

# ZOO INVERSO

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*An investigation of landscape architecture as an instrument to convey experience, habitat and beauty within a zoological garden enclosure.*

*by Marissa Engelbrecht*



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*Marissa Engelbrecht*

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*The National Zoological Gardens of South Africa.*

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2014

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## *Abstract*

This dissertation explores the experiential quality of zoological garden enclosures and the threshold between man and animal. This exploration manifests within the context of man's act of demarcation represented in zoological gardens.

The National Zoological Gardens in Pretoria situated on the periphery of the Central Business District form the proposed context of this study. The zoological gardens provide a platform to explore the ill-defined threshold between man and animal, the lack of experiential levels and the quality of the enclosures as habitat.

The study investigates landscape design as a medium for design intervention to enhance the experience of zoo enclosures for both the visitor and animal.

Through a methodological approach, the dissertation aims to establish design stratagems grounded in theory of landscape architecture, zoo design theory and case study review. The stratagems will serve as catalyst to challenge current zoo design principles in order to determine a new set of principles for landscape intervention. The design will follow a hypothetical process that implements the principles as spatial explorations, followed by pragmatic considerations.

The outcome will demonstrate on a spatial and experiential level how landscape design can combine ecology and aesthetics to create a hybridised interactive experience with nature, animals and humans in a detail enclosure design. Technical and programmatic requirements will test and refine the final proposal of the enclosure design.

## *Samevatting*

Hierdie verhandeling ondersoek die ervaringsgehalte van dieretuinhokke en die drumpel tussen mens en dier. Hierdie navorsing vind plaas binne die konteks van die mens wat diere inkamp en afskort, soos in "n dieretuin.

Die Nasionale Dieretuin in Pretoria, geleë op die rand van die Sentrale Besigheidsdistrik, vorm die voorgestelde konteks van hierdie studie. Die dieretuin voorsien die platform waarvan die swak gedefinieerde drumpel tussen mens en dier, en die gebrek aan ervarings- en habitatskwaliteit van die hokke, ondersoek kan word.

Die studie ondersoek landskapontwerp as "n ingrypingsmiddel wat die ervaring van dieretuinhokke vir beide die besoekers en diere kan bevorder.

Die ondersoek poog om deur middel van "n metodiese toenadering strategieë, gegrond op die teorie van landskapsargitektuur, dieretuinontwerp en gevallestudies, daar te stel. Die strategieë sal as katalisator dien om huidige dieretuinontwerpbeginsels uit te daag ten einde nuwe beginsels vir landskap intervensies te skep. Die ontwerp sal "n hipotetiese proses wees wat die beginsels van ruimtelike verkenning sowel as pragmatiese oorwegings volg.

Die uitkoms sal op "n ruimtelike- en ervaringsvlak demonstreeer hoe landskapontwerp ekologie en estetika kan kombineer om binne "n dieretuinhok "n interaktiewe ervaring tussen mens, dier en natuur te skep.

Tegniese- en programmatiese vereistes sal die finale voorstel van die dieretuinhok ontwerp toets en verfyn.

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*L\_1.*  
*Bruegel's two*  
*monkeys painting*  
*by Pieter Bruegel*  
*the Elder*  
*(Bibliokept 2012).*



1.1 *Bruegel's two monkeys*

-Wisława Szymborska (1923-2012): translated from the Polish by Stanisław Baranczak and Clare Cavana

This is what I see in my dreams about final exams:  
two monkeys, chained to the floor, sit on the windowsill,  
the sky behind them flutters,  
the sea is taking its bath.

The exam is the history of Mankind.  
I stammer and hedge.

One monkey stares and listens with mocking disdain,  
the other seems to be dreaming away --  
but when it's clear I don't know what to say  
he prompts me  
with a gentle clinking of his chain.<sup>1</sup>



## 1.2 *Prologue*

---

Breugles poem is unsettling in that it simulatenously makes animals seem more human and humans more animal.

Two monkeys are chained to a window sill overlooking the Antwerp city. Their freedom has been bought for a hazelnut. It is not the monkeys that have lost their freedom. It is the men who chained and captured them. The juxtaposition of the chains and the picturesque landscape laughs at the absurdity of human actions. The monkeys dream of the freewheeling forest in Africa.

