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JUNKSPACE (CITY)

K-206: The Institute Political of Ecology

Rachel Wilson
2014
Political ecology is the study of the relationships between political, economic and social factors with environmental issues and changes. Political ecology studies how societies build and govern their environment, with a special emphasis on power relations and critical thinking. It is a thriving, interdisciplinary, which emerged in 1935 at the intersection between ecology, geography, political science, socio-anthropology, and ecological economics. The discipline covers a wide-range of topics such as degradation and marginalization, environmental conflict, conservation and control, environmental identities and social movements. It builds on empirical case studies, particularly in situations that involve local and indigenous populations.
THE INSTITUTE OF POLITICAL ECOLOGY

INSTITUTE
noun
1. an organization having a particular purpose, especially one that is involved with science, education, or a specific profession. 2. to establish, organize, and set in operation. 3. to initiate, begin. 4. an educational institution, especially one for the instruction of technical subjects. 5. the building where such an organization is situated.

POLITICAL
adjective
1. activities aimed at improving someone’s status or increasing power within an organization. 2. relating to the ideas or strategies of a particular party or group in politics. 3. of, for, or relating to citizens.

ECOLOGY
noun
1. the branch of biology that deals with the relations of organisms to one another and to their physical surroundings. 2. the political movement concerned with protection of the environment. 3. the study of the detrimental effects of modern civilization on the environment, with a view toward prevention or reversal through conservation.

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PREFACE

"The most beautiful experience we can have is the mysterious. It is the fundamental emotion which stands at the cradle of true art and true science. Whosoever does not know it and can no longer wonder, no longer marvel, is as good as dead, and his eyes are dimmed."  

(Einstein 1932).

This dissertation is structured to mimic or represent my design project, which was developed in conjunction with theoretical readings and research. The aim is to provide a comprehensive representation of the project's development from theoretical beginnings to architectural detail.

This dissertation attempts to uncover, explore and understand the fragile relationship between man, nature and architecture, stemming from a deeply personal interest in the rehabilitation of political wastelands through ecological restoration.

The aim of this study is to pursue a holistic design approach which understands the architectural discipline as an interrelated profession in which buildings cannot be designed in isolation. Broken down into three main parts, this document illustrates the development of my theoretical and contextual interests into design. These papers are presented in their entirety of this document as Part A (starting point and research influence), Part B (process and discovery) and Part C which introduces a narrative program developed for the architectural discovery of K-206 (nestled within 'jungle' in Alexandra).

A series of abstract drawings and model building experiments initially framed the investigation, allowing for chance, exploration and the unexpected, valuable experiments in the development of an architectural language and vocabulary which were refined over the course of the year.
This dissertation was inspired by the discovery of K-206, a wasteland in the ‘Jungle’ of Alexandra. The unclaimed territory, an abandoned water treatment plant built along the banks of the Jukskei River in 19185, has been regarded as a scarred landscape of environmental disregard. Symbolic of the context, it now lies silent, its facilities and structure deserted long ago.

Arriving as I did one morning in summer, the Sangomas (shaman ancestor-worshippers), Inyangas (herbalists) and Rastafarian herbalists, who live on site, offered clues into the secrecy and hidden nature of the site, which they use to maximum advantage. A dense blanket of vegetation obscures the cultivation of medicinal plants, a source of economic sustainability for the communities who live in the area. Blurred boundaries of inhabitation, territory, culture, nature and conflict characterise the terrain and its approach. The site unfolds as a hidden wasteland, secretive in nature and somewhat detached from society.

The project responds to the secrecy and hidden nature of the site by uncovering aspects and bringing them into the light. In some cases the project takes full advantage of the play between light and dark, secrecy and openness, obscurity and fame.

The dissertation investigates political ecology in the South African context on three scales: landscape, intervention and architecture. It explores the ability of any given landscape to become ‘territory’, ecology as its widest sense and allows for the development of programme based on observation and exploration. Looking at a moment as an architectural metaphor, literally as well as figuratively, the design seeks to engage the user’s imagination. Small pleasures, often unnoticed or forgotten, are rediscovered. Taking notice of a particular light-effect, or the smell of a medicinal plant, for the first time allows one’s consciousness to expand in small but meaningful ways. Perhaps the city itself may be experienced through new eyes: what Juhani Pallasmaa refers to as ‘architecture of the senses’.

INVESTIGATION

Looking at a moment as an architectural metaphor, literally as well as figuratively, the design seeks to engage the user’s imagination. Small pleasures, often unnoticed or forgotten, are rediscovered. Taking notice of a particular light-effect, or the smell of a medicinal plant for the first time allows one’s consciousness to expand in small but meaningful ways. Perhaps the city itself may be experienced through new eyes: what Juhani Pallasmaa refers to as ‘architecture of the senses’.
The architecture will not only attempt to rehabilitate scarred landscapes of junkspace through ecology restoration. It will also attempt to ‘disappear’ by becoming a space within which nature can grow and become part of the symbiosis called life.” (Kuma 2013).

By conceiving architecture as landscape, the architecture can avoid empty filling urban space with more architecture and at the same time making such statements of the desire to avoid this. As a landscape, architecture influences and makes a rate of reconfiguration that situates itself within a topographical network of relationships.

**STORYLINE**

**A Brief Summary of the Dissertation**
Part:
A

JUNK

Manifestation of wastelands

UNIVERSITY OF JOHANNESBURG
The following chapter introduces the research proposal by focusing on the conceptual and practical problem statement of the dissertation in terms of the South African context. It also introduces the project and its aims and intentions. It provides a background to the site in order to contextualise the research and design proposal. The aim is to bring the theoretical context in direct dialogue with the context, showing how these have inspired my architectural response. The concept of ‘junkspace’ is investigated in relation to the conditions of contemporary society, and to the idea of the wastelands.
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ENOXENE
GLOSSARY

ALEATORIC ARTS:
Characterised by chance or indeterminate elements. The word ‘aleatoric’ derives from ‘alea’ meaning the ‘uncertain outcome’ of the dice.

CHANGE:
Chance, for the purposes of this dissertation, refers to an event proceeding from an unknown cause and is thus ‘the equivalent of ignorance in which we find ourselves in relation to the true causes of events’.

DIASPORA:
The dispersion or spread of any people from their original homeland. The term diaspora comes from an ancient Greek word meaning ‘to scatter about.’ The Bible refers specifically to the Diaspora of Jews exiled from Israel by the Babylonians, although the word is now also used more generally to describe any large migration of refugees, language(s), or culture(s). For the purpose of this dissertation, diaspora refers to the spread of Rastafarians exiled from Ethiopia to other African and American continents. A large migration of Rastafarian refugees found shelter within K-206 where a language and culture was formed.

ENDOXENE:
endo- Greek, meaning ‘internal, within.’
-xeno- Greek, meaning ‘strange, different.’

EXPERIMENTAL CHANCE:
A process of drawing, map-making and modelling with no predetermined outcome.

HYBRID DESIGN:
A building that is self-sustaining and adaptive to its surroundings, often by amalgamating various disciplines (in this case landscape, architecture, man, nature and machines).

JUNKSPACE:
‘Junkspace’ refers to the left over spaces of modernity or infrastructure. Junkspace is political. Junkspace pretends to unite, but actually splinters. It creates communities, not of shared interest or free association, but of identical statistics and unavoidable demographics, an opportunistic weave of vested interests.

In the context of this project, the site (K-206) is defined and referred to as ‘junkspace’.

JUNGLE:
For the purpose of this dissertation the chosen site (K-206) is also referred to as the ‘Jungle’. This description, initiated by locals of Alexandra, conveys its physical domain as well as its spiritual character. Locals believe the ‘Jungle’ to be of haunted spirits.

K-206:
The letter ‘K’ and number ‘206’ indicate the formal name of the abandoned waste water treatment plant and its position along the Jukskei River, Alexandra.

LANDSCAPE:
The combination of ‘land’ and ‘scape’ indicates an area, an expanse, a space, that has been created or shaped, is visible as such, and therefore can be presented.

MNEMONICS:
A mnemonic or mnemonic device refers to any learning technique that aids information retention. The word ‘mnemonic’ is derived from an Ancient Greek word meaning ‘of memory, or relating to memory’ and is related to Mnemosyne (‘remembrance’). Mnemonics in antiquity were most often considered in the context of what is today known as the ‘art of memory’.

NON-PLACE:
According to Marc Auge, “a place can be defined as a relational, historical and concerned with identity, the space which cannot be identified as a relational, or historical or concerned with identity will be a non-place.”

POLITICAL ECOLOGY:
The term ‘political ecology’ combines the concerns of ecology and a broadly defined political economy. Together they encompasses the constantly shifting dialectic between society and land-based resources; also within classes and groups within society itself.

POLEMIC:
The practice of engaging in controversial debate or dispute.

SCARRED LANDSCAPES:
Scarred landscapes are those where natural resources have been removed or transformed, thus altering the terrain so that it cannot be restored to the original (morphologically, ecologically or otherwise) over a reasonable timescale. For the purpose of this dissertation, scarred landscapes refers to terrains that have been fundamentally disfigured culturally, ecologically and programmatically.

SOCI:
Relating to society

URBAN VOID:
Ignasi Sola Morales describes urban voids as ‘residual voids placed in the urban limits of the city.’ Eduard Bru describes them as ‘everything that lasts after the growth of the cities, the most conflictive places.’ In a global context of economic and social transformations, urban voids assume an important role for socio-economic implications of urban land in large cities and the potential it represents for the needs of diverse social segments, and for the sustainable growth of cities.

VIGNETTE:
A small illustration, or portrait photograph.

WASTELAND:
According to Curulli, ‘wastelands are the leftover spaces and buildings from industrial age. Void of role or function, they leave gaps in landscapes and urban fabric, which are targeted for recycling.’
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Disclaimer: All drawings and photographs by author unless stated otherwise.

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“This architecture, call it architecture of chance, is all architecture: it is the architecture of the moment, indeterminate, vulnerable to accidents, but constructively so; it gains from failures and imperfections, and accepts chance as an essential element of existence” (Manolopoulou 2009).

Architectural discourse and practice are dominated by a false dichotomy between design and chance, governed by the belief that the architect’s role is to defend against the indeterminate. This thesis challenges this position, arguing for the need to develop a more creative understanding of chance as an aesthetic experience and critical method and as a design practice in its own right. Examining the role of experimental chance across drawings, maps, models, balancing hand-crafted elements with digital innovation, the art and performance, this document aims to explore 'chance' as a critical and propositional tool in the making of architectural space.

Chance has been used as a revelatory mechanism in a range of creative fields such as art (Dada and Surrealism); music (John Cage) and literature (William S. Burroughs). Associated with control, the idea of using surprise as an elemental architectural strategy might at first seem strange. However, as this dissertation aims to prove, if handled in a disciplined way, experiments using chance may lead to new forms and possibilities: new ways of arriving at programme. I suggest that chance is an essential working condition for architecture. By way of simultaneity and environmental incidence, it underpins our perception of space describes an experience of space not easily captured in architectural representation. In this dissertation, the awareness of such unseen forces is referred to as a sensory/mnemonic experience.

Can the incorporation of chance in the design process attempt to capture something of an immensely complex reality?

Yeoryia Manolopoulou argues that, through an investigation of aleatory procedures, architecture can 'more profoundly consider the non-optical accounts of space, the issue of inhabitation and the unpredictable lives of their buildings'. This dissertation attempts to use chance as a tool for revelation, specifically of existing situations and scenarios within the built environment, which are either overlooked, unappreciated or which have become ‘everyday’ to user and observers.
The city of Johannesburg, as Vicki Robin describes it, is a place where ‘we no longer live life, we consume it’. (Mulkey 2005).

A consumer-driven approach to the economic ‘health’ of a society tends to focus solely on growth (GDP), employment and urbanisation. As a result, ‘softer’ measures of development such as water and natural landscape preservation tend to fall by the wayside. In Africa this view is particularly endemic, where ‘progress’ and ‘development’ focus almost exclusively on ‘hard’ data and more nuanced and culturally-sensitive/appropriate responses to the environment are tossed aside. This unbalanced approach to development has led to the destruction and scarring of many urban landscapes which teeter on the brink of being either potentially productive spaces (in all senses of the word) or perpetual abandonment. These marginalised and often unseemly landscapes are what I call junkspace and are the focus of this dissertation’s investigation, potential buffer-zones between spaces of consumerism due to extreme urbanisation, and ecological preservation.
Johannesburg is often described as a peripheral city, allowing for forgotten wastelands within its urban fabric. In the author’s opinion, this condition of ‘non place’ allows for new opportunities and ways of connecting this isolated landscape with its urban surrounds. The research proposes to rehabilitate one of these several scarred landscapes of ‘junkspace’ in Johannesburg through an architectural intervention, a hybrid design which will serve as a platform for ecological restoration.

In this dissertation I propose to use architecture as a device for rehabilitation; more specifically of existing situations and scenarios in the built environment, which are often overlooked. These as yet unnoticed opportunities, which exist within the everyday, have no prescribed activity within their urban surroundings. Lebbeus Woods speaks about such sites as the ‘borderline where the superimposition of various systems take place, reacting and colliding to provide a new landscape.’

I am interested in the ability of architecture to acknowledge its context and at the same time respond to it by proposing new surfaces, systems, landscapes and programmes, acting as the instigator for ecological rehabilitation and change.

The National Heritage Council has raised concerns about the city’s sporadic growth, which is encroaching on these conditions of junkspace. These archipelagos of junkspace have raised many questions about safety, ecological sustainability and heritage. Although the proposal is site-specific to Johannesburg, it is hoped that it will have wider relevance by showing how such methods of ecological conservation in one place might have resonance elsewhere in South Africa. It is hoped that the principles developed in this dissertation might form the basis for a nation-wide policy that addresses ‘junkspace’ in other cities and contexts.

