

# Reconfiguring Built Form within the Landscape:

TOWARDS INTERPRETIVE FACILITIES, iSIMANGALISO WETLAND PARK

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A dissertation submitted in partial fulfilment of the requirements for the degree of Master of Architecture in The School of Architecture, Planning and Housing, University of KwaZulu-Natal, Durban, South Africa, October 2010.

Dedicated to the landscapes and the people of South Africa

Submitted in partial fulfilment of the requirements for the degree of master of architecture in the Graduate Programme in architecture, University of KwaZulu-Natal, Durban, South Africa.

I declare that this dissertation is my own unaided work. All citations, references and borrowed ideas have been duly acknowledged. It is being submitted for the degree of master of architecture, in the faculty of Humanities, Development and Social Science, University of KwaZulu-Natal, Durban, South Africa. None of the present work has been submitted previously for any degree or examination in any other university.

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**DECLARATION**

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The purpose of this research document is to inform the author about the manners in which built form can be reconfigured within landscapes. As such the focus is twofold: Firstly, the concept of landscape must be explored and defined and secondly, theoretical approaches to the reconfiguration of built form within the landscape must be determined. Through research it is found that landscape is not, as is popular belief, merely a natural phenomenon, but consists of a visual and imagined component. The visual component in turn, consists of the natural and the cultural landscape. An argument is made that the predominate contemporary paradigm should determine the manner in which the built form is designed. As such, the theme of complement (between built form and landscape) is derived as an interpretation of the current global awareness of environmental issues

The imagined landscape is found to relate to the cultural landscape in the sense of both being influenced by it and influencing it. From the contemporary, global mindset of environmental sensitivity, the concept of complement is derived. Complement refers to the idea of mutual symbiosis of two parties, i.e. both parties benefit from their relation. As such, the theory of synchronised geometry and progressive tradition is investigated in terms of the natural and cultural landscape respectively. The intention and potential application of the theories is tested by discussion in relation to certain precedents and cases of built form (such as the Mapungubwe Interpretation Centre) and landscape (the landscape of iSimangaliso Wetland Park).

## ABSTRACT

## TABLE OF CONTENTS

DEDICATION.....	i
DECLARATION.....	ii
ACKNOWLEDGEMENTS.....	iii
ABSTRACT.....	iv
TABLE OF CONTENTS.....	v

## Part one

### BACKGROUND RESEARCH ON ELEMENTS OF LANDSCAPE AND BUILT FORM

#### CHAPTER 1 Introduction

1.1	INTRODUCTION	
1.1.1	Background .....	2
1.1.2	Motivation/Justification for the Study .....	3
1.2	DEFINITION OF THE PROBLEM, AIMS AND OBJECTIVES.....	3
1.2.1	Definition of the Problem.....	3
1.2.2	.Aim.....	4
1.2.3	.Objectives.....	4
1.3	SETTING OUT THE SCOPE .....	4
1.3.1	Delimitation of Research Problem .....	4
1.3.2	Definition of Terms.....	5
1.3.3	Stating the Assumptions .....	5
1.3.4	Key Questions .....	6
1.3.5	Hypothesis.....	6
1.4	CONCEPTS AND THEORIES .....	6
1.5	RESEARCH DESIGN, METHODOLOGY AND STRUCTURING.....	7
1.5.1	Secondary and Primary Research Inquiry .....	7
1.5.2	Analysis of Built Forms .....	7
1.5.3	Analysis of Landscape .....	8
1.5.4	Conclusion: Application of Research Inquiry Findings.....	8

#### CHAPTER 2 The Concept of Landscape

2.1	THE VISUAL LANDSCAPE : the natural and the cultural landscape .....	10
-----	---	----

2.2 THE COGNITIVE, PERCEIVED OR IMAGINED LANDSCAPE .....	12
2.3 THE TOTAL ENVIRONMENT.....	17
2.4 CONCLUSION .....	18

## CHAPTER 3 Additions to the Landscape

3.1 INTRODUCTION.....	21
3.2 THE ROLE OF THE IMAGINED LANDSCAPE .....	21
3.2.1 The Global Paradigm Shift .....	21
3.2.2 The Possibility of Mutual Symbiosis with Landscape .....	24
3.2.3 Accepting the Dynamic Equilibrium .....	26
3.2.4 Addition through Incorporation versus Intervention .....	27
3.3 ADDITIONS TO THE VISUAL LANDSCAPE IN THEORY.....	31
3.3.1 Complementing the Natural Landscape.....	31
3.3.2 Progressive Tradition and the Cultural Landscape.....	35
3.4 CONCLUSION .....	43

## CHAPTER 4 The Layered Landscape of iSimangaliso

4.1 DELIMITATION OF THE LOCAL LANDSCAPE .....	45
4.2 CHARACTERISTICS OF THE NATURAL LANDSCAPE OF iSIMANGALISO .....	45
4.2.1 Introduction: relevance and geographic location.....	45
4.2.2 The intercontinental coastal plain: Geographic origin.....	46
4.2.3 Systems in the Natural Landscape .....	47
4.2.4 Conclusion.....	49
4.3 THE DEVELOPMENT AND CHARACTERISTICS OF CULTURAL LAYERS .....	49
4.3.1 Brief historical overview .....	49
4.3.2 Built form in the landscape of iSimangaliso .....	50
4.3.3 Thonga culture and the natural landscape.....	51
4.4 PERCEPTIONS OF THE LANDSCAPE.....	62

## CHAPTER 5 Study of a Built Form within the Landscape:

### Mapungubwe Interpretation Centre

5.1 INTRODUCTION.....	66
-----------------------	----



5.2	RELATION TO THE LAYERED LANDSCAPE .....	70
5.2.1	Configuration within the Natural Landscape .....	70
5.2.2	Configuration within the Cultural Landscape.....	72
5.2.3	Configuration within the Perceived Landscape: Complementing Attributes .....	74
5.3	CONCLUSION .....	75
 <b>CHAPTER 5 Conclusion</b>		
6.1	THE CONCEPT OF LANDSCAPE.....	77
6.2	CONFIGURATION OF THE BUILT FORM WITHIN THE LANDSCAPE .....	78
6.3	APPLICATION OF RESEARCH TO THE PROPOSED PROJECT .....	79
 <b>Bibliography .....</b>		
 <b>Appendices.....</b>		
		89



# Introduction

## 1.1 INTRODUCTION

### 1.1.1 Background

This research is about fitting built forms into landscapes in a more appropriate manner. The contextual issues that surround the research are the issue of human development and sustainability, the realisation that culture plays a role with regards to this matter this and the fact that there is global paradigm shift that is erasing the idea of man as an exploitive oppressor and dominator of nature and replacing it instead with the potential of humankind as a symbiotic part of nature, albeit a thinking and acting part (Horowitz, 2005 cited in Mateo, 2007, cover).

Furthermore, this research will touch on the issues of the perception, experience and understanding of landscape as a point is made that these are core, interrelated factors in determining the type of relationship - and thus the type of action - that is taken by man with regards to the natural environment. The complexity of landscape and its subcategories (namely natural, cultural and imagined) will be explored in order to gain an understanding that may inform the way forward in terms of the built form.

*"Purely untutored humanity interferes comparatively little with the arrangements of Nature; the destructive agency of man becomes more and more energetic as he advances in civilization"*(Marsh, 1864 in Fairbrother, 1972: 11).

What Marsh mentioned in the nineteenth century, has indeed proved to be true to a certain extent: it is as if the global society has managed to reach the top of the developmental ladder only to find that the supports are now crumbling under the weight (Fairbrother, 1972: 11). The issue of sustainability in relation to human growth and development has been of concern to some for more than a hundred and thirty years, but it has received considerable attention during the past four decades. Concerns have been declared at official world conferences and reflected upon by journalists, teachers, students and presidents, to mention a few, proving the controversial and urgent nature of the matter ([www.iucn.org](http://www.iucn.org), 30 April 2009).

However, sustainable development is not merely about the preservation and restoration of heritage as many may imagine. The world and everything as it is today came about through the three stages of evolution - that of inorganic matter, the evolution of plants and animals and finally cultural and psychological evolution (Huxley cited in Fairbrother, 1972: 11). If this view is accepted, then it is clear that the human population has reached a stage where cultural development is of major significance for their own survival. The importance of culture is echoed by the findings of the International Union for Conservation of Nature (IUCN), namely that the goal of sustainable development should not merely include a balance of economic and

environmental concerns, but should rather focus on human well being ([www.iucn.org](http://www.iucn.org) accessed 30 April 2009).

There is currently a global paradigm shift away from the humanist belief of the autonomous individual as the core of all meaning. The contemporary paradigm strives to move away from man as a parasite towards the concept of humankind as a symbiotic part of the greater natural system – albeit a thinking, acting part (Horowitz, 2005 cited in Mateo, 2007, cover). It has also come to light that the concept of a completely natural landscape is debatable - the influence of man can be traced more often than the general perception allows one to admit (Fairbrother, 1972: 11). This may come as a shock to some, but it does mean that should the thoughts and actions of humanity change, a change of the general state of the environment is possible (Fairbrother, 1972: 11).

### 1.1.2 Motivation/Justification for the Study

There is potential for built forms including architecture as well as other forms of infrastructure, to engage differently with landscapes than is currently the case.

Engagement with this topic is of critical importance when one considers the interrelations and inter-influences between man, built forms and landscapes. The current situation is such that infrastructure is often added to the environment with many considerations in mind (pragmatic and economic reasons can be mentioned), except for that of creating an integrated, beautiful and complimenting total landscape. As such, we stand the danger of reducing the value that the landscape has to us, both in the sense of the physical and the cultural or imagined landscape.

To counter this destructive effect, many turn to preservation and restoration of landscape to what is perceived as its natural state. However, it has recently come to light that most landscapes that are perceived as being natural (or unaltered) have in some way or the other been influenced by man and will continue to be influenced by man to a certain extent due to the interrelatedness of these two entities. It may thus be more realistic to consider revising the way man relates to the natural environment as well as the way that this is manifested in built forms.

This study is an exercise in thinking about and researching the relation between landscapes and built forms with the aim of gaining an understanding design that is conscious of the interrelation between built form and landscape. In this way it is hoped that, a more appropriate fit between landscapes and future built forms may be established.

## 1.2 DEFINITION OF THE PROBLEM, AIMS AND OBJECTIVES

### 1.2.1 Definition of the Problem

Much of what is classified as architecture and infrastructure should be included in the general understanding of *landscape*. As currently this is not the case, there is not enough concern for the expression of physical and imagined landscapes and built forms as complimenting parts of a greater whole. Failure to recognise the interrelations between landscapes and built forms has resulted in degradation of both landscapes as well as built forms, hindering the potential benefits each can gain from the other (Fairbrother, 1972: 291).

### 1.2.2 Aim

The aim of this research is to analyse certain theories and concepts that relate to the manner in which the built form is configured within the landscape so that an understanding may be gained that could be used to inform the way forward.

### 1.2.3 Objectives

In order to reach the aims of the research certain objectives must be fulfilled. The main objectives of the research can be summarised as:

- Gaining an understanding of the complexities of landscape.
- Gaining an understanding of how the built form and the landscape can be complementary.

## 1.3 SETTING OUT THE SCOPE

### 1.3.1 Delimitation of Research Problem

The scope of this research is directly related to certain issues of the relationship between landscape and built form.

The concept of landscape that is relevant with regards to this research is the dual understanding of both the physical, or real, landscape and the related imagined, or perceived, landscape – explained in more detail at 1.4. The specific definition of the term *built form* (explained in greater detail at 1.3.2) is used as a group classification term to refer to what can broadly be defined merely as a more inclusive term than architecture.

One can thus derive that the research will focus on the relationship, existing and potential, between the real and imagined landscape in relation to architecturally related built forms. The study of built forms will be supported by examples of selected types of built structures which conventionally relate closely to landscape, for example land art and / or landscape architecture. The study of landscape will be supported by the ideas of human ecologists and cultural geographers. These realms will be studied with cognisance of their interrelatedness in order to establish a means by which more appropriate built forms could be designed.

The study will not take into consideration so-called *green* technologies for the sake of inclusion. However, it is likely that some principles of sustainable design will be explored due to the nature of the topic. The field of sustainable technologies is perceived as related to architecture, but due to its specialised and rapidly developing nature, it is not appropriate for the purposes of this research.

### 1.3.2 Definition of Terms

- Reconfiguration:** The term *configuration* refers to the rearrangement of elements of parts of something as well as to the resulting form it then takes (<http://oxforddictionaries.com>, 3 October 2010). Reconfiguration thus suggests that the process has been done before and is now being repeated.
- Built form:** The specific choice of the term built form strengthens the fact that the research is about visualising an altered form of architecture. A specific deviation is made to avoid the term *architecture* (meaning the design and study of buildings [Hornby, 2002: 42]) due to the fact that the research strives to investigate matters of designing and making that exists outside the realm of buildings. The term *built form* may apply to a variety of disciplines that are related to the making of things by humans, specifically including cultural geography, landscape architecture and land art, possibly venturing into the realms of sculpture, visual and conceptual arts as well. Built forms are the components of the built environment, which in turn is a part of the environment; however, they are not always a part of what we consider architecture. The choice of terminology forces the researcher to take cognisance of other forms of making that may enlighten as to the nature of the proposed envisioning.
- Topography:** Refers to the physical attributes of place, natural and artificial. Taken from the Greek terms, *topos* and *graphia*, meaning roughly "place writing." (Compact Oxford English Dictionary [hereafter referred to as COED])
- Landform:** A natural feature of the Earth's surface (COED).
- Topology:** Refers to the study of place – taken from the Greek terminology for place and study (COED).

### 1.3.3 Stating the Assumptions

Architecture naturally interacts and stands in relation with the landscape; however, this relation can be taken even further. The relationship is on many accounts not as yet entirely conscious

and purposefully established. As such many opportunities for engagement with and for improving the overall environment is lost. The possibility that architecture can more effectively and consciously integrate with and complement landscapes exists, although this does not necessarily imply complete cohesion.

#### 1.3.4 Key Questions

What is the nature of landscape in relation to built form?

Given the above, what trends can be observed between existing built forms and landscapes?

Given the above, how should built form be configured within the landscape?

#### 1.3.5 Hypothesis

The conventional relation of architectural forms towards landscapes is insufficient. Built forms need to be reconfigured so they may function within the landscape in a complimentary manner.

### 1.4 CONCEPTS AND THEORIES

The two main concerns of this research are firstly, acknowledging the meaning of landscape and secondly, developing parameters for the concept of appropriate architectural response.

The meaning of landscape in the sense of this research is an acknowledgment of the total environment including the concept of the physical landscape, namely all the tactile things that occur, as well as the imagined, namely the perception of landscape. Furthermore, the fact that landscape has as much of an influence on built forms as built forms have on what is conventionally perceived as landscape, must be acknowledged – perhaps even accepted and embraced.

This brings one to the second concern, namely improving the character of infrastructure. If the first concern is accepted, then this should consciously be expressed through design when adding to or adapting the landscape.

Fairbrother (1970: 289) makes a case for total landscape design. She admits that all of these factors combine to create what we perceive as landscape. Therefore, a conscious attempt must be made to design the landscape as a whole, instead of designing only architecture or merely adding infrastructure such as a road or power line. A case for the celebration of the unique qualities each landscape has to offer, emphasising the use of the term 'qualities', not 'beauties' as that would be subjective, is made. One could not possibly enhance the unique qualities of a landscape if one's aim is to enhance the 'beauty', as an individual's concept of beauty is



preconceived and biased, influenced by previous experiences. Any alteration to a landscape must be done to complement the unique and inherent qualities much like an artificial limb compliments the rest of the body. Whatever changes are made to the landscape (be it the addition or manipulation of natural things such as trees and topography, or built forms such as implied by the conventional concept of architecture and other forms of infrastructure) should be viewed as artificial landscape.

There are several theorists and precedence to draw from with regards to the matter of establishing a more appropriate relationship between landscape and architecture. Firstly, one has to look at concepts and theories that reflect a holistic, inclusive outlook on landscape. As a point of departure, one might say that the theories of Fairbrother as stated in the book *New Lives, New Landscapes* (1970) can be utilised along with some cultural landscape theory. These influence the perception of landscape and suggest a framework of ideas that can be applied whenever interaction with landscape is required in design. The gap from total landscape design to design of the built form may be bridged by theories and concepts that refer specifically to the relation of built form and specific facets of landscape. For example, *Synchronised Geometry* (Carlos Ferrater Partnership 2006) is a concept that deals specifically with the relation of the built form toward the natural landscape. The idea of change in nature as well as the utilisation of things in the landscape are two concepts that can be borrowed from the realm of land art to elaborate on the concept of constructed or artificial landscape.

## 1.5 RESEARCH DESIGN, METHODOLOGY AND STRUCTURING

### 1.5.1 Secondary and Primary Research Inquiry

The research that is proposed will consist of both an initial secondary and then a primary research inquiry to substantiate and possibly elaborate on the secondary findings. A brief explanation of each will shed light as to their relevance and design in the context of the total research effort. The secondary research inquiry is the initial component as this survey will inform the author about the issues of landscape as well as the potential configuration of the built form within the landscape. The survey will be done by a review of relevant published materials, such as books and articles. The primary research inquiry will be an attempt to substantiate the secondary research and conclusions, first hand. The methods by which the primary inquiry will be made will consist of interviews, questionnaires as well as personal recordings in the form of photographs, sketches and notes.

### 1.5.2 Analysis of Built Forms

The selection of built forms to be studied will be based upon relevance in terms of firstly, theoretical and conceptual issues, and secondly pragmatic issues, such as accommodation of functions. As such the Mapungubwe Interpretation Centre at the confluence of the Botswana, Zimbabwean and South African border, may be particularly useful due to theoretical, conceptual and pragmatic concerns. However, some other built forms, such as Fynbos House, located in



Betty's Bay, South Africa, might not be relevant in terms of pragmatic issues, but is certainly useful due to theoretical and conceptual issues. The building analysis could be complemented by interviews or questionnaires directed at certain individuals, for example, the designer of the building. Although personal visitation is a very effective means of information gathering with regards to architecture, the alternative, namely review of published works (in the form of architectural drawings, photographs and written interpretations), might equip the researcher with sufficient information to arrive at conclusions with regards to theoretical and pragmatic issues.

### 1.5.3 Analysis of Landscape

Before conclusions can be made about the specific configuration of built forms in the proposed landscape setting, the author will have to come to an understanding of the specific landscape. This understanding will allow the author to derive significant elements which will essentially be used to formulate an interpretation of the landscape. This will, in turn, inform the conceptual design of the built form – thus the foundation of how the built forms are to be configured within the landscape.

The landscape of the iSimangaliso Wetland Park (henceforth referred to as 'iSimangaliso' or 'the park'), formerly known as the Greater St. Lucia Wetland Park, was chosen as a site upon which the theoretical stance of this research will be applied in the form of interpretive facilities. This landscape was chosen due to fact that it is a complex landscape that contains a variety of natural, cultural and imagined / perceived landscape layers - chapter two, on the concept of landscape and chapter five on the landscape of iSimangaliso, will elaborate more on this topic. The analysis of the landscape of iSimangaliso will be conducted by way of personal visitation upon which deductions and interpretations will be captured in the form of photographs, sketches and notes taken. Furthermore, interviews will be held with individuals who are knowledgeable about the landscape of iSimangaliso. These individuals may include researchers within the park, park authorities and members of relevant communities. The individuals will be specifically prompted to inform about the nature of the cultural and perceived landscape, due to the lack of published materials on this matter. Furthermore, it may be helpful to get an insider's view of the cultural and perceived landscape – the intangible nature of both may perhaps best be captured by way of personal communication with former inhabitants of the landscape, possibly in the form of an interview with a community leader.

### 1.5.4 Conclusion: Application of Research Inquiry Findings

The combination of secondary and primary research as set out above will inform the author about the concepts and theories with regards to landscapes and built forms to such an extent that the conceptual design may be initiated as a means of testing and illustrating the argument further. It must be noted that, although many theories and concepts with regards to the configuration of built forms within landscapes will be explored; there is no guarantee that all of them may be applicable to the specific landscape of iSimangaliso. As such, only those that are deemed most relevant will be applied at the design phase.



# The Concept of Landscape

## 2.1 THE VISUAL LANDSCAPE : the natural and the cultural landscapes

*"What you people call your natural resources our people call our relatives."*

(Lyons, in McDonough and Bruangart, 2002: 0)

Although the origin of the term landscape cannot be traced with absolute certainty to a specific time and place, research has pointed out that it has always been connected to the concept of image (Lindsey, 2003: 44). The development of the term was mainly due to the popularity of landscape painting in France and the Netherlands during the 17<sup>th</sup> and 18<sup>th</sup> century and the subsequent spread of the term via art to England (Berger, 1972 cited in Cosgrove, 1985, 46; Lindsey 2003: 44). The picturesque movement of the late 1700's and early 1800's favoured the view of nature as idyllic scenery and it can be said that the nostalgic, disengaged view of the natural world stemmed from the era of the picturesque ([www.britannica.com](http://www.britannica.com) ; Smout and Allen 2007, 6; Lindsey 2003: 44 - 45). A case in point is the colloquial saying "looking at the world through rose coloured glasses" – this referral to a somewhat shallow perception of things has Claude Lorrain to thank for its existence as this French landscape painter had the habit of viewing his subject matter through a small piece of glass (Lindsey 2003: 45).



**Fig. 2.1 Kirchberg and surrounds, Germany** ([www.flickr.com](http://www.flickr.com), 4 October 2010 after kansasexplorer)

Research also revealed a strong connection of the term landscape to the concepts of terrain or tract of land by the early Germanic populations (Mels, 2003: 381). Therefore, it is not surprising that the contemporary meaning of the term has as much in common with the concept of an image of a landscape as it does with an actual view of a landscape (Lindsey, 2003: 44).

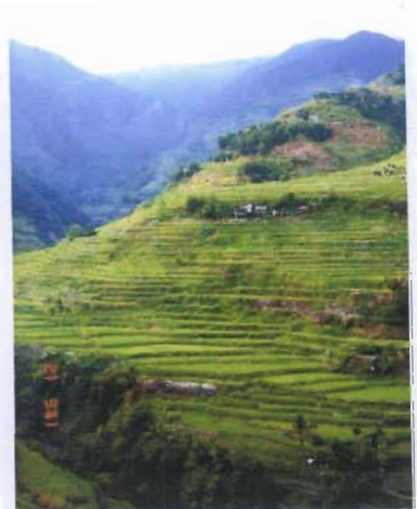
The popular picturesque perception of landscape as beautiful scenery of undisturbed nature is rarely true – the picturesque notion of a park (a three dimensional representation of an idyllic image of nature) is the first indicator of the shortcomings of this perception (Fairbrother, 1972: 12; Widgren, 1997 cited in Jones, 2003, 21; Lindsey, 2003: 45). There are hardly any landscapes left on earth which have not in some way been influenced by the activities of man. What we have



**Fig. 2.2 German landscape east of Frankfurt** (<http://maps.google.co.za> , 21 April 2010)

today is more akin to a series of neo-natures or artificial landscapes, than undisturbed natural landscapes. Geographers use the term *cultural geography* to describe this phenomenon, referring to both the natural landscape as well as the influence man has had on the total environment – both the efforts of man and the natural environment combine to create the cultural landscape. Cultural geography looks at how people have found meaning in their surrounds through various forms of art and built interventions. This mixture of actual and imagined gives rise to the contemporary consensus by cultural geographers that landscapes are constructed and that they both influence and echo human lives.

The concept of landscape has become a cultural phenomenon in itself as it refers to a specific way of understanding that entails the interrelation of the natural environment and human actions through the ages (Cosgrove and Jackson, 1987: 96; Haggett, 1965: 18). This view of landscape is also supported by architectural theory such as that of Norberg-Schulz (1971: 70, 72). Examples of cultural landscapes include the English countryside (Fairbrother, 1972: 12), the farming towns outside Frankfurt in Germany (see fig. 2.1 and 2.2) – in this area, evidence of man's intervention is plainly visible in the landscape as it consists of evenly distributed towns, each with neatly organised agricultural fields surrounding it; as well as the rice paddies in the far east (fig. 2.3) (whc.unesco.org, 28 April 2010); however, the some landscapes show very little sign of human intervention, like the pristine parts of the nature conservation areas, where virtually no direct traces of human interference exists (IWPA, 2008: 112).



**Fig. 2.3 Rice terraces of the Philippine Cordilleras** ([www.whc.unesco.org](http://www.whc.unesco.org), 28 April 2010 after Feng Jing)

However, man's influence is also apparent in unlikely areas such as the grassy and sparsely populated plains of the Makathini flats in the northern regions of Kwazulu-Natal. Besides the obvious addition of infrastructure like the occasional dirt road and mud hut, centuries of habitation of the flats have gradually transformed the vegetation, or rather perhaps, have changed the course of transformation as it would have occurred were the flats completely uninhabited by man (IWPA, 2008: 32). Research shows that areas that are disturbed may take up to 130 years to recover, therefore, climax forest, once disturbed may take a long time to develop from grassland to forest again (Bond, Midgley and West, : 36-38). And this is not just the case for northern Kwazulu-Natal – a recent study of the ecology of Africa has shed light on the development of a variety of African landscapes that have been similarly affected (Bond et al, 2003: 337). Thus, a phenomenon that has globally been perceived as potentially the wildest most undisturbed continent on earth, does in fact show clear signs of intervention.



There are two ways of reacting to the above mentioned statement; firstly, one can scold all of humankind for yet again ruining nature – even the noble savage. The second is the possibility that perhaps humankind has in the past distanced itself too much from nature in its understanding of the man-nature relationship. Man and nature have always been interrelated, or as Smout Allen (2007: 6) describes the countryside:

*“...under the influence of nature but under the control of man.”*

The existence of this interrelation is further proven by the fact that very few of the Dutch landscape paintings of the 17<sup>th</sup> century do not contain traces of civilisation. In fact, this tradition of including remnants of humankind in paintings classified as *landscape* was carried through to subsequent landscape art movements including the English tradition. Traces of civilisation also feature in Eastern landscape art, although not quite as prominently.

What the above research reveals is that the landscape around us is a hybrid environment and can even be described as a utilitarian topography (Smout Allen, 2007: 6). Acceptance of this fact makes it clear that perhaps evidence of human action is a natural part of the process. One might then argue that in the past humankind have not entirely lived up to what was necessary for the whole system to succeed in sustaining itself, thus the contemporary imbalance in the environment came to be, but through application of our cognitive abilities we may be able to enhance the state of our interaction with the rest of the natural realm so that the relationship may become mutually beneficial. Application of the first mindset will not enable progress, as it entails that humankind should halt all development and start again from scratch. This, of course would be impossible. The alternative leaves more room for progress and the potential for building on existing human development in a positive way is greater.

Research has shown that the meaning of the term landscape has always been slightly malleable and that it has changed and been elaborated upon over time, however, its association with image is ever-present (Lindsey, 2003:44; see preceding paragraphs). It seems therefore that any specific landscape can be delineated by what the eye can see. However, even this perception is flawed – as the following text will explain, the landscape that exists within the mind's eye is also an important element of the contemporary landscape.

## 2.2 THE COGNITIVE, PERCEIVED OR IMAGINED LANDSCAPE

*“Before landscape can be a stimulus to the senses, it is first a product of the mind and hence it is circumscribed by our shared culture of myths, memories and constructs.”* (Raman, 2008: 9)

*“Through these alternative images, independent as they were of physical constraints and contemporary realities, another form of landscape was created, one which enabled the sites to be reconstructed and reclaimed through the imagination, but which also sought to maintain the presence of the areas in the*

*minds not only of their former residents, but also of South Africans of all races."*  
(Beningfield, 2006: 257)

*"Rather than remaining tied to the physical world, sound and memories reconstruct an image in the mind which includes space, land, history and identity. The image of the urban landscape that results is therefore a hybrid one which is composed of a continually shifting set of representations - including oral, cinematic, aural, visual, literary and physical."* (Beningfield, 2006: 260)

The above quotes illustrate that landscape is not just a natural phenomenon, but a constructed concept that is influenced by aesthetic and cognitive perception, manmade construction as well as the natural environment (Beningfield, 2006: xi, 260). In this document, the terms 'cognitive' or 'perceived' landscape will be used in reference to the imagined landscape as well. The imagined landscape is a subcomponent of the overarching concept of landscape that reflects our understanding of and perception of landscape (Beningfield, 2006: 260). The concept of imagined landscapes can be explained by thinking of nature as a tapestry that is woven ecologically, with meaning and sensation derived by humans. The concepts of *territory* (referring to the original Germanic meaning of the term landscape) and *scenery* (referring to the picturesque and landscape painting movements) (Olwig cited in Mels, 2003, 384; Smout Allen, 2007: 6) and even traces of culture in landscapes, all form a part of the tapestry, but meaning is only derived through human interpretation, and so the imagined landscape comes into existence. The German equivalent to the term is *errinerungslandschaft* - meaning 'memory landscape' (Koshar in Marschall, 2008).