The author reminisces of the zoo that shaped her ideas of man and animal. In the zoo her thoughts would be taken far beyond the barrier between her and the chained monkey. She realises that man chained the monkey to chain his inner beast. She sees that to understand nature man captured it, analysed it, felt it, tasted it.

She reflects, questions, and chains herself in order to relinquish the pain of being human.



1.3 *Zoo inverso*

---

in the zoo  
man is the spectator, always and everywhere.  
man looks at and never out of.  
man chains and captures.  
arrange and decay  
re-arrange  
man decays  
man is the spectacle  
zoo inverso



I\_2. Gilles Aillaud:  
Cage Vide-1971.  
Representation of man's  
mastery over nature

*Anthropomorphism:* A literary device that can be defined as a technique in which a writer ascribes human traits, ambitions, emotions or entire behaviour to animals, non-human beings, natural phenomena or objects (Literary Devices 2014).

*Beauty:* The combination of qualities which affords keen pleasure to the other senses (e.g. hearing) or which charms the intellectual or moral faculties through inherent grace, or fitness to a desired end (OED 2008).

*Biozone:* An area constituting a natural ecological community with characteristic flora, fauna and environmental conditions, and is bounded by natural rather than artificial borders (www.TheFreeDictionary.com 2014).

*Ecozoology:* Contemporary paradigm of zoological developments encompassing the projects that mix performative elements with visual interest to create a hybridised, experiential interaction with nature and animals (Kallipoliti 2012).

*Enclosure:* An area surrounded by fences or walls, like a pen or a cage in a zoological garden (Cambridge Advanced Learner's Dictionary).

*Experience:* As described by Corner (2002), the experience in landscape does not offer opportunity to wander or turn away from \_\_\_ such as paintings or novels. Spatially, it is all enveloping and surrounds us, flooded with light and atmosphere. Irreducible, the landscape controls our experience extensively; it permeates our memory and consciousness.

*Hyper-nature:* Existing in or formed by nature (opposed to artificial) used as a device by Meyer (2008) as a way to recognise art in the landscape.

*Immersion:* Placing visitors inside the habitat landscape and extending the complexity of the animal's environment into areas where visitors walk, stand or sit (Bierlein 2003).

*In situ:* "In place" in Latin, refers to the natural habitat or "wild" setting of an animal (Nuttall 2004:94).

*Performance:* Meyer (2008:10) uses "perform" and "performance" to mean "something it provides" or the "accomplishment of a task" as in "parks perform in two ways". Meyer's writing on aesthetics and ecological design includes understanding of "performance" as not only ecological function, but also as emotional or ethical revelation, where beauty and aesthetics affect our understanding and concern for sustainable design and an ecological design agenda.

*Spectacle:* Something exhibited to view as unusual, notable, or entertaining; especially an eye-catching or dramatic public display (Merriam-Webster 2014).

*Tarzan-esque:* A new design vernacular coined by Hancocks (2012:1) as superficial, and a peculiar distortion of the natural world type of zoo design.

*Threshold:* The boundary beyond which a radically different state of affairs exists. Thresholds form the links between the in-between and the paradoxical. This threshold can also be explored as a dualistic interface. Thresholds are the brink where transformations begin, where exchanges between unlinked and contradicting concepts take place, where identities are determined and declared (Berrizbeita 2003:82).

*Unzoo:* A place where the public learns about wild animals, plants and ecosystems through interaction with and immersion in original or recreated natural habitats (Coe 2005:1).

*Zoo:* A park displaying live animals ... from different parts of the world ... kept in cages or enclosures for people to come and see, and where they are bred and studied by scientists (Coe 2005:1).

*Zoogeography:* Distinct areas devoted to representative fauna and flora of zoological regions of the world (Graetz 1995).