The site identified is located on the periphery of the city, a collection of urban voids described as ‘non places’, allowing for forgotten wastelands within its urban fabric. In the author’s opinion, this condition of ‘non place’ allows for new opportunities and ways of connecting this isolated landscape with its urban surrounds. The research proposes to rehabilitate one of these several scarred landscapes of ‘junkspace’ in Johannesburg through an architectural intervention, a hybrid design which will serve as a platform for ecological restoration.
This dissertation attempts to pioneer an architecture that is uniquely developed from the scarred landscape. The site, Alexandra, is part of a complex urban context, surrounded by existing eco-systems. I propose a hybrid architecture which integrates nature, people and architecture into a new political ecology for Alexandra. It is my intention to use a combination of approaches: design research (including 'chance'); traditional research; data analysis; and historical research throughout this process, synthesising the information gleaned from various sources through drawings, maps, models, photography and film, balancing hand-crafted elements with digital innovation. It breaks down further into the following elements/exchanges:

Memory: concentrating on the establishment of a connection between the lost memory/history of the 'Jungle' and the public realm. This connection will not necessarily be physical, for the isolated, secretive and mysterious character of K-206 should fully be appreciated and preserved.

Culture: the proposal intends to merge cultural practices; man's relationship with nature and the ecological influences on social structures into a cohesive and interconnected association.

Mediation: focusing on forming a platform for mediation between the most direct users, the Rastafarians and the general public, since their role (the role of medicinal practitioners) within the urban context has changed considerably after the diaspora of their culture and the end of apartheid regime. This will also mediate between old and new (Western) thought patterns.

Knowledge: gaining an understanding of the scarred landscape by working in conjunction with the Water and Health Research Unit (WHRU), an independent ecological and hydrology network observation. Their aim is to collect and analyse data of climatic and geological conditions in order to identify the impact of environmental changes related to water. The collection of ecological, climatic and environmental data will aid in education and knowledge of environmental intervention.

Anticipate: challenging design methodology regarding weathering and aging in architecture.

Landscape: challenging current development trends of maximum built fabric and minimum natural context. Special favour should be given to the landscape, allowing for rehabilitation and conservation, which encourage open space networks, public spaces and environmental green spaces.

Environment: an environmental exchange currently exists between all six of the above-mentioned ‘exchanges’. The aim is to enhance the architecture system by welcoming nature and the environment, so that it can evolve and adapt as required. In this way, environmental cohesion can exist in symbioses with man, architecture and nature. The architecture provides a platform for natural growth, essentially creating an ecosystem in which culture, landscape, mediation, memory and knowledge expand to create a closed-loop urban ecological system.
PATCHWORK OF THE PERMANENTLY DISJOINTED

Johannesburg is a complex city, having been interpreted and re-interpreted many times due to its socio-economic and socio-political history. According to Mbembe, ‘most studies of Johannesburg have interpreted the city as nothing but the spatial embodiment of unequal economic relations and coercive and segregation policies.’

Johannesburg was once a continuous patchwork of ecological biodiversity, described by Boer trekkers as ‘grasslands rising up in a series of ridges, full of perennial springs. The ridges form a low escarpment of their own above a vast arena of shallow valleys and plains.’ The city, as it stands today, is at odds with this vision of its original landscape.

The layout of the city is determined by the random positions of the original gold diggers’ camps. From the onset Johannesburg set a cause of creating Junkspaces in a way that Rem Koolhaas posts that ‘Junkspace always changes, but never evolves’. The growth of Johannesburg as a mining village, to a mining town, to industrial hub, to socially contested space (and finally) to consumerist cathedral is a zero sum growth of space, creating a territory of impaired ambition, reduced earnestness and proliferation of ecological wastelands.
An image of Johannesburg before the gold rush paints a very different picture: a savannah plain; empty ridges; shallow valleys and tiny rivulets. This landscape was not meant to accommodate such rapacious and rapid growth, both above and especially beneath the surface. Though Johannesburg became synonymous with gold, its soft natural resources – foliage and water – were rapidly depleted in the thirst for riches. The city has made attempts to reclaim its landscape virginity. It has the odd distinction of being the ‘greenest’ city in the world, possessing the largest man-made forest on the planet. This forest is largely composed of non-indigenous trees, a lasting reminder of the re-orientated landscape that replaced a quiet, low veld landscape of shrubbery and savannah.33

Johannesburg quickly became a place filled with migrant crews of money-seekers from all over the country (and the Western world) in search of gold. Merriman observed that for every actual mine that was being worked by the black man, there was an equal if not greater proportion of white men gambling or speculating34. The gold rush created the foundation for what was to become a city, and with the vast sums of people that were to migrate to it over the next century, a cathedral for consumerism.

The Johannesburg Stock Exchange is the 19th biggest market exchange in the world.35 This buy-and-sell market place epitomises the contemporary city. The face of speculation, gamble and expectation has changed from the laborious digging of minerals from the ground to sophisticated, high-volume transactions carried out by machines fed with complex algorithms that track the fluctuations of perceptions, fears and exuberance of citizens of this consumerist cathedral.
Junkspace is the leftover space after industrialisation, high commerce and ecological proliferation have taken their toll. It is that which exists on the outside, or the periphery. A more localized, or Johannesburg-focused assessment of the condition of periphery is the Afrikaans word uitvalgrond. Uitval means 'fall out' and grond means 'ground'. This 'fall out ground', or surplus ground, can be used to describe a city that is defined by its peripheries, where the boundary between what is man-made and what is landscape struggles to find meaning. Johannesburg is built on its own (man-made) and natural (landscape) peripheries. The inner-city (as it is now called) is located on the central uitvalgrond, where the trade routes converged to cross the east-west axis, the gold-bearing reef. This ‘surplus’ ground came as a result of the two main directional axes: the north-south passage (which responded to geological economy). Johannesburg thus extended in these two directional pulls.

Alexandra becomes the ‘peripheral city’ on the south-north passage, a consequence of political economy. Its establishment in 1904 was convenient in that it lay on the outer edge of what was the city proper, 6 kilometres away. It was permitted to eke out an existence in the fringes, where, unusually, black migrant workers were permitted to own property. Though modern-day Johannesburg has grown towards and even past the territory occupied by Alexandra, it remains a territory in the periphery, the socio-economic uitvalgrond. With Sandton as the new de facto ‘city centre’, Alexandra now occupies a new periphery within the centre.

Johannesburg is a city of dichotomies. The official City of Johannesburg slogan, “a world-class African City” is a case in point. Here, the words ‘world-class’ and ‘African’ stand in potential conflict with one and the other. What is “world-class”? Does this refer to a Western/Euro-centric aspirations for spatial and social hegemony? What is African? What consequences does “African” have in city-making, both spatially and socially? Alexandra sits precariously in the centre of such dichotomies. On the one hand, it is a consequence of apartheid city planning that sought to segregate groups of people along racial lines. On the other, it is part of the ambitious City of Johannesburg’s push to towards realising its ambitions as a ‘world-class African city.’

Alexandra is thus a territory of socio-economic and spatial contradictions, where the unbridled growth of its informal dwellings is matched by the proportional horizontal growth of luxury business and residential property in neighbouring Sandton. This expansion is matched by rises in both employment and unemployment, which fly in the face of the ‘upliftment’ dream. This schizophrenic territory sees a continuum of the proliferation of places of degradation and despair.
Junkspace is a place of voracity and consumption. It is also a place of junkspace: the residue of mankind’s debris.

Junkspace is a consequence of a sequence of acts, omissions and reactions by mankind on the natural environment. Urban wastelands, forgotten and dispossessed, stand as inverse landmarks to human invention. Junkspace may be (metaphysical, philosophical and socio-economic in nature. This research will expose the consequences of economic invention over time and space in Johannesburg’s history. The exposition shall investigate the tensions between industrialization, commercialization, natural landscapes and in architecture’s role in the proliferation of the ecological chasm.

In this research, the history and emergence of these wastelands precedes the proposal to sew or mend the urban fabric of Johannesburg.

"Junkspace is the sum total of our current architecture: we have built more than all previous history together, but we hardly register on the same scales. [...] It substitutes accumulation for hierarchy, addition for composition. More and more, more is more. Junkspace is overripe and under nourishing at the same time, a colossal security blanket that covers the earth. ... Junkspace is like being condemned to a perpetual Jacuzzi with millions of your best friends." (Koolhaas 1995)
Junkspace is the residue mankind leaves on the planet. It is what remains when modernisation has run its course, or, more precisely, what coagulates while modernisation is taking place; its fallout… or meltdown. Junkspace is the body-double of space, a territory of impaired ambition, limited expectation, reduced earnestness, a seamless patchwork of the permanently disjointed.”

For more than a century, the site functioned in secret remoteness, for it was the terrain’s duty to remain veiled. On initial inspection of K-206, a spirit of isolation was immediately sensed. After the discovery of dead bodies in the ‘jungle’, when all activity ceased in 1973 as locals believed the ‘jungle to be haunted, K-206 was frozen in time. Only the secret acts of cultivation (of weed and other illegal substances) kept the site ‘alive.’ As time passed, the landscape became archaic; the fabric consumed, and infertile landscape left scarred.

‘Why does abandoned architecture have the same smell as death everywhere? Is it because the smell we sense is in fact the one created through our eyes? ’

This chapter is a search for a design approach based on two paradigms: hybridity and junkspace. The intention is to create an architecture that integrates the site into the existing metropolitan system, rather than remaining a site of junkspace.

The theoretical content is listed in order of scales: landscape, intervention and architecture. Following each topic is a precedent study which comments on the theory component and scales.
When we think of landscape, semantic fixations stubbornly persist, evoking the image of a landscape as a pastoral space, free of technical interference by humankind. Landscape is expressed as emblematic of an intact, harmonious counterword; it is welcomed as a corrective to the work of humankind, an antidote to the city. The relationship between architecture and landscape is often perceived hierarchically, as that of a contoured figure against a passive background.

Landscape is licensed, subordinated, and to that extent it is itself fashioned. Landscape - as well as what we describe as ‘nature’ in opposition to all human objectifications and technical accoutrements - is itself a construction. By the same token, however, architecture has long since ceased to be the self-contained object it seemed. When we consider how far the process of urbanisation has already progressed, we can no longer seriously conceive of the city as a bounded, clearly demarcated unity. The distribution of architecture and landscape could be more accurately described as an integral natural phenomenon, a formation with various typological qualities.

Gerrit Confurius notes that, ‘architecture and the city seek to disguise themselves as nature...[they] crawl under it, mask themselves, excuse themselves. A hidden, camouflaged architecture can at least save nature at the visible level.’ Landscape is increasingly consumed by settlement - it is an endangered species, a disappearing quality, its back to the wall under the pressure of urbanisation. Thinking about the city as another form of landscape, however, may have the potential to unlock this tense coupling, and allow a different reading of either to take shape. As Koolhaas notes, ‘with the decline of urbanism, we cling all the more to architecture, to what the architect is still able to do, while the city eludes him. To design architecture as landscape is the attempt to imbue a limited sphere of influence (that of architecture) with greater, almost urbanistic value and scope. By conceiving architecture as landscape, the architecture can avoid simply filling urban space with more architecture and at the same time make a clear statement of his/her desire to avoid this. As a landscape, architecture influences and makes reference to its surroundings; it situates itself within a topographical network of relationships.’

*If there is to be a ‘new urbanism’ it will not be based on the twin fantasies of order and omnipotence; it will be the staging of uncertainty; it will no longer be concerned with the arrangement of more or less permanent objects but with the irrigation of territories with potential; it will be about expanding notions, denying boundaries, not about separating and defining entities, but about discovering unnameable hybrids; it will no longer be obsessed with the city but with the manipulation of infrastructure for endless intensifications and diversifications, shortcuts and redistributions – the reinvention of psychological space.” (Koolhaas 1994).
The organisational transformation of urban space can be explained in two ways: through proposition or reaction. Currently, my site has a reactionary status, exhibiting tension between cause and effect, a stand-off between man and nature. The natural systems have (naturally) started to reclaim this void in the urban fabric. Koolhaas’ investigation of the relationship between architecture and urban voids offers a possible way forward. In *Imagining Nothingness*, he speculates that the grand gestures, the imposing logic-on-paper diagrams, far removed from the sites they are intended for and applied by architects to urban space stem from a fear of the void, a fear of nothingness. The nothingness in the metropolitan void unsettles the stability of the urban solid. The void in the urban environment functions as a type of rupture or pause in the atmospheric and temporal grind of the city; the authority of this break, both immediate and affective, has been used as an organisational strategy in city planning and politics for millennia. But negative space, like positive space, has its own typology, and each is a unique sensory experience in the same sense as every other component of the city. Consciously or accidentally, produced whether by a process of slow decay or sudden removal, these conditions influence how a void is experienced – its accessibility, its contingency, and by necessity the genres of meaning that its visitors will project onto it, as the disruptive space of the void (as is the case with any affective material) is always held together by the forces of fantasy and desire.

K-206 acquires the notion of a ‘non place’, neither part of the city fabric, nor part of the suburban context surrounding it. This landscape has become locked within its own time, disconnected from urban and city densification, thus creating a space which is governed by its own rules of instance and scenery. I argue that the urban void is important to the city’s urban fabric and that its imprecise limits and air of discord should be celebrated conditions. The site represents a counterpoint to the imposed order of over-inscribed urban narratives and the dominant (and domineering) influences of consumption on the city. Koolhaas sums up the delicate interplay of architecture and urban void where he writes, ‘where there is nothing, anything is possible. Where there is architecture, nothing (else) is possible.’ Thus the ‘nothing’ is a metaphor for this ‘non place’, a place which is not under the commanding influences of commerce and economic production. What exists here is the opportunity for spontaneity, for activities not accommodated for in the current urban structures of spatial consumption and order. This opportunity of spontaneity allows for the potential for inhabiting space, for experiencing the city, in a new and different ways.
The ‘void’ of Berlin as a topic of political, social, and artistic concern has opened up space in the city and its memory for both activity and reflection. The fall of the Wall and the resulting spaces which opened up within Berlin’s new centre produced new sites for creative production. The void summoned into public consciousness the immaterial figure of memory and called into question the active forces of fantasy and desire that work upon the ways in which we choose to remember. Amid all of its conflict, incongruence, and allowance, Berlin’s void has opened up a space among the local, national, and global frontiers for a discourse concerning the politics and ethics of memory, forgetting, and nostalgia, and has provided a platform for a new way of exploring the urban imaginary and the material city as sites in flux, unhinged and gesticulating and constantly producing new meaning.

