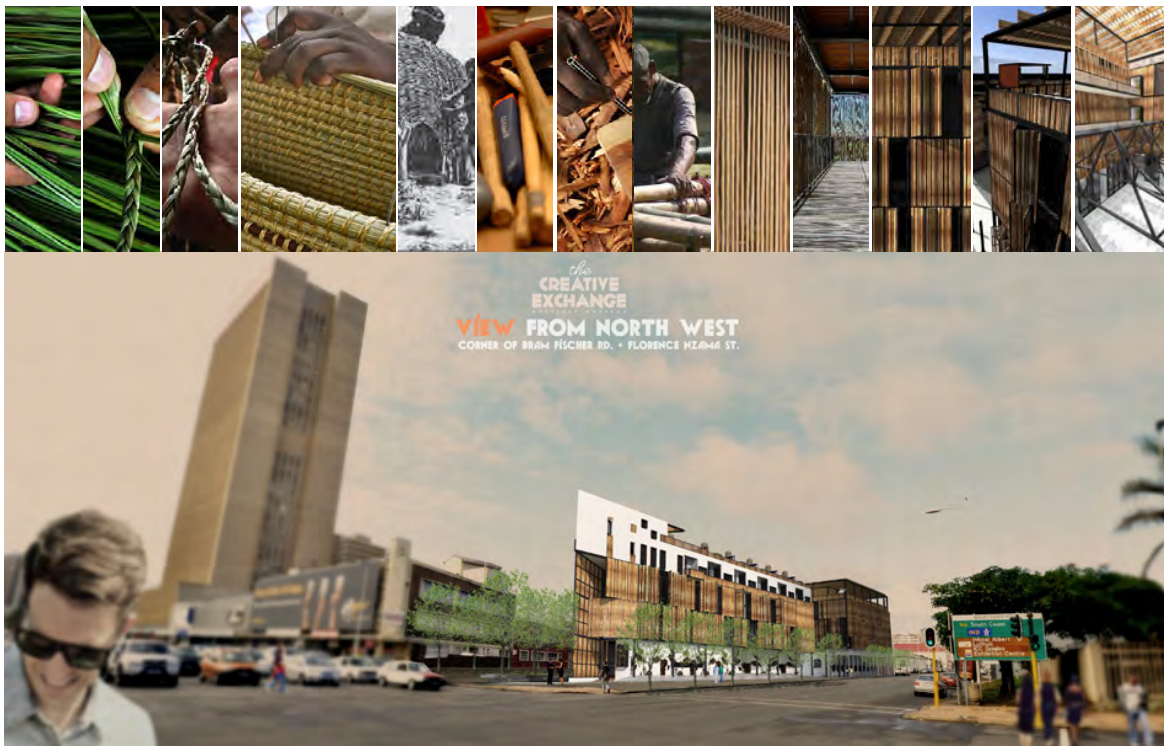
Worldwide, there is still a consciousness about conserving old buildings. Their charm is able to lift certain projects to another level of complexity and timelessness by maintaining a historic perspective to any new build. This project intends to show the same respect by keeping as much of the existing Beer Hall in tact.

The effects of an interventions placement in an existing framework have a much wider scope than just its immediate client. Therefore the existing routine of the area should not be disrupted but improved.

