

Hybrid

A new Interface between the city of Pretoria and Berea Park

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Site location

Urban barrier spaces, bordering the north of Berea Park

Coordinates

25°45'30.73S
28°11'44.36E



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Multipurpose urban event and recreational facilities

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Human Settlements and Urbanism
&
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Jesus Christ

My Saviour and Creator, for the courage and strength You have given me. All glory to God.
Through Him all things are possible.

Abstract

The modern day mechanical integration and organisation of cities have disturbed the natural systems and sequences of the environment, as well as the social fabric and collective notions of society within cities (Mumford, 1938:17). Man's progressive "liberation" from the natural environment has desensitised him to nature (Crowe, 1995:233) creating an artificial realm where man is removed from nature.

Pretoria's establishment was greatly influenced by its landscape - aptly called "the valley between the ridges and the rivers" (Dippenaar, 2013:6). Urban modernisation and infrastructure development have however progressively disregarded the river and the landscape within the city, consequently detaching the city from these natural elements, which resulted in the loss of their significance.

As one of the last remaining underdeveloped sites in the inner city of Pretoria, Berea Park represents a continuation of the landscape and the Apies River channel into the city. Situated at the southern gateway of the city, Berea Park was Pretoria's first official recreational, social and cultural venue, hosting numerous sport, outdoor and other events. Unfortunately Berea Park is currently in a derelict and idle state. Infrastructural developments have gradually disconnected the site from the surrounding city fabric and community. The isolated and forgotten park, has like the river, tragically lost its essential significance.

The divide between the city fabric, the Apies River channel and the Berea Park landscape presents the opportunity to explore architecture's role in re-integrating and connecting experiences of "nature" into the city to enhance the quality of urban life.

This dissertation explores architecture and the hybrid typology of "building as a landscape", as a means to create a new topography and interface between the Berea Park landscape, river channel and the city. The concept of a hybrid architecture that merges the typologies of urban park, landscape, infrastructure, public amenity and building is explored with the intention to develop a new typology that can respond to the contextual challenges.

The building becomes an extension of the park, and the park becomes an extension of the building. The new interface, proposed programme and activities are aimed at linking the city, its inhabitants, communities, the landscape and the river.



Samevatting

Die hedendaagse meganiese integrasie en organisasie van stede het die natuurlike sisteme en ritmes van die omgewing, asook die sosiale strukture en kollektiewe opvattinge van gemeenskappe in stede versteur (Mumford, 1038:17). Die mens se progressiewe “bevryding” van die natuurlike omgewing het gelei tot ‘n skeiding tussen die mens en die natuur (Crowe, 2013:6), wat der volglik ‘n kunsmatige domein waarbinne die mensdom uit die natuurverwyder is, geskep het.

Die totstandkoming van Pretoria was grootliks beïnvloed deur sy natuurlike landskap - met die gepaste benaming van “ ‘n vallei geleë tussen rante en riviere” (Dippenaar, 2013:6). Met stedelike modernisering en infrastruktuur ontwikkeling is daar stelselmatig minder ag geslaan op die riviere en die omliggende stadslandskap, wat daartoe gelei het dat die stad van die natuurlike omgewing afgesonder geraak het en uiteindelik het dit die verlies van die essensiële betekenis en waarde van die natuurelemente veroorsaak.

Berea Park, een van die laaste oorblywende onderontwikkelde terreine in die sentrale stadsgebied van Pretoria, is geleë aan die suidelike ingang van die stad en verteenwoordig ‘n verlenging van die landskap en die Apiesrivierkanaal na die stad. Dié terrein was Pretoria se eerste amptelike

ontspannings-, sosiale en kulturele byeenkomsplek, wat sport-, buitelug- en ander byeenkomste aangebied het. Ongelukking is Bera Park tans ‘n verlate, verwaarloosde en onbenutte area. Infrastruktuur ontwikkeling van dié gebied het geleidelik die terrein afgesonder van die omliggende stad en gemeenskap. Die geïsoleerde en vergete park het, soos die rivier, tragies geen betekenis of nut meer nie.