Whereas the real landscape can be experienced through the senses, the imagined is landscape as interpreted by a person or group (Beningfield, 2006: xi). Kant (translated by Meiklejohn, 1964; 15) argued that although sensory experiences are the prime form of knowledge, they are insignificant on their own and must be understood with specific concepts in mind to be meaningful. Therefore, the two types of landscapes are considered not to be entirely separate entities, but both components that make up our knowledge and understanding of landscape. The connection between the real and the imagined landscape can be illustrated by the following example: an initial encounter with soil will make one knowledgeable as to the sensory information observed - the smell, look, feel, taste and sound of it (depending on which senses are engaged). A subsequent encounter will be influenced by the previous and thus a layered understanding of the phenomena at hand will develop. As such, certain sensuous connotations may influence one interpretation of the phenomena. For example, if a previous encounter of soil involved something negative, say the discovery of a poisonous snake, then the subsequent experience will be tinged by some negative feelings like caution, dislike and fear. However, if a previous encounter was mostly positive – say a rewarding experience of growing plants – then the subsequent experience is set to happen on the imagined backdrop of excitement and expectation. The past experience of a phenomenon, sensory and sensual becomes the filter through which subsequent incidents are experienced.

It follows then that the very same landscape can be experienced through a series of filters that enable them to mean more to one person than another, for example, the filter of a commercial farmer or that of a dispossessed individual. A successful commercial farmer will possibly experience the land he owns as a ripe opportunity with the potential for economic gain through agriculture, some familiar connections to the concept of *home* as well as a sense of history and heritage, whereas the filter of the dispossessed might be one of despair, alienation and hopelessness. There is thus a tension between the sensory and the emotional experience of landscape that contributes to our understanding of it.

The term *landscape* is often applied as a collective term that serves to organise in our minds seemingly chaotic environments – giving them an immediate aesthetic sensibility (Dehs cited in Smout and Allen, 2007: 7). Armed with a new understanding of a previously chaotic truth, one can now push forward and start to think about how the phenomenon may be improved. So the term may be applied to amongst others, the rural realm, the urban realm and the industrial realm. They become the *rural landscape*, the *urban landscape* and the *industrial landscape*. Once the phenomenon is named as a landscape, the first step has been taken in potentially improving upon the existing conditions. A case in point may be the contemporary industrial landscape: whereas it sometimes hints at sublime attractiveness, it is more often than not crude or mundane, yet the potential exists that steps can be taken to improve on the situation so that industrial landscapes may mature and develop attractive yet suitable aesthetic characteristics (Fairbrother, 1972: 16).

It is interesting to note that even from the early stages, *landscape* referred not only to purely 'natural' scenes, but often incorporated traces of human civilization, as illustrated by many examples of landscape art (see fig. 8 and 9). One could also argue that the mere fact that landscapes were painted shows how much they were and are a part of culture. The way in which a landscape is portrayed in a piece of art (visual, literary or other) speaks of the perception that the artist has of that landscape. If an artist portrays a landscape, this portrayal can be utilised in establishing how a particular real landscape can be or should be manipulated in order to express the specific perception of that landscape or the imagined landscape. Samuels refers to landscapes as *authored* and Relph regards landscape as anything he sees when out of doors (Samuels, 1979 and Relph, 1981 both cited in Cosgrove, 1985: 45).

The application of categorical landscape terms is of great importance as without it, the rural dweller may look at, for example, the industrial landscape, and seeking beauty much in the way that may be perceived in the rural realm. However, it is likely that this rural perception would be insufficient in enabling a rural viewer to make sense of the industrial realm. One can now analyse situations in relation to the declared problem and come to understand how difficulties were created and may thus be resolved in relation to the specified problem. Similarly, admitting the existence of *rural landscapes*, *urban landscapes* or *industrial landscapes* may help

designers to study them as aesthetic phenomena, analyse them for greater understanding, find problematic areas and find ways of improving them.

The real landscape (territorial and scenic) is tangible and experienced through the senses. The imagined landscape is fleeting and intangible, experienced through filters of memory and thoughts. It is rather expressed than manifested in any concrete manner. The real landscape is less subject to rapid change (although this is surely possible), but the nature of an imagined landscape can change in a moment. The real landscape therefore has a great impact on the imagined, but the inverse is also true. The imagined landscape manifests itself within the real landscape in the way of human interference with the natural and thus gives birth to the cultural landscape.

The imagined or perceived landscape reflects the meaning that people attach to a landscape and as such, it may be researched through a wide variety of mediums, including paintings, writings, film and land art, to mention a few (Cosgrove and Jackson 1987: 96). The perceived landscape becomes visible through various forms of human expression. The following are literary displays of the ideas that people have had of the landscape:

### **City Johannesburg**

(Extract)

*Jo'burg City*

*I travel on your black and white robotted roads,  
Through your thick iron breath that you inhale,  
At six in the morning and exhale from five noon.*

*Jo'burg City*

*That is the time when I come to you,  
When your neon flowers flaunt from your electrical wind,  
That is the time when I leave you,  
When your neon flowers flaunt their way through the falling darkness  
On your cement trees.  
And as I go back, to my love  
My dongas, my dust, my people, my death,  
Where death lurks in the dark like a blade in the flesh,  
I can feel your roots, anchoring your might, my feebleness  
In my flesh, in my mind, in my blood,  
And everything about you says it,  
That that is all you need of me.*

(Serote, 1944 in Beningfield, 2006: 173)

And the following by Bosman (in Beningfield, 2006: 170):





**Fig. 2.4 Image of the veld**  
([www.thotalodge.co.za](http://www.thotalodge.co.za) , 4 October 2010)



**Fig. 2.5 Image of Johannesburg**  
(<http://urbanioburo.bloospot.com>. 4 October

*"Maybe there was no veld that you could take long walks across, in the city. But the veld was still there, of course. At least the earth that the veld was made of was. Was and is and will be, evermore, meaning, existence. Only, in a city, the topsoil and subsoil and rock formation part of the veld were present in a more stylised form – in the tall, straight up and down of buildings. The soil of the veld was compressed into bricks and tiles. A whole stretch of what had been virgin highveld was telescoped into concrete... Repton House was, by reason of its origins, a concentrated piece of African hill. And the four perpendicular sides of this piece of African hill that had been transported into the centre of Eloff Street, Johannesburg, there sprouted windows, the thorny panes catching at the garments of the passing sun; tearing off bits as the sun went by; holding fragments of yellow rag spiked for brief moments."*

The works of the South African land artist Strijdom Van der Merwe, exhibits his personal perception of the fleetingness in the landscape – the fact that the natural system is very much about cycles and that everything eventually becomes a part of the natural system. In this sense, the art proves the interrelatedness of landscape and human intervention. The land art of Strijdom Van der Merwe exhibits intimate interrelations between landscape and human intervention on a variety of levels, namely choice of materials, form and process / progress (break down and reintegration into the natural system is the main process that is displayed) ([www.strijdom.co.za](http://www.strijdom.co.za), 29 April 2010). The concept of an imagined landscape is enhanced by the fact that Van der Merwe's work is more often than not temporary installations in the landscape that disintegrate naturally and are merely preserved by means of photographs – abstractions of what was the reality of the photograph completed by the viewer's imagination (ibid).

The work shown in figure 2.5 is particularly relevant to this



**Fig. 2.6 Stone land art**  
([www.strijdomvandermerwe.co.za](http://www.strijdomvandermerwe.co.za), 29 April 2010)

research inquiry as it reflects both the cultural and natural landscapes strongly by way of direct and indirect reference - the natural landscape is presented directly by means of the setting and the use of natural, local rock as a canvas. The rock that was used resembles the type that is traditionally used as fencing posts on sheep farms in South Africa, therefore it constitutes a direct reference to the local cultural landscape, the chalk lines that are drawn on the rock strongly resemble the lines that wire fences would carve over time in such rock fencing posts and are thus a second direct reference. The total work refers to the sheep farming tradition that prevails in some parts of South Africa and the fencing post is thus an indirect reference to this culture.

The imagined landscape of iSimangaliso exists in the minds of the two major population groups, namely the local population and those who visit the area (Belingan, 2008: 10). In-depth research into the characteristics of the local imagined landscape will be completed in the second part of the document, when the local context is brought under scrutiny.

The exploration of the concept of landscape has pointed towards the existence of the cognitive, perceived or imagined landscape layer. The way humans interact with the perceived landscape should be envisioned in a manner that will ensure sustained survival of humankind (refer to chapter 3a). As a part of the tangible, visual part of the landscape, the built form can influence the cognitive, perceived landscape as well as be influenced by it. The integration of the perceived landscape layer into the design of built forms presents one with the opportunity to influence the perception of the landscape to some extent – or to influence the manner in which the built form is received.

### 2.3 THE TOTAL ENVIRONMENT

The term landscape is thus a holistic concept that is not only related to the natural environment, but also includes traces of the activities of man. Furthermore, landscape is not merely something that can be aesthetically appreciated, but it also occurs in our minds in the form of imaginings and perceptions. All of these issues combine to form the total environment.

*"Nature knows nothing of what we call landscape."* (Marshall cited in Fairbrother, 1972: 12)'

Marshall's statement is perhaps not applicable to all landscapes, but it does speak of landscape as more than mere natural environment. If the landscape is seen as a total environment of which cultures and imaginings play as much a role as physical phenomena, then by implication man has always, will always and can – perhaps even should, always continue to disrupt the character of the landscape. This is especially true if man is perceived as a part of the natural system – albeit a thinking part (Horowitz, 2005 cited in Mateo, 2007, cover).

A global paradigm shift is currently occurring with respect to man's relation to nature. The shift is away from the humanist belief of the autonomous individual as the core of all meaning. Within the previous mindset man was perceived to be the dominator of the natural environment, but the new paradigm allows man to be less of a parasite and more part of nature – a symbiotic participant with the potential to benefit other elements in the system as well as gaining from them (Horowitz, 2005 cited in Mateo, 2007, cover). This point will be elaborated upon in chapter 3.

The concept of the total environment is not far removed from the field of human ecology (Fairbrother, 1972: 289). In chapter 3 an argument is made with regards to the specific nature of human development and how paradigm shifts relate to it. A case is also made that the predominant paradigm is currently that of man as a part of nature and the strive to live in mutual symbiosis with the (rest of the) natural environment.

Whereas western philosophy favours a holistic view that progresses from the whole to the parts, or the general to the particular; eastern philosophy urges exploration from the part to the whole (Cooper 1993 cited in Cooper 2009, 179). The inherent qualities of the parts are perceived to give clues as to the whole. This approach is useful in the current research as symbiosis may only be achievable if the built form, on the basic level of parts also fits into the framework of the landscape – especially since the built form may be perceived as a mere part in the total environment or landscape. Perhaps if the form answers the specific needs, it may well fit into the whole by default, similarly to the way a component would fit into an ecological system.

## 2.4 CONCLUSION

Research has revealed that, contrary to the general perception, the contemporary meaning of landscape is not that of a simple concept with a single meaning. It has developed and elaborated over centuries into a layered concept until the present time layered state. The contemporary concept of landscape is that it is multifaceted and includes visual and tangible, as well as cognitive or intangible aspects and can be subcategorised as natural, cultural and perceived landscape (see figure).

Perceiving our surroundings as a total environment (acknowledging the previously mentioned



**Fig. 2.7 Diagrammatic representations of the visual landscape (natural and cultural) and the imagined, perceived or cognitive landscape** (Author's own)

interrelated layers of landscape) entails that the built form (a part of the cultural landscape) is merely a part of the greater whole. The built form is a part of the cultural landscape and therefore (due to the interrelatedness of the different layers of landscape), it automatically relates to the other layers (natural and perceived) as well. This changed perception the landscape will be the guiding principle behind the following sections, namely the manner in which the built form could and / or should fit into the landscape.



# Additions to the Landscape

## 3.1 INTRODUCTION

In chapter two, the concept of landscape was explored and was established to consist of a visual and an imagined (perceived or cognitive) component. Chapter 3 explores the theme of how the built form should be configured in relation to both the visual (including the natural and cultural landscapes) and the imagined landscape.

Chapter 3 is subdivided into two main sections that deal with the imagined and the visual landscape respectively. The initial part will be an exploration of the significance and influence of the perceived, cognitive or imagined landscape on the built form, mainly from a theoretical point of view. The conclusions that are drawn from the initial exploration (chapter 3.2) will determine which architectural theories, in terms of the natural and cultural landscape should be explored in the section 3.3.

## 3.2 THE ROLE OF THE IMAGINED LANDSCAPE

### 3.2.1 The Global Paradigm Shift

The inclusion of the term reconfiguration in the title of this document advocates the fact that the built form, for some reason, must or could change in the way that it relates to landscape. Configuration means to arrange the parts of something in a certain way. By implication, reconfiguration means that there are different ways of configuring the built form within the landscape. What then prompts the author to change the configuration of the built form within the landscape in this case?

*"New problems require new solutions, and this is where creativity is essential."*  
(Russo 2009: 2)

Russo's words reflect the fact that creative innovation is necessary in order to counter the newly developed challenges that society has to deal with. Research and innovation is thus of importance if architecture is to remain relevant, appropriate and responsive to the pressing issues of society. A pressing issue of our time, namely the nature of the relationship of man towards the natural environment, will be discussed as a means of establishing a suitable way forward in terms of the relation between built form and landscape.

*"The world will not evolve past its current state of crisis by using the same thinking that created the situation."* (Einstein in McDonough and Braungart, 2002: 0)

For architecture to remain relevant and appropriate it must respond to at least an aspect of contemporary or foreseen issues of society. Changes in the way that scientist think signifies



changes in their actions as well – Kuhn classifies this as normal science and revolutionary science, where normal science is practised to prove and refine a paradigm that has for some time been taken as the truth, where as revolutionary science is a new paradigm that has only recently been accepted (Kuhn, 1972).

The term *paradigm* was at first unique to the field of science and as such referred to a global understanding of the theoretical and methodological underpinnings of a scientific subject (Soanes and Stevenson, 2006: 1037). The application of the term has since extended, for example, in the humanities it is now commonly accepted that there are number of paradigms and that the individual chooses through personal evaluation those that he or she finds agreeable (Kuhn 1962, 168). In this sense global paradigms can be defined as the predominant globally collective mindsets and as such have a great influence on the main goals that are pursued as well as the specific phenomena which is valued by the global population (Gablik cited in Oakes 1995, 3).

Kuhn speaks of normal science and revolutionary science in relation to paradigm shifts, the first being the framework within which scientist work – constantly trying to prove and expand upon what is thought to be the truth about a certain subject – the second being a new direction in thinking and in science that occurs when a new paradigm is taken for truth over a previous (1972: 148). It is suggested that the contemporary consciousness of the environment be classified as a revolutionary paradigm shift as it is a re-evaluation of what was at first thought to be the truth, but from a completely different angle.

Humans are distinguished as a species because we have the ability to think before and after we act. Our development is distinguished by feedback loops that enabled our exponential developmental rate over time (International Commission on Peace and Food, 1994: 163). One could argue that our actions and developments fire more actions and developments, for example, the development of prehistoric man – acquiring the skill to control fire and to use stone tools greatly advanced the ability to control one's environment. Similarly, contemporary developments improve this ability – i.e. cell phones and internet enable users faster access to information required than libraries, therefore the decision making process and actions takes place at an increased pace. In order for us to maintain this growth and thus improve, innovative thoughts need to be put into action and this applies to all endeavours – including architecture.

There is currently a global paradigm shift away from the humanist belief of the autonomous individual as the core of all meaning (Horowitz 2005 in Mateo 2007: back cover). The contemporary paradigm strives towards the concept of humankind as a mere part of the greater natural system – a dependant, thinking part of it, symbiotic rather than dominating or parasitic (ibid). Despite the former view of man above nature, some claim that the concept of nature without man is outrageous - that man is definitely a part of nature. A case in point: an astronaut is circling around the earth and all is dark, but the light that can be seen from the cities. The view of man as above nature dictates interpretation of this phenomenon as an intervention of

man on the earth. However, it is also justified to say that the radiance is created by the workings of the natural systems on the earth - man is viewed as a part of nature and the light is caused by man (Mendes da Rocha 2007 in Mateo 2007: 142). If man is viewed as a parasite of nature, this only enforces the fact that man is a part of nature, as parasitism is a form of symbiosis - a term that is used in biology to classify relationships between natural entities (De Bary in Wilkinson 2001 and Douglas 1994).

Conventionally man's interaction with nature has been somewhat dubious – on the one hand, a parasitic (although not necessarily intentionally so) relationship was formed whereby all natural resources were exploited to enable human development with as a counter preservation of the natural realm was encouraged (Fairbrother, 1972: 13 & 14). The perception of symbiosis between man and nature asks that in all respects the relationship must be mutually beneficial. To date, this may not be entirely possible, however, if Descartes (1637) is to be believed, then it is the plight as well as the defining group characteristic of the human population to imagine a more appropriate way of doing things and then to try and realise the ideal.

An argument can be made that previously, man lived as a parasite on the earth, considering himself above it - dominating and exploiting, ignorant of the effects of his actions. This paradigm is illustrated well by the thoughts of an architect (fictitious, but based on the modernist mindset of the early 20<sup>th</sup> century) in the following piece from *The Fountainhead*:

*"He looked at the granite. To be cut, he thought, and made into walls. He looked at the tree. To be split and made into rafters. He looked at a streak of rust on the stone and thought of iron ore under the ground. To be melted and to emerge as girders against the sky. These rocks, he thought, are here for me; waiting for the drill, the dynamite and my voice; waiting to be split, ripped, pounded, reborn; waiting for the shape my hands will give them."* (Rand 1947: 7, 8)

Where the excerpt from Rand is an example of the mindset of the early 20<sup>th</sup> century modernist architect, the Hannover Principles can be viewed as proof of the predominant contemporary paradigm. Since the earliest stages of the industrial revolution, attempts have been made to minimize the negative impact that is made on the environment during processes of industrial production (McDonough, 2004: 45). The 1960's and 1970's saw the publication of a number of doom speaking publications that led to the first radical international counteraction against industrial pollution and the use of toxins (ibid: 47). *Silent Spring*, by Rachel Carson (1962), initiated the drastic increase of interest in environmental issues and resulted in the banning of DDT in the USA as well as Germany (ibid: 47). Some other publications of note include *The Population Bomb* (1968) by Paul Erlich, *The Limits to Growth* (1972) and by Donella and Dennis Meadows as well as *Small is Beautiful: Economics as if People Mattered* by F. Schumacher (1973). Some of these controversial publications were followed up by subsequent publications,



namely *The Population Explosion* (1984) by Paul Erlich and *Beyond the Limits* (1992) by Donella and Dennis Meadows, pointing to the ongoing urgency and the extent of the matter (ibid: 48, 49). It is thus clear that during this time an increased interest in declining the negative impact that society has on the environment was sparked.

A parallel may be drawn between the African philosophy of ubuntu and the concept of mutual symbiosis between humankind and the natural environment. Ubuntu is believed to be the phenomenon whereby a person realises that they are a part of a community and that by their (combined or individual) actions, the community as a whole can be bettered (Mandela, 2006: interview).

Fairbrother announces a new dimension in the relationship between man and nature. The first had been that of mutual trust (the idyllic Garden of Eden state) the second was man the killer, resulting in obliteration of this trust and now, with the rise of urbanity, wildlife seems to actually seek the presence of man, a good example would be the bears of the National Park in America that have learnt to open car doors to get to food or in South Africa, the monkeys of KwaZulu-Natal who have learnt to also follow the man related food trail (Fairbrother 1972: 258). Fairbrother's argument proves that our actions have the potential to cause positive environmental effects, especially if we become aware of consequences and start planning for them.

More than 30 years have passed since Fairbrother's work was published. In their publication, *Cradle to Cradle* (2004), McDonough and Braungart take the concept of contribution to the environment McDonough and Braungart have taken the idea of positive contribution to the natural environment a step further. The modern mindset of waste reduction is taken further by declaring it insufficient and ultimately not viable due to several short comings. McDonough argues that effort should rather be channelled towards production and design for positive impact, than reduction of negative impact (McDonough, 2004). Towards this end McDonough and Braungart established the Hannover Principles (see appendices) in an effort to support a life-enhancing paradigm amongst designers (McDonough, 2004). Some of the principles are exceptionally appropriate to the idea of complementing both the natural, cultural or perceived landscapes and these will be discussed further on in this chapter. It should be noted that these principles serve as instigators of thought – like a social development tool that directs humanity towards a certain mindset that will essentially induce innovation in the sense of complement to landscape (McDonough, 2004).

### 3.2.2 The Possibility of Mutual Symbiosis with Landscape

If the built form is to participate in the global paradigm of mutual symbiosis with landscape, then it is a worthy area to explore in terms of architecture. A good understanding of the term *symbiosis* is necessary for the purposes of this research. Unlike the term *landscape*, the term symbiosis has a fairly consistent meaning that resembles De Bary's description thereof namely that it is

"...the living together of unlike organisms (Wilkinson 2001 and Douglas 1994, 1)."

This definition echo's the Greek root of the term which can be translated as *live together* (Compact Oxford English Dictionary). Different types of symbiosis exist, namely commensal, where one entity benefits from the relationship and the other is not really affected, parasitic, where the one entity benefits and the other experiences harm, but the most common understanding is of the relationship as being mutually beneficial, as in mutualism - for the purpose of this research the latter will be accepted (Ahmadjian & Paracer 2000: 6, 7).

Landscape may be viewed as a dynamic, adaptive system that can evolve to cope with external factors (Mendes da Rocha 2007 in Mateo 2007: 142). Some argue that there are no external factors and that everything (i.e. humans and everything we do and produce) is in fact a part of nature (Mendes da Rocha 2007 in Mateo 2007: 142). This argument is in line with De Bary's definition of symbiosis (see above). A point can be made that the natural landscape continuous to exist despite extreme external factors, for instance, if the mainstream theory of dinosaur extinction is taken as true – that dinosaurs became extinct after a massive meteorite impact drastically altered the conditions on earth – then this is proof that the natural landscape, though severely changed for some time, did persist – just not in a manner that was suited to dinosaurs and this lead to their extinction ([www.answeringenesis.org](http://www.answeringenesis.org), 6 September 2010).

A conclusion is made that the natural environment, due to its dynamic character, does not need anything that humans can provide in order to prevail. Thus, what is perceived as environmental decline may lead not too an end of the natural system, but rather the end of our survival within it (Castells in Mateo 2007: 155). If this is true, then one may assume that humans cannot complement the natural system, other than promoting certain aspects of it – for example, promotion of aspects that enable and sustain human life. Man has not always lived in mutual symbiosis with the prevailing natural systems of the time - meaning that the relationship between man and the environment has often been to the benefit of the goals of man, yet detrimental to the state of the environment as it was at that time (for example the age of industry).

The idea of relating to nature within a human framework can be related to the concept of phenomenology. Phenomenology was defined by Husserl as the

"...science of consciousness and its objects... (Korab-Karpowicz 2001)"

The idea of symbiosis / mutual complement of the built form and landscape can be developed further, if we become conscious of the landscape in a certain way that enables us to manipulate it in a way or at least, live with it in a way that is meaningful to us. Heidegger has a different approach to phenomenology in that his theories are more centred on *being* than on consciousness or objects (ibid). However, Heidegger's phenomenological philosophy is focused on discovering the meaning of being. This research is more related to the idea of being in the world – a concept which was explored by Heidegger in his essay *Building, Dwelling, Thinking* in which he explores, amongst other things, the metaphysical state of living in the world. His research recognises the natural and cultural landscapes (manifested physically) and

also the imagined landscape that transcends the physical. However, the two are inseparably linked; for example, the cultural landscape does not merely refer to physical matters as the cultural landscape is specifically a physical manifestation of the metaphysical reality. The perceived landscape is well summed up in the following excerpt:

*"Sophiatown is a state of mind. There is no way of summing it up better. No longer just a town within a town, a segregated ghetto of South African society, the Sophiatown I know has become an important attitude. An attitude of resilience, stubbornness and unpredictability. It is an attitude of the urban African, who is pressed hard to the wall, toward a white world (Themba cited in Nkosi 1958, 5)."*

The imagined landscape is thus something which can be strived for – an ideal rather than a reality.

### Conclusion

*Landscape* is here applied as a collective term that refers to the natural and cultural landscapes as well as the imagined / cognitive landscape (see chapter 2). This research does not focus on the whole natural system; instead a claim is made that the built form can be manipulated as such that it enables symbiosis with the concept of landscape. It comes down to the fact that humans can only have a mutually symbiotic relationship with landscape as we need it or perceive it - therefore the need of exploration of the definition of landscape as in Chapter 2. Acceptance of the view of nature as dynamic and extremely adaptive implies accepting the possibility that the natural system will prevail – perhaps in a different state – regardless of human interaction, but that the altered state might not be suitable for human life. Therefore, in order to survive we need to act with consciousness of the consequences of our actions in terms of the symbiotic relationship.

#### 3.2.3 Accepting the Dynamic Equilibrium

Mutual symbiosis can thus be seen as a communally beneficial or complementary relationship between entities (see 3.2), but what if the needs and complements are not set - rather dynamic, for example the changing needs of an ecological process in relation to the changing needs of the human population? Kurokawa states that under some circumstances symbiosis remains a possibility despite competition or clashing of needs of entities, as long as the relationship is dynamic (in Bermudez and Hermanson, 2000: 66 - 71).

The Chinese concept of yin yang has much in common with the idea of symbiosis in terms of complement and need as well as the concept of dynamic equilibrium. Popular belief is that yin yang has to do with the balance of good and evil, however the original intention was in fact the concept of balance that can be observed in nature between seemingly opposite entities that to live a dual existence (Taylor, 2005: 869). Despite the fact that the symbol of yin yang consists

of two parts that are each other's opposites, they are mutually defining entities and form a unit. Taylor (2005: 869) gives male and female, light and dark, hot and cold as examples of these, but in the context of this research a relation can be drawn to the balance that exist between man and nature or man and landscape (see figure) - man defines / influences landscape as much as landscape defines / influences man.

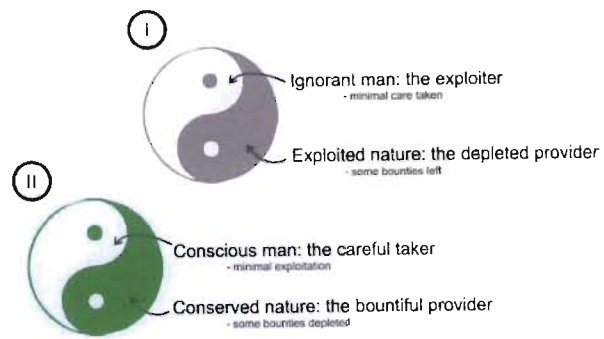


Fig. 3.1 Yin Yang Diagrams (adapted by the author)

In this sense, man and landscape form a dynamic whole that can be drawn through to the relationship between the built form and the landscape - where previously the built form was imposed on the landscape, this mindset urges one to view and consciously design built form as a part of a dynamic system (see figure). Smout Allen's *Geofluidic Landscape* (2007, 10; 11) in which the building becomes a landscape itself that is constantly interacting with specific natural elements in its context can be taken as an expression of how built forms could possibly relate to their landscapes.

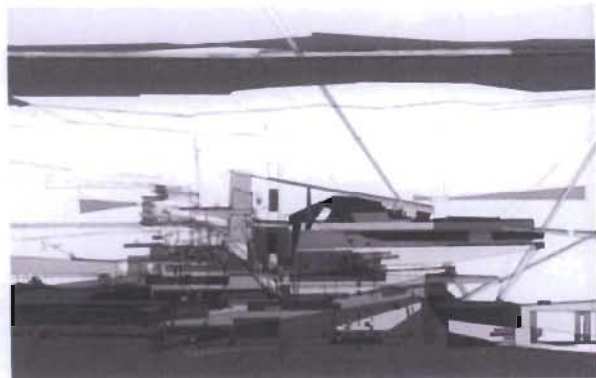


Fig. 3.2 Geofluidic Landscape  
(Smout Allen, 2007: 10; 11)

#### 3.2.4 Addition through Incorporation versus Intervention

This section explores the concept of mutual symbiosis as relationships were both parties complement the other. The term complement is not to be confused with the term compliment. Where the latter refers to an expression of praise or a formal greeting, the former, which is relevant to the concept of symbiosis, refers to a relationship between two entities in which each entities existence is enhanced by the presence of the other (Hornby 2002: 1215). Secondly, it should also be noted that in this section 'incorporation versus intervention' is referred to in terms of 'integration versus juxtaposition'. As established in the previous section (on dynamic equilibrium), entities that are complementary are not necessarily similar; it is more probable that they will be distinctly different, yet in a complementary manner, thus either incorporating a new element through integration or intervention in the existing through juxtaposition (Hornby 2002: 228). If their differences are related to their respective needs, in other words the one provides what the other needs and so they form a whole that is greater than its parts, the relationship be labelled as complementary (Hornby 2002: 228).



There are many examples to illustrate this point of which the symbiotic relationship between clownfish and sea anemones can be taken as an example (see figure) – there are distinct differences between the fish and the plant, yet were it not for these differences (their unique sets of need and complement); their relationship would not be mutually beneficial ([www.marietta.edu](http://www.marietta.edu), 6 September 2010). Some entities stand in mutual symbiotic relationships with multiple species. These are called keystone species and they are of absolute importance to whole ecosystems in the sense that their presence promotes biodiversity by control competitors at a low level and providing resources for a range of species ([www.marietta.edu](http://www.marietta.edu), 6 September 2010). The Red Mangrove (see figure) is a good example as it prevents soil erosion at the edges of water bodies and also provide hiding places for infant fish ([www.marietta.edu](http://www.marietta.edu), 6 September 2010).