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3.3 FINAL DESIGN PROPOSAL

3.3.1 Architectural Design Drawings



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PUBLIC TRIANGLE IS ACTIVATED BY THE GRAVEL UNDERFOOT

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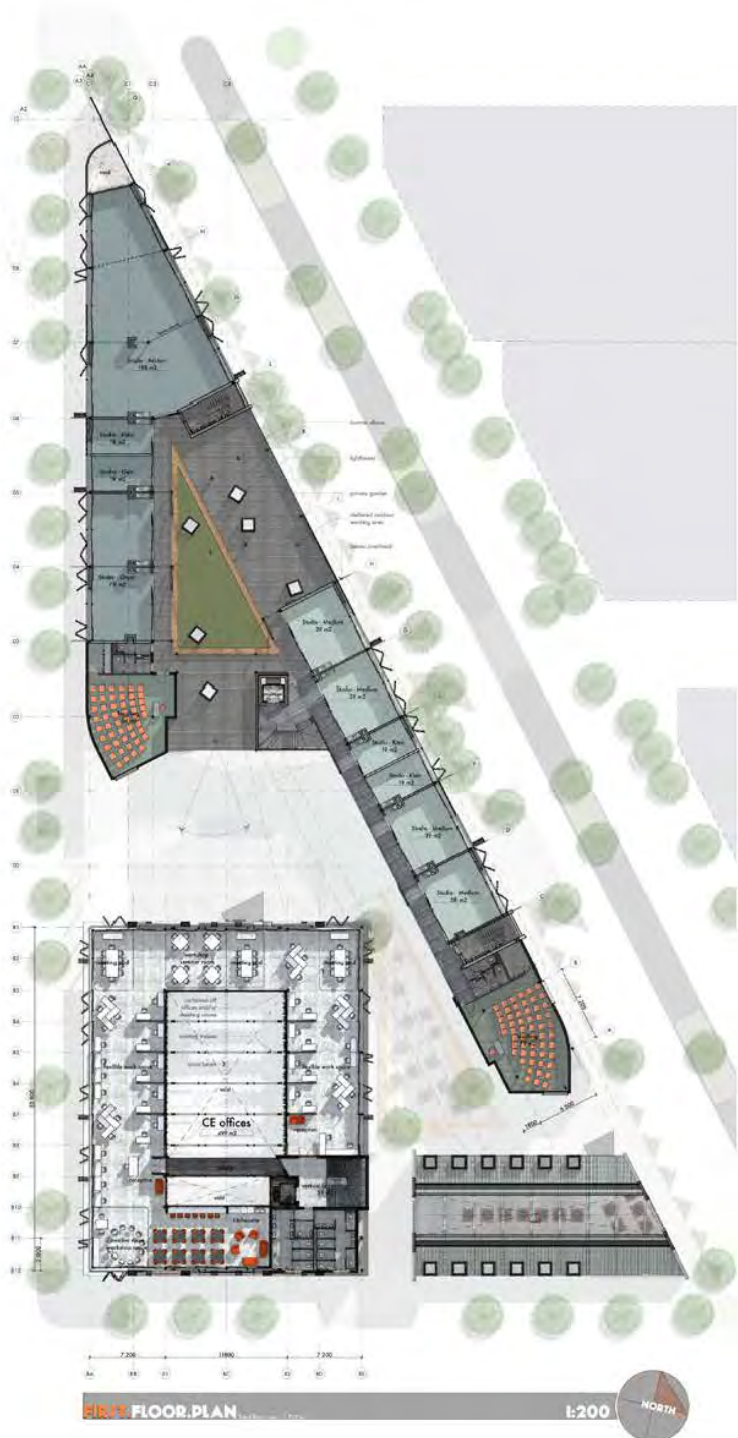
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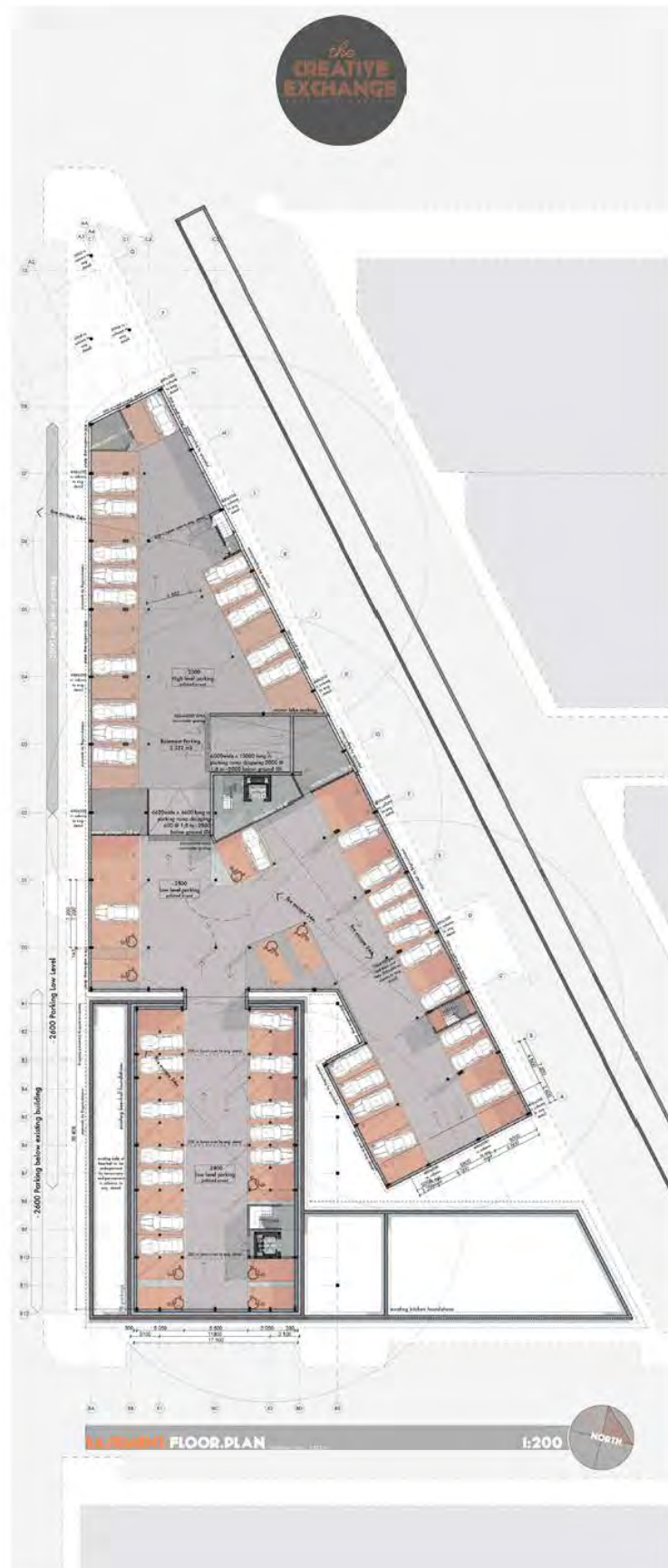
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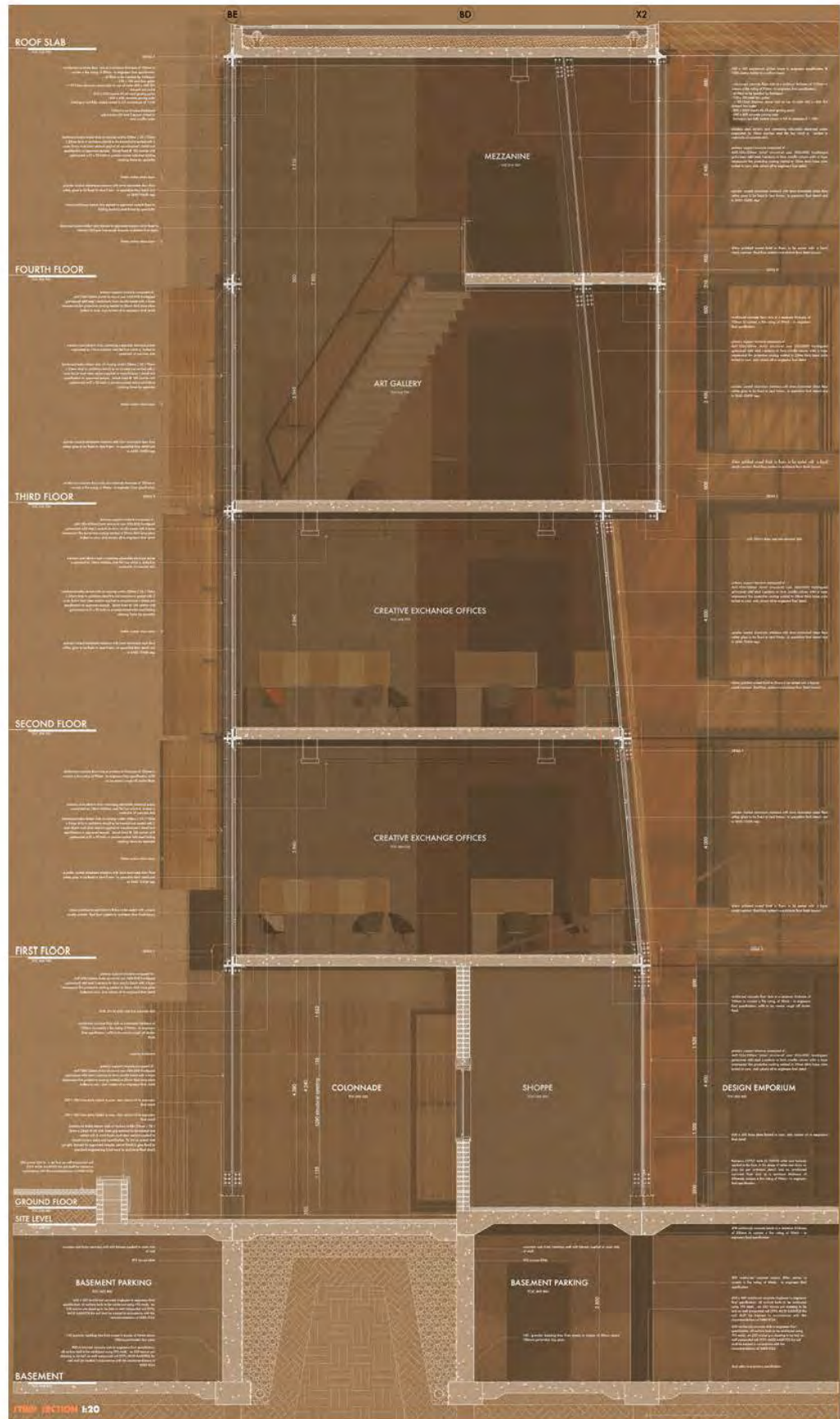
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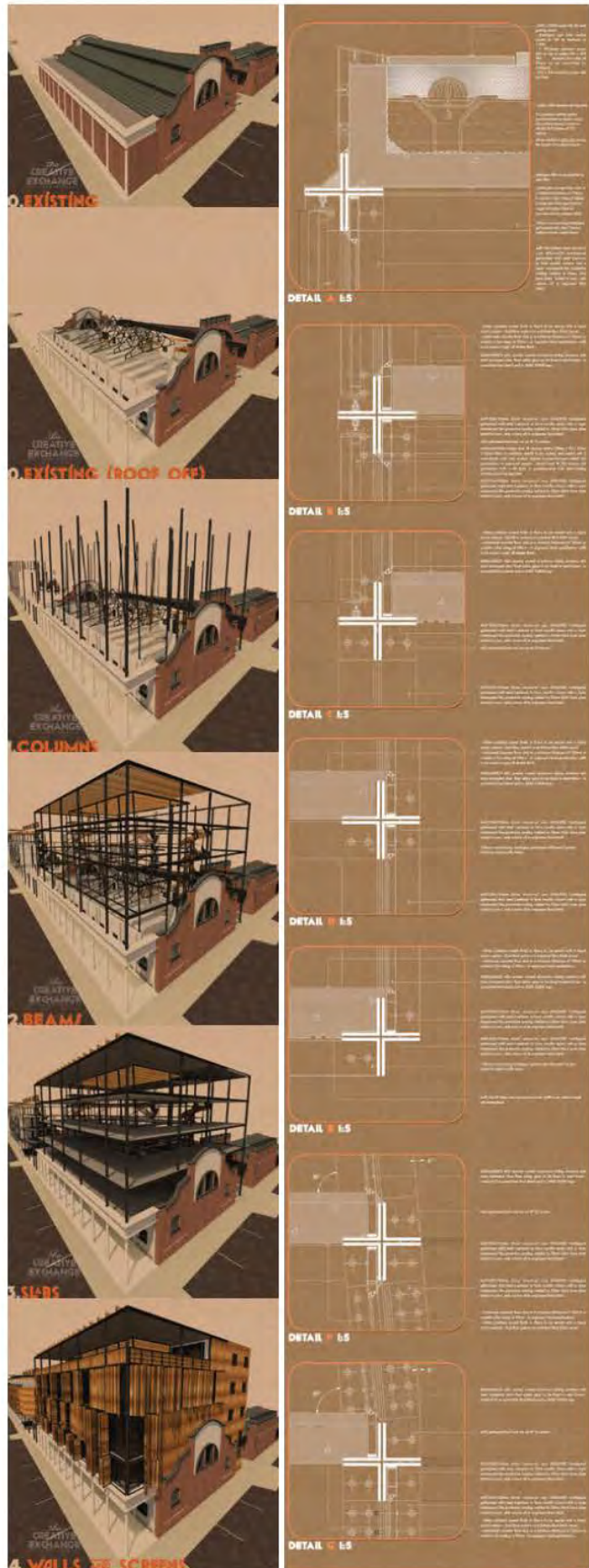
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THE DELICATE HAND-MADE NATURE OF THE OLD BEERHALL IS COMPLEMENTED BY THE NEW MODERN INTERVENTION