*I\_3. Gilles Aillaud:  
Cage Vide-1971.  
Representation of man's  
mastery over nature*



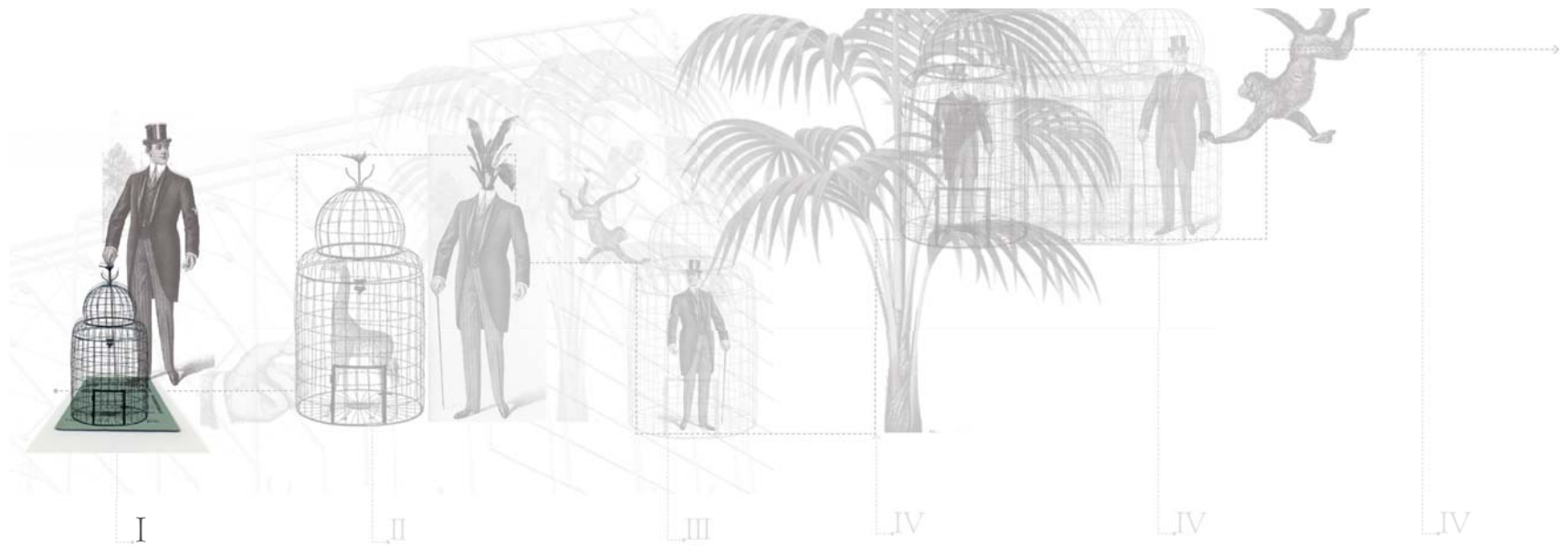
# CHAPTER I

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## THE TAMED PLATFORM

*An introduction to: the zoological garden*





*The tamed platform*



## 1.5 Introduction

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The separation between humans and nature has implications for subsequent environmental values, attitudes and behaviour (Vining, *et al.* 2008:1). As a result, negative attitudes develop towards animals living in captivity.

The author suggests, however, that animals in captivity have the capacity to restore and refocus our views of wild animals and wild places. Hancocks (2001:xv) argues this concept by stating that “zoos can encourage a new understanding of nature”.

Human beings need the wild and endlessly seek it out. Animals in captivity symbolise the intentions and actions of human societies towards wildlife and nature.

The zoo brings the various aspects of society’s relationship with nature into focus. The zoo becomes a physical exemplar of the disintegrated threshold between man, animal, culture and nature. The animal-human relationship can be observed through the bars of a zoological garden. Nuttal (2004:79) explains that the “repulsion and fascination, man’s impulse to appropriate and the progressive recognition of the complexity and specificity of the diverse forms of life are among these aspects. To tour the cages of the zoo is to understand the society that erected them”.

*The Tamed Platform* will focus on the conceptual and concrete problem statement within the context of South Africa. This chapter introduces the proposed site, client and users. It will state the focus, aims and delimitations of this dissertation.



## 1.6 *Problem in context*

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In an interview by Jordan Schaul (2012), David Hancocks argues that conventional zoos are “fundamentally unchanged”. Hancocks believes that a generation ago zoos might have been static and two-dimensional and that today’s living collection of zoos is not far removed from this statement. Zoos can still be described as being fairly homogenous, although, “they do not represent the vast number of imperilled species on Earth and tend to exhibit mega-fauna, often missing an opportunity to adequately represent the diversity of life on the planet (*ibid.*)” Hancocks further asserts that zoos in general are still under the impression that “without traditional animals, such as an elephant or a lion, people will stop visiting” (*ibid.*).