Die skeiding tussen die stedelike bouomgewing, die Apiesrivierkanaal en die landskap van Berea Park bied die geleentheid om argitektuur se rol met betrekking tot die herintegrering en verbinding van die “natuur” met die stad te ondersoek derhalwe die gehalte van ‘n stedelike lewenswyse te verhoog.

Die skripsie ondersoek argitektuur en die hibriede tipologie van ‘n gebou as ‘n landskap, wat deur die fasilitering van ‘n nuwe topografie ‘n interaktiewe verbinding tussen die landskap van Berea Park, die rivierkanaal en die stad tot stand kan bring. Hibriede-argitektuur is ‘n konsep wat die samesmelting van die tipologieë van stedelike park, landskap, infrastruktuur, openbare fasiliteit en gebou ondersoek met die doel om ‘n nuwe tipologie te ontwikkel wat kontekstuele uitdagings kan aanspreek. Die gebou word ‘n uitbreiding van die park en die park word ‘n uitbreiding van die gebou. Die doelwit van die gebou as nuwe interaktiewe verbinding en die voorgestelde program en aktiwiteite, is om die stad se inwoners, gemeenskappe, die landskap en die rivier te herverbind.

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Terminology

As defined and understood in the context of this dissertation:

Nature:

Browning, Ryan & Clancy (2014:8) defines nature as: "...living organisms and non-living components of an ecosystem – inclusive of everything from the sun and [sic] moon and seasonal arroyos, to managed forests and urban raingardens...". It is acknowledged that "nature" in modern society is often not only designed for both functional and aesthetic purposes, but designed "nature" should also be biodiverse and ecologically healthy (Browning, Ryan & Clancy, 2014:8).

Infrastructure:

Fundamental facilities, services and organisational structures that serve cities and communities. Infra means below and infrastructure therefore often refers to underground services such as bulk water systems. (Craven, 2016). The current-day concept of infrastructure, especially in urban environments, has, however, evolved to include a variety of essential facilities and evolved architectures. These range from public parks, green networks and urban habitats to buildings that shape the public realm, and those that define new connections between urban and landscape territories (Craven, 2006; Weiss & Manfredi, 2015:9-11).

Hybrid:

A project or architecture in which hybridisation occurs, entailing a mixture, coexistence, mongrelisation, coupling or interconnection between possibly opposed or contrary elements that provide spatial combinations that are more flexible, open and multifaceted (Gausa, 2003:293).

Typology:

Building and landscape types; a classification or grouping according to and considering qualitative, quantitative, morphological, formal, technological and functional attributes of buildings, structures or landscapes (Berkley, Environmental design library guides).

Biophilic design:

A design approach that is broadly classified as a part restorative design. Biophilic design has a strong environmental emphasis and is aimed at promoting positive interactions between people and nature in the built environment while restoring and mitigating the adverse effects of modern design (Kellert, 2005:93, 123).

A

Introduction

N^o 1

Premise

1.1 Observation

Urban parks, river interfaces, natural spines running through urbanised environments and other similar public spaces are valued across the world for the significant contribution they make to the quality of urban life. These



Figure 1.1 ~ Pretoria southern gateway.jpg

View over southern gateway of the city, with Unisa in the foreground. At a glance an abundance of greenery and natural spaces appear to filter into the city, but upon closer inspection one finds that the city is severed from its natural landscape. Source: Gallo images

places provide the urban arenas for social exchange, engagement, quotidian events, recreational activities and entertainment. They provide a link to “nature” and play a fundamental role in urban place-making by creating places that are true and representative of a city’s natural environment, local landscape, people, character and culture (CSIR, Guidelines for Human Settlement Planning and Design, 2000:2.4-7).

As such, many cities are synonymous with their distinct parks. The unique setting and experiences offered by places such as Central Park in New York, Park Güell in Barcelona and the Royal Gardens in London are directly associated with the physical, social and cultural identity of these cities. Unfortunately, when one observes Pretoria, it is difficult to recall any park that is synonymous with city life or that has any comparable significance in terms of its natural characteristics, activities or contribution to the urban environment. At a glance, Pretoria appears to have an abundance of open spaces, nature reserves and vacant land in and around the broader city of Pretoria, but due to historical and political planning agendas, a lack of integration and general fragmentation is prevalent (Van Biljon, 1993:42). The current inconspicuous nature of open/vacant space halts the potential of these places to contribute to the quality of urban life and to function as significant public urban parks.