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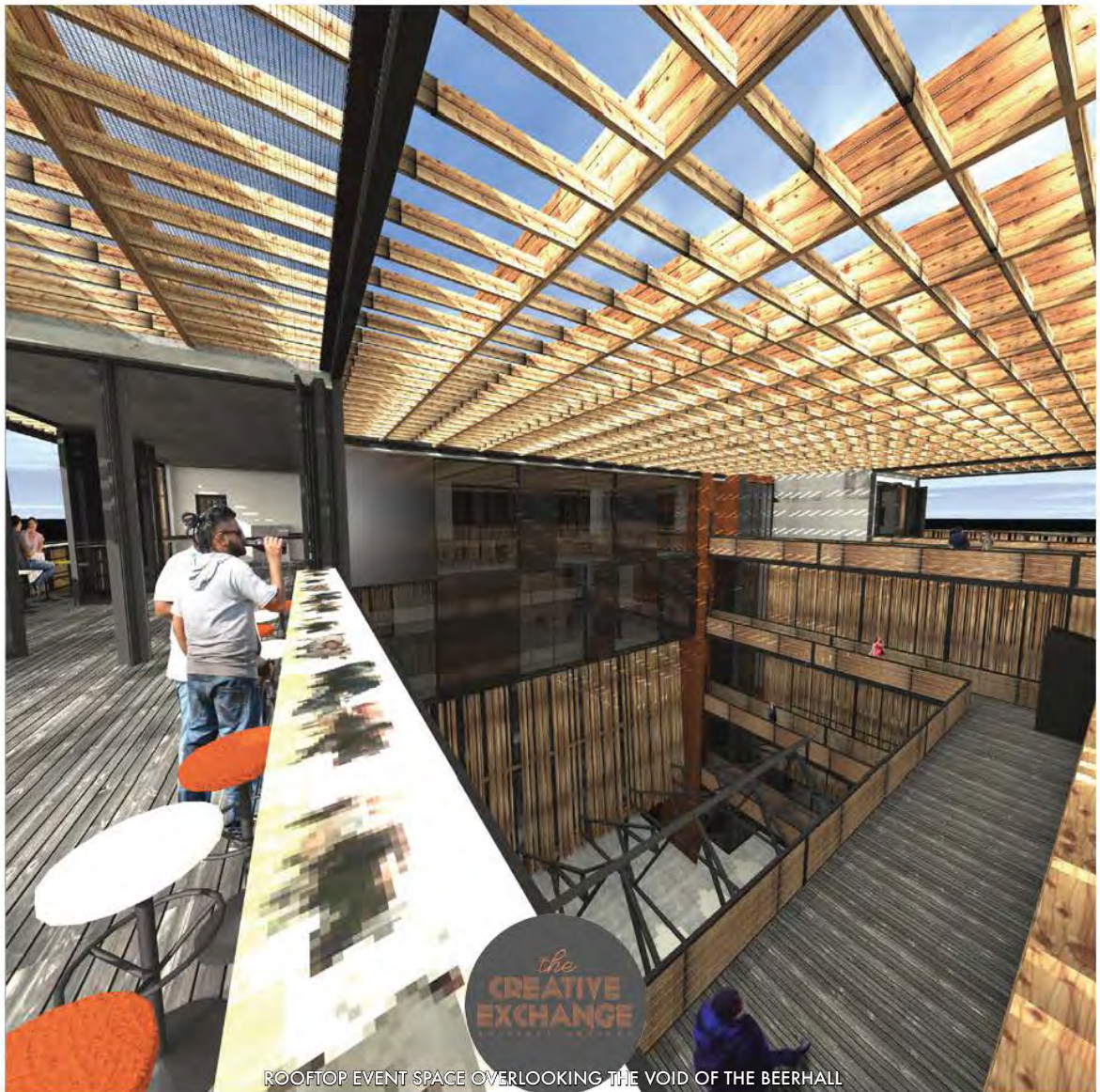


THROUGH ADAPTIVE REUSE, ELEMENTS OF THE THE EXISTING BEERHALL ARE REVEALED - REIGNITING IT AS A PUBLIC PLACE

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ROOFTOP EVENT SPACE OVERLOOKING THE VOID OF THE BEERHALL

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3.3.2 *Materials, Technology and Specifications*

Being an adaptive reuse intervention, materials, technology, and specifications form a very important part to the understanding of the design. Dealing with both an existing building on site as well as integrating a building, the project is set out to allow both the old building and the new buildings to stand for what they are. This technical analysis, therefore, will be broken up into two parts; the first being an analysis of the existing building, and the second being a description of the materials, technology and specifications for the new building. Historical investigation of the site aided in the design process, as the materials chosen for the new intervention were a direct response to the existing buildings tectonic make-up. Whilst leaving the majority of the existing buildings in tact, the new intervention seeks to complement them and essentially enrich the current state of the site. This technical analysis will indicate the choice of materials, detailing, and construction technology proposed.