The general spaces that exist within modern zoos are criticised

as too small, and while it may look green, the animals have little contact with living vegetation that exists within their original habitat. “The difference between the old barren cages and the modern zoo exhibitions is simply a new look, which is essentially superficial and can be criticised as a distortion of nature (*ibid.*)”. Hancocks branded this look as a new design vernacular for zoos, called *The Tarzanesque*, a resemblance of a Hollywood version of Africa on a B-movie set (Hancocks 2012:1). Historical zoo typologies, *The Tanzanesque* and proposed future zoo design principles will be investigated and challenged throughout this dissertation. This dissertation will aim to reconsider zoo design and create a new type of enclosure that will address a sustainable zoo design typology. As a result, an alternative model for zoo design will be proposed that can be applied and implemented throughout the entire existing zoo enclosures.



I\_4. NZG within the  
Tshwane metropolitan  
(Author 2014).

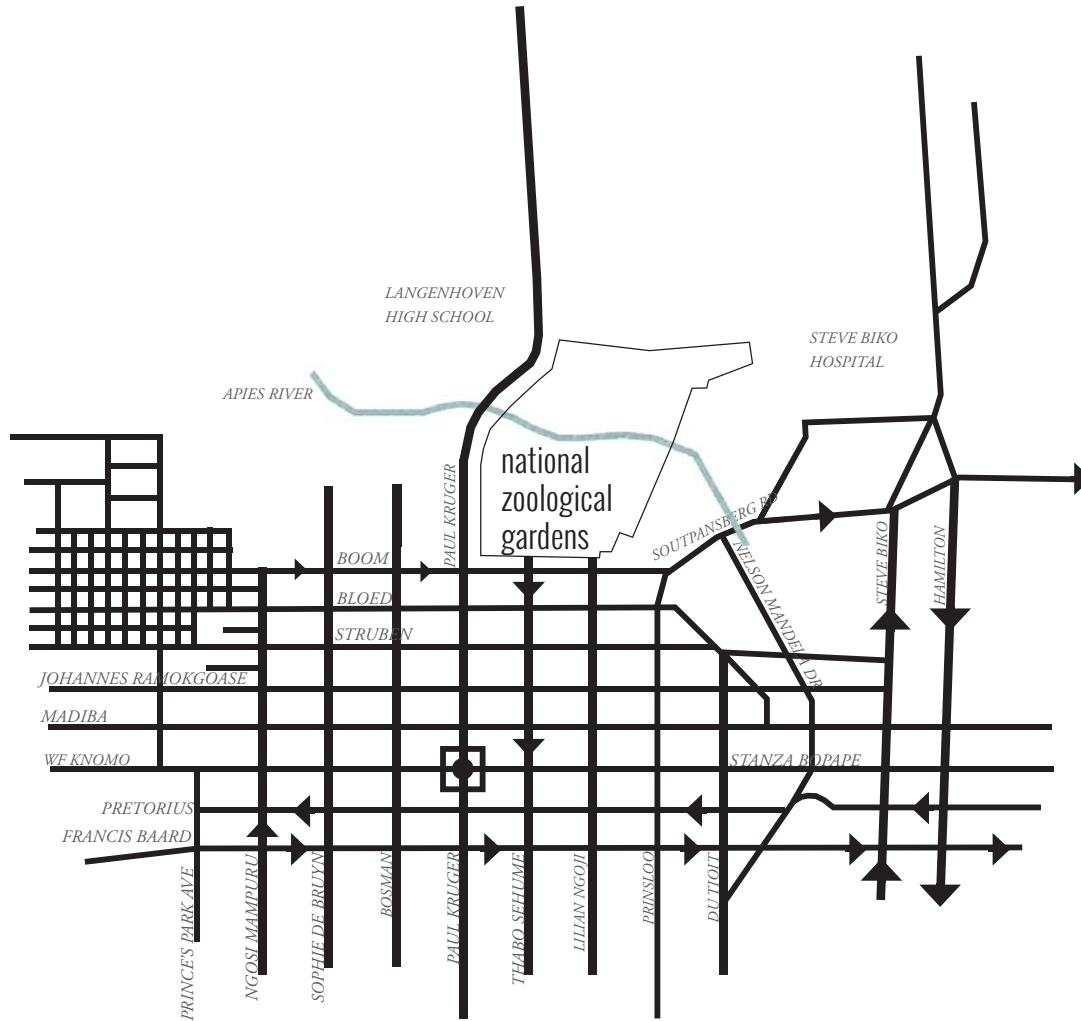


1.7 *Study area*

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The study area is located on the periphery of the Central Business District (CBD) of Pretoria within the Metropolitan City of Tshwane. Refer to figure 4 on page 24.