According to Boyer, Berlin today embodies ‘a grid of well-designed and self-enclosed places in which the interstitial spaces are abandoned or neglected.’ To walk through this city means to assume the role of a moving channel-flipper, to traverse disconnected segments that position the individual indifferent imaginary pasts, presents, and futures.

This dissertation investigates and challenges the possibility of a place (Alexandra) re-inventing itself through the creation of a new identity, thereby allowing it to become a part of the city (Johannesburg), as opposed to a secluded and secretive precinct, which segregates itself from the urban fabric. This research investigates and interrogates the highly politicised city-space of Alexandra by interrogating the junkspace of K-206 (that is, a void and physical divider similar to the Berlin Wall). The Wall/marginal territory raises the question of what kind of alternative urbanism might be envisioned, a system capable of providing for development and programmatic insertion, yet retaining the different characters of the existing edges and voids. A new strategy of the urban void?

In the recent past, a growing body of literature has emerged on the relation between architecture and the issues of collective memory and national identity. One of the most influential philosophers on collective memory, stated that monuments and other topographical features are central in the formation of a collective memory and identity in the modern world. Identity has always been related to physical space, literally meaning ‘being there.’ The common view is that cultural or collective memory is produced through and reflected in objects, images and representations. It is perceived to be located in specific places or objects, and is therefore a major significance for urban planning. Yet, this process of cultural or collective memory is bound in complex political stakes and meanings. The theoretical premise here is that the building (architectural) and the decision-making elite (political)
create a particular identity, which maintains and stabilises its own position. An example of this conflict is Berlin, a city constantly re-defining its identity and image. After reunification (1989-1990), Berlin faced a new challenge in bringing together East and West in one city-space. After achieving that goal, the new capital city faced an even greater challenge and responsibility in serving as a symbol for a divided society, (re-)shaping German national identity. A further challenge for the new city was that it had to reposition itself on the national and global scale.

The reunification of Berlin is an important precedent for Johannesburg and particularly Alexandra, as the Berlin Wall (which separated East and West Germany) is similar to that of the Jungle (a physical segregation of the east and west bank of the Jukskei river and a historical tool of apartheid).

Berlin is characterised by numerous symbolic landscapes. Urban planners are permanently occupied with deciding which image and which ‘past’ to present. David Cosgrove\(^6\) has maintained that the city ‘will be the critical place in which cultural contests of nationalism, supra-nationalism, pluralism and even global post-modernism will be played out and find spatial expression.’ Indeed, the city appears as a fragmented landscape in which all discontinuities, all historical and ideological breaks are visible. Peter Marcuse, in ‘Reflections on Berlin’ examines the role that architecture plays in the construction of image through building sites. He states that Berlin represents the ‘ultimate landscape of power – not because of its form but because of its construction.’\(^7\) Marcuse is correct in identifying that the focus of power lies with whoever controls what is built. However, the historical element of identity creation makes the ‘form’ (or design) of contemporary and past structures a key element in the debates surrounding Berlin’s buildings (attempted by a long list of star-architects such as Daniel Libeskind, Mies Van der Rohe, Stephan Braunfels, Peter Eisenman, Peter Eisenman, Jean Nouvel, Rem Koolhaas, Santiago Calatrava, Walter Gropius, Sir Norman Foster, Alfred Berger).\(^8\)

According to Gittus, Berlin is susceptible to an analysis of the link between past, present and place in identity formation for several reasons; firstly, the resonance of German history can be found in buildings all over the city. Secondly, the city, at last, was host to two opposing regimes, which attempted to create competing realities in one (divided) city space; and thirdly, the major physical legacy of the 20th century has bequeathed an unprecedented amount of free inner-city land to government, developers and investors. Hence, given this amplitude of space for different projections, it is not surprising that struggles about representation, identity and memory found their way into the political and urban planning discourse.

Within the last few years, it has been recognised by the city’s influential stakeholders that historical and urban breaks in Berlin make the city both unique and attractive to all types of people: young and old, tourists and inhabitants. It has become increasingly clear, that ‘architecture is not only responsible for shaping collective memories, but also provides a cultural potential for the expression of new identities.’\(^9\) The quality of debate has changed and it has been felt by many that the return to the 19th century is not the right way forward into a 21st century democracy. The struggle over façade architecture, historical justice, and contested memory is turning into a constructive debate about the function of public, social and cultural spaces in a post-industrialist capitalist city. This appears as a welcome step in direction of reflection and creation of a reflective post-national identity in Berlin. It is generally accepted that architecture, or the lack thereof, is a crucial component in shaping collective memory and in creating and reflecting identities.\(^10\) In Berlin, national and cultural remembrance and aesthetical reconstruction have played a central part in debates surrounding architectural and urban planning, and thus in identity formation and the creation of an urban image. Daniel Libeskind speaks of a ‘need to resist the erasure of history, the need to respond to history, the need to open the future: that is, to delineate the invisible on the basis of the visible.’\(^11\) It is this reflective relationship with the past and the ambiguous relationship with the future that best characterises Berlin’s situation today.
Where there is an explicit intention to influence behaviour, the intended behaviour could relate for example to directing people for strategic reasons, or providing a particular experience or even influencing social interaction. Hillier finds out that "spatial layout in itself generates a field of probabilistic encounter, with structural properties that vary with the syntax of the layout."

Nan Ellin describes hybridisation in urbanism as that which "connects people and activities at points of intensity and along thresholds," the effects of which will eventually influence the new programme of the building and its surroundings. Only through experiencing the layers of context, programme and design is it possible to understand the totality of the design and how it influences human behaviour and attitudes.

The congestion of blurred boundaries and networks on my site causes a claustrophobic feeling: moments of emotional anxiety on a subconscious level if new to the experience. Taking a different view, claustrophobia can potentially be confused with the energetic vibrancies of people and spaces. These different boundaries are experienced as a matrix of spaces. Guy Trangos speaks about the matrix as "flows of information [that] connect or bypass centres of bases, nodes or physical points around which the matrix exists." He argues that "networks occupy physical space, their presence usually experienced at the base points around which they exist", while Ellin advocates a new fascination with systems of ecology and new information technologies a society of "connectedness and dynamism." Bringing these two views together, I find that Bernard Tschumi's principles of "cross-programming" (found in Architecture & Disjunction) are particularly persuasive. Cross-programming could be seen as an exemplary way to interpret an ecological building in terms of hybridisation. This notion serves equally for looking at the existing junkspace landscape as it does for looking at possible programmes and functions in spaces and environments which were never designed to hold or sustain a building.

Relation between the programme and the understanding of the site and how hybridisation enforces the architecture and society become permeable membranes, which allows the network of information and existing site activities to flow, connect and merge the site as a whole. Circulation through the landscape creates a journey between the programmes and spaces and is vital to experiencing the landscape on a visual and interactive level to develop a level of social and emotional engagement.

K-206 is not presently connected to its neighbouring precincts. This self-contained landscape is sheltered within its own contextual boundaries, disconnected from its adjacent and immediate society. By inserting new, hybrid programmes, fusing landscape, ecology and economy in a single building proposal, I believe K-206 will achieve a measure of ecological success, defined by its ability to support all life-forms, including humanity. The architectural intervention is to be divided into two parts: the spatial volumes in the negative space and the network or journeys connecting the various programs.
SCAPE, a term introduced by Koolhaas, implies a reading of the urban territory as landscape. The term prompts a strategic distancing from traditional terminologies. The nouns town-scape and land-scape are not considered separate entities but are conjoined to form a singular expression. SCAPE is an idiom for the edgeless city, in which the distinction between centre and periphery, between inside and outside, between figure and ground, is erased. The city is understood as a continuous, topologically-formed field structure, its modulated surface covering vast extensions of urban regions. Despite its inherent discontinuities, breaks and fragmented orders, a specific form of cohesion is attributed to the contemporaneous city, the urban landscape perceived as an interconnected tissue.

Koolhaas speaks of a city of ‘exacerbated differences’ that does not follow the ideal of harmonic order, but is marked, through the juxtaposition of opposites, by a permanent hybridity - a hybridity constituting the city’s primary connective principles.

In his essay ‘The Generic City’, Koolhaas attempts to identify the integral elements and structures of this new form of urban fabric. He writes, ‘imagine an open space, a clearing in a forest, a levelled city. There are three elements; roads, buildings, and nature. They coexist in flexible relationships . . . a spectacular organizational diversity’. Such a view leads to dissolution of traditionally-established categories. Infrastructure, architecture and landscape amalgamate to become one complex. Instead of accentuating their differences and treating them as separate entities, the possibility of their convergence is proposed. When architecture is declared as landscape, infrastructure as architecture, and landscape as infrastructure, then the predicament is given for potentially understanding the phenomenon city on other grounds than those conventionally pursued. The method deployed is that of hybridization of terminologies and allowing hitherto separate phenomena to be connected.

Within contemporary architectural landscape discourses, potential interconnections of infrastructure, architecture, and landscape are envisioned. In the work of Adriaan Geuze, for an example, one encounters proposals for structures of a hybrid nature. Through mutations and transformations, new morphologies are explored considering the possibility of an architecturalisation of landscape and infrastructure, a terminology which reciprocally suggests an infrastructuralisation or landscape-ification of architecture.

The landscape architect Adriaan Geuze addresses in his work prevalent urbanisation patterns of the natural landscape, inferring from such conditions a distinctive spatial conception. Rather than separating landscape and infrastructural elements, he interweaves them, so as to form new conglomerates. An instance of this strategy is the Storm Surge Barrier project in New Zealand, a coastal region artificially created by land reclamation processes and marked by infrastructure, farming, abandoned industrial sites and sand depositories. From the residues of the local mussel industry, a polder landscape is created using black and white sea shells, functioning as a hatching ground for prevailing bird populations. The project responds to the large scale of the surrounding landscape. The alternating light and dark stripes of sea shells appear as an extension of nearby infrastructures forming a linked territorial complex. According to Geuze, “the landscape is always subjugated to a process of transformation in which disparate elements are conjoined into fluid spatial continuum.”

West 8’s Sea shells

“If there is to be a ‘new urbanism’ it will not be about separating and identifying entities, but about discovering unnameable hybrids; it will no longer be obsessed with the city but with the manipulation of infra-structure for endless intensifications and diversifications, shortcuts and redistributions – the re-invention of psychological space.” Koolhaas 1995
In memorable experiences of architecture, space, matter and time fuse into one singular dimension, into the basic substance of being, that penetrates our consciousness. We identify ourselves with this space, this place, this very moment, and these dimensions become ingredients of our very existence. Architecture is the art of reconciliation between ourselves and the world, and this mediation takes place through the senses. (Pallasmaa 2006).

Philosophy occupies itself with the question of man's existence within the world, but this dissertation is primarily concerned with the manner in which we experience the world. How does architecture directly influence the perception of space?

According to Heidegger, the primary purpose of life is to dwell. He describes the following: 'The way in which you are and I am; the way in which we humans are on earth, is dwelling.' He describes the role of architecture in an existential sense so as to 'allow for a specific site to become a place.' Christian Norberg-Schulz argues that for such a place to be successful, it needs to have a distinct character. He terms this the genius loci, the specific character or spirit of a place that allows one to dwell within it. It is the responsibility of architecture to define the specific character and physical parameters within which human beings can just be.

'We are in constant dialogue and interaction with the environment, to the degree that it is impossible to detach the image of the self from its spatial and situational existence. I am my body,' Gabriel Marcel claims, 'but I am the space, where I am,' established the poet Noel Arnaud. From this extract, it is evident that the relationship between place, space and the search for individual being is based upon two degrees of experience. The first is the individual's experience of space, and the second is the combined experience with other users that collectively facilitates our human rootedness.

Our perception and experience of space is always affected by the intersections of sensors, memory and imagination. Sensory mnenonics is the culmination of sensory experience and memory. In its essence, it describes how the imagination, heightened by sensors, becomes a means to recall and access memories. Mnemonics is defined as the art of memory, or a technique to recall memory. The origins of this notion can be seen in the approach of Memorial Mechanics of the early 1980s. The works of Lebbeus Woods, John Hejduk and Mike Webb embrace another dimension of human existence and act as archetypes to the approach of permeating architecture with a sense of memory.

The concept of 'Sensory mnemonics' is presented as a theoretical approach to the conditions of contemporary society, and to the context of K-206 as having the potential to create an augmented reality. Inspiring the imagination and automating memory, sensory mnemonics becomes a catalyst for the construction of collective experiences. The aspired result is an augmented reality, in which citizens can...
remembrance themselves as part of a reality and collective memory which ultimately supports the formation of a true identity. A reality which in its essence, is compromised of spatial experiences, memory and imagination - set within a dynamics of time.

There are very few spatial experiences that can stimulate the full spectrum of our senses. Most art forms attempt to simulate the sense of lived experience, but architecture is the only art form capable of producing lived experiences at the same time that it provides the spatial boundaries within which we experience space.

Juhani Pallasmaa’s book Eyes of the Skin: Architecture and the Senses explores and investigates architecture’s predominantly visual culture. He argues that this preoccupation with the visual has led to ‘the disappearance of sensory and sensual qualities from the arts and architecture.’