EXISTING BUILDINGS



Fig_ii. 1 : Photo Montage looking East towards the middle of both sites.

As the proposal for developing this project involves the adaptive reuse of an existing building, this section will deal the existing buildings materiality. Site A currently houses a nondescript car rental storage facility and as it does not successfully contribute to the *creative exchange*, the building will be demolished; this also aid in unifying Site A and B. Therefore, the development and will exercise a certain degree of demolition work, however, materials will be reused where they can within the new build, for example bricks, door and window frames, and roof sheeting. As stated, site B comprises of the listed beer hall itself, the kitchen block, the lining block between the two, and the two freestanding WC blocks, therefore the analysis will focus on this site only. Although every measure has been taken to assure accurateness of material description of the existing buildings, there may be some discrepancies.

DETAIL ANALYSIS : EXTERIOR



Fig_ii. 2 : Existing elevation of the beerhall.

» ROOF

All of the roofs appear on site to be made up of the same construction, steel trusses and are all lined with corrugated sheeting. The main beer hall has a three-tiered clerestory arrangement whilst the kitchen block and linking block both have two tiered clerestories. The WC blocks have mono pitch roofs sloping towards the middle of the site. Drainage on all buildings are in the form of white PVC gutters and downpipes. However, the downpipes look as though they are recent additions, which indicate that there may have been drainage problems in the past.

» WALLS



Fig_ii. 3 : Photo montage looking South towards the beerhall. The linking block and the kitchen block.

As the building was built circa 1930, the construction used was a sign of the times being predominately hand made, crafted, and detailed with care. The main buildings, both the beer hall and the kitchen block, are gable ended with a curved middle point, which tapers delicately towards the sides. The red brick gable ends are offset against what appears to be white paint and plaster, and are capped with a dark grey concrete trim that sits only on the horizontally orientated surfaces.

All of the buildings on site are wrapped in red face brick, which runs in the form of an English bond of alternating courses of stretchers and headers. The brickwork allows the spaces inside to retain the heat in winter whilst remaining cool in the summer. This could have been the reasoning behind the choice of materials when it was built, as it was once a busy public building. Apart from the small amount of efflorescence (build up of soluble salts) on the facades, which is in all probability due to its location near the sea, the brickwork seems to be in very good condition.

» **WINDOWS**



Fig_ii. 4 : South elevation of the beerhall showing the various window treatments.

The windows of the beer hall and kitchen block are tall and rectangular, made up of white painted timber frames with blue arched masonry lintels. The windows within the curved gabled sections follow the curve of the roof and are split into three sections. The windows of the linking block and the two freestanding WC blocks are similar but are treated slightly differently. The linking block and WC blocks have tall and narrow white painted timber windows with cloudy glass louvres, which sit on thick concrete sills. The kitchen block has 3 square windows of towards the east. This demonstrates that the building is made up of the same basic elements, but they are treated differently to indicate change of function inside.

» **FLOOR**

The pavements and the inner courtyard are both tarmac.

DETAIL ANALYSIS : INTERIOR



Fig.ii. 5 : Roof structure inside the beehall. **Fig.ii. 6** : Stud dividing wall in the beerhall. **Fig.ii. 7** : Inside the storage facility.

» **WALLS**

The walls that line the beer hall and kitchen block are partly white painted brick and partly white paint and plaster. As the facility is now being used as an art store, there are stud wall divisions within the hall itself to allow for separation and storage of various art mediums.

» **SOFFIT**

The roof make up of both the main beer hall and the kitchen are alike, as the internal soffit follows the line of the roof. It is lined with white painted wooden slats. This gives the space a double volume feel and also reveals its trusses which are made up of steel angles, which appear to be powder coated and are off-white in colour.

» **FLOOR**

The floor of the beer hall appears to be pigmented screed over a concrete slab. Square tiles are laid the kitchen block floor, and the floor of the linking block floor is off shutter concrete.

» **WINDOWS**

The majority of the windows are locked shut and glass is painted. This is a precautionary measure to ensure both the safety and the longevity of the art. The space is also fully air-conditioned. All windows are timber framed with concrete sills and lintels.

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NEW BUILD



Fig.ii. 8 : Render of the new intervention, looking south east.

This section will deal with the new intervention which comprises of the new building towards the north of the site, the studio's and loft's above, and the timber box perched over the beer hall.



Fig.ii. 9 : Ground floor plan. North is 13 degrees east of vertical.

MATERIALS

» STEEL



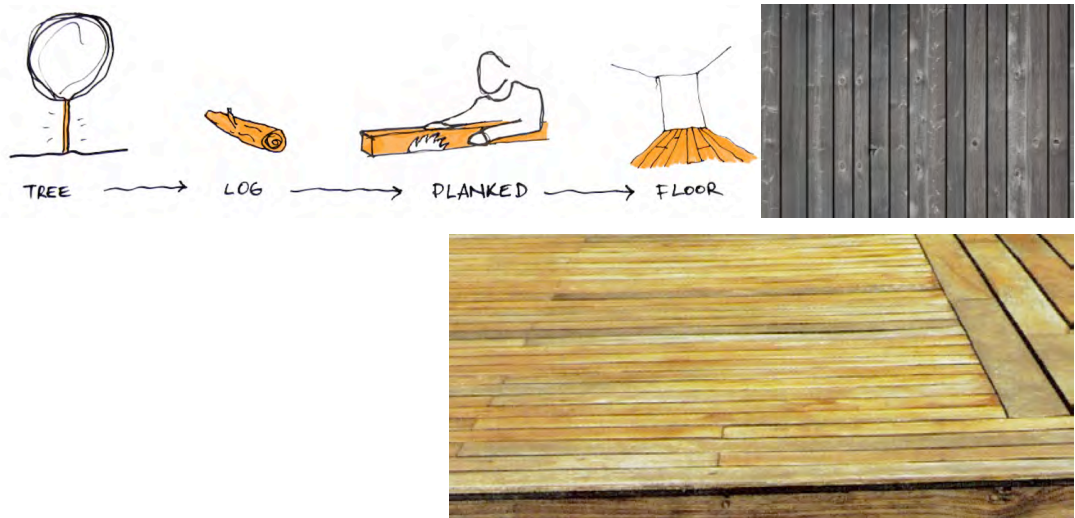
Fig_ii. 10 : Steel cruciform columns being used on a residential project.

As the site is nestled within an industrial area, and its proximity to the sea, the primary support structure material in the development will be steel. Steel is strong, durable, and has the ability to engage the development in a dialectic construction technique, whereby machine-made parts are designed, or *crafted*, in such a way that they can be assembled and constructed on site, by hand, like a life-size mecano set. A true modern handcrafted dialectic construction technique. Whilst harking back to nomadic building construction, where buildings could either be dismantled, or left to reduce back into the earth, by using a steel structure, the building is contemporized and materials can be salvaged if need be.