The National Zoological Gardens of South Africa (henceforth, referred to as NZG) are situated within the Northern precinct of the CBD and form the proposed research platform of this dissertation.



1.5. Location of NZG  
in context of CBD of  
Pretoria (Author 2014)

## 1.8 *Problem statement*

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The NZG represent a platform that illustrates the ill-defined threshold between man and animal. The current zoo enclosures lack experiential quality and are unaccommodating to both man and animal. As a result, zoo enclosures are still a product reminiscent of previous design paradigms where the threshold between man and animal was pertinently undisguised.

This leads the author to the following question: Can the spatial design of landscape architecture become an instrument to convey experience within a zoological garden enclosure?

*“In a rapidly changing world, zoos are in danger of declining into irrelevance while boasting about great achievements” (Hancocks 2012:2).*



I\_6. Aerial photograph of site location (Author 2014).

## 1.9 *Hypothesis*

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The current zoo enclosures provides a certain experience to the user. This experience has the potential to restore and refocus our views of wild animals and wild places. The author argues that landscape design can become a medium for intervention that mediates the experience of zoo enclosures with the visitor. This dissertation aims to prove how landscape architecture can establish a new set of design principles to enhance the *confined* experience and simultaneously become a threshold between man and his attitude towards nature. This threshold will become a design opportunity to provide an *extruded* experience for both the visitor and the animal. The outcome of the study will result in the application of these new set of principles to culturally, ecologically and experientially inform the future design of the NZG and its enclosures.



## Chapter overview

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- I *The Introduction to the Tamed Platform* will focus on the conceptual and concrete problem statement within the context of South Africa. This chapter introduces the proposed site, client and users. It will state the focus, aims and delimitations of this dissertation.
- II *Nature in captivity* provides background to the National Zoological Gardens as a metaphor of man's dominion over nature. Chapter II serves as an in-depth understanding of the character of zoos and provides baseline knowledge of the study area to the reader.
- III *The theoretical encounter* argues for landscape design architecture as an instrument to renegotiate and reconcile the threshold between man and nature. The investigation will lead to a theoretical concept to take further in design synthesis.
- IV *Confined experience* is a synthesised concept which is explored and in which all design generators are incorporated to make the concept concrete, resulting in a master plan.
- IV *Extruded experience* includes a description of the site selection and design development.
- IV *Technical spectacle* is the technical investigation of the theoretical and programmatic requirements of the enclosure design intervention.