**Fig.3.3 Clownfish and Anemones**  
([www.marietta.edu](http://www.marietta.edu), 6 September 2010)



**Fig. 3.4 Red Mangroves**  
([www.marietta.edu](http://www.marietta.edu), 6 September 2010)

Buildings traditionally are traditionally designed to provide shelter for human activity and as such they the relationship between the built form and the human can be classified as mutualistic. However, there are cases where the buildings also, incidentally support other forms of life, for example wild birds that find sanctuary in the facades of skyscrapers or the common occurrence of pigeons in urban parks. Although this effect mostly occurs unintentionally, there are some recent examples of building design and renovation where it can be said that the building or components of it has become facilitators of ecosystems and can therefore be considered as keystones that performing functions that are similar to keystone species like the Red Mangrove mentioned previously. The conversion of the River Rouge Factory and Fynbos House (see precedent study, chapter 3.3) are two examples of architecture that facilitate biodiversity consciously. The mentioned examples prove that through our successful survival we have created conditions suitable for the support of other forms of life, both intentionally and unintentionally.

The stance that is taken here is that complement can occur either through integration / incorporation or juxtaposition / intervention. Similarly, the built form can complement landscape either by harmonising with it - becoming an extension of the landscape in form, texture, colour and other architectural devices - or by seemingly juxtaposing it – the addition of a layer to the landscape that does not integrate with the existing, but purposefully intervenes in order to alter circumstances in a predefined manner ([www.oxforddictionaries.com](http://www.oxforddictionaries.com), 6 September 2010). The second proposition would entail a good understanding of the landscape and its different

subcategories and the built form must be design to enhance these qualities, for example if it would be good to make visitors understand that the landscape is intricate and fragile, the built forms might be designed as a robust and imposing structure, or if the landscape is predominantly a bright shade of green, the built form might intensify the experience of this colour by introducing a complementary hue - much like the bright orange shade of the clownfish is enhanced through the receding blue shade of the anemone (Spellman 2003: 10).

### **An example of complement through intervention / juxtaposition: the Centre Pompidou**

Although the Centre Pompidou is an example of an urban intervention (or juxtaposition), the principal issue remains the same, namely complement through juxtaposing intervention rather than integration.

The concept of complement through intervention can be illustrated by the addition of the Pompidou Centre (by Richard Rogers and Renzo Piano) to the Marais district of Paris ([www.richardrogers.co.uk](http://www.richardrogers.co.uk)). Despite the fact, or as some claim, due to the fact that neither the structure or the public space correlated with the existing conditions in the Marais of that time (see figure 3.5), the intervention lead to the revitalisation of the Marais district, which is now a vibrant, multi-cultural hub of activity ([www.richardrogers.co.uk](http://www.richardrogers.co.uk), 6 September 2010; [www.telegraph.co.uk](http://www.telegraph.co.uk), 6 September 2010). Although the architects did not set out to create a building that juxtaposed the existing, the design priorities that they set for themselves as well as the innovative manner in which they managed to address these resulted in a design which defied the norm of those days and a building that juxtaposed its surrounds in a number of ways ([www.telegraph.co.uk](http://www.telegraph.co.uk), 6 September 2010). The building generates much excitement due to shock effect of juxtaposition of the colourful, industrial façade and vast open plain within the dense historical context in muted tones. The juxtaposition remains a source of delight even after more than 30 years and the centre thus still draws millions of visitors annually – thereby sustaining the Marais' vibrancy.



**Fig. 3.5 Centre Pompidou in Context**  
([www.richardrogers.co.uk](http://www.richardrogers.co.uk), 6 September 2010)



**Fig. 3.6 Juxtaposing**  
(<http://daviding.com>, 27 September 2010)

### **Example of complement through intervention / juxtaposition: Tadao Ando**

The architect Tadao Ando claims, and some architectural critics agree, that the architecture designed by him expresses a close relation to both the natural and the cultural landscape, yet



upon first glance this seems not to be the case (Ando, 1990: 456, 457, 460; Slessor, 2009: 50). For this reason some of Ando's buildings can be mentioned as examples of complement through juxtaposition or intervention.

#### Juxtaposition and Koshino House

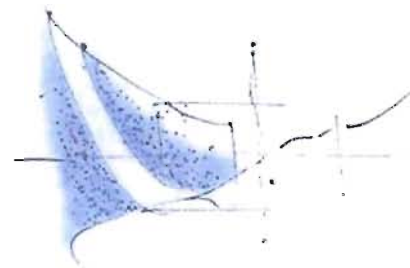
Through exploration of Ando's work and philosophy, the author has come to the conclusion that Ando's architecture gains its strength and meaning through his method of expressing a set of simple concepts (for example the play of light as an abstraction of nature, or the module of the tatami mat as a reference to traditional Japanese tea houses) with a very limited palette (concrete, timber and glass) (Ando, 1990: 458; Slessor, 2009: 50, 51). For example, in Koshino House, the lounge was carefully designed for a specific experience of the changing light (Ando, 1990: 458). The play of light in this room represents the whole of the natural experience. However, this concept could not have been realised without the strict application of palette, in this case a space carefully designed and constructed in concrete (see figure). The concrete wall is related to culture (and therefore man) as well as nature by way of its specific texture and the way that light falls on it. The application of timber tatami mat sized exposed shuttering panels (they warp during the curing process) resulted in the unique undulating texture of the wall and breaks the solidity of it down so that it seems light (figure x shows the play of light on a concrete wall as well as the manner in which the tatami mat panelling influences the texture of the concrete). Koshino House illustrates one way in which one can become aware of the natural landscape through architecture, without integration, but rather by means of an approach which seems to juxtapose the natural.

#### Juxtaposition and the Chikatsu-Asuka Museum

Both the monumental, geometric concrete structure and its surrounding natural landscape of forested hills are complemented in this design by their juxtaposition. The contrast of stark grey surface and richly textured dark green, evokes a sense of appreciation of both due to co-emphasis of their distinctly different attributes and the primary



**Fig. 3.7 Light, shadow and texture in Koshino House**  
(www.abuzeedo.com, 23 September 2010)



**Fig. 3.8 Koshino House Light Studies**  
(Dal Co, 1995: 151)



**Fig. 3.9 Chikatsu-Asuka Museum**  
(Slessor, 2009: 64)

characteristics of each is thus amplified (see figure). One can thus argue that the monumental, grey structure enhances the visitor's experience and interaction with the natural landscape. The massive staircase on the roof can be mentioned as an example of the effect (see figure) – by juxtaposing both in pattern, colour and movement (static versus dynamic) the stairs force the visitor to notice and engage with the clouds and the sky above. The stairs are a link to the sky not merely because they enable vertical rise, but also due to the juxtaposition of aesthetics and movement.

### 3.3 ADDITIONS TO THE VISUAL LANDSCAPE IN THEORY

In section 3.2 it was established that the built form should be configured in such a manner that it complements the landscape. The following section will thus focus on theories that are likely to inform the design of built forms that complement the natural and cultural landscape.

The following quote by Ando is applicable to the notion of landscape and gives an idea of the direction that this research will follow:

*"Wherever you build, there is an existing landscape...Bringing the uniqueness out of the landscape is what I try to do." (1995 in Jodidio, 2007: 7)*

#### 3.3.1 Complementing the Natural Landscape

For the purpose of this research the natural landscape is organised into two categories namely natural systems (i.e. including the underlying logic of the landscape in terms of ecology, geomorphology and other disciplines) and aesthetics (the natural landscape is predominantly experienced through the senses). In this way the inherent order of the landscape is taken into cognisance as well as the means by which the natural landscape is experienced by man. This concept will be explored through three relevant theoretical stances namely synchronised geometry, algorithms and bio-mimicry.

#### **Synchronised Geometry**

As the name implies, the theory of synchronised geometry is about analysis of the inherent geometries present in the landscape and then determining a means by which built form can mimic this (Ferrater and Abondano, 2006: 4 and 5). In so doing the built form becomes an extension of the landscape as opposed to an intrusion or a disruption of the landscape. The



**Fig. 3.10 Chikatsu-Asuka Museum roof stairway**

(Jodidio, 2007: 490)



theory was developed by the Spanish architectural firm, the Carlos Ferrater Partnership and is a mathematical approach aimed at informing the design built forms conscious of their landscapes.

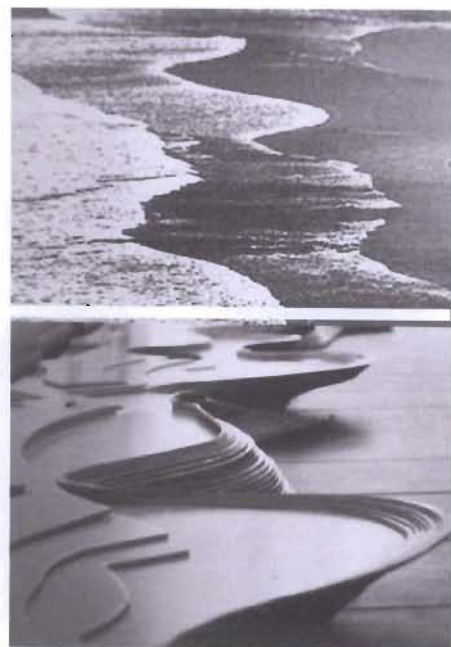
The process of design development in the case of synchronised geometry can be roughly divided into 4 steps, namely (Carlos Ferrater Partnership, 2006: 7 - 10):

1. Finding a geometry in the landscape
2. Deforming the geometry to suit architecture
3. Revision of geometric approach
4. Manifestation in architectural form (construction)

The architecture that emerges is thus generated from natural order and is adapted to the requirements of the cultural and perceived landscapes (ibid: 11). The approach mostly results in built forms that form extensions to or are integrated with the existing landscapes as can be observed from various projects, for example the topographic integration that can be observed in the design for the Science Park in Granada (Ferrater and Ferrater, 2006: 54 - 61) and the Benidorm Seafront (Ferrater and Ferrater, 2006: 74 - 101) - fig. x and y respectively.

A point that should be noted is that the parallel that this architectural approach creates between the landscape and the built form results in bringing the cultural landscape closer to the reality of the natural landscape, therefore strengthening the interrelation and increasing the overlap of the two. Due to the increased overlap and closer interrelation of the natural and cultural aspects of the landscape, the perception of landscape is also influenced in that the landscape is perceived as less fragmented - thus reflecting the global paradigm shift towards mutual symbiosis (refer to 3.1 of this document).

This theory has a pronounced effect on the aesthetics of the built form (as can be observed from the Science Park and the Benidorm Seafront – (see figures), although the possibility of complementing natural systems also exists, in fact the two are sometimes interrelated as in the Benidorm Seafront. The rhythms and patterns caused by waves crashing against the beach was applied as a design generator in this instance (see figures). The geometry was also applied to the vertical dimension. This extended application of the geometry allowed for the integration of a number of architectural phenomena, namely integrated storm water run-off, usable spaces underneath the promenade (services and parking). These would otherwise have been dealt with



**Fig. 3.11 Benidorm Seafront**  
(Ferrater, 2006: 74 - 100)

separately, possibly interfering with the pure application of the geometry and disrupting the transition between city and beach in the process as well. The combination of natural geometry and manmade construction makes this strip development a mediator between the cultural and the natural landscape and thus the city and the beach.

Tod's Omotesando Building by Toyo Ito is significant to the research for its innovative façade treatment. The façade makes reference to contextual natural elements, namely the trees that line the street, in a manner that is completely integrated into the structure of the building (Pollock, 2005) (see figures).



**Fig. 3.12 Tod's Omotesando**  
Note the similarity in the geometry of the natural and constructed  
(photo by Lee Se -1)



**Fig. 3.13 Tod's Omotesando**  
The concrete patterns seem to be an enlarged repetition of the angular lines of the reflections of trees

The graphic approach allows simplification of the more complex natural phenomenon, enabling the application thereof to the concrete structure. Furthermore, the simplicity of the graphic and the building's materiality (smooth grey concrete and glass) give it neutrality without compromise on dramatic effect. The unconventional nature of the facade makes it memorable whilst the neutrality allows interplay with the dynamics of fashion (see figure).

In this sense the façade illustrates a way that the concept of dynamic equilibrium can be applied to architecture. The fleeting and dynamic nature of the fashion world is complemented by the structure. Not only do the limited neutral palette provide a good backdrop for the fashion displayed inside (see figure), but the structural treatment, namely angular concrete elements that wrap around the exterior, allow a column free interior, thus complying with the changing needs of retail stores and allowing dynamic equilibrium between the fashion culture and the built form (Glynn, 2008).



**Fig. 3.14 Tod's Omotesando Interior**  
Due to the structural façade, the interior is column free and can thus be easily rearranged (photo by Edmund Sumner)

The building complements the urban landscape by providing a fresh aesthetic that is borrowed from a unique contextual feature, namely the trees that line the street – a rare occurrence in Tokyo (Pollock, 2005).

### Topography

The geographic component of landscape often predominates the visual landscape due to its vastness and scale. For this reason, a section has been set aside to explore, mainly through precedence, the way in which built forms are configured within the topographic landscape.

#### Fynbos House

Fynbos House by Sarah Calburn Architects is a local residential example of how the built form can be configured as a response to topography. Upon visitation, it was confirmed that Calburn's structure adheres to the predominate topographic qualities of the landscape surrounding the small holiday town, Betty's Bay, by way of mimic and integration. The house mimics the diagonal lines present in the dune and mountain topography of the area by the application of strong diagonal elements as the basis of the design (see figure). The diagonal is in fact a concrete slab that serves as both a roof to the lower level and a floor to the upper level (see figure). The slab is covered in sod and vegetation and thus bridges the literal as well as figurative gap between manmade and natural. The vegetation completes the integration, as the diagonal slopes resemble the fynbos covered mountain slopes, directly. On top of these fynbos covered 'mountains', sits the first floor in the form of two protruding boxes. The juxtaposing manner in which the upper and lower sections of the house were designed – the lower integrated into the landscape and the upper juxtaposing it – breaks the scale of the structure. The geometry of the upper level serves as an antithesis to the vegetation and by so doing, enhances ones awareness of the rich tapestry of organic textures and natural colours.



Fig. 3.15 Fynbos House, Betty's Bay (Author's own)

The dramatic interplay between structure and topography challenges conventional configurations of built forms within landscapes in a manner that compliments both - the natural



landscape is enhanced by the addition of an integrated structure and the structure is enhanced due to its close relation to the landscape (Coetzer 2009: 348).

The built forms of Freedom Park may be considered as constructed interventions in the landscape due to the extremities of integration with the landscape of the hill on which it is cited as well as the general natural, cultural and perceived landscapes of South Africa. After personal visitation to Freedom Park, a conclusion was drawn that the museum / interpretation centre exhibits a great consciousness for the topography as its outer



**Fig. 3.16 Freedom Park**  
(www.mashabane rose.co.za, 4 July 2010)

skin is slanted to echo its natural slope of the hill (see figure). The skin is clad in stone so that the structure becomes reminiscent of a rocky outcrop against a typical highveld hill (see figure). The pedestrian pathway winds around the hill and thereby decreasing the interruption of the natural landscape during construction. The oval form of the hill is emphasised by the spiralling lights that are visible from the nearby highway interchange. The materials used include natural rock, concrete and contextual colours like dark red browns that reflect the local natural landscape (see figures).

The architecture of the Mapungubwe Interpretation Centre also displays a great consciousness for the surrounding natural and cultural landscape, especially in its relation to the topography. The facility mimics the rocky outcrops that occur in the landscape in form and material, thereby interfering minimally with the spirit of the place (see chapter five). This effect was achieved through the application of vaulted domes that were clad in rocks that were sourced from the site as roof structures (see chapter five). The application of topography sensitive design seems especially appropriate in the case of Mapungubwe, as it played a major role in determining the form and organization of the settlement (refer to chapter five).

### 3.3.2 Progressive Tradition and the Cultural Landscape

The spirit of the progressive tradition approach is that of not neglecting what has been done in the past, but rather including it in a progressive, practical manner (Njoh, 2006). This approach can be immensely beneficial to humanity as it does not require *tabula rasa* or 'clean slate' and enables the continuation of knowledge development. Furthermore, the approach of progressive tradition lends itself to advancement on the social and cultural front as it appeals to people due to the element of familiarity. Progressive Tradition may be seen as "...culture in the context of development..." (Njoh, 2006: p.186). And as such it is a significant consideration within architectural design in the creation of a sense of ownership, the evolution of knowledge and the manifestation of the spirit of the place.

During the 1950's and 1960's Africa's cultures and traditions were perceived to be the major factors inhibiting development (Njoh, 2006). Culture and development are interrelated, this much can be derived from contemporary global discourse (WCCD, 1995 in Njoh, 2006: 2). However, if culture is accepted as an expression of humanity, one can assume that it should contribute to developmental efforts (Hawkes, 2001 in Nurse, 2007:1). Njoh claims that the debate should evolve from "whether tradition and culture matters" to how it matters, in other words – how it can be incorporated to compliment development as culture should at once be the method and the goal of development (2006, p.185, 188). During the course of development of the west, much attention was given to culture (e.g. opera's and theatres). However, during colonial times the strive to "modernize" Africa did not result in the development of existing cultures, instead western culture was manifested as the ultimate goal (*ibid*). The inclusion of indigenous cultural concerns in development would allow the process to be integrative and holistic - thus eliminating the potential for dependency related problems and in most cases, enhancing self-reliance and integration with the natural and social environment (Nurse, 2007:4).

According to Njoh (2006, p.186) culture may be used in two ways to aid development efforts, namely as communication tool or as a process. An example of culture being utilized as a tool in development would be if a similarity between a developmental goal achievement, say graduation from a skills course, is drawn with a traditional ritual, e.g. initiation into adulthood could be equated to receiving a tertiary qualification. Culture as a process occurs when the traditional social or political structure of a culture is utilized to advance development, e.g. development issues could be discussed at traditional meetings. It is important that traditions that are suited to the critical development objectives of a society be identified and enhanced, whilst those that infringe on basic human rights be phased out (*ibid*).

*"I conceive that land belongs to a vast family of which many are dead, few are living and countless members are still unborn."*(Meek, 1949 in Njoh, 2006: 9)

The quote above, expressed by an African chief, is an example of the fundamental difference between the Euro-centric and general African perspective on ownership of land. Njoh claims that conflicting ideologies, similar to the example given, may be the reason why development efforts on the continent of Africa that are Euro-centric in nature, hardly have any chance of being successful and may even have hampered development in the past and present (Njoh, 2006: 9).

### **Progressive tradition: related architectural approaches**

This study is an exploration of how the theory of progressive tradition has been and could be applied to the configuration and design of the built form. The study is done by reference to the Pretoria Regionalist movement, the idea of sensory architecture and some precedence.

#### **Pretoria Regionalism**

The theory of progressive tradition is included in the research as an exploration of how the built

form may complement cultural landscapes. An example of successful application of this theory can be found in what is known as Pretoria Regionalism, classified by some as a South African vernacular with modernist connotations, this approach leans towards the inclusion of knowledge that has been developed for a specific culture and physical context for practical as opposed to sentimental reasons (Fischer, 1998: 123 - 140). In this way, society builds upon past developments, without stagnating due to an approach of repetition.

Although the Pretoria Regionalists were strongly influenced by Modernism, they did not abandon all sense of tradition for the sake of this new style (Fischer, 1998: 129 - 140). Instead, a middle ground between the modernist aesthetic and South African conditions (including architectural traditions, climate and sense of place) was reached, not through sentimentality, but through practicality (Peters, 1998: 175). A good example is their preference for brick, both clinker and bagged. Prevalent in South African tradition, but also practical due to its availability (Kirkness manufactured millions in Pretoria), its classlessness and functionality appealed to the Pretoria Regionalists (Fischer, 1998: 130). The simplicity of brick lent a poetic, yet humble elegance to Eaton's (a pioneer of the developing vernacular style) architecture (Chipkin, 1993 in Fischer, 1998: 125).



**Fig. 3.17 'Boerehuis' :Transvaal rural vernacular 1920**

Note the use of stone and the deep veranda (Pierneef, 1920 in Fisher and Le Roux, 1989: 7)

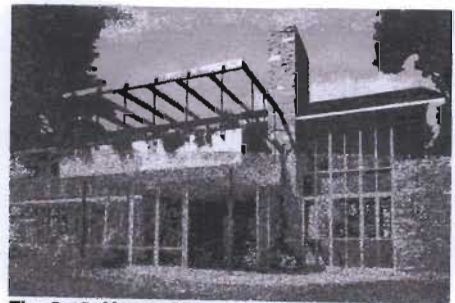
Pretoria Regionalism was grounded in its locality and despite its modernist influences is infused with a rich sense of landscape (Fischer, 1998: 138 - 139; Peters, 1998: 187). This sense of landscape can be seen as a tradition that was selectively included into the developing style - a selection that echoes the preference of the typical Pretoria inhabitant (of that time, namely the first half of the 20<sup>th</sup> century) of landscape (the sense of the African soil) over urbanity (Fischer, 1998: 139 - 140).



**Fig. 1.18 House for a warm district by Moerdyk, 1923**

Note the veranda with pergola and windows with

The images to the right show two South African vernacular styles, namely the 'Boerehuis' and 'House for a warm district', both from the time preceding modernism's influence on South Africa, whilst the last figure illustrates a House by Helmut Stauch from 1957. Stauch was a great follower of modernism (he was educated in Germany by Johannes Itten of the Bauhaus) and his designs could be classified as radical for their time (he was one of two modernist architects in South Africa



**Fig. 3.19 House Meyer, Pretoria, 1957**

Note the veranda with pergola and the use of stone as a building material (Peters in Fisher and Le Roux, 1998: 193)



when he opened his first practice). However, the buildings he designed show influence by local architectural traditions, such as veranda's with pergolas and the use of local rock as a building material (see figures), albeit in an unsentimental, practical way.

Through Pretoria Regionalism a group of people found a means to progress (perceived as the move from rural to urban) without abandoning all of their traditions and the whole sense of their being (Fischer, 1998: 140).

#### Progressive Tradition and the Nelson Mandela Museum Pavilions

The Nelson Mandela museum pavilions in the Eastern Cape serve to commemorate and celebrate the birthplace and youth of former South African president, Nelson Mandela (Cohen, 2009: 386). The museums do not contain the western norm of collected artefacts, but rather commemorate places that are explored within the framework of a pilgrimage between three venues, namely Mvezo (birthplace), Qunu (childhood) and Mthatha (closest town). The rural pavilions do not merely serve as gateways to the landscape, but have also become gathering places for the local communities as no official public space preceded them (ibid).

The facilities were realised in a manner that consciously engages with the local communities, for example: the architects made an effort to address some of the major difficulties (access to potable water and employment) of the locals by firstly, using the existing water points as an ordering device on the route and secondly, by enhancing tourism and utilising local skills in the construction process (Cohen, 2009: 386).



**Fig. 3.20 Qunu Pavilion lattice screen**  
(Photo by Fraser, H and Lewis, M)



**Fig. 3.22 Qunu Pavilion podium and exhibition area**  
(Photo by Fraser, H and Lewis, M)



**Fig. 3.23 Vernacular construction with lattice, thatch and mud**  
(Author's own)

Architecturally, the pavilions relate to the cultural landscape without being a repetition of what was done in the past. The architects achieved this by drawing only those elements from the vernacular that could contribute to the proposed development in a practical manner and by replacing those ill suited to contemporary needs. For example: lattice screens were included, but mud flooring and thatch roofing (both prone to damage by the elements and thus requiring a lot of maintenance) were omitted and replaced with concrete and steel sheeting.

A conclusion is drawn that these pavilions fit well into their context despite the fact that they do not repeat the vernacular of the Eastern Cape. The use of local and traditional materials as well

as the strong connection made with the surrounding landscape aided this plight. Sentimentality and the related risk of stagnation of culture was avoided by critical evaluation of vernacular traditions for usefulness which lead to the retention of those suited to the proposed development. It can thus be said that progressive tradition is well illustrated by this example.

#### Progressive Tradition and House Wright

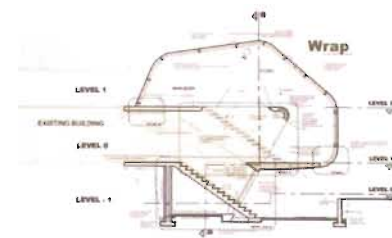
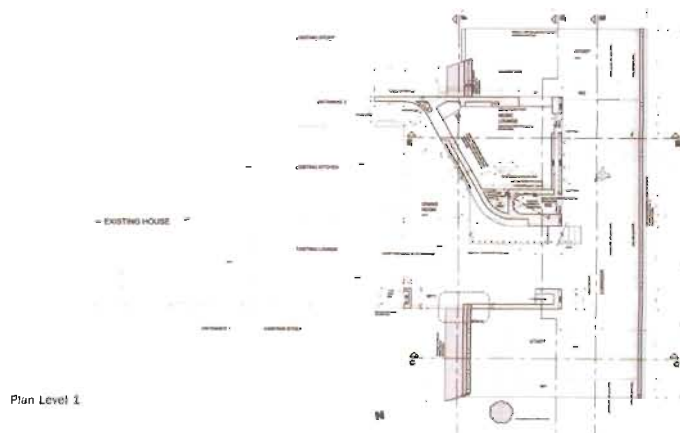
This residential addition is an excellent example of the theoretical deconstruction and re-assembly of the urban thatch vernacular in the spirit of progressive tradition. The architects (Elmo Swart Architects) were commissioned to add a new main bedroom, 2 studies, an entertainment space and art gallery to the existing structure for a client, passionate about the abstraction of African art (Swart, 2009: 160).

The existing house is of the traditional thatch dwelling variety and the new addition both borrows and rejects from this well known aesthetic. Although the new form is radical compared to the old, a reference can be found in the angles and rounded corners that can be related to the steep slopes and rounded corners of thatch roofing.

These angles and corners are applied both in the new plan and section. Thus, both the plan and section views of the new relate to an aspect of the old, but are adapted to the contemporary needs of the client, namely for high volume, adaptable spaces.



**Figure 3.21 House Wright** (photo by Swart, E)



**Fig. 3.22 Section, House Wright**  
(Section by Elmo Swart Architects)

**Fig. 3.23 First Floor level, House Wright**  
(Plan by Elmo Swart Architects)

The thatch roof element was not reused in the new construction in the traditional manner. Rather, it was evaluated as a significant element of the existing typology and as such was included in the new. However, the manner of this inclusion was quite different to that of the past – instead of a continuation of the existing double pitch roof, the thatch element was inserted as a strip panel, tilted or wrapped around the newly supplied spaces. It thus retained its characteristic curves and angle, yet in an innovative abstracted manner that speaks of reinterpretation.

The addition of a reinterpreted vernacular adjacent to its traditional counterpart shows that progression needs not to be alien to the existing cultural landscape. The new vernacular becomes a new cultural layer that speaks of its time and looks to its future, yet does not abandon its past. In this way, the contemporary is enriched and the past not forgotten.

Both the Nelson Mandela pavilions and House Wright refer to past vernaculars without repeating them. By so doing they express an attitude of looking ahead and striving towards the future, without disregarding the past, but rather by building on the knowledge already collected. By applying traditional knowledge to contemporary functions, the risk of themed architecture – which is a superficial reference to the past – can be avoided. Therefore, tradition stays alive and significant.

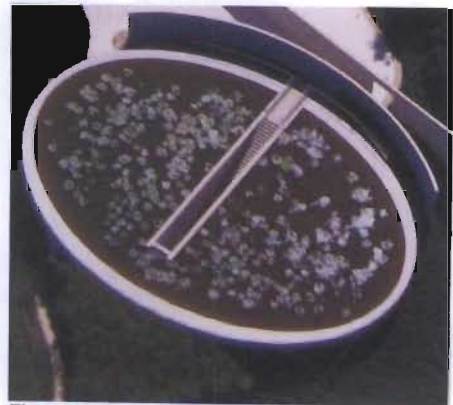
#### Progressive Tradition: (Buddhist Temple by Tadao Ando)

Tadao Ando's work, though it may seem spare and reserved at first glance, but are in reality quite expressive (Tietz, 1999: 99). The example of Koshino House has already been discussed (see chapter 3), but it may be useful to remind the reader here of Ando's expression of culture as in that case. Ando designed the texture of a specific wall in this house to relate to the dimensions of traditional Japanese tatami mats – these mats traditionally determine the proportions of rooms in Japanese tea houses (see chapter 3). In the case of Koshino house, the tatami mat modular was applied to the in situ concrete walls to create a subtle yet elegant finish that not only softens the harshness of the concrete, but also reflects Japanese tradition.

The Hompokuji Water Temple by Ando seems especially far removed from the traditional Buddhist temple design and construction in the sense of materials, form and even processional sequence (Slessor, 2000: 55). However, upon close inspection it becomes clear that what seems to be a radical departure, is in fact rooted in tradition, merely in a reinterpreted manner. In this temple, the traditional notions of Buddhist temple architecture were discarded in exchange for a highly conceptual approach that is centered on the Buddhist concept of enlightenment, namely the symbolism of the lotus (Slessor, 2000: 55).



**Fig. 3.24 Lotus Plant**  
(<http://mingkok.buddistdoor.com>, 13 October 2010)



**Fig. 3.25 Roof of the Temple**  
Note the Lotus plants in the pond  
(Slessor, 2000: 71)

The significance of the lotus in the case of Buddhism is that it symbolizes true purity as it remains unstained despite the fact that it resides in murky water (the mud of the world) (<http://mingkok.buddhistdoor.com>, 13 October 2010). It is also symbolic of the cycle of life and death as seen by Buddhists due to the fact that it recedes into the water at night and reappears in the morning (<http://mingkok.buddhistdoor.com>, 13 October 2010).