GENERAL NOTES :

In response to the existing beer hall's structural truss system, made up of angles and webs, a bespoke portal steel frame will be made up of 4off. 150 x 150 hotdipped galvanized mild steel L-angles to form cruciform shaped columns and beams. The steel will have a layer of intumescent fire protective coating and will be powdercoated gunmetal grey, to match the window and door frames described below. The Paint specification for exposed coastal steelwork is : 1x primer coat Interseal 670 HS Aluminium (EGA 230/EGA 249) 100 microns. 1x coat Interseal 670 HS Grey (EGA 236/EGA 249) 100 microns. 1x final coat Interthane 990 Silver (PHX) 50-75 microns. All structural steelwork, base plates and fire protection to steelwork, is to structural engineers specification. All steelwork be hot dipped and painted with a gunmetal grey colour and to be hot dipped galvanised and painted to architects specification. All welds, cutouts, and drilled surfaces to be made prior to hot dip galvanising and all fixings, nuts and bolts to be hot dip galvanised steel or stainless steel. Isolated steel columns to be protected with intumescent paint finish to provide 60mins fire protection. All dimensions and fixing to engineer's specification. All welds in accordance with the engineer detail, all welds to be ground smooth and made good with epoxy filler for smooth, unblemished finish.

» **TIMBER**



Fig_ii. 11 : Sketch showing the process from raw material to finished product. **Fig_ii. 12** : Balau – left untreated – as per the external walkways. **Fig_ii. 13** : Balau – treated – as per the external screens.

Being “*the only truly organic major architectural material*” (Bell & Rand, 2006:108), timber is a raw material that allows a true, tactile, and honest portrayal of the material itself. Balau timber is to be used due to its high bending and crushing strengths, and high resistance to shock loads, as well being inexpensive and long lasting. The timber shall be harvested from sustainable forests, which are allowed to lay fallow.

GENERAL NOTES : Timber used on walkways shall be left in its natural state and left to turn silver grey in colour. All timber to be predrilled and stainless steel screws are to be used at all times. Also, as natural shrinkage occurs, tolerances must be allowed for.

» **BRICK AND CONCRETE**



Fig_ii. 14 : Existing brickwork of the beer hall. **Fig_ii. 15** : Existing concrete of the beer hall.

Similar to that of timber, the exposed faces of reinforced concrete and brickwork shall remain exposed, to show the material for what it is. The brick used will be reclaimed from the demolition work of the *dollar thrifty* building, which will reduce travel and manufacturing cost.

GENERAL NOTES:

The existing blocks shall be preselected for re-use and are to be scrubbed with wire brush to remove excess mortar. Broken and severely damaged bricks shall be replaced and shall comply with SABS 1058 Class 30 compressive strength. Surfaces shall remain unpainted as per architect's detail drawings and approved sample panel on site, unless specified by the architect.

» **GLAZING**

All glazing shall comply with SABS 0137 and AAAMSA regulations, which are based on SABS 0137.

DETAIL SPECIFICATION : EXTERIOR

» **WALLS**



Fig_ii. 16 : Reclaimed brickwork from the demolition work will be painted white.



Fig_ii. 17 : View of the penthouse, showing the use of white brick, to coincide with the ground floor.

Outer walls will be made up of the reclaimed brickwork from the demolition work of the “dollar thrifty” car rental. These wall types appear both the ground floor, and the apartment floor, and will be painted white to correspond with the existing beer hall. The brickwork will have shallow raked joints and will be primed and finished with 2 coats of Plascon wall and All (colour: Arctic Snow) to manufacturer's specification. The paint will engage the user to differentiate materials from each other, whilst also blurring materials belonging to the new build and the existing buildings. All bricks are to be as per architect's detail drawings and approved sample panel on site.

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Fig.ii. 18 : Zooming out from the mosaic detail on the western façade on the ground floor.

An artist installation, of carefully placed 50x50 mosaic tiles, enhances the western façades ground floor walls. Up-close, the tiles seem to be random layers of colour, however it is only when one steps away from the wall, does the mosaic tiling begin to reveal the full image. the pixelated image encourages a connection with the building from afar, animating the ground floor not only to those in its vicinity. Whilst being a blend of craft and digital technology, the use of cows in this industrial area evokes the contrast of farming and the mass-producing factories of today.

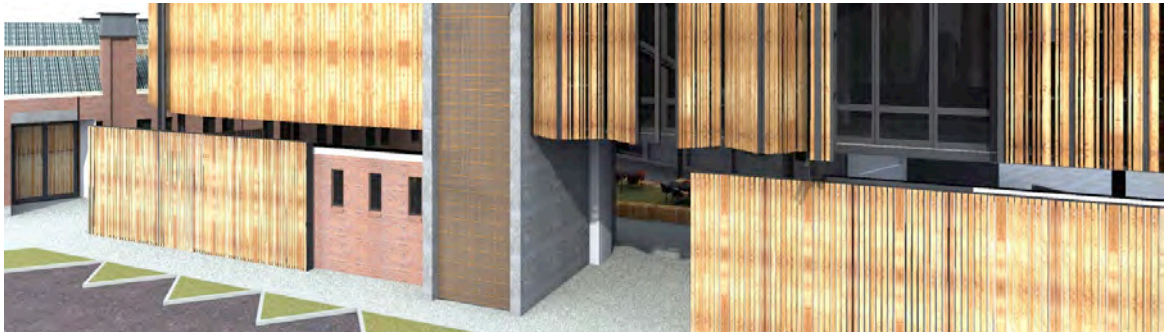
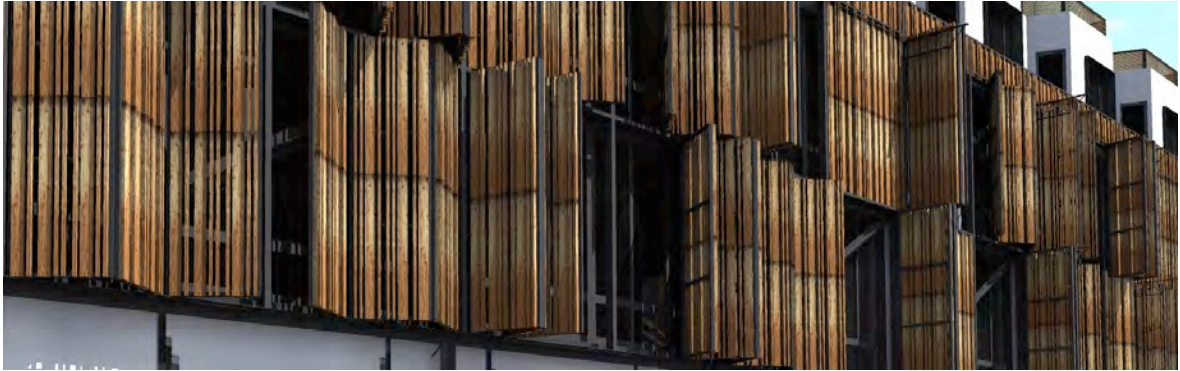


Fig.ii. 19 : View towards the eastern façade, showing the fire escape.