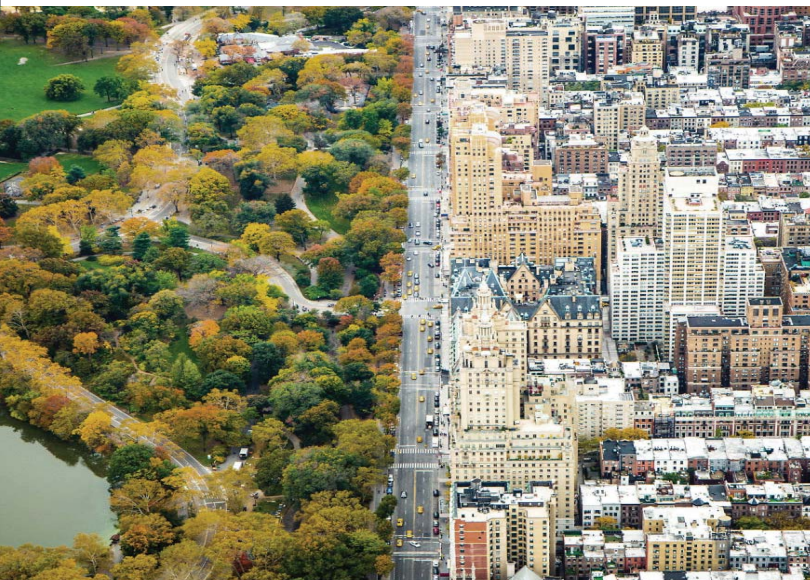


Figure 1.2 ~ Central park contrast - New York City.jpg

Central Park in Manhattan New York designed by Frederick Law Olmsted in 1858.

The 341 ha park was developed on city owned land and is a national historic landmark synonymous with the identity of the city.

Source: <http://www.boredpanda.com/central-park-contrast-new-york-city/>

The observed detached condition between the city of Pretoria and its open spaces, landscape and natural environment initiates the enquiry into the cause of the condition as well as the resulting implications, which could motivate and provide direction in addressing the condition.

1.2 Severed Relationships

With the emergence of ecological theory as driver for urbanism and alternative design approaches, new emphasis has been placed on the relationships between living organisms and their environments. More specifically, as in the work of Ian McHarg (Reed & Lister, 2014), the relationship and the significance of the interconnectedness between the city and its natural environment has come to light.

However, cities generally illustrate a divide between the city and its natural environment, rather than an integrated symbiotic relationship (Kellert, 2005:90; Wheeler, 2004). Man's progressive liberation from the natural environment has desensitised him to nature (Crowe, 1995:233) and created an artificial realm where the order of man disregards the order of nature. Cities also display a disconnection between people and are fraught with inequalities and disintegrated communities. Burdened with severed relationships, the contemporary city is therefore characterised by fragmentation, a fading public domain and disjointed urban landscapes that further exacerbate our detachment from "nature" and dilute the character of place (Wheeler, 2004).

1.2.1 Nature and Man

Stephen Kellert (2005:1) states that "interaction with nature is critically important to human wellbeing and development, but sadly has become compromised and diminished in modern times".

Today the built and urban environment is one of the primary eliminators of "nature" and the natural environment (Kellert, 2005:2). Modern cities and towns are in stark contrast to the traditional settlements that related to the natural cosmos. Prior to the Industrial Revolution and the modern urban paradigm, human settlements maintained a balance between man, nature and the built environment (Crowe, 1995:230; Samiei, 2013). Embedded in the landscape, early "cities" established a sense of place and time, with regional vernaculars emerging from the surrounding landscape, climatic conditions and the availability of immediate resources (Borden & Meredith, 2012:01).