The temple consists of an elliptical form that is roofed by a pond containing lotus flowers (Slessor, 2000: 55 - 71). The visitor enters by way of a staircase that is situated within the pond. The staircase takes the visitor below ground where the presence of the overhead pond is emphasized by its bulging curve. The interior of the temple contains traces of Buddhist traditional temple elements, such as timber screens. There is a warm light below the pond, a surprising element in light of the fact that one expects a subterranean chamber below a pond to be equally murky. The inversion of the traditional ascent into a temple and the arrival at a light space creates a dramatic air of spirituality that adds to the temple's sense of mystery (Slessor, 2000: 55).

#### Progressive Tradition and Sensory Architecture

Due to both strong digital influences and the contemporary notion to rid of specific cultural connotations has resulted in a homogenous, image centred contemporary urban cultural landscape (Bermudez and Hermanson, 2000: 66 – 71; Palasmaa, 2005: 20; Slessor, 2000: 15). The following section is an exploration of how sensory architecture can complement the abovementioned cultural landscape. Many older cultures are rich in their application of texture, pattern and materials (see chapter 4 for an example of Thonga and Nguni vernacular) and thereby create environments that are the opposite of the smooth and often texture deprived environments that the digital culture is associated with. The study relates to the idea of progressive tradition in the sense that one might draw from existing traditional vernaculars to inform this sensory architecture.

The following is paraphrased from Bermudez and Hermanson (2000: 66-71) and serves to explain the effect of the digital culture and how it may be remedied by the built form:

Globally, consumerism and the onset of the information age are decreasing the value of material and corporeal entities. The continual growth of consumerism creates constant needs amongst members of society, thus diminishing the value of materials in the material culture. The development of information technologies have resulted in a distancing of the body from the daily activities of life, such as entertainment, relationships and jobs. Profound aesthetic experience is giving way to mere imagery.

Contrary to what one might expect from a digitally rooted, consumerist society, clear signs of tactility and corporeality can be observed through contemporary



society's obsession with sport, health, fitness and nature (Bermudez and Hermanson: 66 - 71). It seems the more detached society becomes from materiality, the more we are attracted to it (ibid). If symbiosis is made possible by complement and need, then there is thus a potential for architecture to play a complementary role in the cultural landscape by fulfilling the need of contemporary society to reconnect with the environment in a sensory manner.

Pallasmaa (2005: 20) concurs that the loss of tactility of our surroundings increases the divide between the body and the environment. The result is an over emphasis of the visual and a detachment from the other realities of material (ibid).

The need of the digitally immersed inhabitant is thus not to be bombarded by more electronics and imagery, but rather the opposite – the digital cultural landscape should be complemented by exposure to highly material, aesthetically rich environments (Bermudez and Hermanson: 66 - 71). The fleetingness and intangible nature of the digital culture could be countered sensory and tactile environments that require time and depth of observation to be fully comprehended (ibid). There is a possibility that traditional built forms, rich in material qualities (see chapter 4) could play a significant role in establishing a sensory rich environment through the configuration of the built form.

### **Conclusion: Thoughts on progressive tradition in architecture**

The idea of progressive tradition, sensory architecture and Pretoria Regionalism are all related to the phenomenon that has been labelled critical regionalism by Frampton (Slessor, 2000: 16). Critical regionalism is a movement in architecture that is about connecting people and place and in that sense, it seems like an ideal theoretical theme for the research of how built form could complement the cultural landscape (Slessor, 2000: 16). However, the author deliberately avoided use of that specific term due to the fact that, like so many other architectural concepts, critical regionalism has become a term that immediately conjures up a specific image within the mind of a person. Instead, the author opted for an exploration of related theories which have not explored to the same extent and therefore are not yet so strongly associated with a specific style or imagery.

The three examples discussed, have each illustrated a different way of applying the concept of progressive tradition to architecture. The Pretoria Regionalists and the Nelson Mandela Museum Pavilions illustrated the application of traditional technologies where they are practical. The Buddhist Temple by Ando showed how traditional concepts can be reinterpreted to add depth of meaning and experience to contemporary structures. Ando's structure also proves that direct repetition of heritage is not necessary for the continuation of culture. Lastly, House Wright illustrates how, through design, a traditional, vernacular element can be included in a design to suit contemporary needs, not by repeating what has been done in the past, but by adjustment and adaptation to suit contemporary needs.

Tradition provides society with a sense of continuation and gives one a sense of context. However, the blatant repetition of traditions for the sake of continuation may lead to stagnation. The author thus comes to the conclusion that traditions ought to be included in contemporary design, but that application should be critical and mindful of the changed context and requirements. Innovation in application and even abstraction of traditional concepts can infuse a community with a renewed sense of belonging whilst simultaneously providing a platform for growth in the spirit of progression.

### 3.4 CONCLUSION

Architecture in the context of a predominantly natural landscape should take cognisance of both the requirements of the natural systems and aesthetics. In so doing the natural landscape will be least disturbed and therefore the relation between the natural landscape and the cultural landscape will be the least disrupted. Landscape is understood as a layered concept in which the different layers are often interrelated and overlapping (refer to chapter 2). Therefore it is important that architecture is designed conscious of the effect it has on all layers, including the natural landscape. If the natural landscape is complemented, not only will this be beneficial towards the natural landscape, but also, due to interrelation, to the cultural landscape and perceived landscape.

Reflection and research on the effect of our past actions on the natural environment has enabled humankind to better understand some negative and positive consequences and it could be said that this has played a role in the shift to a new global paradigm. Through the research in this chapter it was established that pursuit of the ideas of the contemporary global paradigm with regards to the man versus nature relationship offers appropriate architectural aspirations namely the configuration of built forms within the landscape in such a manner that mutually beneficial (complementary) rather than a parasitic relationship is established. Furthermore, that the means by which such a relationship can be manifested is by adherence to certain key concepts namely, complement in the sense of need and juxtaposition as well as dynamic equilibrium.

It was established that built form should complement landscape in terms of the cultural, natural as well as imagined component as these are interrelated. However, it is important to note that depending on the specific landscape, some aspects may be more significant than others, for example the cultural significance of landscapes such as that of Mapungubwe (see chapter 5) carry a greater weight than for example the landscape of the Niagara Falls. The significance of Mapungubwe as a landscape pivots around the influence that culture has had on it, for example, the archaeological finds at Mapungubwe - whereas the significance of a landscape such as the Niagara Falls lies in their unique and spectacular natural features. It should thus be noted that within any landscape a hierarchy of importance may exist and this may inform the approach taken when the built form is designed.

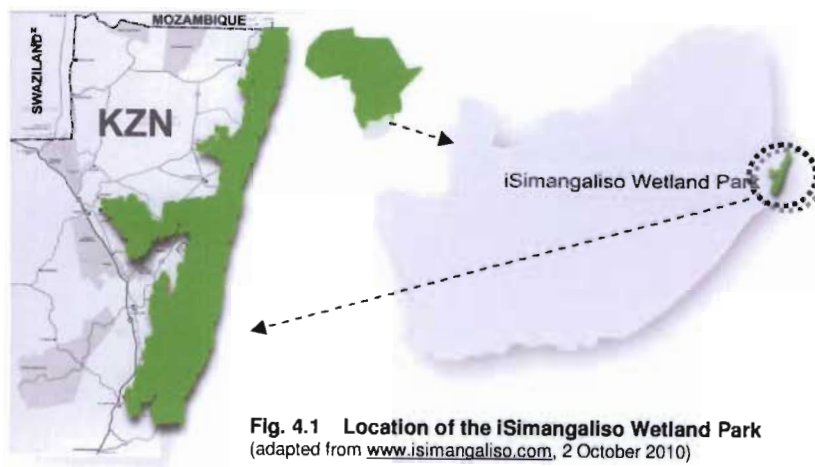




# The Landscape of iSimangaliso

The landscape of the iSimangaliso Wetland Park is rich and varied and tells an interesting story in terms of both the visual (natural and cultural) and the perceived landscape. This chapter, an exploration of the park's landscape in terms of the previously mentioned layers was compiled through both secondary (books, reports and development plans) and primary research (visitation to the park, discussions with relevant parties, such as park authorities and community members). This study is intended as a rough frame of reference that the author will be able to draw from in the next stage of the project, namely design development.

## 4.1 DELIMITATION OF THE LOCAL LANDSCAPE



**Fig. 4.1 Location of the iSimangaliso Wetland Park**  
(adapted from [www.isimangaliso.com](http://www.isimangaliso.com), 2 October 2010)

The most direct way of demarcating the boundaries of the iSimangaliso landscape is by reference to the official boundaries of the Wetland Park (see figure). However, the natural, cultural and perceived systems

inherent to this landscape stretch further than those boundaries and as such this study not be limited by them. Reference will rather be made to the section specific boundaries, for example, biophysical regions (such as the East African continental coastal plain) or bio-cultural regions (such as Maputaland). This approach correlates with the notion of the perceived landscape, for example in the mind of the ecologist, the biophysical features determine the boundaries of the landscape.

## 4.2 CHARACTERISTICS OF THE NATURAL LANDSCAPE OF ISIMANGALISO

### 4.2.1 Introduction: relevance and geographic location

Due to a unique combination of basic circumstances and characteristics, the natural landscape of the iSimangaliso Wetland Park has developed into one of the most diverse, scenically beautiful and ecologically complex landscapes in South Africa and was consequently awarded World Heritage status in 1999 (IWPA, 2008: 9, 50). The park is located in the north eastern corner of South Africa, stretching from just south of St. Lucia up to Mozambique ([www.isimangaliso.com](http://www.isimangaliso.com), 2 October 2010). The eastern boundary lies just off the coast within the Indian Ocean and the furthest western edge stretches towards the town of Mkhuze (ibid).

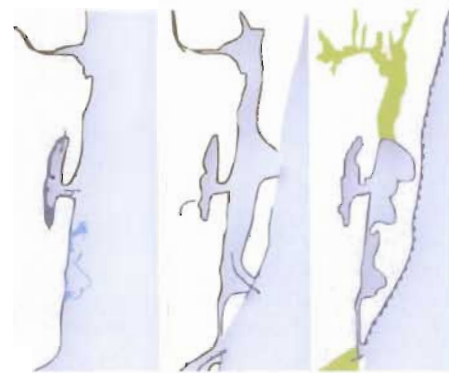
#### 4.2.2 The intercontinental coastal plain: Geographic origin

The geographic location of the park is the southernmost tip of the continental coastal plain which stretches from just south of St. Lucia right up to just north of Kenya (Taylor, 1991: 8). The local landscape consists of some geographically distinct elements, namely the vast coastal plain, fringed by a strip of coastal dunes, that is bordered by the continental plateau towards the west (Taylor, 1991: 8). The landscape came about as a result of a two main processes the first of which was initiated 140 million years ago (the cretaceous era) and the second stage which took place over the past 2 million years (Taylor, 1991: 7). Initially, the whole area was a submerged marine environment (Taylor, 1991: 7). A series of drastic sea level changes set into place the processes that formed the second geographic layer of the landscape (Taylor, 1991: 6). As the ocean level dropped, the sandy coastal plain grew wider towards the east, but water bodies remained in the form of estuaries and freshwater lakes in depression areas (Taylor, 1991: 7).

The most significant consequences of the geographic history includes rich fossil deposits in the western shores areas, amongst the oldest rock formations in the park (cretaceous), the remnants of 125 000 year old coral reefs formed in the then tropical lagoon (now submerged

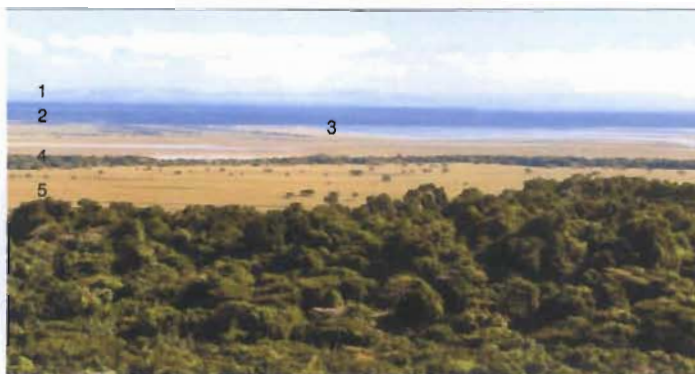


**Fig. 4.2 Continental coastal plain**  
(adapted from Taylor, 1991: 8)



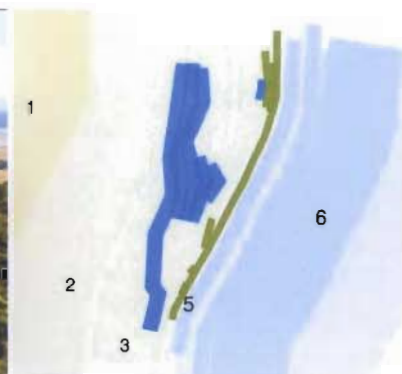
**150 000 years ago    25 000 years ago    Current**

**Fig. 4.3 Geographic formation of the coastline**  
(adapted from Taylor, 1991: 7)



**1: Lebombo Mountains    2: Western shores    3: Lake St. Lucia    4: Mfabeni swamps    5: Coastal dune forest    6: Indian Ocean**

**Fig. 4.4 View from the dune ridge**  
**representation of the**  
(Author's own)



**Fig. 4.5 Diagrammatic**  
**natural landscape** (Author's own)

Tooley agreed with the interpretation of the contemporary coastal plain as an enormous aquifer with a water table that is so close to the surface that wherever the ground level is slightly depressed, water surfaces – and thus the characteristic shallow bodies of water formed from St. Lucia northwards up past Mozambique on this continental plain (personal discussion, 27 September 2010). The geography of the region, especially the sandy coastal plain and dunes, thus played an important role in the development of the natural landscape as we know it today.

under the St. Lucia Lake), the formation of a calcium carbonate bound sand stone seashore rock zone at Mission Rocks (Taylor, 1991: 6). The formation of the rocks along the shoreline acted as a catalyst for the development of dunes along the shore and the sand trapping effect increased as the dune height grew due to wind resistance (Taylor, 1991: 6). The formation of dunes 25 000 years ago had a major influence on the natural landscape as it is today as they formed a barrier between the ocean and the inland water bodies (Taylor, 1991: 6). Not all of the rivers were able to force gaps in the dune barrier resulting in only the St. Lucia and Kosi Lake systems becoming estuaries, whilst the other lakes remained inland fresh water systems.

#### 4.2.3 Systems in the Natural Landscape

The natural landscape of the iSimangaliso Wetland Park consists of five interrelated main ecosystems, namely the marine, the coastal dune system, the lake systems, the swamps and the inland western shores ecosystem (IWPA, 2008: 31 - 34).

The marine ecosystem occurs all along the eastern boundary of the park includes off-shore as well as intertidal zones of the park and is significant as the southernmost coral reefs in Africa occur here (IWPA, 2008: 31).

The 25 000 year old coastal dune system includes forested dunes of up to 180m high (some of the highest in the world), sub-tropical forests, grassy plains and wetlands (IWPA, 2008: 31; Taylor, 1991: 21). This ecology forms a prominent edge to the landscape as one moves through the park (IWPA, 2008: 31). The dunes also play an important role in maintaining the water levels of adjacent inland water bodies, especially the freshwater systems that are not fed by rivers as in times of drought (Taylor, 1991: 8, 21). The tall dunes force warm, moist air that evaporates from the Indian Ocean upwards and thus induce precipitation (Taylor, 1991: 8, 21). The water filters through the dunes thus feeds the water systems on their landward sides (Taylor, 1991: 8, 21).

The lake systems include two estuarine systems (Lake St. Lucia and Kosi) and four large freshwater lakes (Sibaya, Ngobozeleni, Bhangazi North and Bhangazi South) (IWPA, 2008: 32:

The St. Lucia estuary is the largest such system in Africa and is significant due to the extreme variations in salinity that occurs between times of drought and abundant water. The estuary is a habitat for an large amount of birds, crocodiles, hippopotamus and aquatic creatures (IWPA, 2008: 32). During droughts the water can become three times as saline as sea water and can thus accommodate sea creature such as small jelly fish – in times of hyper salinity the lake is able to host up to 60 000 flamingos as well (Taylor, 1991: 31, 34, 35).



**Fig. 4.6 Lake St. Lucia**  
([www.iboulav.wordpress.com](http://www.iboulav.wordpress.com), 3 October 2010)



The Kosi Bay lake system is unique as it consists of four main lakes that link to each other by way of narrow channels ([www.isimangaliso.com](http://www.isimangaliso.com), 3 October 2010). Despite being subjected to traditional fishing practices for the past 700 years, the system is little degraded and hosts a diverse variety of species – some very rare and endemic (IWPA, 2008: 32).

Lake Sibaya, with a surface area of between 60 and 70 km<sup>2</sup> is the largest body of fresh water in the whole of Africa and is an important source of water during droughts (IWPA, 2008: 33). Amongst a wide variety of fauna and flora, the lake also boasts the second largest population of Hippopotamus amphibious and Nile Crocodile in KwaZulu-Natal (ibid). It is also linked to two other lakes via swamp areas and thus form a vital part of the ecology of the area between Sodwana Bay and Kosi Bay (ibid).

Lake Bhangazi South is another one of the permanent sources of water in the park (see the above section on coastal dunes) and is closely related to the Mfabeni swamps (the largest swamp system in South Africa), which in turn feed into the St. Lucia estuary (Taylor, 1991: 39). The lake is characterised by a low nutrient level and as such is particularly vulnerable to nutrient pollution, e.g. from human waste (IWPA, 2008: 33; Tooley, 27 September 2010). The lake was formerly home to the Bhangazi, a Thonga community that was forcefully removed in 1974 (see the following section on the park's cultural and perceived landscape) (Skelcher, 2003: 764). Lake Bhangazi North is similar to Lake Bhangazi South, but for the fact that due to its isolated location it is more pristine (IWPA, 2008: 34).

The uMkhuze and iMfolozi swamps is a remnant of former lake area that dried up partially due to sedimentation (Taylor, 1991: 26). The swamps are ideal habitat for swamp forests, reed and papyrus wetlands (IWPA, 2008: 34). Marsh and swamp areas prevent the estuaries and lake systems from over sedimentation and thus drying up and also add to the nutrient level of water due to the prevalence of decaying plant material (Taylor, 1991: 27, 28).

The western shores area – the oldest existing natural landscape of the park, consist of the ancient shoreline and forms a habitat for sand forests, savannah woodlands and dense thickets



**Fig. 4.7 Kosi fish traps** (<http://kositourism.co.za>, 29 July 2010)



**Fig. 4.8 Lake Sibaya** ([www.isimangaliso.com](http://www.isimangaliso.com), 29 July 2010)



**Fig. 4.9 Lake Bhangazi South** ([www.photographersdirect.com](http://www.photographersdirect.com), 29 July 2010)

that stretch all the way west to the Lebombo Mountains (IWPA, 2008: 34). This area differs vastly from the rest of the park due mostly to the difference in rainfall which is significantly less here as a result of the distance from the shore. Due to age, the western shores' soils are more fertile (ibid).

Due to the high amount of varying ecosystems and their intermediate zones in such close proximity to each other, the iSimangaliso Wetland Park is very diverse in the type of species that it can support, including a variety of endemic, rare and threatened species (IWPA, 2008: 34). The location of the park, on the periphery of a sub-tropical and tropical zone, lends itself to the support of an interesting blend of species that cannot be found elsewhere in South Africa. For example, palm veld – this is an interesting type of veld because grasslands are not generally associated with palms (IWPA, 2008: 35).

#### 4.2.4 Conclusion

Through an exploration of the origin and characteristics of the landscape of iSimangaliso, the author has come to gradual personal understanding of it. This understanding has led to an increased awareness of the complex and diverse state of the landscape on both a historic and ongoing basis.

Through literary research and personal visitation, the author has become familiar with the tangible landscape and has found that the manner in which the landscape is perceived visually is related to the inherent linearity of the biophysical systems discussed previously (see figure 4.4 and 4.5). This linearity may be well suited as a generator of a landscape geometry that may in turn be applied to the design development of built forms as intended by the theory of synchronised geometry (Chapter 3). The specific findings and design development will be elaborated upon in part II of the document.

### 4.1 THE DEVELOPMENT AND CHARACTERISTICS OF CULTURAL LAYERS

#### 4.3.1 Brief historical overview

Man has been present in the landscape of iSimangaliso from as early as 500 000 to 1 000 000 B.C. (IWPA, 2008: 21). This landscape has been witness to the development of iron smelting techniques, the development and demise of early African trade routes and the migration of the Nguni peoples, explorations and hunting expeditions of European colonists, it has been subjected to dangerous chemicals such as DDT, it has been the backdrop to forced removals by the Apartheid government and, in recent years, also the process of land restitution (IWPA 2008). The different societal layers have each left remnants in both tangible and intangible form, including several archaeological and paleontological sites and artefacts, buildings, jetties, graves, fish traps, shipwrecks and intangible remnants such as land-use practices, oral traditions, rituals and indigenous knowledge amongst others (IWPA, 2008: 21 - 23). Culture has



played a major role in the development of the layered landscape as it exists today (IWPA, 2008: 11).

Traces and remnants of man's historic presence can be found in various forms and at a variety of sites throughout the park (IWPA, 2008: 21, 55). However, the character of the natural landscape, specifically the dryness of the salty, sandy plain and the prevalence of ticks and malaria mosquitoes, made major economic development impossible (IWPA, 2008: 65). Although these characteristics were perceived as a drawback in the past, it has opened up the doors for conservation and preservation of the natural landscape – a serious consideration of contemporary society. What may formerly have been perceived as negative attributes, has resulted in the contemporary positive situation of a relatively pristine natural landscape that is presentable as a pristine conservation research area (IWPA, 2008: 50 - 55). The cultural landscape (including traditions, land-use management and indigenous-knowledge systems amongst others) have influenced the landscape and will continue to do so in future (IWPA, 2008: 11).

Neither the contemporary cultural nor the recent perceived landscape can be explored without an understanding of the historical background of the park. The aim of this section is to contextualise the cultural and perceived landscapes by historical account.

The following section aims to give the reader a understanding of the historical background of the presence of people in this landscape as well as to inform with regards to the specific nature of the park's cultural landscape in terms of not only the built form, but also, briefly, in relation to the natural and perceived landscape.

The following section is a brief exploration of the two indigenous population groups that have had an influence on the landscape of the former Maputaland area, mainly in terms of, but not limited to the built form. The aim is to gather an amount of background information about the cultural landscape that could be referred to during design development, when the theories discussed in chapter 3 will be applied to the specific proposed project (interpretive facilities for iSimangaliso Wetland Park).

#### 4.3.2 Built form in the landscape of iSimangaliso

The visual landscape of the iSimangaliso Wetland Park, much like the landscape of Mapungubwe (see chapter 5), is dominated by the natural landscape. However, though not as well known as the cultural landscape of Mapungubwe, iSimangaliso's landscape is also rich in cultural remnants (IWPA, 2008: 10).

The area of Bhangazi is located on the southern periphery of Thongaland, bordering on the former Zulu empire and as such, it seems that the characteristics of the natural landscape of the park – namely being diverse and unique due to its location on the periphery of different

ecological zones – can also be perceived in the human population, as they lived are both of Zulu and Thonga ethnic origin (Krige, unknown: 1). This matter is further complicated by the fact that Thonga people often claim to be of Zulu origin due to the perceived superiority of the Zulu nation. However, despite superiority, the Zulu culture never took hold on the plains of Maputaland as this environment demanded a specialised way of life, based on a thorough knowledge of indigenous fauna and flora, that only Thonga culture had perfected. Research (done by westerners) would have us believe that the Thonga peoples, who were never known to themselves as a unit, but were rather loosely scattered in small isolated units over the landscape, were intimidated by the prestige of the Zulu warrior nation and thus deny their separate origin to date (Krige, unknown: 8). However, in the light of the new paradigm of living consciously within the natural environment (see chapter 3), the Thonga way of life gains new significance and there is reason to believe that the traditional Thonga way of life could contribute to contemporary society and should not be allowed to fall to the wayside. For this reason elements of both Thonga and Zulu cultures will be discussed here. However, a comprehensive anthropological and ecological report is beyond the realms of this research and the focus will be on the built form.

#### 4.3.1 Thonga culture and the natural landscape

Thonga traditions and beliefs are infused with the natural landscape to such an extent that listing each cultural aspect that relates directly to a natural entity, would be a never ending task beyond the scope of this research. A case in point is the close relation between the Thonga terms for nature and making, namely *Ntumbuluko* and *ku tumbuluka* – the Thonga believe that nature made everything (Junod, 1966b: 302). As the aim of this section is to discover important relations between local cultural and natural aspects, the approach will be more akin to gaining an understanding of the role of natural entities in key cultural traditions and beliefs.



**Fig. 4.10 Reeds on the shores of the Kosi Lake system**  
(Author's own)

#### Creation

The traditional Thonga belief is that all tribes originated directly from the reeds, or *nhlanga*, already possessing their various cultural attributes (Junod, 1966b: 348). In a sense this view correlates with the modern scientific understanding of wetlands as places that foster and support a variety of life forms (Junod, 1966a: 21; Junod, 1996b: 348; Cowan, 1997).

## Death



**Fig. 4.11 Flower of the Coral Tree** (Author's own)



**Fig. 4.12 Coral Trees in the dune forest: Mission Rocks view point** (Author's own)

Similarly, the Thonga beliefs around death is based on elements of the natural environment – it is believed that soon after the birth of man, a chameleon was sent to pass the message that men will die, but then rise again (Junod, 1966b: 350-351). Unfortunately, the slow chameleon was overtaken by the blue headed lizard that was sent after him and which was carrying the message that men will die and rot (ibid). When the chameleon finally reached the men, they told it that it was too late - they had already accepted the other message (ibid). To avenge their fate, the Thonga have a lack of respect for chameleons and upset them purposefully to make a show of their changing colours (ibid).

The Thonga belief about death is that when a person passes away, their body rots, but their shadow lives on in the realm of the gods (Junod, 1966b: 364). Once the inhabitant of a hut passes away, their hut is perceived to be ruin – a wall is pierced for removal of the corpse and roof is removed, if the deceased was the family head, his family might decide to move (Junod, 1966a: 138, 187; Junod, 1966b: 111). It has been confirmed by contemporary community members that once a person passes away, it is customary to plant a tree, for example a coral tree, close to their grave and their spirit resides in this tree (Govender. and Mhlanga, 2010; Govender and James, 2010). For this reason there are several sites within the iSimangaliso Park where Coral Trees occur some distance away from their natural habitat – they are often the best indicator of a historic homestead as the other remains degrade over time (Govender. and Mhlanga, 2010; Govender and James, 2010). The Coral Tree is easily recognisable due to its distinct red flowers and seeds (see figures).

### Local Thonga built forms

As mentioned previously, the people of Thongaland developed a unique way of living that was specifically adapted to enable survival within the local natural landscape and not even the and not even the mighty Zulu nation could thus erase local cultural practices (Krige, unknown: 10). Theirs is thus a living heritage and some recent documentation can be consulted (Claude, 1997a; Claude, 1997b; Cunningham and Gwala, 1986). This study was done by manner of an



visual overview of techniques and materials applied by the Thonga. The aim is to gage an impression of these that can form a frame of reference that can be consulted during design development. The past tense will be used in this study, not because none of the traditions exists anymore, but rather due to the fact that this is not a primary study and therefore it is hard to determine how the traditions may have altered since the sources were published - it can be mentioned that satellite imagery (see figure) as well as the description of visitors to the area seems to contend that traditions have not all been abandoned (Strijdom, 2007: personal discussion). However, that does not influence the usefulness of the study as the aim is to find traditional knowledge – whether still used or not – that might contribute to a contemporary structure. In the case of the Thonga many traditions and techniques were abandoned due to the perception of their cultural inferiority to the Zulu's (Krige, unknown: 8), however, some became obsolete with changes in the predominant socio-economic and technological development in the area (Cunningham and Gwala: 491, 503). This process has resulted in the potential loss of a great amount of indigenous knowledge, which may not have mattered if the knowledge was meaningless to humanity, however, the potential that Thonga indigenous knowledge may contribute positively to contemporary society does exist, especially in the light of the contemporary paradigm (see chapter 3). Indigenous knowledge and traditions has gained new significance due to the sensitivity to the natural environment that is characteristic of so called indigenous cultures, and the Thonga are a particularly good example of such a culture (Krige, unknown: 2, 25).

The everyday of the traditional Thonga lifestyle was enriched by objects that speak directly of the surrounding natural landscape and as such must in the past – when homesteads were still very isolated and removed from other societies and consumerism – have supported quite a strong sense place and identity (Cunningham and Gwla, 1986: 502). The following is an exploration of the materials and techniques employed by the Thonga in construction and is intended as a rough frame of reference that the author will be able to draw from in the next stage of the project, namely design development.

### **Thonga Settlements pattern, Homesteads and Huts**

Traditional Thonga settlements are small, isolated single family homesteads (*imizi*) situated mostly in the naturally wooded areas of the former Thongaland and consist of a few built structures within a clearing, surrounded by a fence (see figure) Krige, unknown: 28; Claude, 1997: 2). The isolation of the family units were important as it insured that one would not upset a neighbour due to disturbance as he might use witchcraft to remedy the problem (Krige, unknown: 28, 29). The surrounding thickets were seen as wild and according to beliefs, contained evil spirits, which is why each family clearing was surrounded by a timber fence (see figure) (Krige, unknown: 29).