Maurice Merleau-Ponty, in Phenomenology: Sense and Non Sense describes the experience of this multi-sensory phenomena as follows: ‘my perception is therefore not the sum of visual, tactile and audible gives. I perceive in a total way with the whole being. I grasp a unique structure of the thing, a unique way of being, which speaks to all my senses at once.’

Merleau-Ponty’s philosophy describes the human body as the centre of the experiential world: “I confront the city with my body; my legs measure the length of the arcade and the width of the square; my gaze unconsciously projects my body onto the facade of the cathedral, where it roams over the molding and contours, sensing the size of recesses and projections; my body weight meets the mass of the cathedral door, and my hand grasps the door pull as I enter the dark void behind. I experience myself in the city and the city exists through my embodied experience. The city and the body supplement and define each other. I dwell in the city and the city dwells in me.” Merleau-Ponty’s notions concerning the city can be applied on various scales from a singular space or building, to a larger urban scale.

On this notion, Dalibor Vesley notes that “...memory is - in its very essence - situational. Oral cultures understand this point well: their long narratives are remembered without writing, but always with help of gesture, rhythm, music, or references of natural phenomena. In that sense memory is incorporated and inscribed onto architecture through events, rituals and even daily activities - the depth of memory and sensory experience is influenced by the architecture and its appeal to the senses. Therefore museums, monuments and memorials become far less important than the rituals and events that take place around them.

Sensory perception was once straightforward: you touched a sculpture, smelled perfume, or listened to music. But today, multisensory mnemonics and experiences are changing that. “The rich messiness of the five human senses has always been hard to record in tangible media, but now, due to emerging technologies, sensory impressions can be captured.
mixed and presented in new ways to enrich and refresh traditional cultural experiences.\textsuperscript{88} One example of this is fashion designer Ying Gao who’s technologically infused garments breathe, articulate, curl and unfurl. Another example is photographer Dan Moutford who uses techniques of a camera to express the sensory experience of architecture through double exposure. His memory of events, played by the physical object of architecture, forms individual imagination and collective identity.

The sensory aspects of architecture cannot be abstracted to a checklist format that will ensure a sensory experience, but the approach as to how the design investigation is addressed should be a collective approach, allowing individuals to experience space for themselves, through the enhanced awareness of sensory stimulations and encounters that have been formed within and by the design.

The proposed Institute of Political Ecology embraces this approach by creating an environment that stimulates sensory connections and awakens the complete spectrum of human sensory experiences. 

"Architecture is not all about the design of the building and nothing else, it is also about the cultural setting and the ambience, the whole affair." \textsuperscript{89} (Thomas 2011)
“Her ‘Endoxene’ drawing is a hybrid transplant of Johannesburg into the rural landscapes of Kigali, Rwanda, showing the communication connections that bind diasporic communities together and playing on the notion of the nostalgia for the ‘homeland’ that is often experienced by those who have left home.” *(Lokko 2014)*

Choosing an African country (Rwanda) and focusing on a topic (diasporic communities), the design charrette Endoxene asked one to use Johannesburg as a laboratory for investigation of the chosen subject matter. A panoramic view of Rwanda’s picturesque hills explores the relationship between the two countries as the City of Johannesburg is imposed into the city of Kigali through telecommunication lines.
Part:

B

SPACE

Scarred landscape of Junkspaces
This section focuses on the context for the project. The wasteland, a disembodied reality, is the context for the project. Detached from its surroundings, existing without social meaning, the public never enter the wasteland. The analysis attempts to uncover and reveal its true ‘nature’ through drawings and texts. This interpretation of the study site then served as the point of departure for the project.
5.1 Understanding Alexandra
5.2 Ecological chasm
5.3 The wasteland

6.1 Land as a palimpsest
6.2 Site perceptions and experience
6.3 Veiled conditions

7.1 Secrecy
7.2 Boundary
7.3 Diaspora

8. CREATIVE DISRUPTION
GLOSSARY

BOTANICAL: A substance obtained from a plant and used typically in medicinal or cosmetic products.

CHASM: A deep fissure in the earth's surface. A profound difference between people, viewpoints, feelings, etc.

GENIUS LOCI: This term refers to the 'spirit' or character of a particular place.

HERMENEUTIC: Relates to communication.

INVASIVE PLANTS: An invasive plant is a nomenclature term and categorisation phrase used for flora and fauna, for specific restoration-preservation processes in native habitats. Described as 'non-indigenous' or 'non-native', invasive plants adversely affect the habitats and bioregions they invade, economically, environmentally, and/or ecologically.

LEXICON: The vocabulary of a person, language, or branch of knowledge.

MECCA: A place that attracts people of a particular group or with a particular interest. Mecca is a city in the Hejaz and the capital of Makkah Province in Saudi Arabia and is regarded as the holiest city in the religion of Islam and a pilgrimage site for all devout believers of the faith.

PALIMPSEST: Something reused or altered but still bearing visible traces of its earlier form.

PHENOMENA: The object of a person's perception.

TRANSPLANT: To move or transfer (someone or something) to another place or situation. For the purpose of this dissertation, transplanting refers to the mixed cultures found within K-206 amongst the Rastafarians, Sangomas and Inyangas who have all been displaced, moved or relocated within the Jungle of Alexander.

VEIL: The ability to partially conceal or disguise by means of a finely woven material. The veil described in this dissertation refers to a metaphysical veil.
FIGURE LIST

Disclaimer: All drawings and photographs by author unless stated otherwise.

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01: Gauteng area
02: Johannesburg
03: Region E: Central area located within close proximity to amenities
04: Site within Alexandra: Attention focusing primarily on the ‘Jungle’, an urban wasteland
05: Hidden Landscape: K-206 as a marginal territory in between the informal and RDP housing
06: Timeline: A visual breakdown of Alexandra’s history [Museum Afrika 2014]
07: Ecological deterioration: A reconstruction, created from historical images and facts, of Alexandra’s ecology and habitation
08: Jukskei River: The dividing source of the East and West bank

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01: The Urban Void
02: Palimpsest: A layered drawings expressing the sites’ geologic formation, infrastructure, scarred landscapes and junkspaces
03: The Jungle: Existing waste water treatment plant; a concrete infrastructure of four circles
04: Shrubbery: Photographs showing the over-grown vegetation of the Jungle
05: Third Condition
06: Water Culture
07: Scarred Landscape
08: Sketch 1-3: A series of drawings done on site to help piece together stories and activities told by residents
09: Model 1-4: A physical construction of sketches drawn on site
10: Walking on water: Existing concrete structure with water
11: Landscape: Lines, curves, forms and stipples
12: Demarcated setting: Electrical wiring, Secret paths and Hidden blanket
13: Placement of Circumstances: Density, Gathering, Spores vs Fringe, Excavation and Individual units

7 - TERRITORY OF OCCUPATION
01: For me Only: An expression of my territory and the ability to occupy my own thoughts through a design charrette
02: Secrecy within the Jungle: See Model Journal 1: Secrecy
03: Off Limits: See Model Journal 2: Boundary
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05: K-206 atmosphere of discovery: An abstract image expressing the discoveries of K-206

8 - CREATIVE DISRUPTION
01: Large Glass: By Marcel Duchamp
02: Illumination: An experimentation of reconstructing Large Glass
03: Silhouette: Accumulation of dust and exposure to natural weathering elements


6 (Morgan 2008) * Dexter Morgan 2008*


THE ‘JUNGLE’
The site, Alexandra Township, is one of the several sites selected through a study of junkspaces in the Johannesburg area. Located on the periphery of the city, a portion of the Jukskei River (bordering Far East Bank in Alexandra) poses the greatest opportunity for an intervention as the study area is at high risk of damage and water depletion, caused by environmental pollution and social disregard. Numerous illegal pollution activities have caused colossal damage to an already fragile landscape and its resources. The site is isolated to other sources of endemic ecology and is thus, in terms of biodiversity, deteriorating.
When Alexandra was established in 1904, Johannesburg had been in existence for only twenty-five years. During that time the city had grown exponentially from a mining camp into a global centre of a mining capital. Johannesburg was the epicentre of the country’s capitalist development; by mid 20th century it was the hub of the industrial economy and by the end of the century was arguably the financial capital of the African continent. Until recently, the ‘City of Gold’ epitomised white wealth, power and privilege. In contrast, the history of most of the residents of Alexandra was characterised by a perennial struggle for the right to be in the city. The township survived on the margins of the booming city as a neglected space in which some blacks were permitted to own property. Over time, the place became a mecca of black urban life, marked by overcrowding, poverty, a vibrant social life and rebelliousness.

The declaration of Alexandra as a freehold township for Africans and Coloureds (fig 06) in 1912, was a deliberate manoeuvre by the landowner, Herbert Papenfus, to avoid the restrictions of the infamous Land Act of 1913, which confined African land ownership to a few designated rural areas and effectively prohibited Africans from owning land in the urban areas. The first twenty years of Alexandra’s history reflected a steady increase in general African urbanisation. Between 1916 and 1924, the number of families living in the area increased from 900 to 2,640 and five years later, the figure had increased to approximately 7,200 families. From the early 1930s (especially after the passage of the Slums Act in 1934) the City of Johannesburg expelled thousands of black squatters from inner-city slums and attempted to relocate them to new municipal locations. Many eschewed the tightly controlled locations and opted to live in freehold areas, especially Alexandra, that, as a consequence, experienced an influx of about 5,000 ex-slum dwellers between 1931 and 1935. By the 1936, the official population of the area stood at 16,747, which increased to between 40,000 and 45,000 in the early 1940s.

Over the next decade and a half, Alexandra’s population exploded, due to the massive influx of new arrivals from the rural areas, triggered in part by the surge in industrial development linked to the Second World War. Rapid industrial development meant that in 1943, for the first time, manufacturing outstripped mining in its contribution to the GDP. The demand for black labour rose; thousands of people seeking employment flocked to the Witwatersrand, and Johannesburg in particular. Many of those chose Alexandra as their urban home, causing the township’s population to increase sharply to about 100,000 by the end of the 1940s. The overcrowding triggered a series of intense struggles over housing, the most significant of which were the squatter movements led by Schreiner Baduza in Alexandra.
In 1983, Alexandra’s population was estimated between 50,000 and 70,000 and by the end of the 1980s, the figure had increased to 300,000, registering an astonishing 400 per cent increase in less than a decade. Without the provision of formal housing, the vast majority were forced to live in shacks on pavements, and along the banks of the Jukskei river (this was known as Setswetla squatter camp). Alexandra had effectively been transformed into a squatter township and was the most congested residential area in the country.

In the late 1990s, South Africa entered a period of vigorous economic growth, especially in the financial sector. Across from Alexandra, the Suburb of Sandton, (the country’s financial heartland and perhaps the most opulent piece of real estate on the African continent) experienced exponential growth, witnessed in the construction of several new skyscrapers. On the other side of the motorway, the economic boom made little impact on the poor of Alexandra. Unemployment remained very high – about thirty per cent – while the seventy per cent who were employed, were categorised as ‘unskilled’, earning less than 1,000 rand per month. Alexandra has retained its status as a preferred destination for poor black people wanting to find a place in Johannesburg. Over the past few years it has again been the site of major urban development and has regained its role as the incubator of emancipatory politics. As such it is often a place of despair, but also of hope for a genuinely inclusive city.
Ecological Chasm

5.2

Ecological deterioration

Flora

Flora soil condition

Virgin landscape thriving of biodiversity and ecology

Alexandra was established: 8-10,000 people

Population boom due to rapid industrial development: 45-50,000 people

Setswetla was recognised as an ‘official’ squatter camp: population of 11,728.

Alexandra Renewal Project was launched in the hope of improving this situation.

soil condition

Water quality

Water usage

Insects

GRASSLANDS

1904

BIODIVERSITY

RAPID DEVELOPMENT

FIRST SETTLEMENT

LAND IN TRANSITION

PEOPLE + CONSUMERISM

LAND + ECOLOGY

Water deterioration

Water pollution

Insects

1944

1984

2024

CONSUMPTION

SETSWETLA CAMP

WATER DEPLETION

WASTELAND

The Jungle
My site is the ‘wasteland’, also called the ‘Jungle’ by local residents, an abandoned water treatment plant along the banks of the Jukskei River in Alexandra. Situated between Setswetla Informal Settlement and the Far East bank, the marginal territory lies silent. It is neither a destination nor a thoroughfare. It remains isolated in the neighbourhood: a void. Mystery veils the wasteland, its history unclear, dubious, fragmented. Although the fate of the water treatment plant is unknown, it is speculated that operations ceased during the late 19th century. Currently the wasteland lies silent in ruin, leaving itself open to a multitude of speculations and perceptions.
MARGINAL TERRITORY

The Urban Void

The Wasteland (K-206)
The concept of **palimpsest** has been commonly used in relation to landscape when layers of culture and nature are layered upon each other over time. Some of these layers become mere traces of what once was, while others are more resilient. Palimpsest may be understood in a physical sense, as a layer embedded in memory.

Over the last 100 years, city development in Johannesburg has had significant impact on the existing terrain and geology. This has transformed land-use in many ways. With the high housing demands in Alexandra, the green areas are under constant threat. The layered drawings alongside (fig 02) is derived from the concept of palimpsest. Articulating the site's geological layers, the study of conditions examines the site's palimpsest - the past and present uses and the plans for the future.
In an attempt to enhance the experiential and physical intensity of the Jungle, it is important to assess where to intervene without disrupting the existing nature on this already disrupted terrain. The aim is to enhance the site’s ecological status. The architectural intervention should provide infrastructure, which realises the site’s potential in a new, functional interplay of ecology and landscape. These points are areas where an architectural element, a programmatic change or an urban reconfiguration can rewires the existing forces, redirecting or enhancing the network, thereby creating a more dynamic, extended and more sustainable urban and site experience.