I

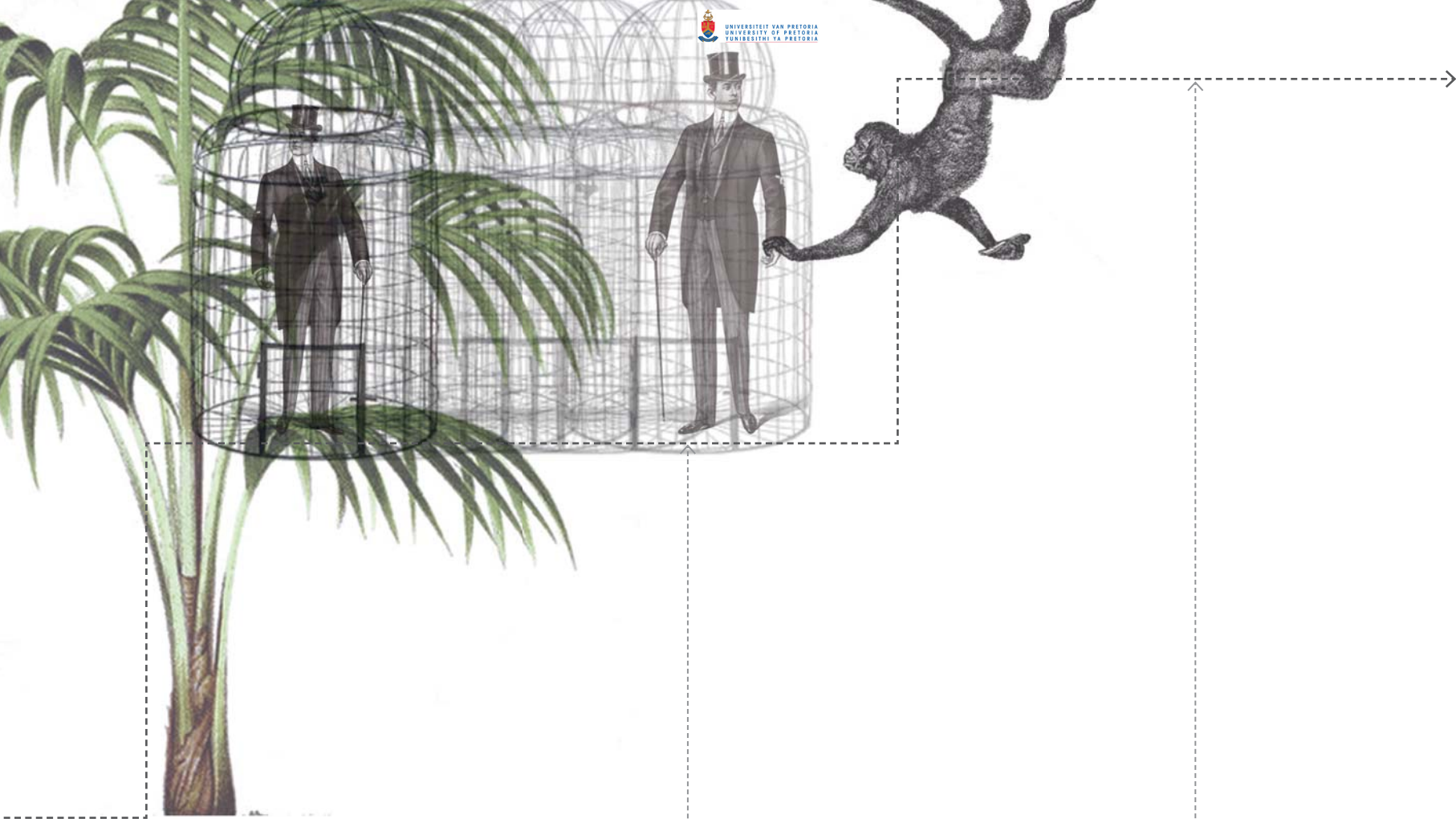


II



III

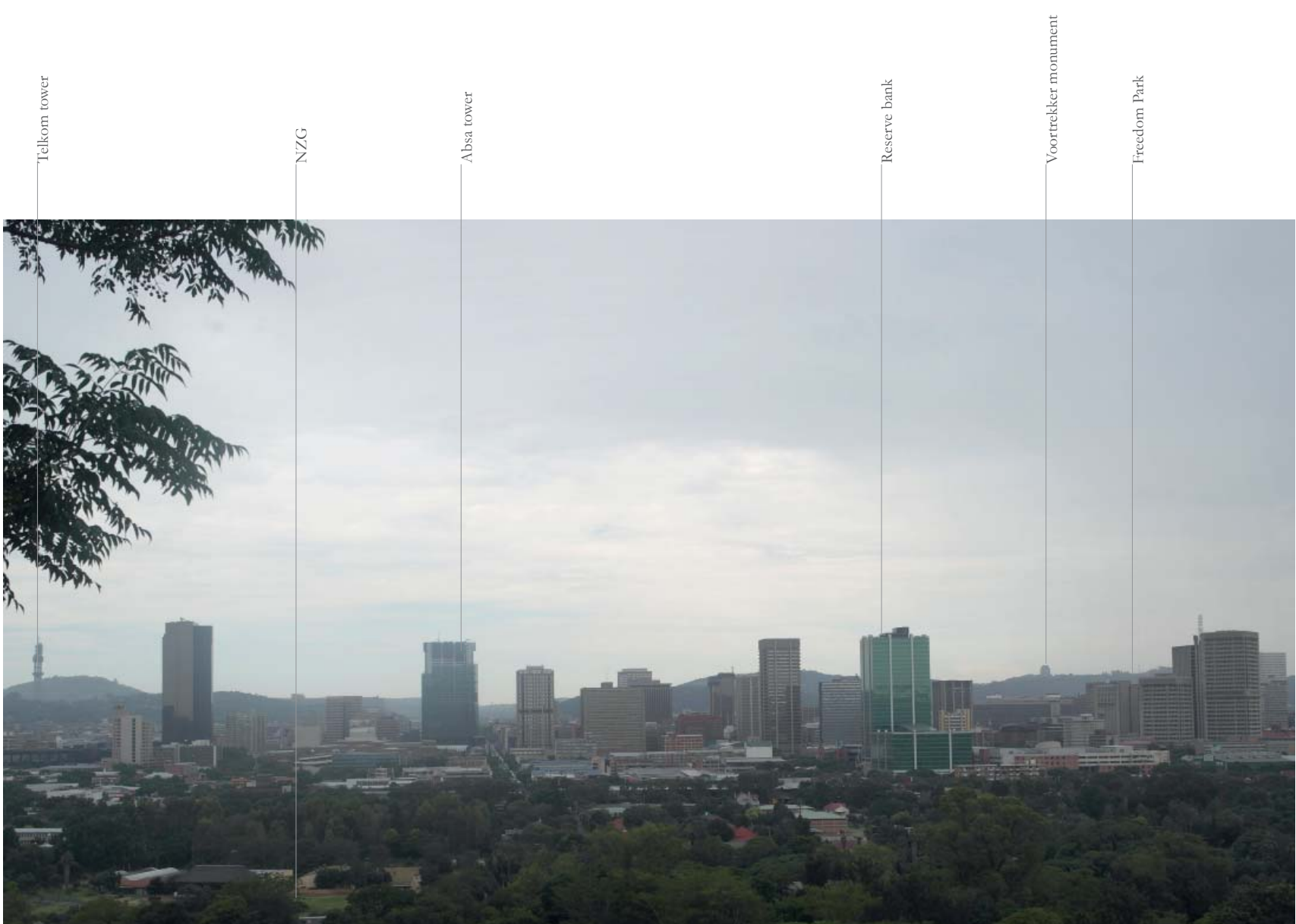




.IV

.IV

.IV



## *Research questions*

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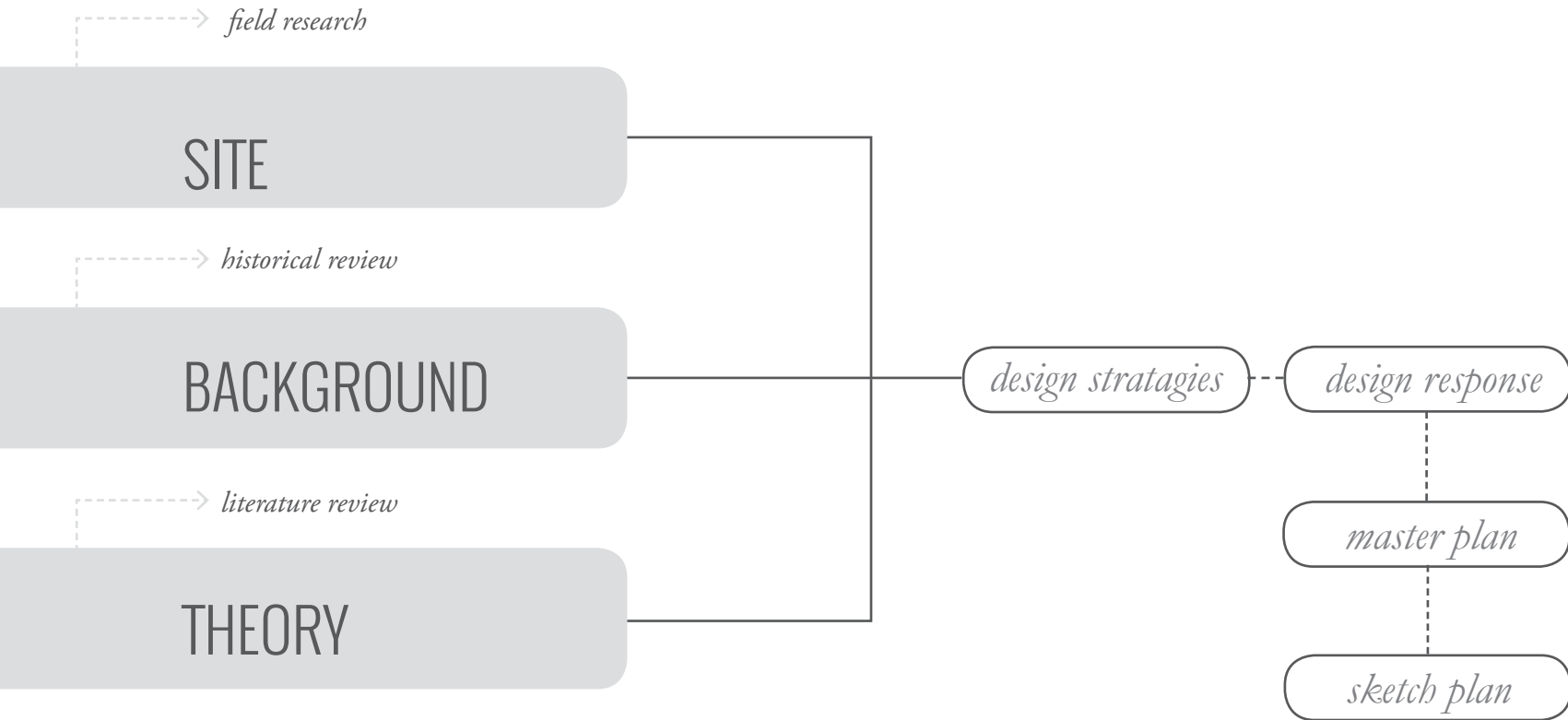
1. How landscape design can inform the current zoo design principles to determine a new set of principles.
2. How the transformation of current zoo enclosures can be implemented to support this new set of principles.
3. How can landscape design can combine ecology and aesthetics to create a hybridised interactive experience with nature, animals and humans, whilst acknowledging historical and cultural significance of the NZG.



*L.8. Location of NZG in context of Pretoria, current and historical (Author 2014).*

This dissertation will aim to investigate landscape design as a medium to challenge current zoo design principles in order to determine a new set of principles.

An analytical review of existing zoo conditions relating to design, ecology, character and experience will be conducted. This review will refer directly to the unique relationship between man and animal. The current revolution of International Zoo Design exhibitions will be explored to demonstrate opportunities for landscape intervention to evolve. This result will be