Research has shown that the Thonga hut or *indlu* varies greatly from the Zulu beehive version due the techniques applied as well as the structure and construction process – materials show some correlation (see the following section on local nguni traditions). Claude mentions that the

interior of the Thonga *indlu* is surprisingly light and well crafted, which is quite different from the Zulu beehive, which is quite dark (Claude, 1997: 2; personal visitation, 16 June 2010).

### Thonga Materials and Techniques in General

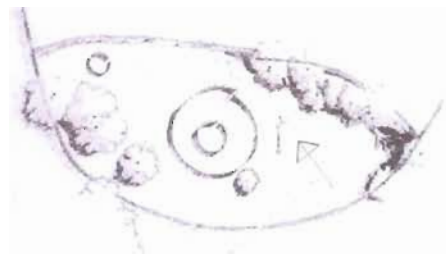
The Thonga are renowned for their extensive knowledge on the local fauna and flora and research has revealed that some of this knowledge is reserved for the making of things, including huts, homesteads, fences and utility objects amongst others (Cunningham and Gwala, 1986: 491). This knowledge developed because of the specific biophysical conditions of the area, for example, there is a lack of mud and adobe thus forcing local populations to focus on the abundant and various vegetation species as construction materials (Cunningham and Gwala, 1986: 491). Over centuries a number of techniques have developed that are used to construct both habitable spaces and utilities. The following section is an exploration of the materials and techniques applied by the Thonga in the process of making things (Junod, 1966b: 124; Cunningham and Gwala, 1986: 491 - 502).

Ncema reeds and papyrus (see figures) are frequently harvested for use in construction and craft, in fact, to date a yearly large scale, controlled harvesting effort is organised within the iSimangaliso Wetland Park (IWPA, 2008: 85; Govender and Mhlanga, 2010: personal communication). The massive coordinated harvesting effort is necessary due to the frequent contemporary application of ncema in crafts and the fact that no sources of the reed remains outside the boundaries of the park. The Ncema harvesting operation is an excellent illustration of collaboration between conservation authorities and local indigenous population groups and the mediation between conservation, tradition and socio-economics in an attempt to establish sustainable resource practice (IWPA, 2008: 85; Govender and Mhlanga, 2010: personal communication). Ncema is a great source of income for many and people from as far as the Eastern Cape visit the park for this purpose



**Fig. 4.12 Thonga homesteads in a wooded area** (Google Earth, 29 June 2009)

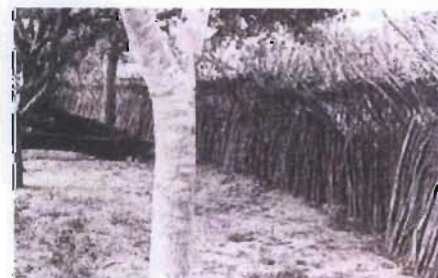
In the past the settlements might not have been as dense as shown here - Cunningham and Gwala (1986: 502) say that consumerism and the provision of infrastructure has resulted in homestead clusters localised densification.



**Fig. 4.13 Typical layout of a Thonga family unit** (Claude, 1997: 2)



**Fig. 4.14 Thonga indlu** (Junod, 1966: 109)



**Fig. 4.15 Timber fence** (Claude, 1997: 3)



(IWPA, 2008: 85; Govender and Mhlanga, 2010: personal communication). Upon closer inspection it was found Ncema is a thin (compare to the thickness wire binding of a sketchbook), relatively strong and stiff reed that is flexible when still green. These properties make the reed both easy to work with and hardy (see figures) (Govender and James, 2010: personal).



**Fig. 4.16 Harvesting Ncema Reeds**  
(Cunningham and Gwala, 1986: 493 - 511)



**Fig. 4.17 Dried Ncema**  
(Author's own)



**Fig. 4.18 Harvesting and drying of Papyrus**  
(Cunningham and Gwala, 1986: 493 - 511)

The leaves, bark and stem of a variety of indigenous plant species are used in Thonga construction, namely palm species, several trees, reeds and grasses: specifically, the iLala Palm and other palm leaves (*Hypaene crinita*) for weaving, the *nkhulu* (mafireira tree) and other trees (*Trichilia emetica*) for carving and bark, *Raphia* Palm (*Raphia vinifera*) for leaf stems, Hibiscus and other trees for sticks (many termite resistant hardwoods occur) as well as various grasses and reeds for thatching and weaving and wall construction (Cunningham and Gwala, 1986: 492 – 509; Junod, 1966b: 105, 106, 112).

As mentioned previously, the Thonga could not rely on the use of adobe, but instead developed techniques to construct buildings and other objects from parts of local plants (Cunningham and Gwala, 1986: 492). The techniques employed are mostly variations of weaving, binding, knotting and carving and are employed structurally, for example timber lattice panels, for decoration, e.g. woven palm leaf interior decorations and also to make useful basketry objects (Cunningham and Gwala, 1986: 492 – 503; Junod, 1966b: 104 - 127).

### **Materials and Techniques as Applied in Thonga Hut Construction**

Two traditional types of huts exist, namely circular and rectangular, both of which are labour intensive due to the amount of weaving, binding and cord making that is necessary (Cunningham and Gwala, 1986: 492).

Huts are constructed as follows: for the circular type, the hut radius is marked by the use of a string that is attached to a peg (see figure), whilst for rectangular structures; the footprint is marked by pegs in the ground. Circular structures are mostly clad in reeds, whilst woven timber lattice panels substitute the walls of rectangular structures (Cunningham and Gwala, 1986:

492). For both types, the walls and roof are traditionally built separately and then later attached (Cunningham and Gwala, 1986: 492). The separate construction and design of roofs make them re-usable, should the need arise to destroy the dwelling - for example, if someone dies in it (see following section on roof construction) (Cunningham and Gwala, 1986: 492; Junod, 1966b: ; Junod, 1966a: 318, 321).



**Fig. 4.20 Carrying a roof**  
(Junod, 1966a: 321)

Structural reed panels are made by firstly planting temporary spacer poles in the ground on the periphery of the hut in construction (Cunningham and Gwala, 1986: 493). The spacers are held in place by an interior and exterior set of horizontal lath rings (made of bunches of thin laths that are bound together) (see figure) (Cunningham and Gwala, 1986: 493). This framework is then clad in vertical reeds to form a screen of about 1,5 m high, the height of which is marked by a plaited string and are is bound together with cords that are traditionally made from bark that is dampened to make it temporarily flexible (Cunningham and Gwala, 1986: 493). The spacer poles are removed as the binding progresses and upon completion; the reeds are trimmed (Cunningham and Gwala, 1986: 493). (See appendices for a full list of terminology for the parts of a hut).



**Fig. 4.19 Thonga circular hut construction sequence**  
(Cunningham and Gwala, 1986: 493)

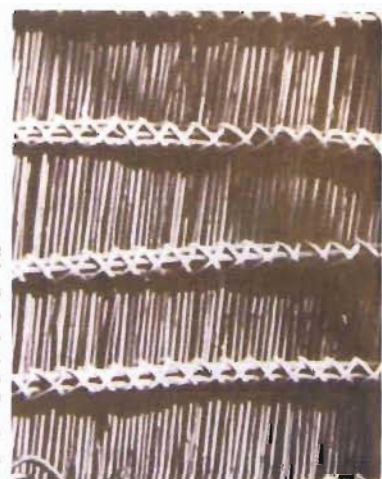
Lattice panels are constructed by weaving young, flexible laths (2 – 3 cm in diameter and 1 – 1,5 m long) in between vertically planted poles (see figure 4.17) (Cunningham and Gwala, 1986: 494). Thinner spacer poles are also provided (ibid).



**Fig. 4.21 Inserting and binding reeds to the horizontal lath**

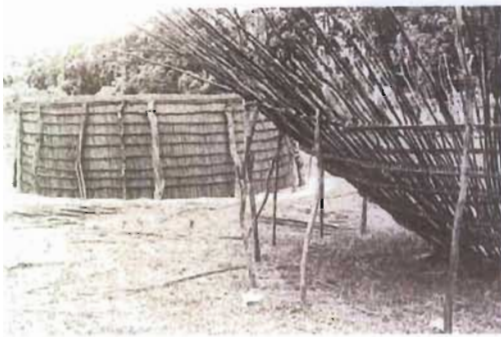


**Fig. 4.22 Reed panel ready to be trimmed**



**Fig. 4.23 Completed reed panel**  
(Cunningham and Gwala, 1986: 494)





**Fig. 4.24 Upside down cone construction**  
(Claude, 1997: 3)

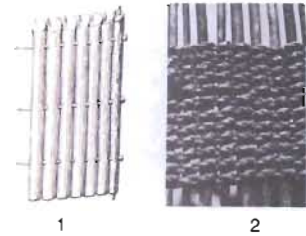


**Fig. 4.25 Roof binding and decoration**  
(Cunningham and Gwala, 1986: 493 - 501)



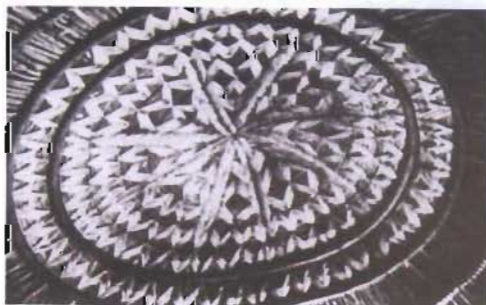
**Fig. 4.26 Thatching process**  
(Junod, 1966b: 107)

Roof construction takes place either before or after the walls are constructed and in a similar fashion to the circular wall construction – just adapted to form a cone on its tip and not a cylinder (Cunningham and Gwala, 1986: 494 – 497; Junod, 1966b: 104). A hole is dug in the ground and timber spacer poles are placed within it in such a manner that they radiate from the centre of the hole, but are also at a 90 degree angle to each other (see figure) (Cunningham and Gwala, 1986: 496 - 497). They are then bound together at the apex (which is at this stage in the ground) by weaving members of climber plants and / or plaited rope from the connection point out in a concentric fashion (see figure) (Cunningham and Gwala, 1986: 496; Junod, 1966b: 104). An interior and exterior set of ring laths hold the angled, radiating spacer poles together - similar to the ring system used in reed wall construction (Cunningham and Gwala, 1986: 494). At this point the cone is turned the right way up, thatched with premade bunches of reeds from the bottom up (see figure) and placed upon the reed structure (Cunningham and Gwala, 1986: 496 - 499). Sticks are left to poke out of the apex to prevent birds from perching on it (Cunningham and Gwala, 1986: 496 - 499).



**Fig. 4.27 Pivoting door and papyrus with twine**  
(Junod, 1966b: 108) (Cunningham and Gwala, 1986: 499; Junod, 1966b: 108).

Pivoting doors are traditionally made either of *Raphia* palm leaf stems that are stuck together by horizontal stakes or papyrus / laths that are bound together with twine (see figure) (Cunningham and Gwala, 1986: 499; Junod, 1966b: 108).



**Fig. 4.28 Decorated apex**  
(Cunningham and Gwala, 1986: 502)



**Fig. 4.29 Decorated wall**  
Note the finish between wall and roof  
(Cunningham and Gwala, 1986: 498)



**Fig. 4.30 Round disk decoration**  
Placed on roof for good luck  
(Cunningham and Gwala, 1986: 499; Junod, 1966b: 108).

Weaving with palm leaves is used extensively to decorate the interiors of huts in v-stitch patterns, notably the area right beneath the roof apex and the wall panels (see figures) (Cunningham and Gwala, 1986: )

### Synthesis of contemporary and traditional: An example at Kosi Bay

In the light of changes and new influences on the cultural, socio-economic and technology front, new ways of construction can be observed. Upon visitation to the Kosi Bay area (2007), the author came upon a unit which will be used to illustrate this point. Situated in a *Raphia Palm* forest on the shores of one of the Kosi Bay lakes, this unit

illustrate how a traditional material can be applied in collaboration with a contemporary construction technique. A combination of traditional and contemporary materials, most notably palm leaf stems, were used to construct the unit, but traditional binding techniques were not applied, instead, nails from the local hardware store were used. The roof



**Fig. 4.31 Unit built from *Raphia Palm* leaf stems** (Author's own)

was also constructed of palm leaf stems; however, these were covered in thick plastic sheeting as waterproofing. *Raphia Palm* leaves are extremely long, the longest one observed was about 12 m long, and their stems are robust and thick enough to be used similarly to timber planks. The specific location of this unit is most easily accessible by way of a small motorised boat as there are no roads. For this reason, the utilisation of materials found on site is almost the only alternative as the alternative, transporting construction materials across the lake, would potentially cause a great deal of disruption to the environment. It should be noted that natural populations of *Raphia Palms* are endemic to the area adjacent to the Kosi Bay area and therefore extensive application of this resource would not be sustainable



**Fig. 4.32 Construction detail** – note the use of nails (Author's own)



**Fig. 4.33 Contemporary tongue-and-groove door** (Author's own)



**Fig. 4.34 Roof detail** (Author's own)



**Fig. 4.35 A *Raphia* Forest on the shore of Kosi Lake** (Author's own)

([www.isimangaliso.com](http://www.isimangaliso.com), 6 October 2009).

Whether the structure performs well in the sense of passive climate control and the success of roof system remains unknown. Yet, it does show that construction with predominantly on site materials is a possibility at a scale that relates to the amount of materials available and also,



that traditional and contemporary materials and techniques in collaboration. Professional knowledge of design and construction could be applied to enhance the technique, however, that is a possibility that will be explored in part II of this document.

### Conclusion to Thonga built forms

If traditional materials and techniques are to be applied to a contemporary public structure – such as an interpretive centre – one might need to categorise the information differently to the manner in which it has been done in the preceding study. The study was structured around the manner in which the Thonga use and apply materials and techniques, namely hut construction. However, this is not necessarily an appropriate approach for the design of a larger public structure. Therefore it is likely that in design development reference would rather be made to the traditions as simply 'reed panel', or 'lattice panel', rather than 'wall' – this would encourage consideration of the element in a different configuration, such as perhaps, a pergola. Furthermore, reference to techniques rather than whole constructed units may also enhance the development of new applications for old construction methods, for example, instead of referring to a papyrus-and-twine door, one might merely include the technique of binding. If the construction traditions are reduced to base elements in this manner it is likely that incorporation of contemporary materials and techniques will occur with greater ease as one can consider the benefits or appropriateness of applying any specific technique or materials based on its inherent properties and not those of the entire traditional unit.



Fig. 4.36 Beehive huts facing the central kraal (photo by the author)



Fig. 4.37 Timber structure (photo by the author)

### Local Zulu built forms: The case of Venyane Village

This section is compiled as a brief visual overview / impression that was gained upon personal visitation to a cultural village adjacent to Bhangazi, namely Venyane Village, accompanied by some explanation as was given by Mr. Nkhwanazi. The purpose of which is to inform the author about the local tradition of building to such an extent that it can be considered, developed or elaborated upon if necessary during the design development phase (see part II).

The Venyane Village project is unique in the sense that Mr. Nkhwanazi, the owner, was self-motivated to do the project after being employed to transfer international tourists from the St. Lucia area to other cultural villages such as Shakaland close to Eshowe (Personal discussion, 17 June 2010). Mr. Nkhwanazi, is from the local community and claims that he constructed the



village in 1997 so that he could accommodate tourists and show them the local variation of the nguni vernacular (ibid). The project has had a significant influence, not only in the sense of Mr. Nkhwanazi's socio-economical benefits, but also on those of his whole community – Mr. Nkhwanazi's success has changed the local perception of tourism for the better (ibid). An argument might be made that personal visitation to an actual, functioning homestead, might have increased the authenticity of the study – however, the park authorities as well as a community member, Mr. Nkhwanazi, both recommended visitation to this site on the basis of authenticity (Govender, 2010: personal communication; Nkhwanazi, 2010: persona communication). Furthermore, no homesteads exist within the park at this stage, besides form the notorious Dukuduku community, who do not allow penetration of their village without prior consent and are not willing to collaborate with park authorities or researchers (Govender, 2010: personal discussion).



**Fig. 4.38 Hut and kraal** (photo by the author)



**Fig. 4.39 Lattice fence and back gate** (photo by the

The beehive huts at Venyane were layed out in the traditional circular manner with a central kraal (for the purpose of the cultural centre this was used as an outdoor social and entertainment space). The method of construction varied little from the general nguni vernacular. Fig. x shows the initial timber lattice structure that is tied with contemporary nylon rope, not natural fibre string, however the method doesn't deviate (Nkhwanazi, 2010: personal communication).

The specific characteristics of the structures here is there three to four overlapping layers of thatch on the lower third of each hut (see figure 4.40). Some of the structures had a base foundation wall that stood roughly half a meter above ground, painted and plastered and constructed of brick and mortar. Instead of traditional woven rope, a bright orange nylon version was used (see figures). The huts all had a traditional single low entrance, but with the addition of a tongue and groove timber plank hinged door with door handle. Extensive use was made of indigenous timber branches for demarcation and fencing of areas. The branches varied



**Fig. 4.40 Herbs at the threshold of a hut in construction** (photo by the author)

form thin twigs used to create timber lattice fencing, to staunch branches planted upright into the ground to form the 'kraal' (see figures). Patches of a specific grasslike herb is planted at the entrances to huts in order to protect the inhabitants from danger (Nkhwanazi, 2010: personal communication).

The building on the shores of Kosi Lake illustrated progressive tradition that relied heavily on western construction techniques, but utilised a traditional material (Raphia Palm leaf stems), however, Venyane Village illustrates the use of a contemporary material (nylon rope) in collaboration with a traditional construction method (Zulu beehive construction).

### Conclusion

The cultural landscape of iSimangaliso is a visually rich environment and this characteristic could serve as inspiration for contemporary built forms within the park. In the spirit of progressive tradition, direct repetition of the materials and techniques should be avoided as that may result in cultural stagnation (see chapter 3). However, innovative application of techniques, materials or patterns would potentially result in built forms that relate to and build upon the past, yet is rooted in the present – the type of instability that creates a positive expectation of the future.

The researcher recommends two different approaches with regards to the application of the cultural heritage in terms of progressive tradition of:

Firstly, the relevance of traditional building techniques and materials could be considered for application to a contemporary structure. The techniques and materials do not have to be applied directly, as technology and a change in lifestyle might be able to contribute positively, for example, the tradition of timber lattice work enriches the visual environment due to the play of light and shadow of the surface. Furthermore, it also has the specific characteristic of visual screening without completely blocking a view and also has the benefit of allowing movement of air. However, in terms of conservation it may be wise not to encourage the uncontrolled harvesting of rare indigenous timbers. Thus, the method may be kept, but the material changed – a good substitute for timber lattice may be strong canvas strips. The technique may be applied to any screening element and not necessarily vertical screening for example a horizontal element, like a pergola.

Secondly, direct reference can be made to certain elements or features that make strong impression and will thus through abstract representation form an idea in the mind of the viewer about the culture. In this sense, personal visitation to the village was very useful as that author got a direct impression of the textures and imagery that can be associated with the local nguni culture. The experience will inform the design development, for example, the strong impression the layers of thatch make can be mimicked by way of long horizontal louvered panels or the characteristic low entrance, dark when seen from the exterior of a beehive hut could be applied

to a contemporary building – thus inducing an action that is well known to all who have entered such a residence.

It should be noted that the examples given will not necessarily be applied to the proposed design project as the specific application of this approach will only be established during the design development phase of this research. By application of these two techniques, it is hoped that a step will be made in the adaptation of tradition and indigenous knowledge so that it may be incorporated in society in an active rather than passive manner (pure repetition of traditions would be passive application).

### 4.3 PERCEPTIONS OF THE LANDSCAPE

This document deals with the perceived landscape as it is suggested by the current global paradigm, namely an attempt at mutual symbiosis with landscape (see chapter 3) and the theories that relate directly to architecture (see chapter 3) are focused on the visual landscape (namely the natural and cultural layers). However, the local perceived landscape will also be explored briefly so that the author can obtain a greater understanding of contextual issues as background information before design development is undertaken.

The perception of the landscape that is known today as the iSimangaliso Wetland Park has changed radically over time and between different groups of people. The aim is therefore to establish a record of perception of the landscape by both local populations as well as outsiders. The most significant existing groups of people and events that play a role in the perceived landscape was determined, through research, to be previous local indigenous populations, the conservationists (to whom researchers may be added), the government (specifically the Department of Forestry and the military) and visitors / tourists (IWPA, 2008: 20 - 65). The main events that, together with the imaginations of the mentioned groups of people, shaped the different perceptions of the park can be summarised as the forced relocation and related conservation, forestry and military efforts, the significant amount of research projects that occur within the park (with significant findings like the that of the prehistoric fish species, the coelacanth), as well as recreation and the ban on beach driving (IWPA, 2008: 20 - 65). The following is a brief introduction of the mentioned facets of the perceived landscape of the iSimangaliso Wetland Park with the aim of informing the researcher about the nature of the perceived landscape. The objective is to inform the researcher so that the needs of the different groups can be accommodated in design development (see part II of this document).

#### **Forced relocations**

The most significant and controversial population perceived or imagined landscapes that exist in relation to the park is that of those communities that were forcefully relocated from the park from the 1950's to the 1970's (IWPA, 2008: ). The greatest success story of the land restitution process in the park is hailed as the case of the Bhangazi community (James and Govender, 2010: personal communication; Mhlanga and Govender, 2010: personal communication).

In the preceding section about the cultural landscape of the iSimangaliso Wetland Park, it was established that the local indigenous populations have relied, and still do in many cases, on the natural landscape for survival and are spiritually linked to the park's specific landscape through their cosmological beliefs and rites of passage. Disconnection from the natural landscape thus entails disconnection from culture. The people of Bhangazi were especially devastated about the fact that they were not even allowed time to relocate the spirits of their ancestors to their new homes (Skelcher, 2003: 766).

The relocations were characterised by intimidation and selective use of violence and the case at Bhangazi was no different (Skelcher, 2003: 773). The removals and relocations caused a variety of problems for the community members: some were separated from family members who had been left behind for months; all were left without shelter or land and had to beg another community's *inkosi* (leader) for ground so that they could erect new huts (Skelcher, 2003: 765).

The forced removals left the indigenous peoples longing for their land and an intense disregard for both conservation authorities developed (removals were done by the Natal Conservation Unit) (Skelcher, 2003: 766).

#### **A change for the better**

The Bhangazi community's land was restored to them recently and they now enjoy ownership (James and Govender, 2010: personal communication; Govender and Mhlana, 2010: personal communication). They are not allowed to move back and therefore still feel disconnected from their ancestral lands. As a remedy to this situation, they have decided to have an interpretation centre erected on the site, in commemoration of their history there (Govender and Mhlana, 2010: personal communication). It should be stated that despite the fact that the removals sparked a strong negative and cynical outlook of conservation, forestry and military operations, this outlook has recently changed amongst some of the former community members, such as the former Bhangazi community. The Bhangazi understand the need to conserve and protect the landscape for the future generations (ibid). The addition of an interpretation centre on their site will give the added benefit that they would then be able to take their children and grandchildren (and so forth) to the park to learn about and experience their historic home (ibid).

#### **Collaboration in conservation**

The annual *ncema* (see cultural section of this chapter) harvesting process is a major event that attracts individuals from all over South Africa and has most certainly played a significant role in the manner that conservation efforts and the iSimangaliso landscape are perceived. The process is open and transparent and through collaboration the parties involved manage to strike a balance between cultural issues, socio-economic matters and those of conservation (Govender and Mhlana, 2010: Personal communication). A well attended public meeting is held in advance of the harvesting period. At the meeting conservationists explain how much *ncema* is available (due to natural conditions) and where it is located whilst the harvesters



would give information about the amount of harvesters – the interests of both parties are considered and the gathering concludes when regulations with regards to location, duration amongst other specifics have been finalised (Govender and Mhlanga, 2010: Personal communication).

### **Recreation versus conservation**

The concept of preserving nature stemmed from the colonial period when certain areas were demarcated as wild reserves that could serve as recreational areas for the white upper class populations due to their scenic attributes (IWPA, 2008:22). These areas were thus managed to enhance the experience of what was perceived as a wild and beautiful landscape and therefore any human inhabitants were removed (IWPA, 2008: 22).

The current authorities of the park concur that the landscape of iSimangaliso is significant in the light of sustainability of the global environment and society and agree with the findings of the IUCN that besides conservation and preservation, presentation of the landscape should also be a priority (presentation plays a major role in promoting the area and an influence the perception of the park for the better) (IWPA, 2008: 11).

iSimangaliso's response to tourism development as set out in the Integrated Development Plan for 2009 – 2014 makes provision for the growing trend in education by travel - the park authorities aim to create awareness and appreciation of environmental issues by interpretation, presentation and educational efforts (IWPA 2008: 84, 103). The park aims to develop a conservation brand that reflects contemporary values towards the landscape (see chapter 3.2) (ibid: 163).

### **Conclusion: Acknowledging the perceived landscape of iSimangaliso**

The most significant components of the imagined landscape of the iSimangaliso Wetland Park are thus that of the people who used to make a living from its bounty and those that have the (official) intention to protect it namely the indigenous populations and the conservation authorities. There are many other imagined landscapes derived from this particular area, such as those of researcher within the park, and recreational users, however, for the purpose of this research the case of the Bhangazi community is sufficient.

However, the case of the Bhangazi community and the conservation authorities contain all the elements that needed to be understood in terms of this research: there is a significant natural, cultural and perceived component. Furthermore, this case is highlighted by the fact that the parties have managed to discard their previous respective imagined or perceived landscape (the way that they thought and felt about the landscape of the park) in exchange for a more inclusive, collaborative approach. The author will draw from this new positive perception in design development with the aim of establishing a facility that will enhance the livelihoods of both of the mentioned parties.





# Study of a Built Form within the Landscape:

## Mapungubwe Interpretation Centre

### 5.1 INTRODUCTION

The Mapungubwe Interpretation Centre, by Peter Rich Architects will be explored in terms of its relation to the landscape in terms of the natural, cultural as well as perceived landscape. The project will be explored in terms of its configuration within the landscape. As such it may have been ideal to base the study on an actual site visit, however, due to its remote location the facility is not easily accessible and could not be visited as a result of financial and time constraints. The study was thus completed by way reference to written and photographic documentation that was considered with regards to the theories and concepts as discussed thus far in the research, e.g. the natural, cultural and perceived landscapes. It should also be noted that despite the similarity of typology, this is not a typological study – a study of the interpretative typology will be included in part two of the research, namely the design report.

Mapungubwe's cultural significance was made official when it was declared a cultural World Heritage Site in 2003 based on the fact that it contains evidence of a significant social changes of the African population and of the growth and decline of the Mapungubwe empire over 400 years (preceding the Great Zimbabwe civilization), played a significant role in the East African trade and bears testimony to the extent that climate change can influence culture (DEAT, 2002: 2).

The natural landscape, though not as exceptional as the cultural, also contains notable features, namely, the confluence of the Limpopo and Sashe rivers, the open expanses of savannah and distinct protruding hills (see figure 5.1). The landscape of Mapungubwe plays a significant role in the perception of African culture as it proves the existence of a politically, socially and culturally complex African society as early as 900 AD (DEAT, 2002: 11).

The tradition of design that is conscious of the landscape is characteristic of much of South African architecture (Joubert, 2009: 22). There are several contemporary examples of built forms that display this attribute including some that have been mentioned in previous chapters, for example Fynbos House at Betty's Bay and the Taal Monument at Paarl (refer to chapter 3). However, the Mapungubwe Interpretation Centre near Musina is of particular significance to this study as it does not only display a theoretical approach to design that is akin to the theories explored in this research, but it also correlates with regards to the proposed project's typology.

### 5.2 RELATION TO THE LAYERED LANDSCAPE

#### 5.2.1 Configuration within the Natural Landscape

The configuration of the built form within the natural landscape was the main driver behind the design of the Mapungubwe Interpretation Centre and will be explored here in terms of form, materials and the theory of synchronised geometry (Fitchett, Hall and Rich, 2009: 28).

Both the form and materials that were used in the construction of the Mapungubwe Interpretation Centre pay tribute to the surrounding natural landscape. The geometry of the structures echo the loosely scattered rocky outcrops that are present in the predominant savannah plains and the main materials were (soil and rock) sourced directly from the landscape. The repetition of form and materials are effective tools of visual integration (see figures above). However, visual investigation of the forms and landscape reveal that the integration is not complete due to subtle differences in morphology between the rocky outcrops and the domed forms. If the morphology of the landscape was categorised as macro, medium and micro – macro being....etc. – then it could be said that the integration on a macro level is very effective as the form of rocky outcrops relate closely to the clustered domes. However, the medium morphological integration could have been more effective if instead of domed and thus curved forms, the clusters consisted of angled planes. The difference between the micro scale morphology of the real and constructed landscape is that the real rocks have relatively smooth surfaces, whereas the built forms are covered in smaller rocks which give them a fairly irregular appearance. Regardless, the integration is very effective when compared to the integration that would have been achieved if conventional means of construction, such as mortar-and-brick or timber, was applied. Furthermore, it is likely that integration at medium and micro scale would not have been achievable by application of the timber vault technique and would therefore have resulted in a much more expensive building that could not be built by low-skilled labour.