The drawing entitled Third Condition discovers the landscape formation and covering of vegetation across the crisp earth’s ground. Soil conditions, planting patterns, unearthing of existing foliage state of affairs and undergrowth was documented and drawn out in this drawing in order to reveal the use and habitation of the land as well as its resources. It was discovered some of the vegetation was indigenous but majority of the landscape was hostage to alien plants also known as invasive species. These plants are those that have been brought to South Africa from other countries, for their beauty, economic value or ecological purpose but in some cases unintentionally. However, they are brought here without their natural enemies which results in plants reproducing copiously, facilitating or alien species effects water security, the ecological functioning of natural systems and they also pose a threat to the productive use of land. They intensify the impact of veld fires and floods and increase soil erosion.

Third Condition exposes the landscape in its most natural position, both geographically as well as botanically, however the detection of the ecological systems being suffocated poses a threat to the environment and calls for an intervention of the sort.
Throughout history, humans have relied on fresh water ecosystems, particularly rivers, to provide the environmental goods and services that they need to sustain their societies. Ecosystem services can be defined as the benefits that nature naturally provides to households, communities, and economies, or those services that simply offer some form of benefit to human beings. Aquatic ecosystems provide a range of services, including the supply of water, the assimilation and dilution of wastes, the supply of natural products like fish and plants, the sustainability of plants, animals and habitats that are important in biodiversity conservation, flood control, places for recreation and religious rituals, and places where our need for beautiful places can be satisfied.

The drawing entitled Water Culture tells the story of water use along the Jukskei River and its ability to provide all the above functions to the surrounding residents. The western bank consumes the resource for sanitation and waste assimilation, whilst the eastern bank makes use of the resource when flooded to sustain the farmers land. Cultural rituals take place along the water’s edge.

The drawing entitled Scarred Landscape summarises the site’s current state of depletion. Consumption of its water resources and mis-use of the landscape has resulted in a scarred landscape. The ground conditions are described to be unfruitful and the water contaminated.
Access to the site is not only tricky due to its overgrown, hidden and secretive nature, but also because of the unknown barriers that provoke a sense of trespass. The site is occupied by Rastafarians and tradition healers on the East Bank and informal settlers on the West. This marginal territory is a sacred space to the tradition healers, a place of economic production and exchange to the Rastafarians and a source of survival to the informal settlers. Initially there was conflict when I approached the site, but after months of building a relationship with the community, communication, trust and respect were established and I was taken by guide through the site, where important clues and insights were gained.

Stratigraphers work to assemble together clues found in layers of rock, often dating back millions of years. The job of an architect is not dissimilar: in order to piece together a true picture of any given site, clues and hints must be posed over and examined, then brought together in the making of maps and drawings that allow the architect to ‘see’ the site.

There are scant remains of the infrastructure that was once used here. Inspired by a book by Catherine Bull entitled ‘New Conversations with an Old Landscape’, I began to view the site in a similar way.
Cut off from the everyday, this non-place holds its own secrets. It has a story to tell which can only be 'heard' by the senses. As such, it is charged with strange new sensations. The site is a place of contemplation where the body is reconnected to the senses.

Because of the site's isolation, one's sensory perception is heightened. This unfamiliar condition allows the underlying juxtapositions between the culture/religion and secrecy/communication to emerge. The violent tension between ecology, landscape, communities and industrial wastelands became more evident as time passed.

“The presence of architecture - regardless of its self-contained character - inevitably creates a new landscape. This implies the necessity of discovering the architecture which the site itself is seeking.” (Ando 1991).
Markings across a landscape convey patterns of movement and social configuration. The surface of the landscape tells the story of its own conditions. Territoriality may mean indicating an area and influencing everything encompassed within it. The delineated territory could be marked by man-made monuments, or a fence, or a hedgerow, or a plantation tree line, or a boundary such as a water catchment, in which case the territory is marked out by the landscape.

In the case of K-206, territory is ‘marked’ with subtle landscaping suggestions of placement and demarcation, whether horizontal scars across the ground’s surface or vertical veils. The formation of the landscape’s topography, the terrain of the vegetation and the circumstances of natural hydrology patterns instigate a basis for inhabitation of the land.

The drawings entitled Placement of Circumstances and Demarcated Setting establish a lexicon for K-206’s conditions in terms of territory, terrain, delineation, position, inhabitation and occupancy. The surface texture of the drawings represents the landing of spores (informal community gathering), the diasporic formation (Rastafarians who fled to Alexandra) and the scattering of the outcasts within the Jungle. The infrastructure of gum poles are used to connect wires to and hang draperies along forming curtains, like veils blowing in the wind, which distinguish the lines of territory.
A LANDING OF SPORE

Demarcated setting

Marginal Territory
A design charrette, constructed and managed by our year coordinator in March 2014, labelled Occupied Territories was an exercise that used the most minimal means possible (lines and vectors only) to create a spatial drawing of one’s own territory and furthermore challenged one to ‘occupy’ the territory with a single image. The minimal means of representation became an interesting tool for a later series of drawings looking specifically at K-206.

Unaware of what was to proceed during the year, the exercise provided one with the tools for a successful means of representation. The exercise was discovered later on in the year useful as it was in preparation for exploring, defining and embodying the range of territories found within K-206.
The Jungle is a mysterious blanket of secrets where illicit economical activities occur under its curtain-like covering. Its initial appearance is overgrown and inaccessible, its intended mask. Venturing into its territory, camouflaged objects are gently/leisurely captured in the corner of one's eye. Archipelagos of illegal dumping of refuse and waste pile as high as two stories. Rastafarian communities, using the Jungle as a visor, bury and disguise illegal substances grown within the thicket. Completely unaware, hidden coves for spiritual practise cut into the vegetation remaining unseen. The site, now, is acknowledged as a keeper of secrets. Pathways embossed into the ground's surface by the constant movement of people walking through the foliage create patterns and minuscule corridors, the only hints that there is some form of activity within the Jungle.

"All human beings have three lives: public, private, and secret." The drawing entitled Secrecy within the Jungle reveals the secret programmes of the site, whilst the layers above conceal them. The various secretive activities form a hybrid network within the site, both on the surface of the earth, as well as beneath.
The site is a manifestation of boundaries: like a woven material, the Jungle of K-206 exists in multiple layers of unfamiliar scrims, porous in some cases, but mostly indistinguishable. The Jungle's overwhelming growth and the division caused by the Jukskei River form its borders. Entrance is difficult. Conflicts of race, age, class and culture limit one's accessibility and communication. Upon arrival one is immediately confronted with suspicion and aggression. Metaphysical boundaries of inhabitation, safety and hidden activities are the general occurrence within the territory of the site and the presence of an outsider only agitates the locals and community.

The drawing entitled Off Limits formulates the described some of these boundaries by means of vectors and line.
The Jungle is a place of refuge. It is a diaspora within-a-diaspora, as immigrants assemble together in search for a place of belonging, identity and livelihood. The absorption of newly-exposed culturals and the removal/distance of their own, result in a transplanted culture/religion/belief/or way of life. The Rastafarian community, an example of a transplanted culture, congregate within the landscapes of K-206, where the formation of societies, belonging and communication are established.

The drawing entitled Shifting Landscape represents the movements of transplanted cultures and experiments with the simultaneous movement of fleeing refugees alongside the archaeological layers of the earth's surface over time. The two movements, one appearing more stagnant as it changes slowly over a longer timeline, the other rapid, together explore an imagery of cause-and-effect. The mechanical motion of time is represented as the cogs, which gradually choreograph the landscape's change and influence the migration movements (or visa versa).
Accidental discoveries within the Jungle of K-206 led to a rich unearthing of concealed activities, cultural practices, economic entrepreneurship and living conditions. This allowed new and untraveled paths to be exposed and further extended the excitement of the project.

The drawing (fig 05) is a summary of the discoveries made from January till May 2014. A review of events and findings are demonstrated in an abstract timeline connecting to the specific event’s influences. The information demonstrated is based on informal discussions on site; stories told by an elder generation of traditional healers explain the changes of the Jungle and its morphology.

Architecture comes into being when a ‘total environment is made visible’, to quote Suzanne Langer. In conclusion, this means to concretise the genius loci.

Architecture is “frozen music”... really, there is something in this tone of mind produced by architecture approaches the effect of music.” — Von Goethe 2005

The cognitive processes represent time in a non-linear fashion, and question the reality of scale. The image represents an abstract timeline created from speculative information due to boundaries obtained on site.

The living conditions are evoked by the relationship between density and events. The junkspaces are a crystallization of both living conditions and time.

<table>
<thead>
<tr>
<th>TIME</th>
<th>BOUNDARY</th>
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<th>LIVING CONDITIONS</th>
<th>EVOKED SPACES</th>
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Religious ceremonies
Prostitution
Pollution
Marginal territory
Jungle
Ecological wasteland
Water culture
Herbal medicine
Zenephobia
Entrepreneur
Flooding
River deaths
Industrial era
“The leftover space is not detached from the urban mainstream...quite to the contrary, it is embedded within or just steps away from the urban mainstream space...as the emblematic leftover space the downtown back alley stands for a potential of place.” 26 (Akkerman and Cornfeld 2010).

The atmosphere of this ‘non-place’, its unfamiliar conditions and the uncovering of its anonymity potentially provide a space where the sensory experience of K-206 and its natural environment can be witnessed. The rustling of the medicinal plants within the secretive ‘Jungle’ of the traditional healers along with the sound of gushing water of the river accentuate one’s sanity and awakens unconscious senses.

This leftover space, elapsed and dormant allows for a potential sacred space by means of subtle interference.

“When you cut into the present, the future leaks out,”27 (Bourroughs 2008).

Disruption is subversive. It can reveal mechanisms of control. Spectacular consumption can be short-circuited in favour of situations that test the limits of perception. In Parasite (1982), Michel Serres suggests that disruption is a healthy remedy for stagnation. Disruption doesn’t destroy communication, but is essential to the creation of new thought process. Serres’s definition of disruption, or noise, as a positive force resonates with this project’s aim to create moments of renewed sensory mnemonics by acting as a hermeneutic translator.

I have argued that, what we experience as reality is an incredibly complex superimposition of sensory inputs, environmental factors and chance. The complexity of this experience cannot be grasped in a single impression. Glimpses of invisible forces may be allowed into spatial experience through a cultivation of surprise.

At K-206, this may be done through an organic/bio-mimic structural approach. An attempt will be made to document the passage of time within built structure, always mobile and surprising. Dramatic timing becomes crucial. Special moments are to be highlighted through a strategy of anticipation and reward. This may be as simple as waiting for the seasonal flood to pass through K-206, changing the dynamic on site (new areas become accessible). Natural processes of corrosion and decay are to be captured as part of the structure’s metabolism. K-206’s location on the edge of the Jukskei River makes this an important consideration (polluted water, debris, algae). Rather than combat them, natural weathering processes may be used to enhance the atmosphere and tactile qualities of the project.
Design is never an absolute or precise procedure. I suggest that there is no causal link between human behaviour and architectural form. It is a question of reciprocity, of inspiration, rather than cause-and-effect. Bernard Tschumi argues that, “there is no architecture without program, without action, without event.” In this sense, architecture is defined as the resultant friction between spaces and events. I agree with Tschumi’s assertion and suggest that new juxtapositions of form and associations are key to inspiring exciting new types of programme.

The isolated location of the site plays an important role in the consideration of programme. Suggested is a retreat from the rest of the city. It is a place where experience is appreciated on its own terms, in an unlikely atmosphere. It may be public, perhaps private. Getting to the site is a pilgrimage; it remains a special place. The site is not completely cut-off from the city. It simple allows enough distance to refocus the mind.

A fascination with Marcel Duchamp’s Large Glass - The Bride Stripped Bare by Her Bachelors, Even (1915-1923) fuelled my own interest in the unseen forces underpinning spatial experience. Duchamp depicts strategies beyond visible perception as a game of indeterminacy. Quietly, the Large Glass draws the observer into its world. Imaginative participation is required to unravel a mysteries set of visual cues. These cues, in turn, also allow the observer to project personal associations back into the work. The observer’s experience of the object moves beyond physical presence, into the deeper reaches of the subconscious. Unseen dimensions are activated to create a highly personal encounter between observers and object.

Perhaps this project is an attempt to construct my own version of Duchamp’s Large Glass in architectural form? It may allow participants the opportunity to see beyond the mirror. Attention is drawn to phenomena that might otherwise go unnoticed. Similar to the Large Glass, structure becomes an instrument for revealing the unseen forces that underpin experience, and perhaps even social encounters on site.

Experimental chance is a keen phenomenon throughout the course of this dissertation. A reconstruction of Large Glass (fig 01) resulted in an experiment throughout the year. The artwork lay on a shelf alongside the window, allowing the accumulation of dust particles and weathering to occur. Illumination and Silhouette, Perspex layers cut and pierced, are objects of visual suggestion: perforations, diffusions and reflections of light, accretions of natural elements and blurrings of occupation.
Part:

C

K-206

Political Institute for Ecology

UNIVERSITY OF JOHANNESBURG
This section of the document explores the development from site to a strategy for intervening on the site. The approach is conducted through a theoretical discourse, precedent studies and a conceptual process of interpretive exploitative drawings and models. It also documents the design development of the site after the programme has been introduced.
ANECDOTAL:
Anecdotal evidence in this dissertation refers to the traditional way of passing down information within a family (short narrative or discovery).