applied to both the NZG master plan scale and a new enclosure scale. The new set of principles will argue landscape design decisions and become guidelines considering a future approach for zoo design, and more particular, within the context of the NZG.



1.9. Diagrammatic representation of methodological approach (Author 2014).

## *Methodology*

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### *Quantitative and qualitative field research*

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The current conditions of the NZG will be analysed in relation to its existing enclosures, animal catalogue and experiential value. Current site problems, opportunities, informal interviews and brief behavioural analyses of certain animals will be used as conductive material.

### *Historical overview/ context*

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An analysis of the physical, ecological and cultural history of zoos in general and specifically the NZG will be conducted.

The intentions will be to:

1. establish an in-depth understanding of the character of zoos;
2. identify opportunities for landscape design response;
3. validate the arguments expressed in this dissertation;
4. illustrate the significance of the study; and
5. establish baseline knowledge of the study area.

### *Literature review*

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Literature studies will be conducted on the following subjects in support of the argument:

1. Theoretical issues general to the discipline of landscape architecture. Landscape design will guide spatial, regenerative and ecological initiatives by means of a theoretical and practical approach.
2. Theoretical issues specific to zoological garden design.

### *Case studies*

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Examples of local zoo enclosures will be critically analysed in order to establish current typological characteristics, both positive and negative. International examples of zoo design will be discussed to illustrate global trends, theories and design approaches. International examples of zoo design will be discussed to illustrate global trends, theories and design approaches.





## *Assumptions and delimitations*

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This dissertation will not attempt to redesign the full extent of the zoo, but will rather focus on an identified area for detail enclosure design and thereby aim to establish a model that can be implemented in the future development of zoological garden design in general and specifically the NZG.