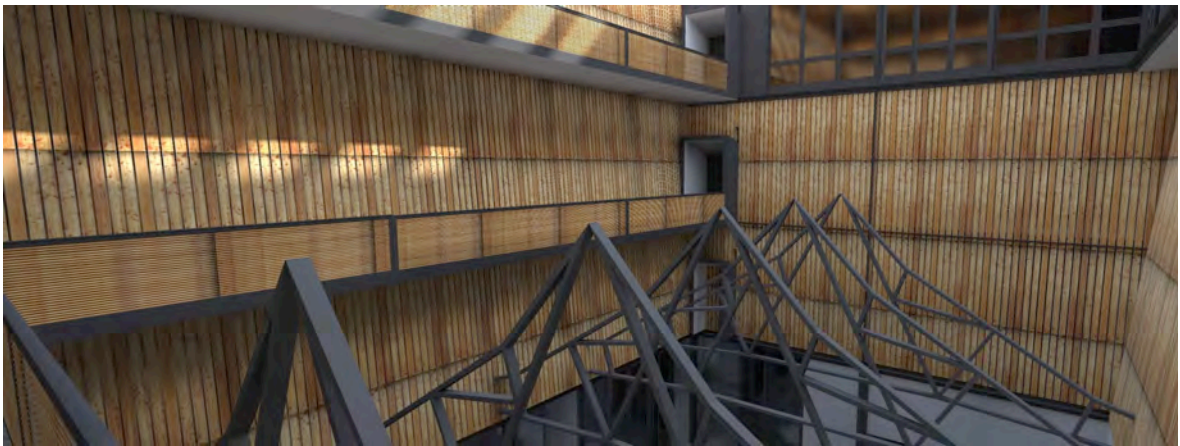
The fire escapes along the eastern façade will be reinforced off shutter concrete sheer walls to add stability to the new wing, as well as make a distinction between different parts of the building. These walls will then be filled in with 60% visibility perforated corten screen fixed to a composite carrier aluminium substructure as per selected suppliers details and instructions. This will be used to allow both visibility and ventilation into the stair well.

» **SCREENS**



Fig_ii. 20 : View of the screens on the western façade.

The majority of the material in the development will be bespoke handmade timber screens fixed to an aluminium frame to architects detail. The timber will be various widths (38mm / 50 / 76mm) with varied patterns across each panel, with 5mm spacing's as per architects detail drawings and approved sample panel on site. Timber was chosen to evoke the historical significance of this area, as it was once a thriving agricultural and farm store with many timber yards and saw mills. The screens will consist of grey frames (as above) and will be made up of reclaimed 38 x 114 timber slats positioned at alternating intervals and will be fixed to the aluminium frames as per architect's detail.



Fig_ii. 21 : View inside the courtyard of the beerhall, wrapped in timber surrounding the existing trusses.

Timber cladding will also wrap the wc and lift core, the event space roof pavilion, as well as line the inner courtyard of the main building. These will be made up of 38 x 114 balau timber slats secret fixed with galvanized m12 x 50 bolts to aluminium substructure @ 150 centres, fixed to either the masonry walls or structural steel columns, as per architects detail.

» **ROOF & RAINWATER**

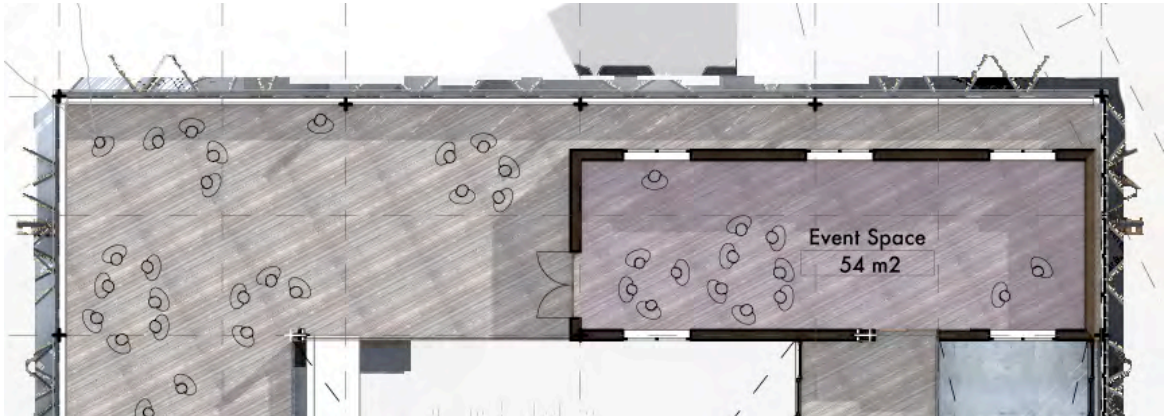


Fig.ii. 22 : Detail of the event space plan showing the roof decking.

Beer hall – Deck and flat roof construction. All concrete slabs will be 200mm reinforced concrete to engineer’s detail and specification and to have 25x10mm drips cast into slab. The roof surface will be made up of suspended untreated balau decking fixed to steel substructure at 150 centres.

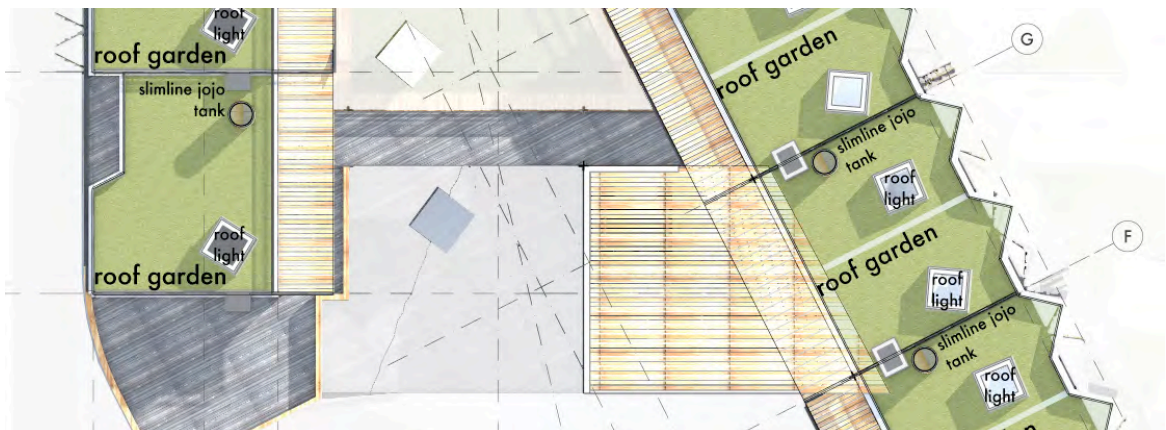


Fig.ii. 23 : Detail of the lofts and their green roofs, also showing the roof lights and jojo tanks.

The apartments, and lofts will have a similar roof construction, however, the decking will be replaced with a green sedum roof. A green roof is a good insulator, it will also allow an urban garden for the residents, and encourage biodiversity in the area. This will be a sedum roof system to derbigum specification with a geofabric textile layer. Maximum 150mm soil with in situ drainage and 50mm planting on top to horticulturalist and landscape architects detail.