Current-day urban and suburban form, which has evolved over the last century, greatly differs from preceding human

Figure 1.3 ~ Bring back the balance.jpg

Bring back the balance is an illustrated collaboration by Greenpeace artists to create awareness about the imbalance and environmental degradation created by human activity. Source: Sanjay Singh, Tanvi Jaiswal, Dalip Singh for Greenpeace, <http://www.demilked.com/environment-yin-yang-bring-back-balance-greenpeace-mccann-worldgroup-india/>



settlement patterns and displays man's conquest and disregard of nature. Vast quantities of natural resources, water and energy have been consumed to create the modern city (Brownell, 2012) where civilisation could thrive and progress (Good, 2015).

Consequently, cities now stretch endlessly across the landscape, consuming large areas of land, which necessitates numerous infrastructure and road networks to permit efficiency and connectivity (Wheeler, 2004). These development practices disregarded nature's ebb and flow and have drastically altered the environment causing large scale environmental concerns and disconnected and fragmented urban landscapes (Wheeler, 2004; Good, 2015). With the urban realm detached from the natural flows and systems that sustain human life on our planet, "nature" has lost its significance in the city (Woods, 2012; Litman, 2009:17).

The severed relationship between man and nature raises many concerns. Of these, the more pragmatic concerns such as climate change, resource depletion and environmental degradation are well known, but the absence of "nature" in our cities affects the wellbeing of people on many levels (Wheeler, 2004; Good, 2015). Urban green spaces and parks play a vital role in our physiological and psychological health (Good, 2015) and as these spaces provide the urban platforms for interaction and public life, they are also extremely important in terms of the urban social structure (McGinn, 2014).

Figure 1.4 ~ Machu Pichu.jpg

Machu Picchu is an example of an early human settlement embedded into its natural context and landscape

Source: Martin St-Amant, Wikipedia, https://en.wikipedia.org/wiki/Machu_Picchu#/media/File:80_-_Machu_Picchu_-_Juin_2009_-_edit.2.jpg.
Amended by Author



Figure 1.5 ~ Mechanical Organisation.jpg

Pregerson interchange in Los Angeles. Extensive road infrastructure has created fragmented urban landscapes, disregarding pedestrian connectivity

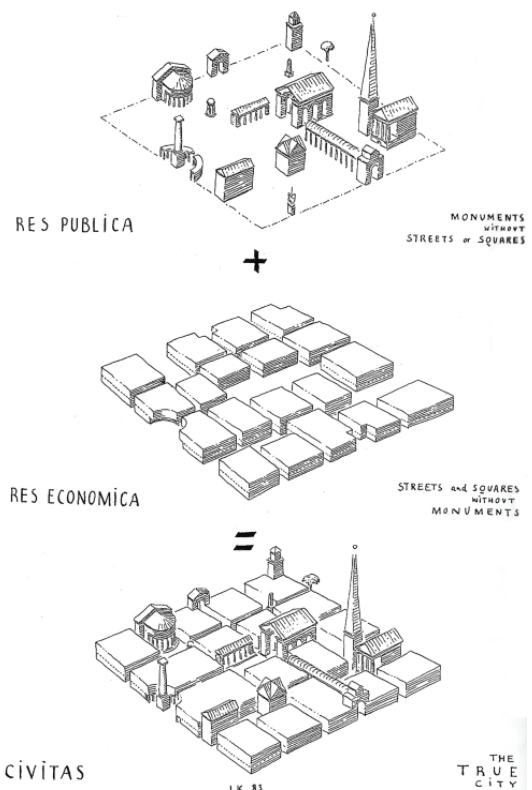
Source: (city data)<http://usa.streetsblog.org/wp-content/uploads/sites/5/2014/06/55fb18a3ce341ac0883d85da0dd92c75.jpg>