In terms of synchronised geometry: despite the fact that the structure relates to the morphology of the landscape to a great extent and does in fact seem organic, it is interesting to note that the design was generated by the application of a specific geometry the regularity of which can be best observed in section (see figures). This approach correlates with the concept of synchronised geometry as discussed in chapter 3b and the process that was followed illustrates this point:

1. The landscape was investigated and was found to have inherent characteristics, namely loosely scattered rocky outcrops on a savannah plain, this resulted in the choice of geometry, namely the inherent dome geometry of timber vaults (Fitchett, Hall and Rich, 2009: 28).
2. The geometry was applied during the design development process and adapted and elaborated upon to suit the building needs – three types of vaults were applied, namely rectangular or square based, a circular dome and shallow pitched horizontal spanning vaults (Fitchett, Hall and Rich, 2009: 29).
3. Design development (Fitchett, Hall and Rich, 2009: 29 - 31)

#### 4. Construction ()

Although a triangular geometry was applied to the ordering of the site layout (see figure) (the triangle geometry relates to the cultural landscape of the Venda, a contemporary local group as well as some markings at the Mapungubwe archaeological site), this is not considered in terms of the application of synchronised geometry as intended in this research as the theory is intended mainly for the natural landscape (see chapter 3b). However, it is interesting to note that in application of this geometry, the topography was considered. The application of the triangle geometry in relation to the contours of the site was well suited to the layout of the building as the diagonals could be used as circulation ramps, whilst the areas parallel to the contours became buildings, thus easing construction, but also further integrating the geometry of the building with that of the site.

This building is thus a good example of how a derived geometry can be applied and adapted as an abstraction of the natural landscape.

##### 5.2.2 Configuration within the Cultural Landscape

The competition mandate for this building asked for a design that could tell the story of Mapungubwe from a landscape and history perspective and so, ideally, the design should have drawn mainly from the local cultural, natural and perceived landscape for inspiration. However, the architects decided that the adaptation of a traditional technique outside the realm of Mapungubwe, namely timber vault construction (Fitchett, Hall and Rich, 2009: 28). The reasons for this deviation were that it would allow reference to the natural landscape and could be constructed with low-skilled labour (Fitchett, Hall and Rich, 2009: 28).

This section explores briefly the notion that there is a strong link between the cultural and natural landscapes of Mapungubwe and therefore reference to the natural landscape is also reference to the cultural landscape. Secondly, the adaptation of the traditional dome building technique to suit contemporary needs is explored as an example of progressive tradition.

The remnants that have been preserved of the cultural landscape of the civilization that thrived at Mapungubwe from 900 AD to 1300 AD, are mostly gold artefacts, beadwork, pottery shards and markings on rock (see figures), but most of these are not reflected directly in the architecture of the architecture of the Mapungubwe Interpretation Centre. Rather, the built form refers to the natural landscape within which the society lived in material (locally sourced natural materials were used), form (the built forms echo the hills) and view orientation (the building is orientated towards a view of Mapungubwe hill) (Fitchett, Hall and Rich, 2009:27). Research has shown that the societies that lived at Mapungubwe were directly influenced by the natural environment (see diagram) and it can thus be said that the natural environment played a significant role in the cultural landscape of Mapungubwe. Furthermore, Mapungubwe hill played

an important role in the social and political structure of life at Mapungubwe (the hill was reserved for royalty) - therefore, it can be said that by reference to the outcrop, the architecture of the interpretation centre refers to the cultural landscape. The interior of the building has a cave like quality which is said to be related not only to the notion of shelter, but also to traditional rainmaking techniques (Fitchett, Hall and Rich, 2009: 29).

The construction method employed was that of timbrel vaulting (Fitchett, Hall and Rich, 2009: 28). In terms of the competition brief, one could argue that ideally, the method of construction should have been sourced from Mapungubwe's own cultural landscape. However, the architect was faced with challenge of providing a facility that could be constructed within a World Heritage Site, aware of the global ecologically conscious mindset and the effect that conventional construction techniques may have had on the natural landscape, as well as realising the potential social and economic benefits that could be realised if the local community was involved. The existing cultural landscape of Mapungubwe did not offer any clear resolutions to all of these challenges and the architect thus turned to the timbrel dome building techniques (Fitchett, Hall and Rich, 2009: 28).

Timbrel vault construction, which originated in Egypt around 1300 BC, was chosen, not due to the fact that this is also a cultural landscape of Africa, but rather due to the fact that with certain adaptations, this technique posed as a good solution to the typological and site related challenges of the interpretation centre. The technique of dome building was adapted in the following manner: the materials used were compressed earth tiles, made in situ from the soil on site (Fitchett, Hall and Rich, 2009: 29). Furthermore, the skills of academia from around the world were involved to streamline the design, before construction commenced – in so doing maximum performance by the main elements of the structure could be achieved, thus preventing the application of unnecessary materials (Fitchett, Hall and Rich, 2009: 28-29) (see figure).

In conclusion: although one could argue that a more direct reference to the cultural landscape of Mapungubwe might have been desirable in the design of the interpretation centre for the site, the application of an indirect link through the natural landscape may ultimately be viewed as the most preferable choice, due to the fact that so many successive societies have inhabited the area over time – though their cultural practices may have differed somewhat, they all lived within the realm of the natural landscape. In the previous section (Mapungubwe's configuration within the natural landscape) it was found that in terms of the attempt integration with the surrounding natural landscape could have been effective. However, in terms of the built form as a part of the cultural landscape, perhaps it should be said that built forms should not become complete extensions of the natural landscape. If built forms were pure extensions of the landscape, the cultural landscape may cease to exist. In the cultural sense an argument can thus be made the attempt at integration with the natural landscape is too literal to support the cultural and that further abstraction may have been more effective. The author thus comes to the conclusion that both integration with the natural landscape, or further abstraction to emphasise the fact that the



built form is a cultural expression may have contributed equally to the successful configuration of the structure within the landscape.

### 5.2.3 Configuration within the Perceived Landscape: Complementing Attributes

This section explores the idea that the societies of Mapungubwe used the attributes of the natural landscape to express perceptions about themselves.

The hierarchy of the Mapungubwe societies as visible in settlement pattern could easily be enforced spatially due to the characteristics of the natural landscape, for example, the distinct Mapungubwe Hill, a landmark in the area, was home to the top layers of society, notably the king and his wives, whilst the other members of the community lived around the hill on the plains (see diagram). The hill, an element of the natural landscape, was thus perceived as being an important attribute in terms of the cultural landscape. The king and his wives, and secondly, other members of the royal family, were perceived as more important in this society, it seems only fitting that they be associated with an element of the landscape that is more important as well.

It is also significant to note that by participation in the construction of the facility, the contemporary local people are linked to their ancestors who also built on this land. The idea of heritage is thus emphasised and is given personal significance.

The modern day addition to Mapungubwe's landscape reflects the perceived landscape by referral to Mapungubwe hill in form and material. Furthermore, the amount of care taken in the provision of architecture that relates closely to the landscape reflects the contemporary perspective that this landscape is still significant and should be preserved, conserved and presented.

## 5.3 CONCLUSION

The Mapungubwe Interpretation Centre is a good example of how the built form can be designed so that it relates closely to the natural, cultural and perceived landscape of an area and the building is also seen as a successful effort in terms of integration of theoretical, socio-economical and environmental concerns.



# Conclusion: A Summary of Research Findings

This chapter includes a brief review of the information that has been gathered and through this information suggests guidelines for the appropriate reconfiguration of the built forms within the landscape that could be applied to interpretive facilities for the iSimangaliso Wetland Park.

It was the aim of this research to explore theories that pertain to the configuration of the built form within the landscape for suitability to the contemporary concept of landscape. The research was specifically structured so that each section would follow and build upon the previous. Firstly, the contemporary meaning of the concept *landscape* was determined. Secondly, theories that corresponded to the concept of landscape as predetermined were explored and tested through examples for their relevance.

## 6.1 THE CONCEPT OF LANDSCAPE

The initial study enabled the author to form an alternative view of the concept of landscape, namely that it is a complex and evolving phenomenon that be roughly understood in terms of a visual and an imagined component. This view is considered to be alternative due to the fact that popular reference is made to only the natural as landscape, however, it is akin to the concept of landscape as palimpsest by Basu (2007), although this theme was not explored directly. Furthermore, it was found that the visual landscape could be subdivided into a natural and cultural component. To differentiate between the general term *landscape* (which is popularly associated with scenes of the natural environment) and the layered concept that is discussed here, the term *total landscape* was applied. The concept of the total landscape is associated with a holistic and inclusive view of landscape that acknowledges the interrelatedness of its parts.

The inclusion of cultural and perceived attributes within the concept of landscape has a potentially profound influence on the nature and characteristics of architecture in the future. Where the so called green revolution would have us believe that the preserving of natural environment should dictate the way forward for humankind, this study has found that culture and perception play a greater role than the popular *green* trend will have us admit. In fact, in chapter 3.1 it was found that preserving the natural environment is the only means by which humankind can thrive (thus including our cultural and perceived landscapes).

At this point it may be helpful to mention that, following the findings of chapter two (the concept of landscape) the built form is a phenomenon which illustrates a particular relation to all the layers of landscape. With regards to the visual and the imagined landscape: it is a part of the visual landscape due to its physicality, however, it illustrates the perceived landscape by being preconceived in the mind of the maker. Furthermore, it has an influence on the perceived

landscape – due to its physicality and the fact that it is tangible, it can portray certain ideas and therefore influence the perceived landscape (for example of a person / group that is exposed to a new idea by exposure to the built form).

Secondly, within the visual landscape, the built form is related to both the natural and cultural landscapes. The built form is a part of the cultural landscape by default, since the cultural landscape consists of everything that is not entirely natural. Similarly one could say that the natural landscape is everything that shows no influence of man and the built form which is made by man, clearly belongs to the former. However, despite being a part of the cultural landscape, the built form remains connected to the natural landscape, for example it is generally accepted that the architectural built form was initially constructed to shelter humans from specific characteristics of the natural environment, such as sun, wind and rain, and was also built with materials collected from the natural environment, such as reeds and branches (see chapter 4 – The cultural landscape of iSimangaliso).

However, on the other side of the architectural spectrum it can also be said that the built form as a part of the cultural landscape, relates to the natural landscape by design, for example Tadao Ando attempts to connect the interior of Koshino House with nature by specific manipulation of light and shade inside the house (see chapter 3.2). In fact, Koshino House can be considered as a structure that makes a strong attempt at sheltering the inhabitants from the elements, but that also then reconnects them through specific design.

## 6.2 CONFIGURATION OF THE BUILT FORM WITHIN THE LANDSCAPE

Research showed that the built form (the makings of humankind) substitutes the greatest part of the cultural landscape. The interrelatedness of the cultural, natural and perceived landscapes bears testimony to the influence that man (and more specifically, the built form) has on the total landscape. It was found that a proactive view of the global environmental situation is best suited to initiate conscious engagement with the landscape. Research showed that through conscious engagement with the landscape, a relation of mutual symbiosis could be manifested between man and landscape. The built form, as a manifestation of the thoughts and actions of man can both influence and be influenced by the paradigm of mutual symbiosis with landscape.

On completion of this study it has become clear that the way the built form is configured is largely determined by paradigms. It was established that the current global paradigm encourages the perception of humankind as a part of the greater ecological system and therefore both influences and is influenced by the natural landscape and the theme of complement was extracted as a main concept. It was found that complementary relationships (similar to naturally occurring relationships of mutual symbiosis) could be manifested in the built form through either juxtaposition or integration with the landscape and that maintaining a dynamic equilibrium is in some cases necessary (see chapter 3.1).

In order to establish how these manners of complement may be manifested in architecture,



Chapter 3.2 investigated specific architectural theories that would ensure that the built form is configured in such a manner that it takes into consideration the total landscape, relative to the contemporary global paradigm. As such, the theory of synchronised geometry was determined to be a good approach to establish complement of built form and natural landscape and it was found that the theory of progressive tradition would be likely to establish mutual complement between the cultural landscape and the built form. The perceived, cognitive or imagined landscape that is not a physical component is

There is therefore reason to believe that architectural design should not be unrelated to cultural, cognitive and natural concerns. Through research it was established that the theories of especially synchronised geometry and progressive can be used as tools in the process of configuring the built form within the landscape.

### 6.3 APPLICATION OF RESEARCH TO THE PROPOSED PROJECT

Initially the concept of landscape was researched to inform the author with regards to the structure and characteristics of landscape. Secondly, the author established a framework of thought within which determined an appropriate approach to the configuration of the built form (chapter 3.1) and thirdly, this framework was applied to theories of architecture (chapter 3.2). Chapter 4 was an exploration of the specific landscape of iSimangaliso and may be regarded as the first step in the application of the research to the proposed design project, namely that of interpretive facilities for the iSimangaliso Wetland Park.

Specific theories with regards to the complementary reconfiguration of the built form within the natural and cultural landscapes were considered, namely synchronised geometry and progressive tradition, respectively.

Based on examples of existing built forms, this study has shown that in order to be configured within the landscape in a complementary manner the built form must be designed to consciously engage with each layer of the landscape, namely the natural, the cultural and the imagined landscape. The extent of the engagement may, however, be determined by either the importance of that layer in the specific landscape or the absence of it.

The following is a brief overview of each theory or concept that has been discussed and the conclusion drawn.

#### **Mutual Symbiosis, Dynamic Equilibrium and Incorporation versus Intervention with Landscape**

These concepts are all related to the perception of landscape and the preceding cognitive approach to the design of the built form. The contemporary ideal was established as a state of complement (mutual symbiosis) with the natural environment (see chapter 3.2) and the

cognitive tools that we can use to generate built forms that will establish complementary relations between man and landscape are the concepts of mutual symbiosis, the dynamic equilibrium and intervention versus incorporation.

Practical guidelines for the designer:

The total landscape should be considered and it should be established how the addition of built forms could establish a more complementary situation between man and landscape. This may entail design to facilitate the dynamic systems of nature – for example, a design of the built form that caters for fluctuating water levels near wetland areas as could be the case at iSimangaliso.

In order to reach a state of complement, the designer has a choice of either juxtaposing or integrating with the landscape. The potential effect of each should be considered, for example: if the richness of the natural landscape should be emphasised, the built form may serve this purpose by contrast as in the Chikatsu- Asuka Museum (see chapter 3.2) or by integration such as in Fynbos House (see chapter 3.3).

### **Synchronised Geometry**

The concept of synchronised geometry is a manner of engaging with the visual landscape, especially the natural landscape. The prerequisites for application of this approach is that one must be able to derive a geometry from the surrounding landscape which, in turn, could be developed into a functioning architectural design. As the Benidorm Beachfront, Fynbos House, Tod's Omotesando, Freedom Park and the Mapungubwe Interpretation Centre illustrated, the approach may be applied to various types of natural landscapes in a variety of ways.

Synchronised geometry could be labelled a design tool that is likely to aid the generation of architectural designs that are closely related to the natural landscape in form. As such it is likely that this approach could be applied to an even wider variety of landscapes than were illustrated during the course of research. Aspects of topology often play a significant role in this approach, as was the case with the Mapungubwe Interpretation Centre (see chapter 5).

Despite its potential as a design generating tool, the approach of synchronised geometry will not necessarily result in design repetition. This is due to two main variables, namely the landscape that it is applied to and secondly, the personal approach of the designer. A number of potential geometries may be derived from any landscape, depending on the approach of the designer. Furthermore, the manner in which the geometry (essentially an abstraction of the natural landscape) is developed into an architectural design is also at the discretion of the designer to a certain extent. This element of variety is a sign of creativity and perception that characterises human activities. As such, the approach of synchronised geometry can be understood as a good example of design of the cultural landscape for the natural landscape – despite the direct relation to the natural landscape, the built form stays an element of the cultural landscape.

The concept of layering played a major role in the derivation of a geometry form the landscape of iSimangaliso. Upon visitation and through literary research of the iSimangaliso Wetland Park, the author was struck by the complex ecology of the park (see chapter 4). The manner in which the ecology presented itself to the visitor could easily be translated to a series of layers – each facet becomes a linear element that is situated between the viewer and the horizon. The concept of layering implies a roughly linear geometry, but still leaves room for a lot of manipulation as needed during design development. This concept will be elaborated upon in part II of the document.

### **Progressive Tradition**

Progressive tradition is concept that can through application to architectural design, facilitate complementary configuration of built forms within the cultural landscape. Traditions and cultures can be utilised as communication platforms or be manipulated to facilitate social development through process (see chapter 3). For example, reference to cultures and traditions that are familiar to a certain group of people may be incorporated into the design of the built form, merely for the purpose of creating an identifiable object for the viewer. It is likely that this will enable the individual or group to associate themselves with the specific built form and the function that it houses. Culture and traditions may also be viewed as the collection of knowledge over time that is passed from generation to generation. In the case of progressive traditions, an argument is made that this process should not become redundant and that traditional or cultural knowledge should be examined for usefulness to contemporary society (see chapter 3). Thus, instead of repeating traditions for their own sake, one should build upon them by adding new ideas to traditional practice or by application of existing (traditional) ideas to contemporary practice.

The concept of progressive tradition in architectural design was conducted by the exploration of Pretoria Regionalism, specific precedents and the notion of sensory architecture. What was found is that existing traditional techniques, materials or concepts may be applied to structures in conjunction with contemporary techniques, materials or concepts.

A conclusion is therefore drawn that in order to complement the cultural landscape, the design of the built form should be built on the strengths of the past therefore, reference to previous traditions and knowledge should be combined with that of the contemporary.

Part II of this document will deal with the application of these theories to the specific natural, cultural and perceived attributes of iSimangaliso in the form of the design development process. A brief overview of the typologies of interpretive facilities will also be included in this section of the document to serve as a frame of reference when designing.

If the preceding concepts are implemented through design, it is likely that the built form will be configured into the landscape in a manner suitable to the new global paradigm, namely in a complementary manner. The approach taken is likely to result in an alternative manifestation of

built form within the landscape than is generally the case, due to being based on a new paradigm with the unique focus on the natural, cultural and imagined landscapes. The built form would have been reconfigured within the landscape. ■



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[www.telegraph.co.uk](http://www.telegraph.co.uk), 6 September 2010

# Appendices

## The Hannover Principles

Aiming to complement the natural, cultural and perceived landscape architecture is in accord with some of the Hannover Principles that were established by McDonough, namely:

- *The right of humanity and nature to co-exist*
- *Recognition of interdependence of the natural, perceived and cultural landscapes*
- *Respect and recognition of relationships between spirit (perceived landscape) and matter (physical landscape)*
- *Accept responsibility of the consequences of design decisions*
- *Create safe objects of long-term value*
- *Eliminate the concept of waste*
- *Rely on natural energy flows*
- *Understand the limitation of design*
- *Seek constant improvement by the sharing of knowledge*

(McDonough, 2004)

Plant species used in Thonga construction:



## Thonga hut terminology:

[ ]QUESTIONNAIRE USED TO STRUCTURE INTERVIEW WITH MR. MHLANGA

02.09.2010

## The layered landscape of the Bangazi area

All the questions are asked to Mr. Jaconia Mhlanga as a representative of the community that formerly resided in the area of Lake Bangazi South. Questions are formulated to inform the researcher of relevant information with regards to the landscape of the bangazi area in preparation for the design of proposed interpretive facilities at the fishing cabin site on the eastern shores of Lake Bangazi South.

### 1. With regards to traditions of the Thonga / Bangazi

- 1.1 What traditions exist that involve the natural landscape?
- 1.2 Is the tradition of planting Coral Trees at burial sites a Bangazi tradition? What other physical traces of the Bangazi can be found in this area?
- 1.3 Summarise the reed harvesting tradition – e.g. why does it occur, where, for how long and what is the process?
- 1.4 Is it still a relevant tradition?
- 1.5 Are there any ceremonies that are related to the harvesting, e.g. celebrations afterwards? Where do these take place? Would a structure be beneficial during the celebrations or for temporary storage?
- 1.6 Describe the dwellings that the Bangazi used to reside in. Why did people reside in this type of dwelling – what were the benefits and the downfalls of this type of dwelling?

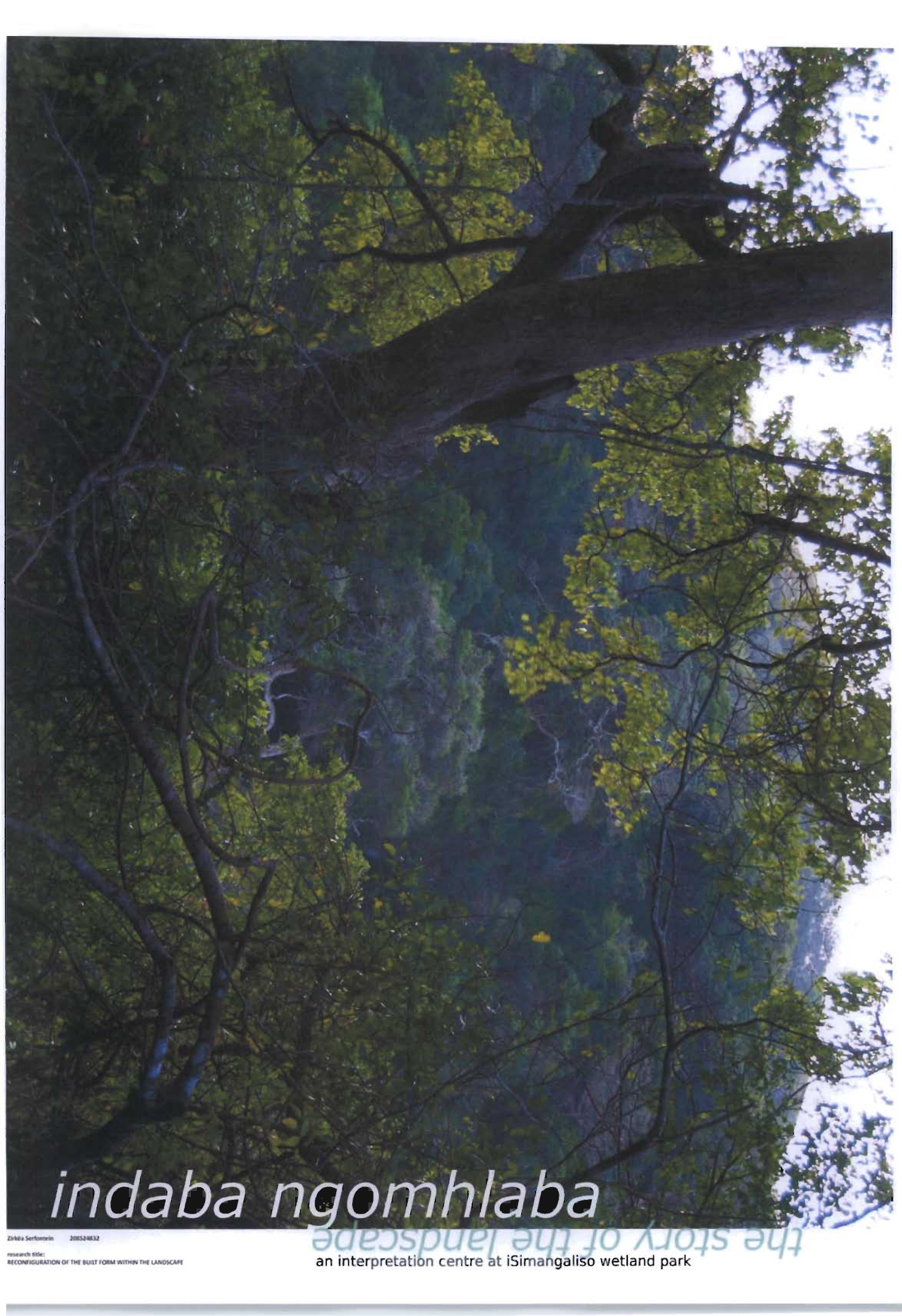
- 1.7 What is the Bangazi way of conveying knowledge? Is this still a good way? Can it be improved?

**2. With regards to perception of the landscape**

- 2.1 Summarise the relationship the Bangazi people have with the landscape they lived in.
- 2.2 What perception does the Bangazi have of the landscape of the Bangazi area? And of the park?
- 2.3 Do people realize the full potential of this landscape?
- 2.4 How can the perception of this landscape be improved?
- 2.5 What do you perceive as the future of this landscape?
- 2.6 How can we help visitors to see the landscape as the Bangazi see it / saw it?

**3. With regards to the environmental education and interpretation of the Bangazi landscape**

- 3.1 Do people, out of ignorance, cause damage to the environment and if so, how?
- 3.2 Would a centre such as is proposed be beneficial to the local community?
- 3.3 How does he suppose should the education/interpretation take place? (Both in terms of content and method.)
- 3.4 Where should this education take place? Would it be a good idea to have a building or would it be better to walk in the landscape and teach as you go?
- 3.5 What do visitors need to learn about the environment? What story should be told? E.g. the stories of the Bhangazi and their landscape.



# *indaba ngomhlaba*

*the story of the landscape*  
an interpretation centre at iSimangaliso wetland park




Much of what is classified as architecture and infrastructure should be included in the general understanding of landscape. As currently this is not the case, there is not enough concern for the expression of physical and imagined landscapes and built forms as complementing parts of a greater whole. Failure to recognise the interrelations between landscapes and built forms has resulted in degradation of both landscapes as well as built forms, hindering the potential benefits each can gain from the other (Fairbrother, 1972: 281).

Although the origin of the term landscape cannot be traced with absolute certainty to a specific time and place, research has pointed out that it has always been connected to the concept of image (Jindey, 2003: 44). Research also revealed a strong connection of the term landscape to the concepts of terrain or tract of land by the early Germanic populations. (Melb, 2003: 381). The concept of landscape has become a cultural phenomenon in itself as it refers to a specific way of understanding that entails the internalisation of the natural environment and human actions through the ages (Coughroe and Jackson, 1987: 96; Haggert, 1965: 18). The popular perception of a picturesque notion of 'landscape' as an idyllic, untouched natural scenery is thus flawed, as it does not include both the image (or perception), the physical landscape itself as well as the influence that the activities of man has had on landscape.

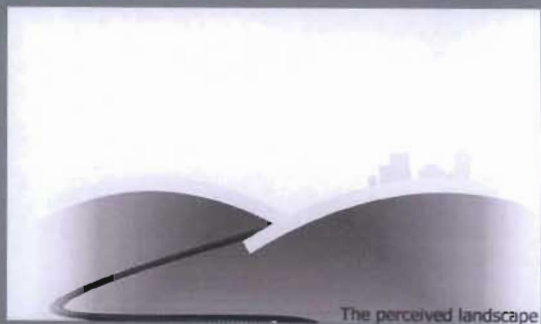
Research has revealed that, contrary to the general perception, the contemporary meaning of landscape is not that of a simple concept with a single meaning. It has developed and elaborated over centuries into a layered concept until the present time layered state. The contemporary concept of landscape is that it is multifaceted and includes visual and tangible, as well as cognitive or intangible aspects and can be subcategorised as natural, cultural and perceived landscape (see figure).

Perceiving our surroundings as a total environment (acknowledging the previously mentioned interrelated layers of landscape) entails that the built form (a part of the cultural landscape) is merely a part of the greater whole. The built form is a part of the cultural landscape and therefore (due to the interrelatedness of the different layers of landscape), it automatically relates to the other layers (natural and perceived) as well. This changed perception of the landscape will be the guiding principle behind the following sections, namely the manner in which the built form could and / or should fit into the landscape.



The natural landscape

### The natural landscape



### The perceived landscape

The root of the term interpretation is the Latin word *interpretari* which can roughly be translated as **explain, understand or translate** (OED 1989). Interpretation is thus the explanation, the act of understanding or the conveyance of something from one place, person or condition to another (ibid).

It can thus be derived that an interpretation centre is a facility that enables the explanation of (in this case) landscape, the act of understanding the landscape or the conveyance of landscape from one place, person or condition to another.

In the case of this project, matters such as creating awareness about the landscape, exposure to the landscape and a sense of fun and adventure are deemed important.

The Simanguloo Wetland Park Authority is the client for this project. The brief includes the design of an interpretation facility that will function as an introduction to the park and create awareness among visitors of the beauty, fragility, importance and complexities of the landscape of that area.



# theories & precedents

## theory\_perceived landscape

### Mutual symbiosis & dynamic equilibrium

There is currently a global paradigm shift away from the humanist belief of the autonomous individual as the core of all meaning (Horowitz 2005 in Mateo 2007: back cover). The contemporary paradigm strives towards the concept of humankind as a mere part of the greater natural system – a dependent, thinking part of it, symbiotic rather than dominating or parasitic (ibid.). Mutual symbiosis can be seen as a communally beneficial or complementary relationship between entities. A conclusion is drawn that in order to live in a state of mutual symbiosis with landscape we need to act with consciousness of the consequences of our actions in terms of the symbiotic relationship with the natural, cultural and perceived landscapes.

However, what if the needs and complements in terms of mutual symbiosis, are not set – for example the changing needs of an ecological process in relation to the changing needs of the human population? Kurokawa states that under some circumstances mutual symbiosis remains a possibility despite competition or clashing of needs of entities, as long as the relationship is dynamic (in Bermudez and Hermanson, 2000: 66 - 71).

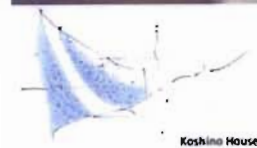


#### Juxtaposition and Koshino House

Through exploration of Ando's work and philosophy, the author has come to the conclusion that Ando's architecture gains its strength and meaning through his method of expressing a set of simple concepts (for example the play of light as an abstraction of nature, or the module of the tatami mat as a reference to traditional Japanese tea houses) with a very limited palette (concrete, timber and glass) (Ando, 1990: 458; Slessor, 2009: 50, 51).