As many of the roofs will be flat roof construction, the detailing of drainage and prevention of water ingress is important. Drainage will be through 400 x 400 SP4 dressed into outlet with a 130x130 steel box gutter with 90-120mm diameter stones laid on top of outlet. The

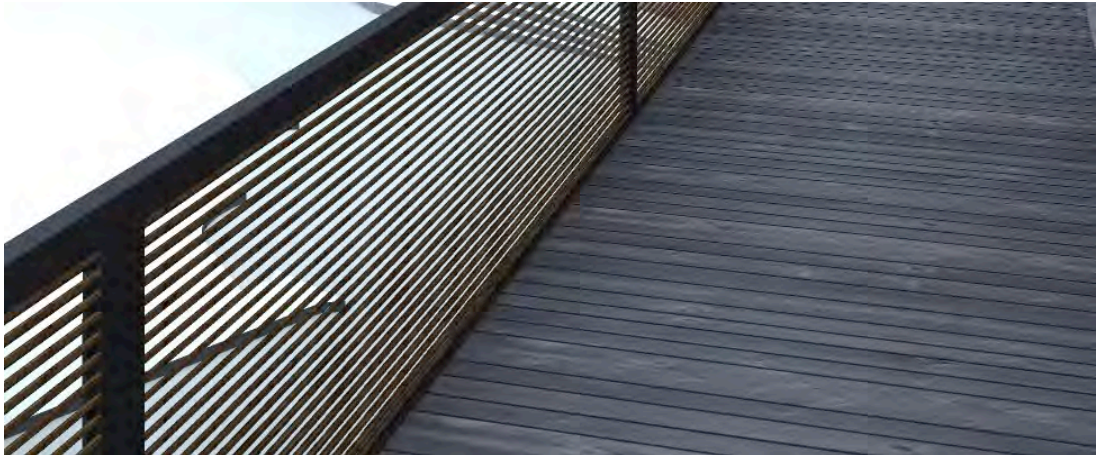
box gutter will be covered with a permeable 300x2000 mentis RS 40 steel-grating panel to allow for users to walk over it, whilst also allowing water to drain inside. Water protection will come in the form of derbigum SP4 sealed screed to fall at minimum of 1:100 laid over 300mm reinforced concrete slab to engineers spec. Copings will be 300mm mild steel coping with folded drips bolted to timber battens to fall towards box gutter. Hibiscus white plastic rainwater goods will be supplies and fixed comprising circular downpipes and profiled high capacity gutters, incorporating hopper heads, pipe offsets and all fittings and components as required in accordance with engineers drainage design. Guttering to be equal or equivalent to Hibiscus equipment compatible with extensive green roof system proposed. Downpipes are to be concealed within service ducts along gridlines. Size and spec to be in accordance with proposed drainage design.

» **FLOORING**



Fig.ii. 24 : Detail of the sculpture stoep.

The floor of the ground floor walkway and ramps will be *Custom ground* screed flooring as per architects detail drawings and approved sample panel on site. This flooring was chosen as it produced locally, can be used internally or externally, easy to install with and requires no joints, hygienic and clean, no solvents are used, and has good green credentials. The sculpture stoep on the ground floor will be concrete poured insitu, lined with 140 x 100 x 6mm mild steel angles as permanent shuttering, to architects detail.



Fig_ii. 25 : Detail of the untreated balau decking for the walkways.

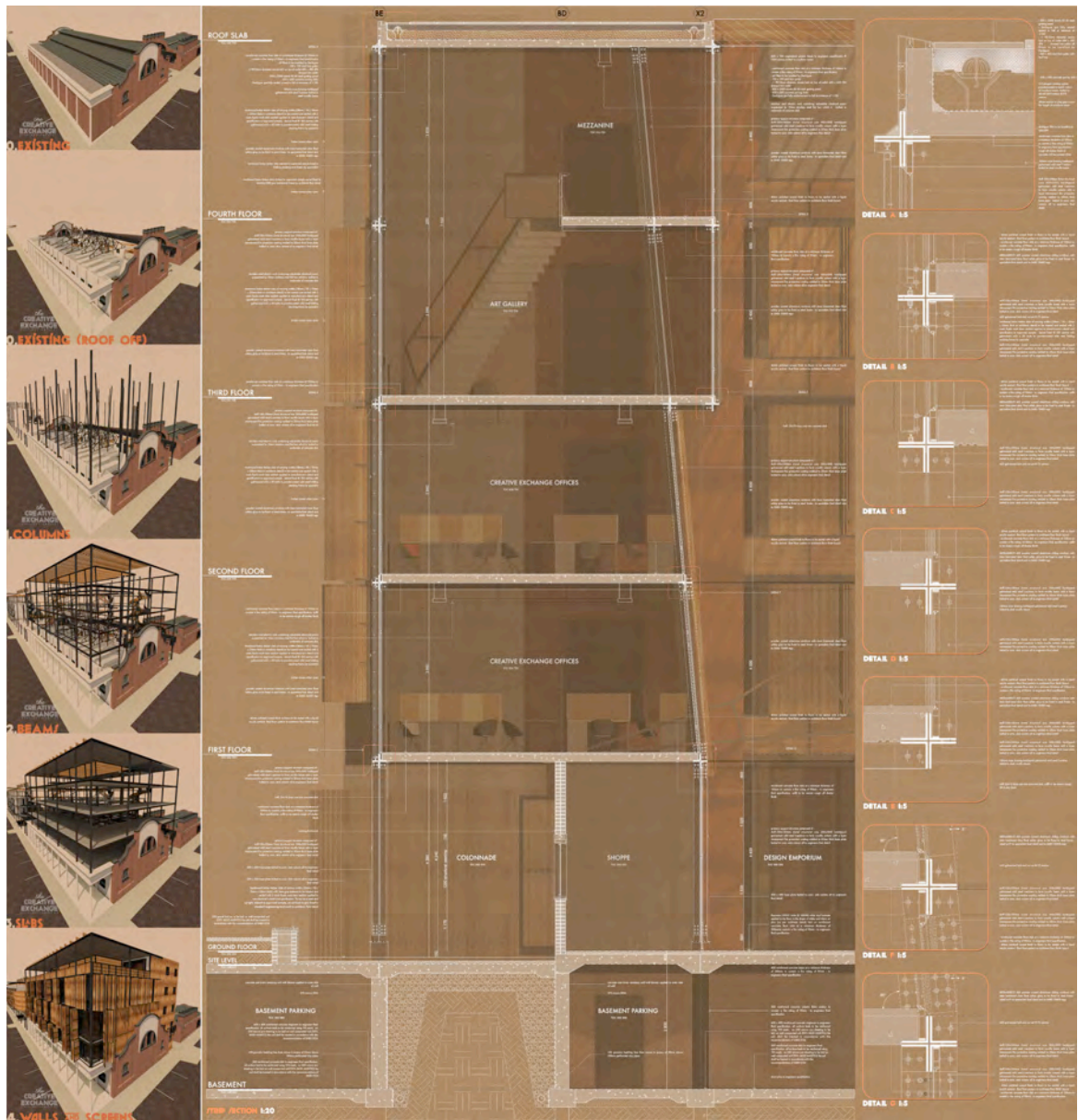
Engineered balau timber flooring decking only occurs above ground and will be of various widths (38mm / 50 / 76mm x 25mm thick) with 3mm gap between to be treated and sealed with 2 coats Rystix matt clear sealant applied to manufacturer's detail and specification. Floors will be as per architect's detail drawings and approved sample panel on site. Flooring shall be supplied and laid to areas indicated on floor finishes drawings and shall be laid in strict accordance with the manufacturer's recommendations. All wooden flooring shall have three coats of clear, lead free wooden floor sealer with preservative and anti-fungicidal properties applied according to the manufacturer's specification, to preserve the wood, and prevent fungi growth. The balau decking runs onto the exhibition roof slab and will be fixed to steel substructure at 150 centres. The upper walkways will be untreated balau slats secret fixed to steel substructure at 150 centres. Drainage will be as per roofing specification.