1.2.2 Man and his Fellow man

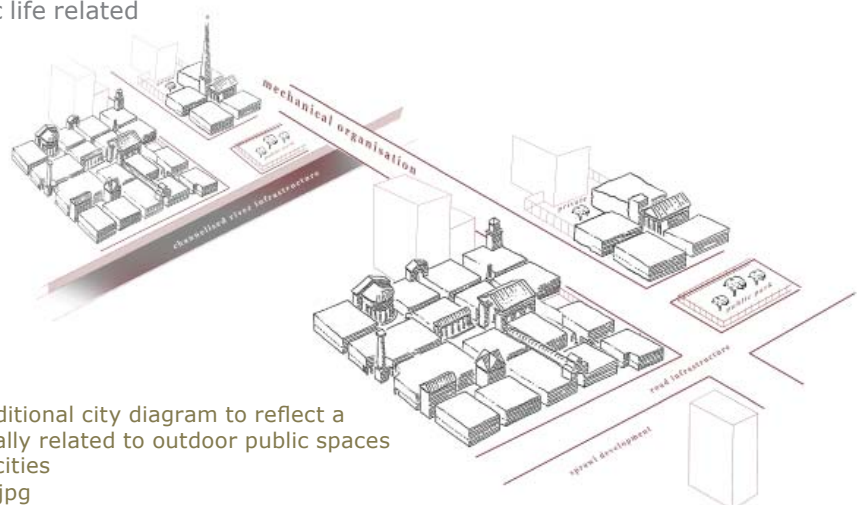
The mechanical integration and organisation of the city disrupted both the natural systems and sequences of the environment, as well as the social fabric and collective notions of society within the city (Mumford, 1938:17). Twentieth-century urban development revolved around private vehicular transport, resulting in inner city decay, ambiguity and habitat destruction, as low density development sprawled far beyond the original city edge (Crowe, 1995:226).

In the process of urban advancement the integrity, identity and character of neighbourhoods have been lost. Urban environments no longer reflect a response to human scale or pedestrian-orientated movement and activities. The distinction between public and private domains faltered and the significance of place is vanishing (Crowe, 1995:233). Not only have we become separated from nature, but we have also detached ourselves from our fellow man. We have lost our sense of belonging, the rootedness that comes from community and public life related to a specific place.



The traditional city is a hierarchical layered construction of public space and private space; res publica and res economica
Source: Leon Krier

Figure 1.6 ~ Krier - Traditional city.jpg



Fragmented city

Adaptation of Leon Krier's traditional city diagram to reflect a fading public domain, specifically related to outdoor public spaces such as parks in modern day cities

Figure 1.7 ~ Fragmented city.jpg

1.3 Urban Issue

Pretoria is also confronted with many of the challenges of the modern urban paradigm. Although the city's establishment was greatly influenced by its landscape, the valley between the ridges and the rivers (Dippenaar, 2013:6), modernisation and infrastructure development have progressively disregarded the river and the landscape within the city, detaching the city from these natural elements, which has resulted in the loss of their significance.

Urban infrastructure planning has also largely neglected urban connectivity on a pedestrian and human scale, which has aided in creating a fragmented and disjointed urban landscape that offers limited opportunities for public life and social interaction.

Channelised and polluted, the Apies River is no longer a natural system consisting of a rich and bio-diverse ecology, nor does it exhibit place-making qualities

that could offer recreational, spiritual and aesthetic opportunities to the city's inhabitants. The river has been reduced to a lifeless, mono-functional storm water infrastructure resulting in the decay of its adjacent landscape and open spaces, which lack activity and are disconnected from the city activities and fabric.

The landscape spine along the river channel and even the channel itself are identified as potential place-making resources. They could be utilised to create thriving urban green spaces that could facilitate new ecologies, social interaction, recreation and leisure activities and thus promote a vibrant community and public urban life within the city of Pretoria.



Figure 1.8 ~ Divided city.jpg The divide between Pretoria, its landscape and rivers. Source: Author

1.4 Architectural Issue

In the majority of urban settings architecture and buildings dominate the urban landscape (Samiei, 2013), therefore architecture holds the potential to reshape spaces that would establish new connections between people and place. New technologies and directions in architecture also equip buildings to incorporate new connections with nature and natural systems.

How can architecture facilitate and establish these connections so that they become an interface for connection in the urban context? Which approaches within the specific context of Pretoria and the selected site would aid such reconnection and a harmonious relationship between “nature”, place and people?