For example, in Koshino House, the lounge was carefully designed for a specific experience of the changing light (Ando, 1990: 458). The play of light in this room represents the whole of the natural experience. However, this concept could not have been realised without the strict application of palette, in this case a space carefully designed and constructed in concrete (see figure). The concrete wall is related to culture (and therefore man) as well as nature by way of its specific texture and the way that light falls on it. The application of timber tatami mat sized exposed shuttering panels (they warp during the curing process) resulted in the unique undulating texture of the wall and breaks the solidity of it down so that it seems light (figure x shows the play of light on a concrete wall as well as the manner in which the tatami mat paneling influences the texture of the concrete).

Koshino House illustrates one way in which one can become aware of the natural landscape through architecture, without integration, but rather by means of an approach which seems to juxtapose the natural.



### Perceived landscape: complement through integration vs. intervention

Despite the fact that it is sometimes the case, entities that are complementary are not necessarily similar. It is more probable that they will be distinctly different, yet in a complementary manner, thus either incorporating a new element through integration or intervention in the existing through juxtaposition (Hornby 2002: 228). If their differences are related to their respective needs, in other words the one provides what the other needs and so they form a whole that is greater than its parts, the relationship be labelled as complementary (Hornby 2002: 228).

This fact can be incorporated when designing a building that must complement a specific landscape. Thus: in order for a built form to exist in a mutually symbiotic manner within a specific landscape, it can, but does not necessarily have to resemble that landscape.



#### Complement through juxtaposition and the Chikatsu-Akita Museum

Both the monumental, geometric concrete structure and its surrounding natural landscape of forested hills are complemented in this design by their juxtaposition. The contrast of stark grey surface and richly textured dark green, evokes a sense of appreciation of both due to co-emphasis of their distinctly different attributes and the primary characteristics of each is thus amplified (see figure). One can thus argue that the monumental, grey structure enhances the visitor's experience and interaction with the natural landscape. The massive staircase on the roof can be mentioned as an example of the effect (see figure) – by juxtaposing both in pattern, colour and movement (static versus dynamic) the stairs force the visitor to notice and engage with the clouds and the sky above. The stairs are a link to the sky not merely because they enable vertical rise, but also due to the juxtaposition of aesthetics and movement.

## theory\_cultural landscape

### PROGRESSIVE TRADITION

The spirit of the progressive tradition approach is that of not neglecting what has been done in the past, but rather including it in a progressive, practical manner (Nijoh, 2006). This approach can be immensely beneficial to humanity as it does not require tabula rasa or 'clean slate' and enables the continuation of knowledge development. Furthermore, the approach of progressive tradition lends itself to advancement on the social and cultural front as it appeals to people due to the element of familiarity. Progressive Tradition may be seen as "...culture in the context of development..." (Nijoh, 2006: p.186). And as such it is a significant consideration within architectural design in the creation of a sense of ownership, the evolution of knowledge and the manifestation of the spirit of the place.

#### Pretoria Regionalism

The Pretoria regionalists succeeded in adapting the principles of the modern movement to local conditions, through the application of selected elements of the local vernacular. The movement is characterised by unsentimental, pragmatic application of vernacular elements such as building materials and steep (Fischer, 1998: 123 - 140). In this way, society builds upon past developments, without stagnating due to an approach of repetition.



The images show the two vernacular 'boerehuise' and one Pretoria regionalist house by Helmut Stauch. The latter includes vernacular elements such as stone as a building material and a large covered patio, but does not cling to the traditional form of a house.

### SENSORY ARCHITECTURE

Due to both strong digital influences and the contemporary notion to rid of specific cultural connotations has resulted in a homogenous, image centred contemporary urban cultural landscape (Bermudez and Hermanson, 2000: 66 - 71; Palamas, 2005: 20; Slessor, 2009: 15).

#### local vernacular

The images illustrate the rich sensory experience that can be created by application of the local vernacular.



## theory\_natural landscape

### SYNCHRONISED GEOMETRY

As the name implies, the theory of synchronised geometry is about analysis of the inherent geometries present in the landscape and then determining a means by which built form can mimic this (Ferrater and Abondano, 2006: 4 and 5). In so doing the built form becomes an extension of the landscape as opposed to an intrusion or a disruption of the landscape. The theory was developed by the Spanish architectural firm, the Carlos Ferrater Partnership and is a mathematical approach aimed at informing the design built forms conscious of their landscapes.

The process of design development in the case of synchronised geometry can be roughly divided into 4 steps, namely (Carlos Ferrater Partnership, 2006: 7 - 10):

1. Finding a geometry in the landscape
2. Deforming the geometry to suit architecture
3. Revision of geometric approach
4. Manifestation in architectural form (construction)

The architecture that emerges is thus generated from natural order and is adapted to the requirements of the cultural and perceived landscapes (ibid: 11). The approach mostly results in built forms that form extensions to or are integrated with the existing landscapes as can be observed from various projects, for example the topographic integration that can be observed in the design for the Science Park in Granada (Ferrater and Ferrater, 2006: 54 - 61) and the Benidorm Seafont (Ferrater and Ferrater, 2006: 74 - 101) - fig. x and y respectively.

#### Benidorm Seafont

The principles and processes of the synchronised geometry approach are well illustrated in this project. It can be seen that the application of this theory has a pronounced effect on the aesthetics of the built form. The combination of natural geometry and manmade construction makes this strip development a mediator between the cultural and the natural landscape and thus the city and the beach. The project conveys a strong sense of place that draws strongly from the natural landscape but is in itself a part of the cultural landscape. As such, it influences our perception of the landscape – the cultural landscape – an 'artificial' natural landscape, therefore man is in touch with nature.



#### Toi's Omotesando Building

Toi's Omotesando Building by Toyo Ito is significant to the research for its innovative facade treatment. The facade makes reference to contextual natural elements, namely the trees that line the street, in a manner that is completely integrated into the structure of the building (Pollock, 2005) (see figures).

The graphic approach allows simplification of the more complex natural phenomenon, enabling the application thereof to the concrete structure. Furthermore, the simplicity of the graphic and the building's materiality (smooth grey concrete and glass) give it neutrality without compromise on dramatic effect. The unconventional nature of the facade makes it memorable whilst the neutrality allows interplay with the dynamics of fashion (see figure).

In this sense the facade illustrates a way that the concept of dynamic equilibrium can be applied to architecture. The fleeting and dynamic nature of the fashion world is complemented by the structure. Not only do the limited neutral palette provide a good backdrop for the fashion displayed inside (see figure), but the structural treatment, namely angular concrete elements that wrap around the exterior, allow a column free interior, thus complying with the changing needs of retail stores and allowing dynamic equilibrium between the fashion culture and the built form (Glynn, 2008).

The building complements the urban landscape by providing a fresh aesthetic that is borrowed from a unique contextual feature, namely the trees that line the street – a rare occurrence in Tokyo (Pollock, 2005).



#### Mapungubwe Interpretation Centre

The Mapungubwe Interpretation Centre is of particular significance to this study as it does not only play a theoretical approach to design that is akin to the theories explored in this research, but it also correlates with regards to the proposed project's typology. The Mapungubwe Interpretation Centre, by Peter Rich Architects will be explored in terms of its relation to the landscape in terms of the natural, cultural as well as perceived landscape. The project will be explored in terms of its configuration within the landscape.



Although the architect did not consciously adhere to the principles of synchronised geometry, the process taken does correlate:

1. The landscape was investigated and was found to have inherent characteristics, namely loosely scattered rocky outcrops on a savannah plain, this resulted in the choice of geometry, namely the inherent dome geometry of timber vaults (Fitchett, Hall and Rich, 2009: 28).
2. The geometry was applied during the design development process and adapted and elaborated upon to suit the building needs – three types of vaults were applied, namely rectangular or square based, a circular dome and shallow pitched horizontal spanning vaults (Fitchett, Hall and Rich, 2009: 29).
3. Design development (Fitchett, Hall and Rich, 2009: 29 - 31)
4. Construction

The geometry of arches is directly related to the geometry of the rocky outcrops





# the concept of the layered landscape

This concept is mainly in relation to the theory of SYNCHRONISED GEOMETRY. However, since the natural landscape forms such a strong part of the culture of Bhangazi, it can be said that the approach takes into consideration the local culture as well.



1

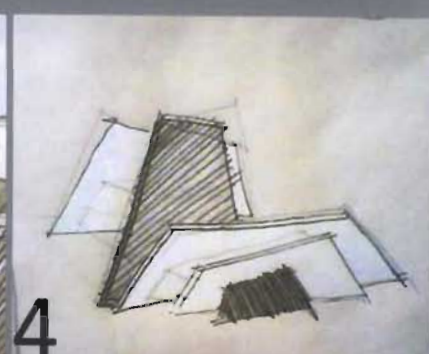
The actual landscape



2



3



4

Observing layers in the landscape

Deriving a geometry

Developing geometry into an architectural form

## the concept of weaving and the landscape

This concept is in relation to the theory of SYNCHRONISED GEOMETRY, as well as PROGRESSIVE TRADITION. A point is made that the landscape of iSimangaliso, and also the specific landscape at Lake Bhangazi contains many angular lines that can be related to the diagonal lines that can frequently be observed in thonga woven goods. The theme of weaving is also a metaphor for the manner in which one traverses a steep slope: one weaves in a zig-zag fashion down the slope. As for angular lines at Bhangazi, they are evident in the lines of tree trunks and branches in the forest, as well as the angular lines of the steep dune slopes as they meet the coastal plain at Bhangazi.

## the concept of complementing the landscape [green credentials]

It should be noted that this project does not have, at its core, the issue of sustainability as such, but rather the issue of fitting the built form into the landscape in terms of natural, cultural and perceived landscape concerns. The issue of sustainability is explored as the general understanding of sustainability has much in common with the concept of mutual symbiosis – sustainable buildings are more likely to complement the natural landscape.

A deliberate attempt was made during research to draw attention towards a holistic understanding and design for nature – not just sustainable design as such, but an understanding that is inclusive of all the aspects of landscape, namely the natural, cultural and perceived landscapes. However, sustainable design practice is deemed important as it strives to limit or eliminate damage done to the natural landscape and in the case of the cradle-to-cradle concept, perhaps even contribute to the cycle of life. It is becoming a part of the cultural landscape due to the fact that, in general, the human race now perceives it as the right thing to do. It will therefore be discussed here as a part of the way that the built form can complement the natural landscape and be a part of the dynamic equilibrium.

### ENVIRONMENTAL DAMAGE

Conventional buildings utilise services such as electricity and water and produce waste (such as rubbish and sewerage). However, conventional practise – as the general debate around sustainability will have us believe – often has a detrimental effect on the landscape. The considerable amount of development that the human race has made over the past 150 years has occurred in ignorance to the environmental consequences (eThekweni). In the course of development the human race has destroyed or damaged much of the planet's fossil fuels, biomass and biodiversity and in the process, have caused a great deal of pollution (ibid).

Establishing all the damage that has been done by pollution and how one can counter the effects or eliminate the causes, is too wide to be covered in this research/design project alone. However, statistics have shown that the built environment in South Africa is responsible for approximately 40% of energy used and 25% landfill waste (eThekweni). The issues of energy and waste will thus be the main focus from here on.

### ENERGY, WASTE + PASSIVE DESIGN

To limit damage done to the environment the human race needs to limit energy used and waste produced (see previous paragraph). However, to complement the landscape one has to firstly, replenish energy used or eliminate the use of energy, and secondly, eliminate waste or use it again to replenish natural systems (cradle-to-cradle).

The use of passive climatic design strategies in architecture is deemed ideal in the case of this project. The reason for this is dual: firstly, passive climatic designs are often low tech where as active systems are complex, are generally more expensive to operate and generally has greater embodied energies. Secondly, when designing a passive system, the designer considers conditions on site and uses them to optimize building function. The potential for the creation of a mutually symbiotic or complementary relation between built form and landscape therefore exists. Furthermore, active systems are subject to constant research and improvement whereas passive systems are based on basic principles that have stood the test of time. Indulging in an in-depth study of the active systems currently available is therefore not deemed wise as they might change in the near future. The best solution is likely to be a mixture of active and passive systems that are suited to the specifics of the project at hand.

sandbags + timber = renewable resources

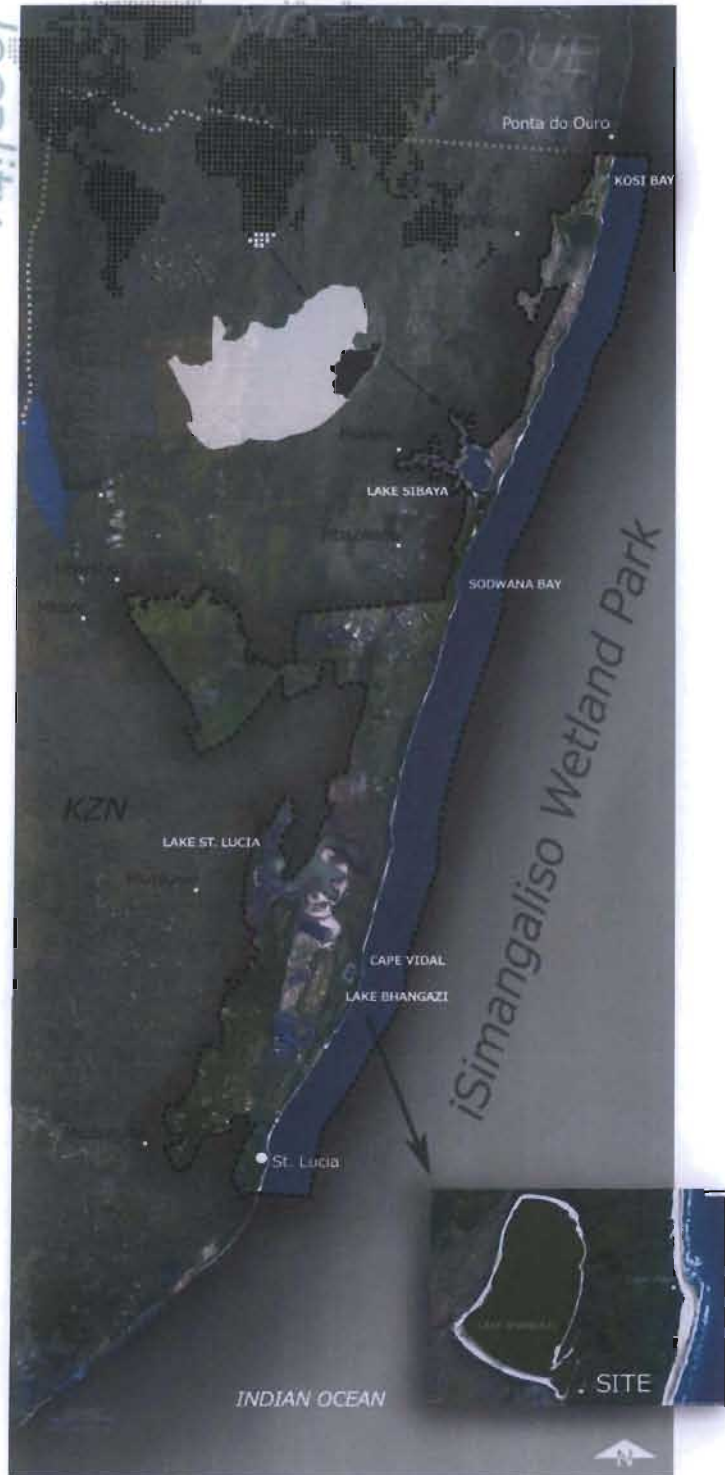
(also, suspended timber structure allows continuation of plant growth)

dry composting toilets = reduced water consumption

natural ventilation and lighting = reduced electricity consumption

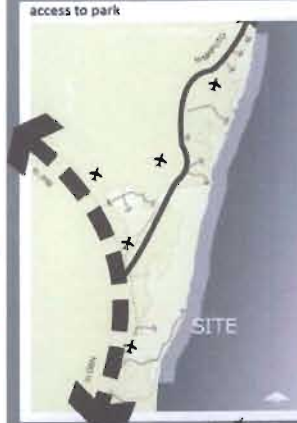
proposed biogas digester = renewable energy





choice of site

## PRAGMATIC ANALYSIS



## THEORETICAL ANALYSIS



## NATURAL LANDSCAPE



## vegetation



## THEORETICAL ANALYSIS



## CULTURAL + PERCEIVED



Before a site can be chosen, a development strategy for the park should be considered.

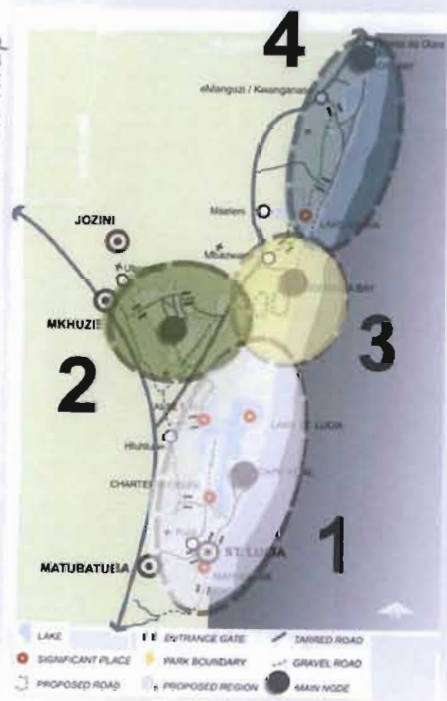
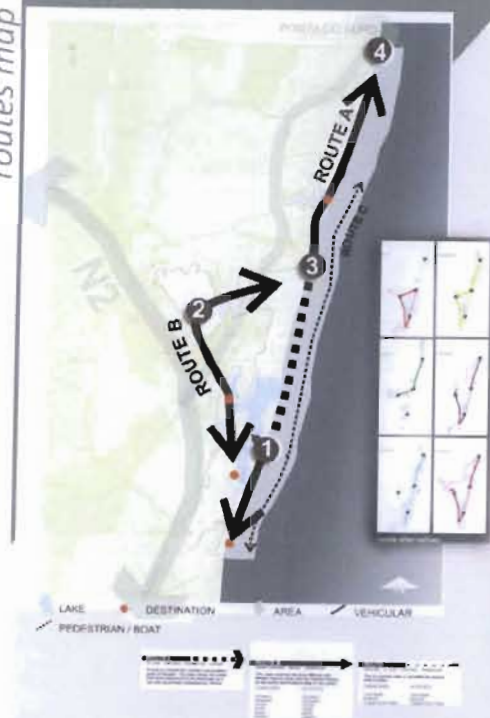
### Creation of a Destination

The iSimangaliso Wetland Park is clearly a destination worth visiting. However, its tourism potentials have not yet been fulfilled. Factors that may inhibit the development of the park as a top tourism destination may include the fact that most routes into the park are not circular, many of the areas are not reachable by normal vehicle or public transport, such as buses. Furthermore, people are not aware of the experiences that await them in the park.

The strategy that is proposed includes:

- 1. Subdividing the park into areas** (see diagram) that can be marketed as offering different experiences (for example, the eastern shores offers beach and marine activities, the dune forests and wetlands).
- 2. Developing routes** to connect the different areas within the park so that visitors can easily access the different experiences (see diagram). Seeing as the park is located along a coast, a main route between Durban, Johannesburg and Ponta do Ouro, a visit to the park can occur en route when travelling between these destinations.
- 3. Branding & Communication** of both the routes and the regions with their related activities to visitors as well as potential visitors.

An interpretation centre can go a long way in making visitors aware of the world of a landscape, educating them with regards to its functioning as well as inform them about activities within the park. This, in turn, will create a sense of appreciation which is likely to induce more visits.



## CONCLUSION



Reasons for choosing the former Bhangazi fishing cabins site

1. Good access
2. Significance in terms of natural landscape
3. Significance in terms of cultural landscape
4. Significance in terms of perceived landscape

## site analysis





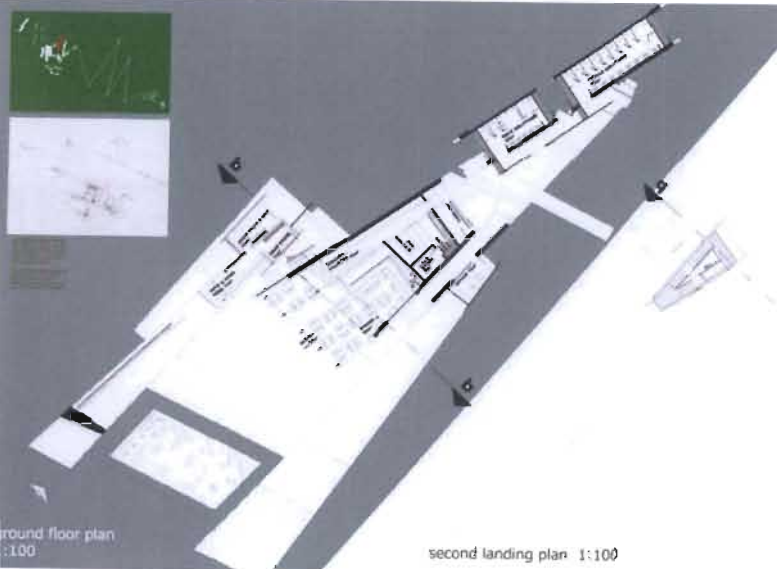


LEGEND:

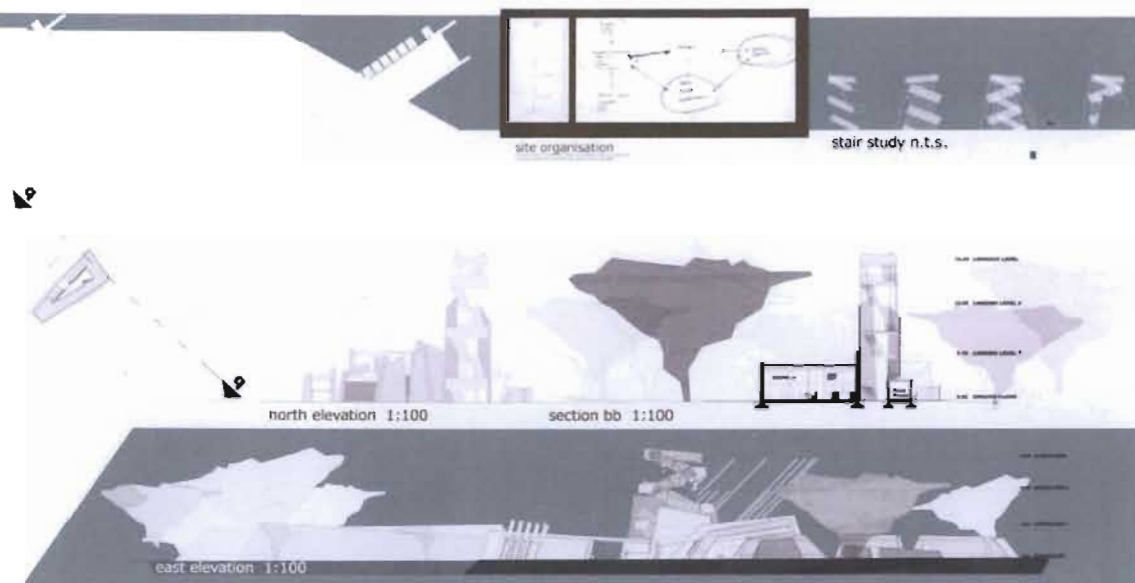
- 1 PIER
- 2 INTERPRETATION CENTRE
- 3 ENTRANCE + RESTAURANT
- 4 HALL AREA
- 5 ACCOMODATION
- 6 DUNE DECK







look out deck plan 1:100



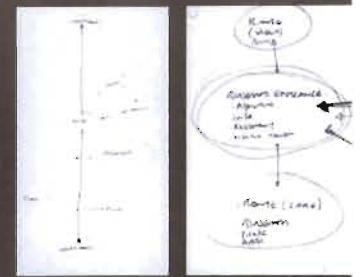


entrance planning  
the entrance is located near the main access to the site. The main access is located in the center of the site. The entrance is located in the center of the site. The main access is located in the center of the site.

The main access is located in the center of the site. The main access is located in the center of the site. The main access is located in the center of the site. The main access is located in the center of the site.

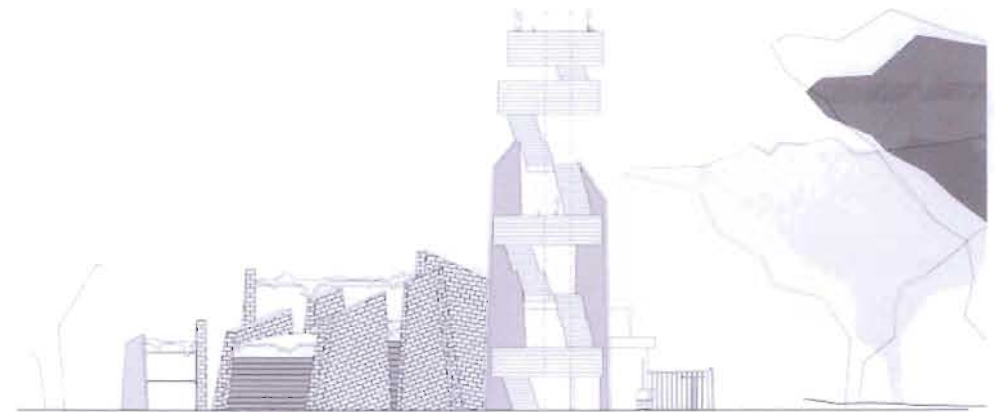
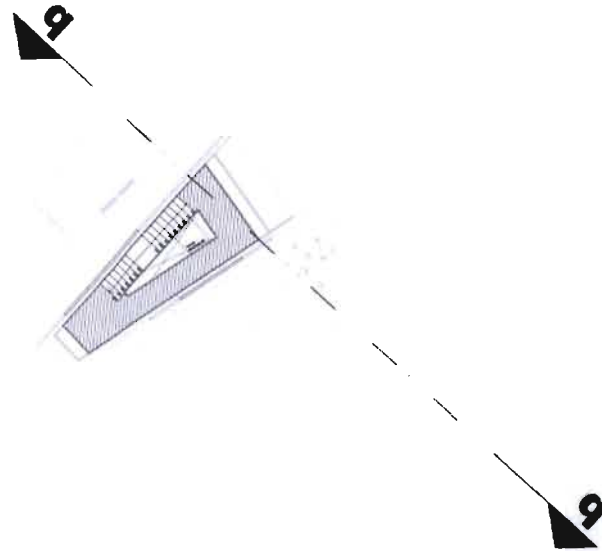
ground floor plan  
1:100

second landing plan 1:100



## site organisation

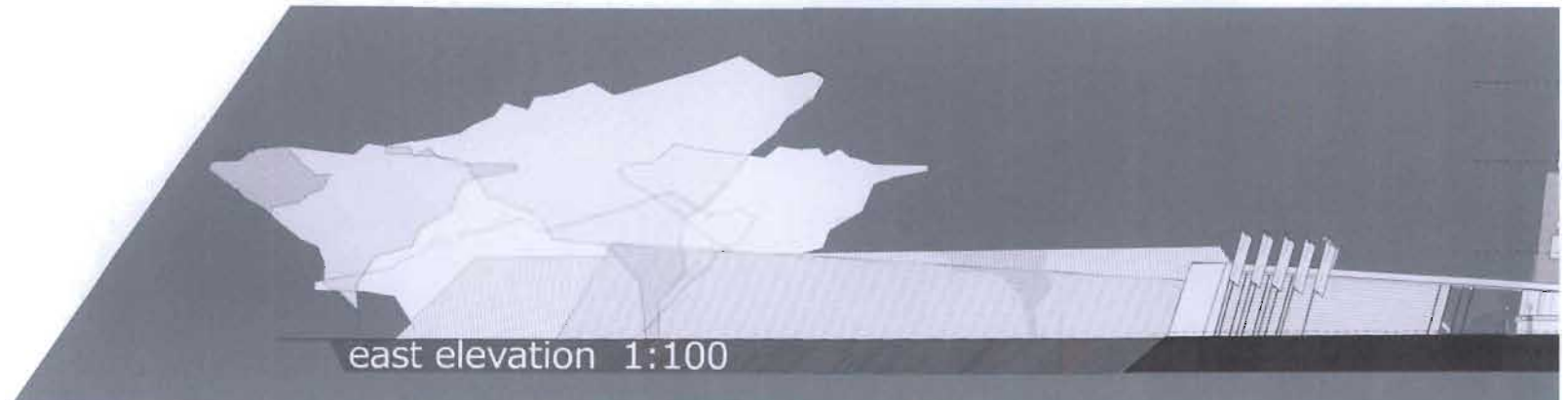
The site layout consists of a series of buildings that are organized around an axis that runs from the lake to the zone dock.