» **FOUNDATIONS**

All foundations and foundation walls will be reinforced concrete. All structural concrete work, subsoil storm water drainage, and all soil compaction to engineer's specification and detail.

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DETAIL : STRIP SECTION



Fig_ii. 26 : Typical strip Section

DETAIL SPECIFICATION : INTERIOR

» WALLS



Fig_ii. 27 : Detail of the walls in a typical studio.

All external walls have the same finish on the interior as this lowers cost because the walls are built once and left untreated. This also engages workers to craft their material carefully – ensuring a transparent quality driven construction process. This will also employ sense of familiarity for the users both within the space as well as those on the outside. Dividing walls will be double skin brickwork with cavity, and as they are not load bearing, bricks will be cleaned and reused from the demolition of the “dollar thrifty” car storage building on site A.

» SOFFIT



Fig_ii. 28 : Detail of the roof in a typical studio.

The floor structure will remain exposed below, therefore the pine timber battens will be seen, untreated, and the soffit will be white painted concrete. The teaching facility will have 9mm thick gypsum board acoustic tiles fixed to suspended “T” sections which are ceiling hung from aluminium strap hangers. Steelwork and timber joist roof construction shall be in accordance with structural engineers specification and specialists details with gull gill insulation between joists.

» **FLOOR**



Fig_ii. 29 : Detail of the flooring in the beerhall, with vinyl inlays.

The main beer hall and kitchen block will retain its existing floor slab, which is off shutter concrete, but will be sanded and polished to maintain its longevity. The design emporiums internal courtyard will have a floorworx CFP531 Icicle (S 1500-N) white vinyl laminate applied to the floor, in the shape of tables and chairs on plan – to act as a reminder of the original function of this space. The floor of the shops will be *Custom ground* flooring, and was chosen as it produced locally, can be used internally or externally, easy to install with and requires no joints, hygienic and clean, no solvents are used, and boasts green credentials.



Fig_ii. 30 : Detail of the flooring in a typical studio.

Studios / apartments will be 200mm reinforced concrete slabs with a 65mm granolithic screed to be steel troweled to a smooth finish. Sealed with Sikafloor 66ZA applied to manufacturers detail and specification. Saw cut and movement joints to engineers specification into panels to follow joints in slab to prevent cracking.

All floor surfaces to be clean, sound, laitance and dust free with a maximum moisture content of 5%. Surfaces shall be primed with one coat of Flowprime solvent free epoxy primer and base coat @ 506mm²/litre spread rate. All of which shall be approved flowcrete specifications by approved applicator. Saw cut and movement joints to engineers specification into panels in slab to prevent cracking.

» **DOORS & WINDOWS**

All aluminium window, door and screen frames are to be powder coated gunmetal grey. The decision to use aluminium is because of its vicinity to the sea and the colour grey was to echo the colours found in the existing industrial precinct.

All windows, sliding doors and curtain walling to be AGI or similar approved manufacturer, all in accordance to SABS 0400 and to specialist's specifications. The tracks of the sliding doors will be recessed into the cruciform steel beams, to hide the tracks and allow for full floor to soffit glazing. Windows will be in increments of 600mm and will be sheerpivot 51 180 degree reversible system as supplied by AGI sheerline and shall be in accordance to manufacturers specification.

TYPE A (INT) – 2202x900 Solid core Class B with 44x38mm meranti timber frame, all to be sanded and painted white.

TYPE B (INT) – Hollow core wc cubicle doors hung in natural anodised aluminium frame, to be painted white as per finishing schedule.

TYPE C (INT) – 2200x900 Solid core Class B external fire door to be in natural anodised aluminium frame to be painted as per finishing schedule.



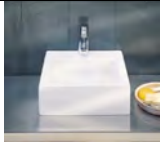
TYPE D (INT) – Double Swing paraplegic semi solid timber toilet door hung in natural anodised aluminium frame, to be painted white as per finishing schedule. to comply with Part S of the SABS 0400.

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» **FITTINGS AND FIXTURES**

Public wc block:

PAN		URINAL	BASIN
			
<p>Duravit 'D-code' wall hung pan & Begerit 'bolero' flush actuator CP matt white. Duravit wall hung paraplegic pan.</p>		<p>Duravit 'fizz' urinal concealed inlet complete with concealed trap and fixations</p>	<p>Artceram 'fuori box 40' basin, white [L590/40] 400 x 385mm</p>

Kitchen block and Studios:



BASIN

<p>Franke P2 double bowl pot sink with adjustable ss legs</p>

Lofts and Apartments :

PAN	BASIN	Shower
		
<p>Duravit 'D-code' wall hung pan & Begerit 'bolero' flush actuator CP matt white.</p>	<p>Artceram 'fuori box' basin, white [L540] 500 x 480mm</p>	<p>Cobra Overhead shower riser pipe with SA856_shower mixer</p>

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Penthouse :

PAN	BASIN	Shower	Bath
			
<p>Catalano 'zero 54' wall hung pan [110350] with seat & Geberit concealed cistern [110350] with 'bolero' actuator.</p>	<p>Artceram 'fuori box' basin, white [L540] 500 x 480mm</p>	<p>Cobra Overhead shower riser pipe with SA856_shower mixer</p>	<p>BETTE 'starlet' freestanding bath 1800x800 with skirt</p>

Reference websites for specifications above :

www.customground.co.za

www.sika.com

www.wooddecks.com

www.hibiscusgutters.co.za

www.franke.com

www.duravit.com

www.cobra.co.za

www.catalano.it

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3.3.3 Physical Model



Fig.ii. 31 : Photographs of the final model

4.0 REFERENCES

UNPUBLISHED RESEARCH_ DISSERTATIONS / THESIS :

BRASLER, J. 1994. A metropolitan video access centre for the city of Durban. University of Natal : Durban. T 727.47 94 BRA

DAVIDS, J. 2007. Architecture and Identity. The perception and reflection of identity through architectural expression : A Case study of Wentworth. University of Kwa-Zulu Natal : South Africa.

LINDEIRE, C. 2006. Umvelo (A place for Skills Development). University of Pretoria : South Africa.

MAKIN, A. 1989. A Media school and production facility for the city of Durban. University of Natal : Durban.

STRETTON, R. 1993. A Crafters guild for Durban. University of Natal, Durban.

BOOKS

BELL, V., RAND, P. 2006. Materials for Architectural Design. Laurence King Publishing : London.

BENNET, DR., ADAMS, S., BRUSSE, R. 1987. A guide to the History of Architecture of Durban. Durban City council : Durban.

BROWN, C., PAUL, N. 2004. Ishumi/10 Durban Art Gallery. Durban Art Gallery : Durban.

LONG, K. 2008. Hatch. The new architectural generation. Laurence king publishing : London.

INTERNET RESEARCH :

www.imaginedurban.org

: Date of Access : 03/05/2011

www.thebatcentre.co.za

: Date of Access : 23/05/2012

www.artscollaboratory.org/organisations/bat-centre

: Date of Access : 23/05/2012

www.mabonengprecinct.com

: Date of Access : 23/05/2012

www.herzogdemeuron.com

: Date of Access : 23/05/2012

www.798space.com

: Date of Access : 23/05/2012

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