ANTHROPOMORPHIC:
The attribution of human form or other characteristics to anything other than a human being.1

TERRARIUM:
A terrarium is an area within a glass container, usually enclosed, to keep an eco-system on a small scale. Within the closed, transparent environment, sunlight is still able to penetrate the vegetation, causing the water vapours to rise. The vapour is trapped on the roof and drops at night as the temperature cools, creating a cycle of water. The cycle allows for life to flourish, creating a self-sustaining eco-system.2

ETHNOBOTANY:
According to Nigro, Makunga, and Grace, ethnobotany is a study of useful plants prior to their commercial exploitation and eventual domestication.3

HERBARIUM:
A herbarium is a collection of pressed and dried plants mounted on labelled, cardboard sheets. The specimens are sequentially arranged in storage cabinets, according to a classification system. These plant specimens are studied by looking at taxonomic criteria that are used to group specimens together or tell them apart and eventually result in a name. They are also used for comparison when unknown plant specimens have to be identified.

MODUS OPERUNDI:
A Latin phrase, approximately translated as 'method of operation.'4

TECHNE:
A Greek term, that is often translated as craftsmanship, craft or art.5
9 - TRANSLATION

01 : Systems, Landscaping and Infrastructure: Various collages which depict the quality and feel for the proposed architecture, as if a lexicon for the landscape design.

02 : Faceting Garden: An image which occurred accidentally but presented cross imagination with landscaping typologies and formation.

03 : Cylinder Container: An ephemeral collage which captures the essence of the site and what it is imagined to be.

04 : Permitting Chance 1: Discoveries found within K-206

05 : Permitting Chance 2: Discoveries found within K-206

06 : Alice in Wonderland: An ephemeral collage which captures the essence of the site and what it is imagined to be.

07 : Secrecy: Physical model of secrecy within K-206

08 : Boundary: Physical model of boundaries within K-206

09 : Diaspora: Physical model of diaspora within K-206

10 - DISPUTED TERRAIN

01 : Diagram: A logical description of thought and process

02 : Landscape of Water

03 : Landscape of Botany

04 : Master Plan: A Parkscape proposed as an urban gateway into Alexandra as well as a means of sustainable living along the rivers edge.

11 - TECHNE

01 : Light and Dust: An exploration of light, shadows and weathering within the structure of the landscape

02 : Flood House

03 : Land of Scattered Seeds

04 : K-206: The existing state of the site

05 : Hybridised System: A closed loop system

06 : Program: Process of integration

07 : Movement and Flow: Grounds ability to manipulate and contain spaces

08 : Floor plan sketch: A drawing of the initial floor plan proposal which the existing infrastructure with its current function as well as the incorporation of landscaping into the design

09 : Perspective view: Curves and lines of the design

10 : Landscape model: A model of the terracing landscape into the elevated Roofscape

11 : Ribonising Landscape: A drawing of the terracing landscape into the elevated Roofscape

12 : Material palettes: The quality and feel of existing materials infused with a new palettes

12 - DESIGN SYNTHESIS

01 : Terrain and Roofscape

02 : Pleated Echelon to the Roofscape

03 : Ribbon Vista along the Landscape
REFERENCE


7 Chesterton, K. 2006. On Maltreating words.


9 Lewis, P. 1979. Axioms for Reading the Landscape: Some Guides to the American Scene. Springer Science & Business Media


13 Carolyn, B. 2011. Words of Inspiration and Encouragement. Universe


Instead of aestheticizing buildings and manipulating sensory experiences, the task of architecture is to emancipate our senses and to strengthen our existential foothold and sense of reality. The sense of reality and to self-strengthened and poeticized by sensuous imagery is also capable of freeing out ability to dream, imagine and desire. Meaningful architecture always turns our attention away from itself back to the lived world, to ourselves, and to the realities of life.* 6

(Pallasmaa 2000)

In Part B of this document, subtle hints of the site’s character and behaviour were uncovered. In Part C, a similar procedure of exploratory drawing is applied to the site at K-206, literally drawing a programme out of the site.

This dissertation is proposed as an investigation into the ability of architecture to rehabilitate K-206, the scarred landscapes of ‘junkspace’, by means of an institute for political ecology. The re-inhabitation is also purposed to be one between the scarred landscape, which is a result of consumption and environmental disregard, and the creation of an ecologically balanced terrain for continual future inhabitation. The goal is to manifest an architectural intervention that is responsive to the continual time cycle of Johannesburg as a context and to the conditions of the chosen site in particular. The aim is to encapsulate the fragile relationship that exists between ecological systems and man; architecture and time; landscape and conservation.
As architects and arbiters of cultural expression, we have the capacity to translate. Environmental concerns, clients’ programmes and users’ needs are raw materials, to be measured and patterned and prepared to fit holistically on the land and within its systems. There is an inherent responsibility that accompanies this task: our work has weight and consequences – ecological, historical and social– that are dangerous to ignore. We can only benefit from exposure to mixed disciplines: architecture fused with land, art with science, theatre with history and so forth. The landscape architect, Kathryn Gustafson, considers ‘collaboration and experimentation bring about complexity and increased comprehension that can broaden an idea’s appeal.’

Keith Chesterton believes that ‘the wider our horizon of creation, the more diverse our landscapes become, and the higher tolerance the public develops to live, work and see things differently.’ Today, we interpret the use of public space in new ways and are able to focus on places that had no value twenty years ago. This will continue as we explore how to repair and reuse damaged lands in our consumerist society. In this evolution, a bold intellectual stance and rich emotional palette are essential to creating landscapes that carry a sense of function, time and place.

It is this means of translation (Systems, Landscaping and Infrastructure) that is intend to use throughout the design process until concluding resolution.
Through my theoretical investigations and comprehensive readings, three main interests developed and are identified below:

1. The search for a design approach aimed at a more personal experience of space:
The goal was to develop a design approach that allowed occupants to rediscover their own imagination/spirit and senses through direct engagement with an atmospheric and weathering site. My interest in ecology and phenomenology was developed through the site of K-206.

2. Allowing accidents:
Indeterminacy, perception and design are all components of the architectural process, as is chance. Architecture influences our perceptual and aesthetic habits at the same time as these very habits influence our design thinking; a continuous cycle of influence, change and re-direction. An accident may help us break out of this impasse: chance events may upset routine perception and thus stimulate imagination. The aim was to explore and develop a design rationale and program through graphic narrative that engages and activates unexpected sensory imagination and discovery. I intend to use chance as a design tool, and explore how this affects the ways in which space is represented, produced and occupied.

3. To work in the spirit of techne:
Techne, in the true sense of the word, refers to the act of uncovering the mysterious. Such experiments bear testament to a rigorous process of self-discovery through invention. This is a function of both craftsmanship and imagination. Experimentation is emphasised over preconception.
As a process of these interests, the act of divorcing myself from premeditated or forced architectural responses led to a series of subconscious drawings of the imagination. This was done in an attempt to excite and stimulate the visual and emotional senses, an act which was a more profound way of exploring ways in which space/territories are represented, produced and occupied.

A similar approach guided the emergence of programme. Rather than pre-defining it, an attempt was made to develop a connection between the subconscious, site and architecture. This process developed an intuitive rationale, which grew from exploration, ultimately arriving at a program. The continuous drawing and interpretation of imagination guided the project through a series of unexpected routes of self-discovery. The programme, generated directly from site, is designed to support the political ecology qualities of the place.
9.2 Site Clues

Clue 1
Upon arrival, tension within the territory of K-206 was apparent. This tension, between the conflicting east and west bank (divided by the Jukskei River), is given special focus. The West Bank poses a threat to the river, due to ignorance and lack of environmental awareness, whilst the East Bank, a strong community knot, generates their livelihood from the river's contaminated resources.

Clue 2
Hidden pathways within the Jungle and the oscillation of movement between people and taxis provides a basis for social structure and means of communication within K-206. Due to the North-South pedestrian arterial, which runs through the Jungle, an opportunity presents itself as an open buffer zone between the existing structure and the placement of the building.

“Our human landscape is our unwitting autobiography, reflecting our tastes, our values, our aspirations, and even our fears, in tangible, visible form.” (Lewis 1979)
Clue 3
Spatial programming is considered by analysing existing conditions. The West Bank focuses primarily on the use of water for basic needs of sanitation, hygiene, spiritual cleansing and rituals whilst the East Bank centres their cultural practices around the growing of medicines (traditional farm yards) within the secretive Jungle.

Clue 4
As a collective summary of the site generators, an initial site plan was developed as a basis for further interpretation and design investigation in a more technical and detailed manner. With an open buffer zone to the north and the existing structure below, a proposed landscape and a waterscape complement both the existing East and West Bank activities, and present an opportunity for social interaction and communication between the respecting programmes.
K-206, a neglected water treatment plant in an urban void of the 'Jungle', is imagined as an instrumental institute with a Floodscape, Waterscape, Botanical Roofscape and an Anecdotal Display for resident Rastafarians/users/practitioners. The vision responds to the site's current state of a wasteland, overgrown and thriving with biodiversity, and experiments with secret occurrences on site that inventively penetrate an otherwise blurry territory of cultural spaces. One space flows into another, creating a cinematic/choreographic sequences. Using the architectural language of the existing wasteland, I propose a camouflaged environment, made of vines, plants, cables and cloth draperies. Small intimate spaces; nooks and pocket-like rooms weave into the secrecy of the ecological botany operations in the Jankspace, but contribute to the cultural practices of the Anecdotal Rastafarians. Each space is highly imaginary and the distinguishing line between exterior/interior is blurred, making it difficult to fathom. 'Natural' spaces extend as layer-upon-layer is coerced and 'grown' into walls and rooms.

The project is concerned with the line where ground meets water (metaphorically and physically) within the Floodscape, as well with the experience of light and the powerful presence of void within the Waterscape. Secrecy, boundaries, disapper, weathering and water are blurred and celebrated through the architecture. Creaks and leaks of ecology from the exterior into the interior and from the gradual weather of the facades modify the building and its surroundings - an ever-changing landscape instrument on the ground.
Exploring the role of experimental disclosure, a key element to this dissertation, governed the need to develop a more creative understanding of chance as an aesthetic experience and critical method, and as a design practice in its own right.

Investigating the role of experimental disclosure across interviews, research, drawings, models (with digital innovation) and fine art, process and experience of design were all an essential part of the exploration. It was in this indeterminate stage of discovery, a moment to consider that enabled constructive gain from failures and imperfections, an essential element of progression.

Transforming drawings into models, photographing, printing, re-drawing, scanning, tracing, printing then drawing again, led to an exploration of spaces, territories, light and form appropriate to the context of K-206. Experimental chance, coupled with direct participation and surprising exploration of the site, describes an experience of space not easily captured in architectural representation. The result of these experiments allowed one to capture something of an immensely complex reality that progressed from K-206.

I suggest that chance is an essential working condition for architecture. By way of simultaneity and environmental incidence, it underpins our perception of space and more profoundly considers the issue of inhabitation and the unpredictability of lives.
"Places, like people, can be traumatized, but like humans they can recover from their negative experiences, albeit with their characteristics altered."¹² (Menin 2003)

K-206 exists in what is essentially a wholly natural landscape, partially reclaimed from the river during seasonal flooding. The site’s geographical position, an urban void framed by complex territories, consent to a cautious and concealed landscape.

Disputed terrain is the site’s defining characteristic.

The development of a program for K-206 begins and ends with the eccentric character of the place. The task was approached in the same way a detective or novelist might construct a modus operandi for a character. To design a structure capable of speaking for itself, it became necessary to view the site in such anthropomorphic terms. The building, imagined as a self-motivated instrument, tunes itself to the dynamic forces acting on the site (natural elements which are non-prescribed, water flow and its destruction, doubtful medicinal activities). By physically responding to forces beyond the control of the architect, the building becomes its own program, rather than a backdrop for it. This forms part of my investigation on how architecture has the ability to:

- infiltrate a new landscape typology to mediate contextual change
- amalgamate contrasting systems (man, architecture and nature) to provide a platform for the interface of ecological restoration
- re-scape a wasteland to merge political division
- orchestrate sustainable systems and public participation which invests in culture of the current context conditions
The project was inspired by the discovery of K-206, a wasteland in the 'Jungle' of Alexandra. The unclaimed territory, an abandoned water treatment plant has been regarded as a scarred landscape of environmental disregard. Symbolic of the context, it now lies silent, its facilities and structure deserted long ago.

"Places, like people, can be traumatized, but like humans they can recover from their negative experiences, albeit with their characteristics altered."

This dissertation attempts to uncover, explore and understand the fragile relationship between man, nature and architecture, stemming from a deeply-held interest in the rehabilitation of political wastelands through ecological restoration.

- **Inhabiting the urban void**
- **Hybridism integration**
- **Sensory mnemonics**

**BRIEF**

- Rehabilitation of wastelands of consumption and environmental deterioration
- Hybridization of existing programmes within the context for the network or journey to connect to the various programs.
- Architecture of various 'parts' where landscape, building and nature combine, a bio-mimetic response focussing primarily on water restoration and ecological conservation for economic, social and environmental stability.

- **Macro**: landscape
- **Meso**: intervention
- **Micro**: architecture
Through the theoretical discourse (Part A) and the site and context analysis (Part B), a comprehension and understanding of K-206, its context of junkspace and its condition of a scarred landscape became evident. The Alexandra Renewal project (ARP), together with theoretical studies, is used to formulate a brief. The brief is a response to the previous chapters in three scales: landscape (macro), intervention (meso) and architectural design (micro).

The landscape brief concentrates on connecting fragmented urban voids into a systemic urban ecology. This resonates with Koolhaas’ discourse on Imagining Nothingness (page 21).

- Rehabilitating wastelands of consumption and environmental deterioration.
- Creating systemic urban integration and ecological restoration.
- Utilising landscapes for political integration and ecological restoration.
- Promoting hierarchy of green public spaces and open networks.

The intervention brief intervenes in the immediate context of K-206. Focusing on hybridisation of existing programmes within the context for the network or journey to connect to the various programs.