1.5 General Intention

The intention of this dissertation project is to employ Pretoria’s “nature” as an urban place-making tool that could regenerate broken relationships and foster new connections. The selected node and macro site includes the derelict Berea Park and the Apies River. Both these elements have lost their significance and in their current state they do not contribute to either the ecological, social or cultural functioning of the city and could potentially cause further inner city decay.

The transformation of the selected Reservoir Park Node adjacent to the Apies River channel (as part of a series of nodal interventions in the 2016 Liquid Urbanism Group Vision (LU Group Vision) will generate opportunities to install new

ecological, social and cultural meaning. The divide between the city fabric, the Apies River channel and the Berea Park landscape will be addressed with the purpose of revitalising and re-integrating these “natural” entities into the urban experience and fabric. This is in line with the LU Group Vision, which aims to introduce intervention nodes along Pretoria’s water network. The intention is to generate new meaning and interfaces between the city and the river. Pretoria’s natural and water history is to be acknowledged and celebrated through appropriate contexts and new symbiotic relationships between man and “nature” within each of the vision nodes.

Urban Interface
city • people • community • landscape • river



Figure 1.9 ~ Interface.jpg

Intention, establishing a new urban interface and connection with the landscape. Source: Author

1.6 Aims and Dissertation Vision

In order to create an architecture that could generate new connections between the landscape and urban sphere, nature and man, as well as man and community, the study endeavours to develop a hybrid architecture that would challenge the boundaries of architecture, city and landscape.

The urban vision proposes the regeneration of the derelict and forgotten Apies River channel corridor, with the project aimed at creating new interfaces, meaning and activities related to the river and landscape in the selected focus area. The architecture is intended to function as a connection device and threshold between the city, people, community, landscape and river.

1.7 Design Limitations, Delimitations and Premise

This dissertation explores the role of architecture and architectural typology to yield spaces that will generate opportunities for encounters with nature, place and people, expanding on the potential of architecture to address urban conditions of disconnection induced by mono-functional infrastructure. Emphasis will be placed on an architecture that responds to the specific context and conditions of the selected area as well as the theoretical principles discussed in following chapters.

The physical focus area is labelled Reservoir Park, and includes the landlocked and derelict Berea Park, which adjoins the Apies River channel at the southern gateway of the inner city of Pretoria. The project is based

on the premise that the existing Berea clubhouse facilities will be appropriated for a new sport and recreation centre. Partial implementation, particularly of the proposed adaptive re-use and associated sport and recreational programme for the original Berea clubhouse buildings as proposed by Marisa de Swardt in her 2013 M.Arch(Prof) dissertation, "Regenerating Berea Park", is considered to be implemented and existing on site. Focus in this dissertation is therefore placed on the fragmented fabric between the northern edge of Berea Park and the city, with a series of fragmented barrier sites combined to create the project site.

The dissertation project is also based on the premise that the LU Group Vision with its proposed land use changes and river restoration will be implemented and

that the proposed urban condition sets the context for response. Dealing with the specific conditions in the Reservoir Park Node and the selected site at the southern gateway to the inner city of Pretoria, the dissertation does not intend to create a universal strategy, although similar principals may be suitable and employed in other “nature” based urban place-making interventions.

Exact data and the processing of such data into useable information relating to the current pollution levels of the Apies River is limited. Basic strategies and principles informed by the information collected will be employed and deemed sufficient for the purification of water in the specific context, as part of the proposed urban vision.

Envisioned responses and solutions may extend beyond the knowledge of the architectural discipline. Where solutions relating to ecology, hydrology, engineering, town planning and other sciences are required, in which the author is not an expert, external expertise, where possible, will be consulted. Non-architectural factors will not be resolved with a high degree of technical precision and will be limited to basic responses informed by the author’s interpretation of accessible knowledge and information. The factors and responses will ultimately serve as drivers and informants to generate an architectural design response aimed at achieving the outlined aims and vision of the dissertation.