The architectural design brief calls for an architectural intervention of various ‘parts’, where landscape, building and nature combine. A bio-mimetic response focusing primarily on water restoration and ecological conservation for economic, social and environmental stability. By exploring nature’s design and introducing bio-mimicry (the act of mimicking or copying biology) the obvious clues in nature can be applied to architecture, which will ultimately result in a hybrid building- a building that is self-sustaining and adaptive to its surroundings.

- Formulating an amalgamation of organisations that aid each other (economically and socially).
- Unfolding of blurred territories and reintroducing them to the public.
- Creating a sustainable walkable landscape environment.

The architectural design brief aims to:
- Providing a facility for observation that will contribute to obtaining knowledge about current scarred landscapes of junkspace.
- A facility to promote the understanding of environmental awareness and sustainability.
- The architecture should be an instrument that visually and tectonically traces and records the effects on our environment.
- Increase natural ecology by providing infrastructure for natural ecology generation (aiming to contribute as a catalyst for water appreciation and landscape restoration).

The Institute aims to rehabilitate these scarred landscapes of junkspace through its research, educational and public interaction, a platform for ecological rehabilitation and conservation along the Juskei River.

- The architecture must incorporate nature, allowing for nature to amalgamate with the architecture, becoming a soft extension of landscape.
- Have sustainable technologies and services that render the structure self-sufficient.
- Provide public and private facilities which promotes public involvement and interaction allowing the public to be a part of the private with no disruption.

"[Our whole system] is thoroughly conscious of the fact that architecture is not innocent, not harmless, that its fundamental task is to break down reality, our reality, and, by means of an adventurous, uncertain reconnaissance, to grant that reality new opportunities. These opportunities do not drop out of the blue. Just as architecture, they must be created" (Bakker 1988).
In light of the project brief and vision, the architectural program focuses on the development of a sustainable architecture which would house these possible functions:

1. FLOODSCAPE
   This facility will include the following:
   - Terraced Garden
     The Terraced Garden is the gradual entrance to the Institute.
   - Berm Wall
     The Berm Wall is a manifold of water ‘locks’ that choreographs water from the Jukskei River to the site during the flooding season. Channels used to choreograph the seasonal flood of porous materials (gabion) and are used to filter the river water by capturing debris whilst allowing water to flow. This formation over time creates its own micro ecology for moss, algae, bullrushes and bird nests.
   - Floodplain
     The Floodplain, a seasonal wetland, provides eutrophicated water (excessive nutrients) to the landscape to inhabit the site, promoting natural sustainability and ecological diversity. The Floodplain is a barometer and a visual indicator of flooding. Analogous to the environment it inhibits, the Floodplain records, responds and reconfigures according to floods, seasons and uses. It also becomes an instrument for the viewing of water destruction and weathering qualities.

2. WATERSCAPE
   This facility will include the following:
   - Reflection Pond
     Excess water from the Floodscape is channeled through chasms to an existing pond. The stilled water provides a space for spiritual reflection.
   - Baptism Pool
     The Baptism Pool provides a space for religious ceremonies to occur. The users on lower ground and observers above maintain boundaries but incorporate the principles of an Institute.
   - Bath-house
     Water from the Floodscape provides residents with clean water for sanitation purposes (toilets, showers/baths) called the Bath-house. It is an enclosed public sanitation room.

3. BOTANICAL ROOFSCAPE
   This facility will include the following:
   - Plantation
     The Plantation is a landscape where traditional healers will grow and nurse indigenous plants which provides a basis for the traditional healers market. The plantation provides a visual landscape art: the constant change of colour during the growing and picking period and the formation changes due to wind movement as well as a climate indicator as the plants change with seasons.

4. ANECDOTAL DISPLAY
   This facility will include the following:
   - Harvesting and Sorting
     The Harvesting and Sorting is a place where the various roots, stems, leaves, plant/seeds, sap and burls of the grown plants will be placed in their categories according to medicinal use when ready for picking.
   - Specimen Storage
     This space will house the specimens under constant and controlled humidity and temperature for the duration of the laboratory process.

   - Specimen Storage
     This space will house the specimen under constant and controlled humidity and temperature for the duration of the laboratory process.

   - Market
     A market space for the practise of traditional healing.
FUNDERS

The project is an important exercise in and instigator of nature conservation. Since water and botany is a precious commodity in this country, it is anticipated that the following bodies would become stakeholders in its running and upkeep:

- Department Of Water Affairs
- Rand Water
- Botanical Society Of Medicinal Plants
- Natural Healers Association

The City of Johannesburg’s Department of Water Affairs has stipulated the need for a programme for water resource development and bulk water supply, thus acting as the main stakeholders, with the ability to allocate a substantial grant. This enables options for private investors to contribute for the benefit of future and speculative water sourcing technologies.

Secondary funding for the project would be gained from the Rand Water Board. Additionally Rand Water is one of the leaders in water treatment. Water in the Greater Johannesburg is among the cleanest produced in the world. Rand Water may additionally provide the expertise in terms of water experts, technicians and researchers.

The Botanical Society of Medicinal Plants and Natural Healers Association have anticipated the need to broaden awareness of ethnobotany in the South African context, more specifically in Gauteng, for the protection and preservation of ancient (culture bound) healing practices and will present the project as the stakeholders. These national organisations, run by Dr H. Zungu, Katharina Lee Kruger and Chris Ratl, will widen the window of opportunity to influence the development of healing legislation in South Africa to recognise the spiritual elements of International Traditional, Indigenous, Spiritual, Energy and Natural Healing Methods in order to obtain Government Recognition and thereby enable our members to provide a more cost effective and efficient healthcare service for all South Africans and others.

CLIENT

Two major clients are identified in terms of project feasibility and relevance:

- Traditional Healers Organisation (THO)
- Alexandra Renewal Project (ARP)

The first client, THO, who organise about 20,000 traditional health practitioners in the country and have networks in some parts of Africa, is currently looking to expand their network to a broader global context. The purpose of THO is to enable the organising, training and certification of traditional health practitioners. The project prioritises the Traditional Healers Organisation as a rights for members, or the practice of traditional healing and facilities, as well as provides infrastructure and consistent methodologies to support research and education. K-206 and the precinct around it is a
one of the many ideal places for THO to expand to, thus aiding in the rehabilitation of the ‘Jungle’.

The secondary client is the ARP, which will operate with the main objective of water research and sustainable development for the Alexandra community. The City of Johannesburg, as the local authority whose jurisdiction the project would fall under, would be the tertiary clients. The various branches, such as the City of Johannesburg Tourism Department, would use the project to promote eco-tourism to visitors and residents of Johannesburg alike. The project itself at a macro level could interest conservation parties such as Agricultural Water Conservation and Management and the Department of Environmental Affairs in its approach to conservation areas. It would also interest water-focused organizations such as the Scientific Aquatic Services, which assess the integrity of the aquatic reservoirs and its waste-water management.

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USERS

The project would offer a multiplicity of opportunities to a cross-section of users to interact and engage with the space. The facilities would include treatment works, learning centres to educate the public on the importance of sustainable ecological preservation and leisure facilities for recreation. These users might include:

- University Of Johannesburg (Research Department
- South African National Biodiversity Institute (SANBI)
- Botanical Gardens Conservation International (BGCI)
- Higher Education Institutions & research institutions: The universities located in the City of Johannesburg and researchers would use the projects facility to conduct research in water treatment/preservation/ conservation and ecology.
- Centre for Environmental Management: an educational and training facility for aquatic ecology, biology, ecology and environmental management, the ecology of land and rivers, biodiversity and succession, environmental impact and urban ecology and the environment in general.
- Individuals, families and tourists

The project seeks to facilitate engagement, interaction and interaction between various groups in society. This interaction, with each group with its set of viewpoints and knowledge, would be a platform to elevate the subject of ecological preservation beyond scientific circles, and become a societal prerogative.
The proposed master plan aims to link urban nodes on a macro and micro scale to create an integrated urban system. The master plan focuses its principles on connecting the North of the Far East Bank to the South of the Jukskei River, ultimately creating a new pedestrian gateway into the Alexandra precinct and promoting sustainable development on the river’s edge.

Introducing a public pedestrian realm to the existing transport network will allow accessibility and increase connection opportunities. In response, walkable connections between urban nodes is fundamental to a sustainable precinct which promotes public green connections and open public space.

The intention is for the Institute of Political Ecology to act as the catalyst in transforming the Jungle and the Jukskei River of Alexandra into an Indigenous Parkscape, supplying a continuous patchwork of biodiversity and ecology for the cultural, ecological and social link from the North to the South of Alexandra.

The journey through the Parkscape begins at the Marlboro Gautrain Station, where two options are provided: a walk through the Parkscape to the entrance of the Institute; or a direct drive (provided with public transport at the Gautrain station) to the beginning of the botanical garden and terraced landscape.

With the development of the master plan and the existing urban fabric, user routes were defined to potentially enhance the connectivity of the urban nodes through local and abroad users. Undertaking these routes would take the user on a journey through the secrecy of K-206. The proposed routes would be, the water route, educational route, ecological and landscape route of K-206. The routes do not exist in isolation but, when overlaid, create a network of interconnecting routes allowing for choice and options to change routes at any given point of the urban journey.

Urban nodes within the Parkscape consist of an indigenous jungle, a waterscape, botanical garden, a visual landscape of seasonally blossoming vernacular plants, a terraced landscape of gradual ramps to the entrance of the Institute and an African traditional healers market.

The aim of the master plan and proposed journeys is to create a socially inclusive urban ecology, and also to promote eco-tourism within Johannesburg.

Architecture has an important role to fulfil towards the ‘territory’, not just at different scale levels, but also at different moments in the transformation process: together the surface, the domain, the region and the landscape form a multiple construction.
“Pure logic could never lead us to anything but tautologies; it could create nothing new not from it alone can any science issue...[...]... to make any science, something else than pure logic is necessary. To designate this something else we have no word other than intuition.”

(Poincaré 2007)
Rising water levels and powerful flash floods are reflected in the extent and severity of the flood on K-206. Yearly the site undergoes increasingly convincing test-rounds in anticipation of the river’s inevitable seizure of the site. A lock wall manifold introduces water back to the site during seasonal flooding. The ‘flood’ is choreographed to create a changing landscape that explores the passage of time as the river gradually consumes the site. The extent of the flood depends on the water level. The effects of the flood is used to amplify the atmospheric qualities of the site. Using the kinetics energy of the river flow, the ‘Flood House’ generates sounds, smells, texture and selected perspectives on the site.

The keeper of the ‘Flood House’ is concerned with climate change. He realises that by observing the rise and volume of the mean water level on K-206’s lock wall, he is able to gauge water environmental issues relating to climate change. Recognising this opportunity, the keeper uses the river seizure of K-206 to animate a flood warning system. The building now gives tactile, though cryptic, expression to his message of balance. Each year the mean water level rises by a minute fraction. The site becomes a barometer for environmental conditions beyond the physical boundaries of the site. The Flood House is the keeper’s measuring instrument and diary. It captures and expresses the forces acting on the site at various scales. This calls for a robust, but sensitive structure. It must work with poetic purpose to illustrate the delicate, often unseen, forces that make up the site’s character.
Historically, the Dutch lock the land from the river inside from outside. The Flood House subverts this tradition. The house floods and flood houses. It has two typologies, each at different scales.

Firstly, the Floodscape, a visual warning device of flooding, transmutes the excessive water to provide the landscape with nutrients. The Floodscape provides natural means of infrastructure, such as terracing and gabion walling, for water fauna and flora to infiltrate and inhabit the site via the Berm Wall manifold. A series of Berm Walls (water locks) control the seasonal disposition of water. The 'locks' most importantly manage the flow of the same water by distributing the water by its channeling walls. Depending on the seasonal flood, the Floodscape is completely drowned or during the rainy season, and the water level is left unchanged for approximately two weeks. The portion of the Floodscape closest to the Berm Walls is permanently fed water, a perfect place for bulrushes, mushrooms, moss and arid flora to establish as the water trickles lighting through the pours wall. As the natural course continues and the water level drops low, a world underneath is momentarily revealed. Predators like 'seagulls' are attracted by the exposed marine life on the Floodscape. In time, a micro-ecology develops on K-206. Texture is added to the site’s atmosphere.

Secondly, the Waterscape, a ritual and spiritual space, makes use of the collected water within the Floodscape to provide the community with traditional practices of their culture.

The Flood House, a combination of the Floodscape and Waterscape, is in fact a landscape system in which a network of temporary ‘rooms’ (locks) is distributed on sandbanks of the Jukskei River across the narrow channel. It suggests a system of management that involves slowing the river with locks and gabions that capture debris. Emphasis shifts from mediation of the flood to the establishing of a culture, a civilisation based on a permanently flooded landscape.

An instrumental garden, constructed as indigenous architecture, is set within the junkspace of Alexandra’s wasteland. This is an imaginary future environment in extreme flux, where elements of the existing landscape are tended by a flock of ‘evolutionary machines’ that gather soil, seed, moisture and light to sustain the garden’s history of alien/unfamiliar cultivation. The project involves research into existing archaeological records in order to reveal diverse and innovative cultural histories, including environmental and meteorological data, cultural events, mythologies and local histories.
The project seeks to find the balancing point between culture and nature along the Jukskei River in K-206, which is currently underappreciated because of flooding, vacancy and disconnection to the city. The concept of a cultural landscape serving as sustainable storm water management infrastructure was formed. With potential for spontaneous use and dynamic programming, the site can transform into a sustainable infrastructure with a cultural identity that provides active sensory experience.

The design solution is an embodiment of cultural representation and technology of water management in order to achieve ecological and social resilience by re-inhabiting the void also described as ‘non-place’. It reroutes and collects water and serves as a buffer between the river and K-206 during flooding seasons. The plan provides a refuge for wetland plants and animal species. It also creates a platform for water related recreational activities. In this way, people have the opportunity to change their perspective about the river. The precinct of K-206 will have its new cultural identity.