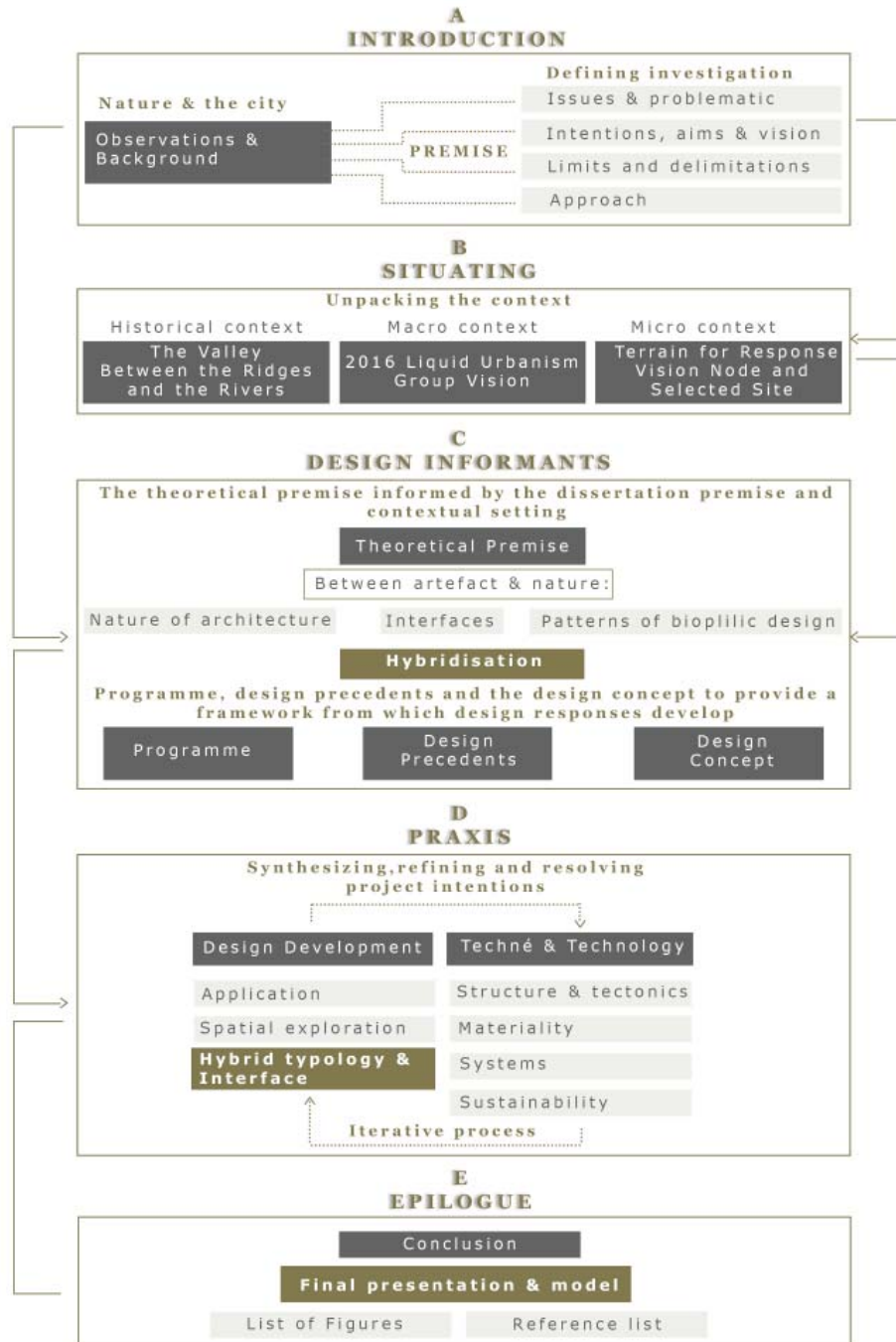
1.8 Research Methods and Methodology

Research will consist primarily of qualitative methods, but quantitative methods, where required, will also be utilised. Arguments and responses will be informed by a theoretical inquiry and the collected data will be interpreted through a hermeneutic methodology.

Observations and findings from site visits and desktop studies will be presented

through maps, drawings and photographs. The above information will be analysed to generate design informants, which, in combination with precedent studies, theory and selected literature will motivate responses and iterations.

1.9 Document Structure and Content



Intention, establishing a new urban interface and connection with the landscape. Source: Author Document structure.jpg