It is hoped that by making people aware of the importance of the medicinal plants that they harvest, many others will come to learn about and appreciate indigenous plants and the value that they hold with regard to the livelihoods of different communities. It is also hoped that education about sustainable harvesting of plants will help to reinforce the links between the community and the environment. Such links are essential if sustainable utilisation of natural resources is to be realised.
Existing conditions found within K-206 forms as the crucial demand: seasonal flooding of the Jukskei River, cultivation of medicinal plants within the Jungle by Rastafarians, a community of traditional healers along the fringe of the Jungle and an existing water plant structure containing torpid water. The permutation of existing ecology (plants and water), human agriculture, spiritual practise of traditional remedial (cultural) and natural phenomena formulate a strong basis for program extension.

Introduction of a hybrid system, by commencing new complementary programs that form a closed loop organisation, auxiliates the strength of the current situation. The hybridity of the architectural design is to branch off from what is discovered on site and through accidental findings.

The arrangement of programs is essential for the assurance of corresponding and networking within the matching functions. Imagined as if a production line, the storm water is progressed to the terraced landscape for irrigation and filtration purposes so that the resulting water is used for sanitation and recreation. The process from plant growth to harvesting, classifying, storing and ultimately used for medicinal practise within the market follows the same principle of a continuous production organism.
The success of the design hybridity, program interconnection and process stems from the landscapes formation and ability to allow for such ease of flow and connection. The ground plane, by manipulating heights and surface conditions, controls movement, accessibility and program functions.

A study conducted presented variations of ground conditions, walkways, accessibility, platforms, terracing and ramps for the oscillation of movements between users (private) and observers (public). The permitting pathways, influenced by the ground conditions, are intended to allocate various travels through the Institute: the water route, botanical path and a landscaping trail.

A predominant north-south connection promotes entrance for public in one end and out the other whilst the users of the Institute move parallel in a west-east direction, controlling accessibility and secrecy.

Separation of spaces/program and walkways are considered for spaces of pause, reflection or performance. These open-ended spaces are defined as solids and voids.
Landscape, existing infrastructure, ecological systems, stagnant water found within concrete cylinders and cultural activities with the Jungle are all designed for, and more specifically intended as one hybrid system.

The proposed design is no longer just a building for human beings alone; everything is designed for the natural participants and is part of the eco-system. At the same time, this project is about making ecological changes to a large-scale system in decline (ecological chasm) by designing a modest intervention with sensitive landscaping. The design incorporates architecture and landscape as one unit, a symbiosis relationship, which controls the seed dispersal and water flooding within K-206.
An existing storm water channel provides water and irrigation for the Terraced Landscape. This landscape, a garden that forms gradual ramps to the entrance of the Institute, is a visual landscape seen in the changing of the seasons by blossoming arboricole planting. Direction of movement and viewpoints are aided by the plants organisation.

The Floodscape (a seasonal wetland) is designed to contain the river's floods and provide the landscape with nutrients. This also becomes an indicator and a warning device for flooding. This wetland provides new ecology for amphibians, lilies and bulrushes. The Berm walls (water locks) choreograph the river's volume to the landscape. These walls of porous material (gabion) also form a filtration system by capturing debris whilst allowing water to flow forming a berm over time and its own micro ecology for moss, algae, bulrushes and bird nests.

Excess water from the Floodscape is channelled through chasms to an existing pond (the Waterscape). The stilled water provides a space for spiritual reflection. Veils of tiled linings in different layers provide secret spaces for private/quite time. Tiled linings are faceted to reflect midday sun (partially faience) whilst unfinished matt facets absorb and diffuse solar energy at dawn and dusk.

Within the Waterscape, the Baptism Pool provides a space for religious ceremonies to occur. The users on lower ground and observers above maintain boundaries but incorporate the principles of an institute. The pool, sunken, is accessed by a single ramp. A fountain on the facade of the over flowing Reflection Pond ensures the sound of water flowing. A outlet pipe to the river maintains its natural course as well as grey water for the toilets in the Bath-house. The Bath-house, an enclosed public sanitation room, contains a central heated bath surrounded by change rooms and toilets. The glass wall of the bath varies in privacy as the steam and water particles mist the facade (visual access is denied).

The Roofscape, an extension of the landscape, is a platform for viewing into programs within the Institute. The landscape extends horizontally over the Institute with a lattice structure that plays on light, blurring shadows and manipulating program and space below. Punctures within the lattice structure create tunnels for lighting wells, terrariums, water collection and planting exhibition as well as stair case infrastructure. A profiled roof surface of the Roofscape with a 'shaded' blanket (vines and creepers) to the external face provides cooling, shade and oxygen to the main body of the Institute.

UNIVERSITY OF JOHANNESBURG
A garden path can become the thread of a plot, connecting moments and incidents into a narrative. The narrative structure might be a simple chain of events with a beginning, middle, and end. It might be embellished with diversions, digressions, and picaresque twists, be accompanied by parallel ways, or deceptively fork into blind alleys like the alternative scenarios explored in a detective novel.” (Solnit 2013)

The Roofscape on the southern section provides a Botanical Plantation for resident Rastafarians and traditional healers. The Botanical Plantation, monitored and maintained by the local healers on site, grow and harvest medicinal plants. The various medicinal plants, in placement of alien plants, provide treatment for many purposes. Below the Roofscape the public walk freely through the Anecdotal Display area to the sorting platform. Simple pulley and bag system is implemented for plant harvesting and collecting. Rastafarians place harvested plants into bags and tug the rope allowing bags to vertically move down to the sorting depot for classification. This vertical provides a public viewing space. Divided by the harvesting skin of pulleys and bags, an ever-changing facade, the public are denied physical access only viewing.

A thermal labyrinth within the existing basement structure provides cool and dry air (through passive cooling) by using positive and negative pressure (a void is an entrance whilst a fan an exit). The air is cooled for the Specimen Storage underground to lower temperature and humidity level.

An Ecological Exhibition is the central program that defines the Institute: ecology displayed in its naturally-changing forms within terrariums (micro organisms) of algae and water obtained from the Roofscape. Using its structure, these terrariums provide an education to water ecologies and the algae warms the water for the Bath-house through its natural chemical formulation.

The last experience found within the Institute is a traditional Market where locals practice their African culture of medicinal beliefs. Draperies hung by demarcated territories within the market (manipulating spaces of practice) define privacy and occupation of the traditional healers. This mysterious and secretive operation contextualises the traditional way of healing and maintains the Jungle’s character.

Sensory experience, the building as a mnemonic device, and hermeneutic interaction is the fundamental function of the Institute permitting one to learn through experience and form and awareness through interaction.
The aesthetics of K-206 are defined by a simple palette of materials, textures and colours. In the development of the tectonics of K-206, new materials should compromise the unique state of the site, but rather enhance and compliment the qualities. It is also very important that the new materials express aging and a degree of weather to form a connection between new and old. Therefore the use of contemporary materials is specified to form analogies between the fabric of K-206, detailed and applied in a thoughtful way to promote weathering. By implementing this technical concept, the ecological roofscape does not only aid in rehabilitation of K-206, but inherits physical qualities of the present, allowing nature to entwine with the architecture.

The material palette above represents the mass formation, tectonic scenery, foliage colouring and the feel of vagueness, which the Institute intends to protect. Infrastructure, landscaping, vegetation and the ephemeral quality of light, steam, mist and veils forms various fabric boundaries as well as maintains a sense of mystery, a gossamer atmosphere, within this secretive operation.

Natural materials (stone, sand, rock) against natural vegetation (botanical plants, cultivated gardens, overgrown shrubbery) form a lattice-like texture, complimenting the existing landscape, camouflaged and hidden.
It is possible that an architectural detail can reveal more than just the resolution of materials. A fragment of a building can provide an entrance into a particular way of thinking. A detail can be seen as a kind of evidence, a piece of evidentially material; building can therefore be the result of the building up of the material evidence. (Miller 2001)
The botanical landscape is a ribbon vista along the landscape of K-206, a pleated echelon to the Roofscape. This ‘roofscape’ extends as a landscape, hovering above the Institute of Political Ecology as if floating, the vegetation swaying with the light breeze, a sighing structure full of memories of a cultured life.

It is constructed of a delicate lace-like structure, a fragile and complex spatial matrix. It represents a mnemonic landscape, exploring memory and culture through poetic, material assembly and constructive techniques. The aleatoric nature of the landscape’s form finds pattern; specificity, and ambiguity in a richly ordered system, recalling natural structures from the realms of plant life, animal behavior, and geologic formations. The landscape revels in these dualities and contradictions: cultural beliefs, economic sustainability and ecological intelligence.

The gossamer and tectonic structure, demarcating programs below it, controls light into the Institute of Political Ecology. Variations of light fall and intensity depend on the program, privacy and activity. The blurring of boundaries into certain spaces are managed by light and shadow.
Design Synthesis

Ribbon Vista along the Landscape

Pleated Echelon to the Roofscape
Design Synthesis

05 Roofscape model

06 Roofscape drawing
Acacia Baileyana

The Australian species, including Acacia baileyana had multiple medicinal uses by indigenous Australians, including being use to treat diarrhoea and hyperglycemia.

Saffronwood

From Bangkok, this species contains medicinal uses: an infusion of the bark is taken as a stomach cleanser and used as an enema for stomach ache and fever, and to treat intestinal cramps and diarrhoea.

Datura

From China, datura is used as a hallucinogenic and intoxicant, though it does have medicinal uses. Seeds or powered datura leaves are part of the traditional medicine. Datura were used to treat skin eruptions, colds, and nervous disorders.

Cichorium Intybus

From Egypt, the medicinal plant is said to be a folk remedy for cancer of the uterus and for tumors. In South Africa, although it is considered a widespread weed, leaves, stems, and roots are made into a tea for jaundice and chicory syrup is used as a tonic and purifying medicine for infants.

Alisma Plantago Aquatica

This Tanzanian species is used as a powder prepared from dried roots is used in popular medicine as a cure for rabies and crushed leaves are used against mammary congestion; fresh leaves are employed in homeopathy.

Cannabis Sativa

From Central Asia north of the Himalayas, cannabis is an annual herb known for its narcotic properties and is illegal to cultivate.

“I doubt if there is any sensation arising from sight more delightful than the odors which filter through sun-warmed, wind-tossed branches, or the tide of scents which swells, subsided, rises again wave on wave, filling the wide world with sweetness. A whiff of the universe makes us dream of worlds we have never seen, recalls in a flash entire epochs of our dearest experience.”24 (Keller 1995)
The floodscape, a seasonal wetland, provides infrastructure for fauna and flora to inhabit the site, promoting natural sustainability and ecological diversity. Channels used to choreograph the seasonal flood of porous material (gabion) and are used to filter the river water by capturing debris whilst allowing water to flow. The floodscape is constructed to meet the river’s rising water level, thus the closest part to the river has permanent water flowing into the floodscape, an ideal habitat for a wetland ecology is established.

Gabion terracing, mesh panels, rammed earth and shallow concrete walls form curvatures and pocket-like spaces which programs infiltrate establishing a fluid movement through the building. This movement mimics the existing informal pathways which travel through the jungle of K-206 by local residents. The masses contrast with the delicate screens opening up visual and sound accessibility. The gradual ramps to platforms through movement of the building forms a landscape of its own terrain.

Existing concrete cylinders demonstrate the found objects on site and its current character, inspiring circular infrastructure in and around the building forming a terrain of spirals and fluid forms.
The design recognises floods as a natural resource that offers the ability to serve for different forms of programs related to water and reinforces the lost relationship between the river and the precinct. The project is not only about submerging the landscape with water but re-establishing social and ecological systems, enabling wildlife to re-colonise and for people to re-connect with the river. A system of elevated circulation network such as bridges, boardwalks and throughfares opens up the river for people to interact with the water and live upon the times of flooding. Walkways can be made of timber with the water. A pensive lonely hand dipping in the cool liquid or a group of happy children, splashing its surface, activates the pool and the flooded landscape that fulfils its potential in relation to flood prevention and re-landscaping.

Instead of treating water as a major threat and avoiding it, the design welcomes water using the wasteland as a setting for possible experimentation and processes in relation to hydrological dynamics, an opportunity to be converted into a dynamic landscape for ecology and culture. Some areas of the landscape will be sacrificed to flood, whilst others will be protected by building artificial mounds (polders) using a level height techniques, in order to minimise the harm of flooding and lifting for new programs.
Appendix:

1

FINAL DESIGN

10 November
presentation
This section of the document demonstrates the final presentation of this dissertation presented on 10 November 2014 to the UJ FADA staff and the external panel of moderators consisting of: Hugh Fraser | Daniel van der Merwe | Solam Mkhabela | Edna Peres | Tanzeem Razak | Mitchell Squire
Final Design

Roofscape

Medical Practices
Final Design

Reflection Pond

Bath House
“In the final analysis, all architecture reveals the application of human ingenuity to the satisfaction of human needs. And among these needs are not only shelter, warmth and accommodation, but also the needs, felt at every moment in every part of the world in endlessly different ways, for something more profound, evocative and universal, for beauty, for permanence, for immortality” (Nuttgens 1993)
I Rachel Wilson hereby declare that the minor dissertation submitted for the Mtech (Prof) Architecture degree to the University of Johannesburg, apart from the help recognized, is my own work and has not previously been submitted to another university or institution of higher education for a degree.

Signature

Date 10-11-2014
I would like to thank my supervisor Prof. Lesley Lokko, the most inspirational and influential teacher. Your knowledge, open mindedness and views are forever engraved into my memory. I owe this thrilling experience to you and your trustworthy guidance.

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Thank you Suzette Grace, my lecturer since first year. I am grateful for the difficult challenges you presented me with throughout my studies as they have pushed me to better myself in the field of architectural theory and design.

My mother, the most important person in my life, thank you for working as hard as you have to provide me with a privileged education. I am forever appreciative of all the sacrifices you have made for me.

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