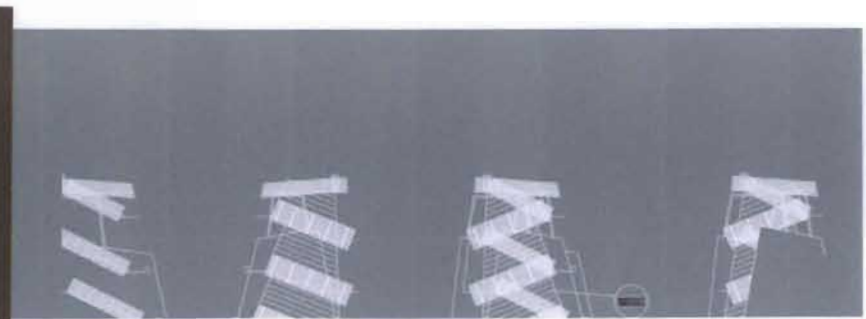
north elevation 1:100

section bb 1

look out deck plan 1:100

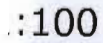


east elevation 1:100



The site layout consists of a series of buildings that are organised around an axis that runs from the site to the dance deck.

1



section bb 1:100



16.00 LOOKOUT LEVEL

10.00 LANDING LEVEL 2

3.00 LANDING LEVEL 1

0.00 GROUND FLOOR





conceptual development



section elevation



section elevation



section elevation

design development



section elevation



section elevation



section elevation



section elevation



floor plan



roof plan

east elevation

1:100



north east view



south west view



north elevation



south elevation



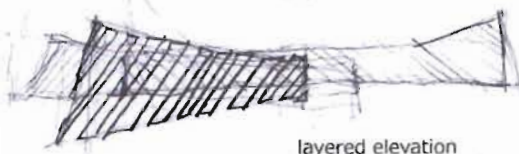
west elevation

1:100



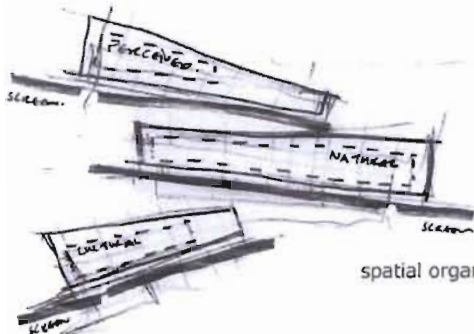
## conceptual development

the development of the museum (as the rest of the project) was centred around the idea of weaving in the landscape, spatial organisation and the concept of weaving. The following diagrams illustrate how these themes were carried through in the design of the interpretation centre.

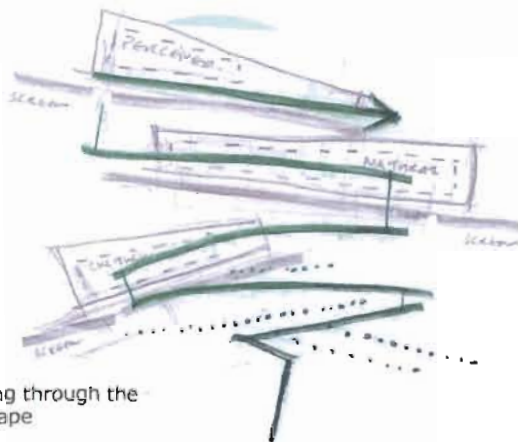


## layered elevation

The spatial organisation of the interpretation centre is based on the three layers of weaving, namely natural, cultural and perceived. This weaving is reflected in the plan form as well as the elevation.



## spatial organisation



## weaving through the landscape

## design development

The design is based on a series of spaces that are woven together. Following a path (see diagram) that weaves through the landscape, the building can be viewed as a series of spaces that are woven together. The design is based on a series of spaces that are woven together. The design is based on a series of spaces that are woven together.



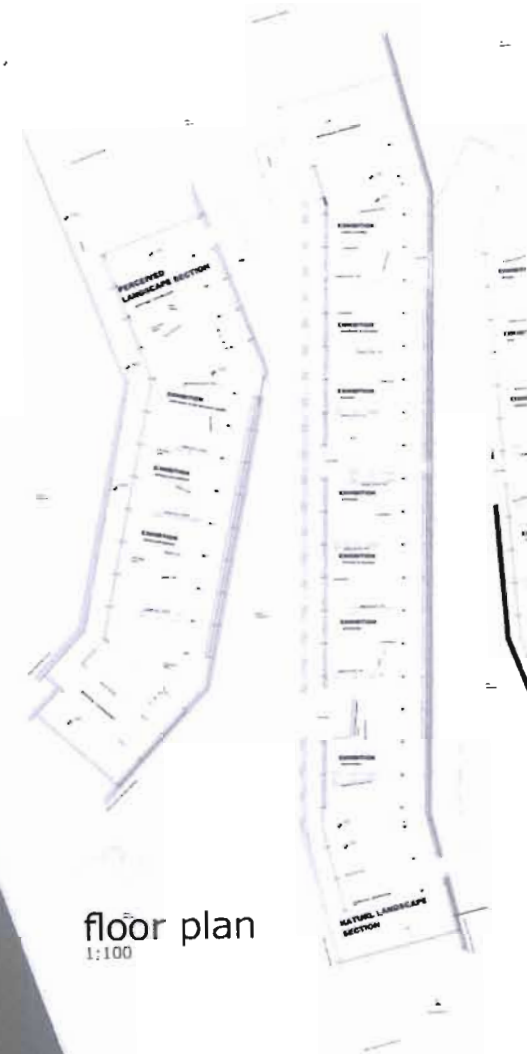
## spatial character

The spatial character progresses from broad, open and enclosed to open and enclosed as one moves through the museum. This is achieved through the modification of repetitive elements such as the timber screens, the roof membrane and display panels.



## natural light

The design is based on a series of spaces that are woven together. Following a path (see diagram) that weaves through the landscape, the building can be viewed as a series of spaces that are woven together. The design is based on a series of spaces that are woven together. The design is based on a series of spaces that are woven together.

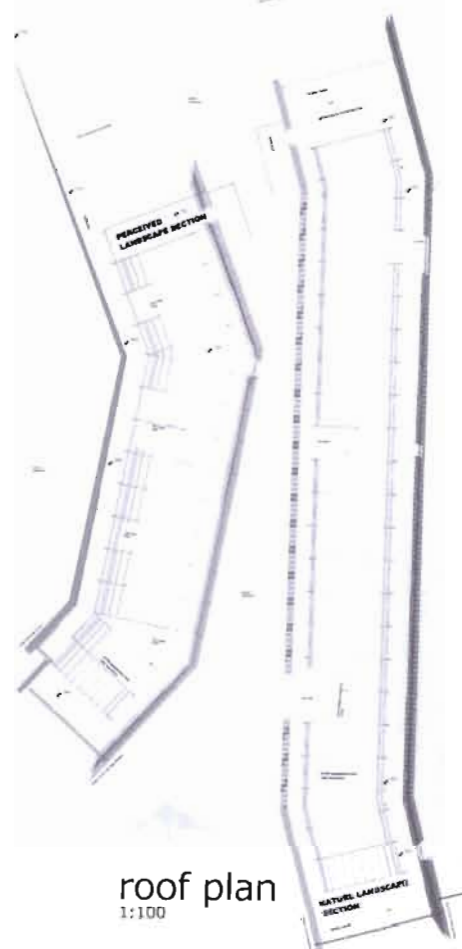


## floor plan

1:100

## east elevation

1:100



roof plan  
1:100



north east view



south west view



north elevation  
1:100



west elevation  
1:100

complement through juxtaposition  
The west elevation exhibits the concept of complement through juxtaposition. It has simple clean lines that relate to the diagonal lines in the landscape (such as tree branches and dunes). The relation, however, is at a vast scale. The simplicity of form and material of the building subtly contrasts with the rich texture and intense colours of the forest trees (see 3d views).

experiencing the forest  
The west elevation captures the most introverted character and therefore shademarks roof membrane with vegetated patches and no timber screen for vista into forest wall to contemplation and connecting with the birds.







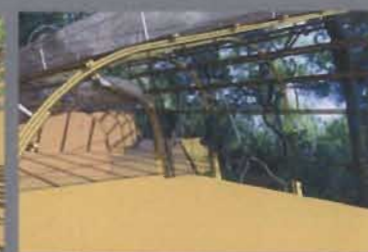
north east view



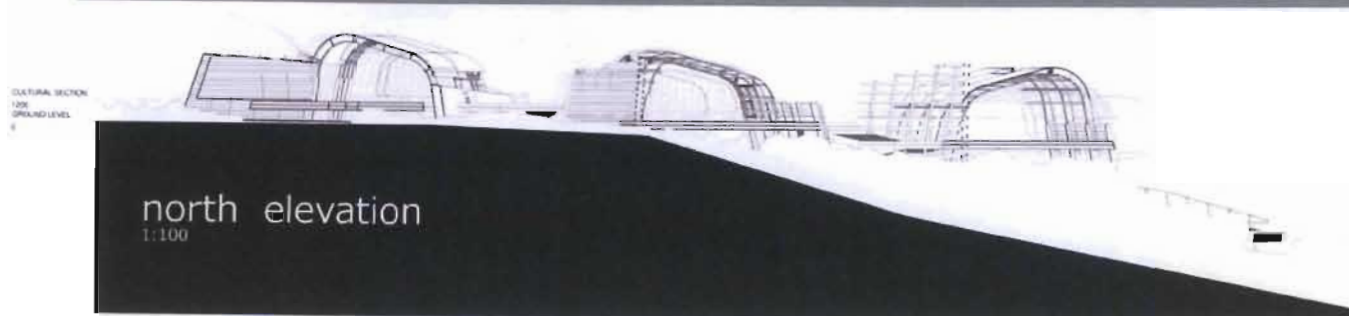
south west view



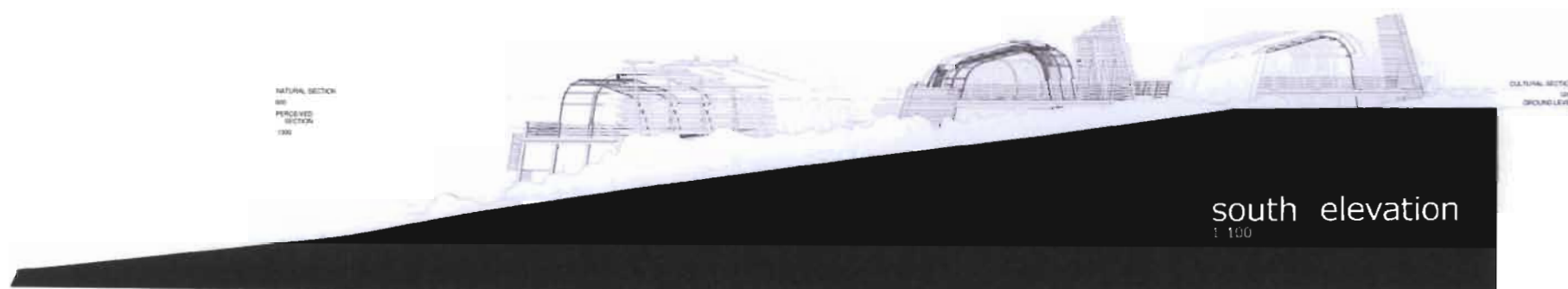
natural landscape section  
[more introverted]



perceived landscape section [extroverted]



NATURAL SECTION  
400'  
PERCEIVED  
SECTION  
1:300



#### experiencing the forest

The west elevation initiates the most extroverted character and therefore defines the progress from the beginning of the interpretation centre. Consisting of a timber framework, a linked shading net membrane with vegetated patches and a timber screen towards the west - it is the ultimate space to experience the richness and beauty of the forest. The wide leads itself well to contemplation and connecting with the landscape - an apt characteristic, seeing as this is the 'perceived landscape' part of the interpretation centre.

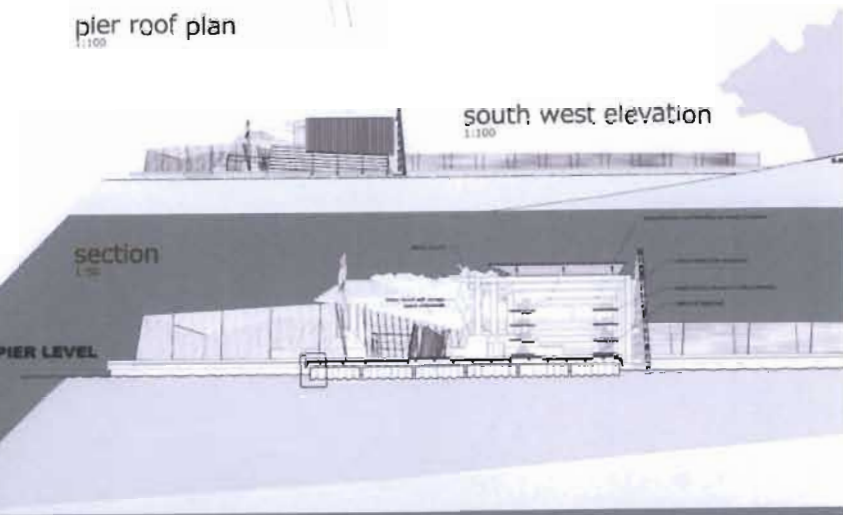
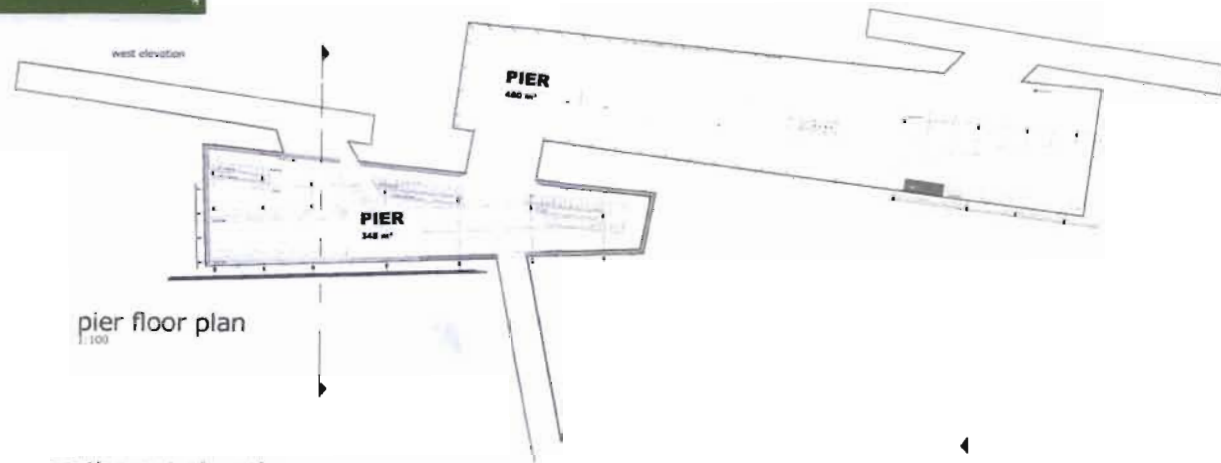
#### west elevation 1:100

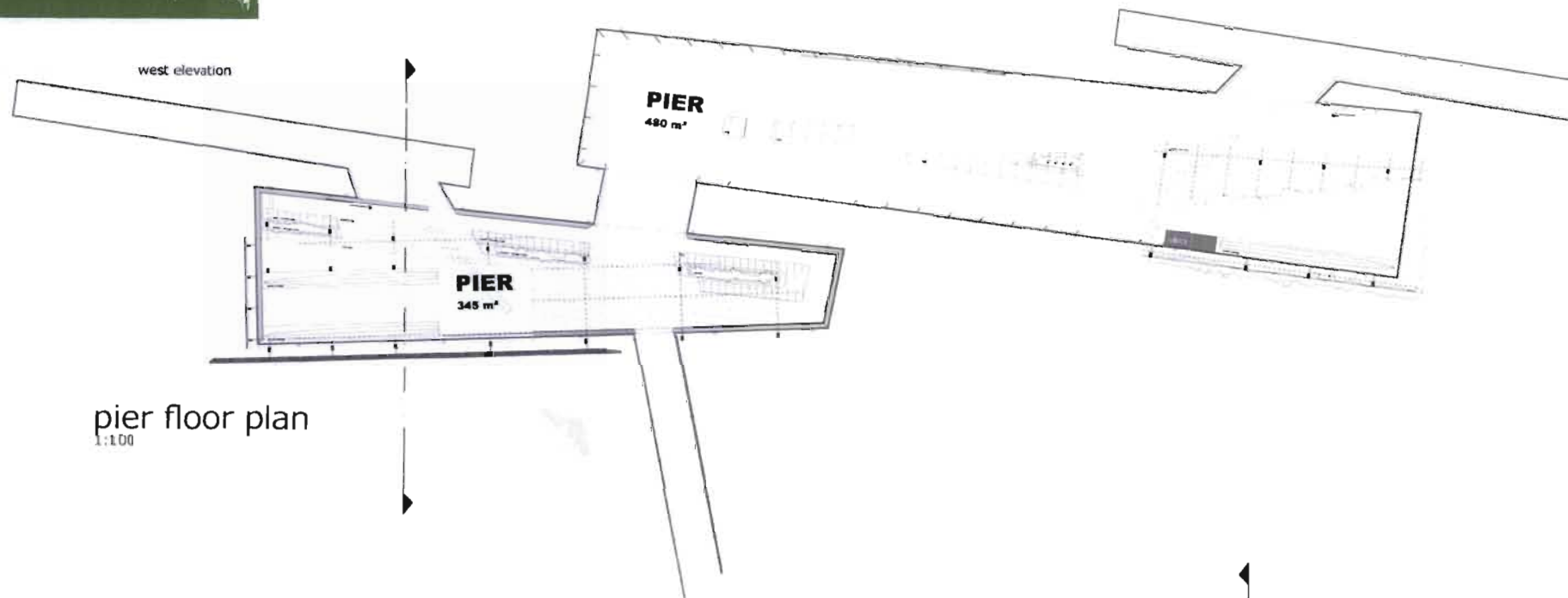
CULTURAL SECTION  
120' GROUND LEVEL  
8

CULTURAL SECTION  
120'

NATURAL SEC  
PERCE  
SEC







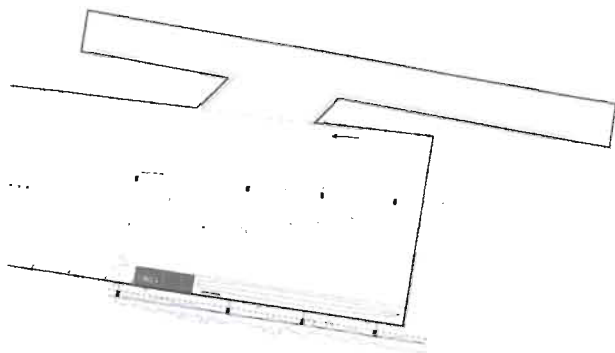
north west elevation  
1:100



south east elevation  
1:100



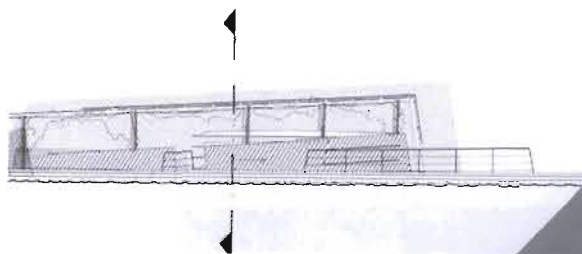
PIER LEVEL



pier roof plan  
1:100



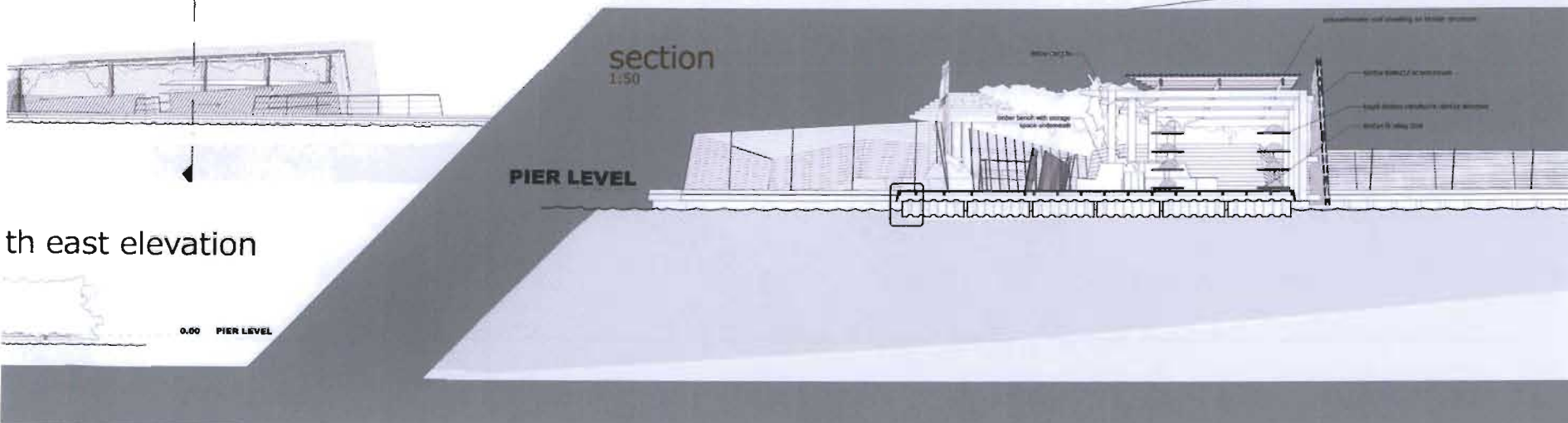
south west elevation  
1:100



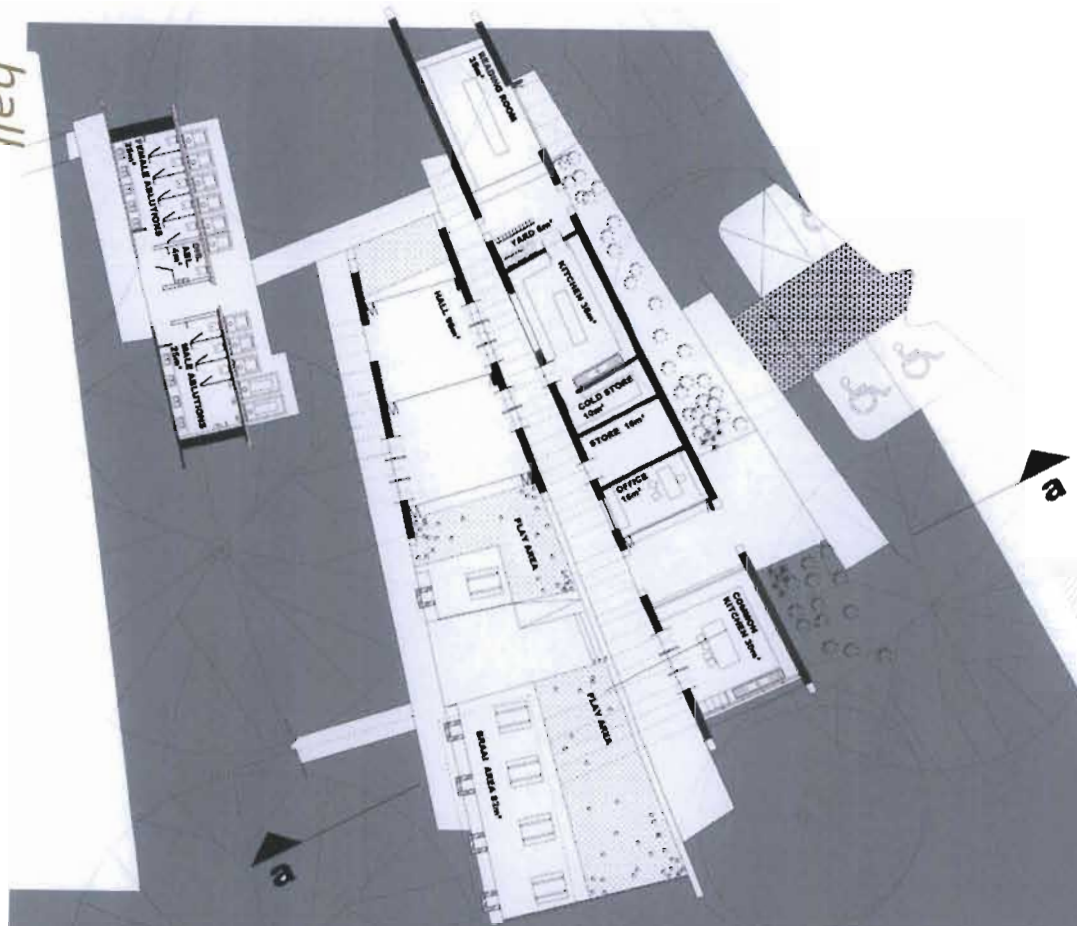
th east elevation

section  
1:50

PIER LEVEL



hall



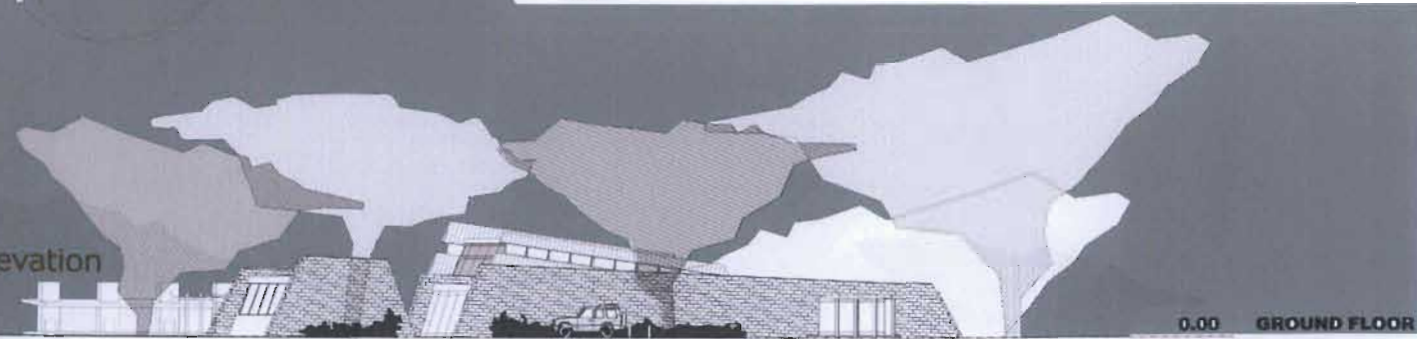
section a-a  
1:100

0.00 GROUND FLOOR



hall ground floor plan  
1:100

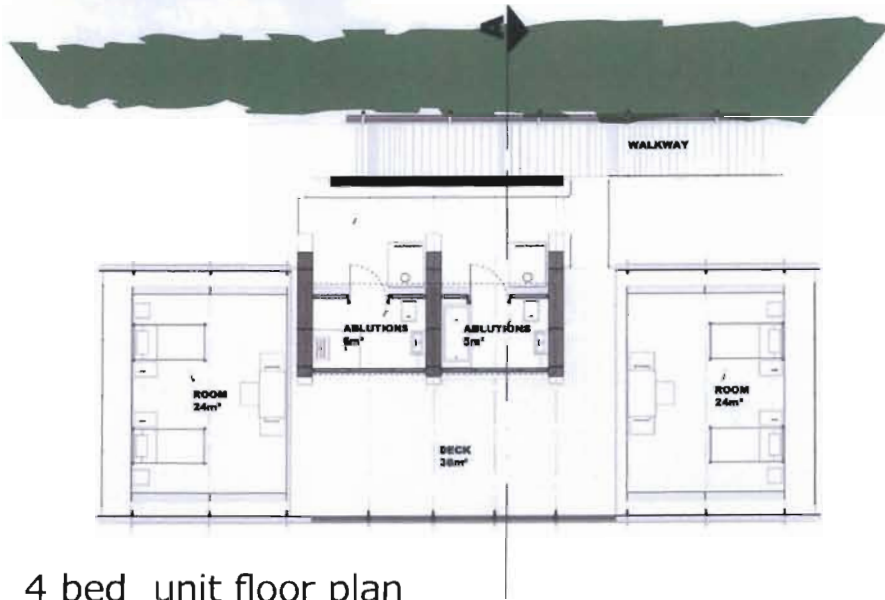
east elevation  
1:100



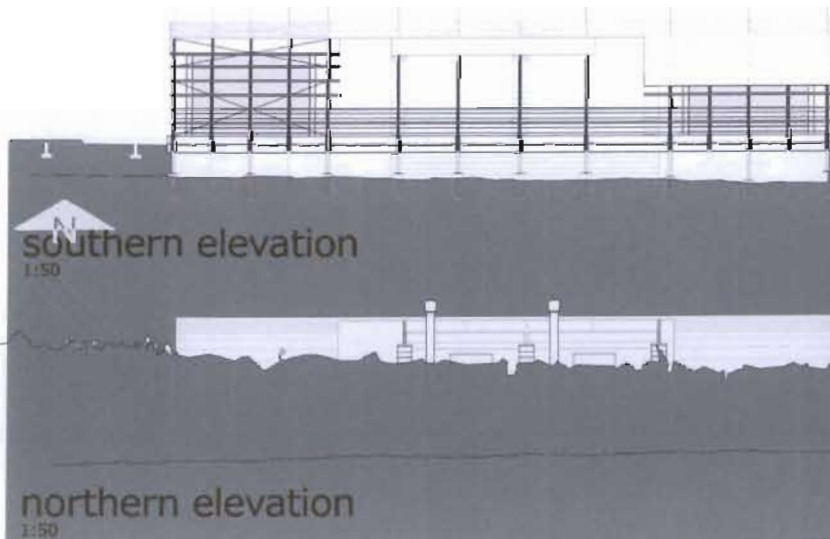
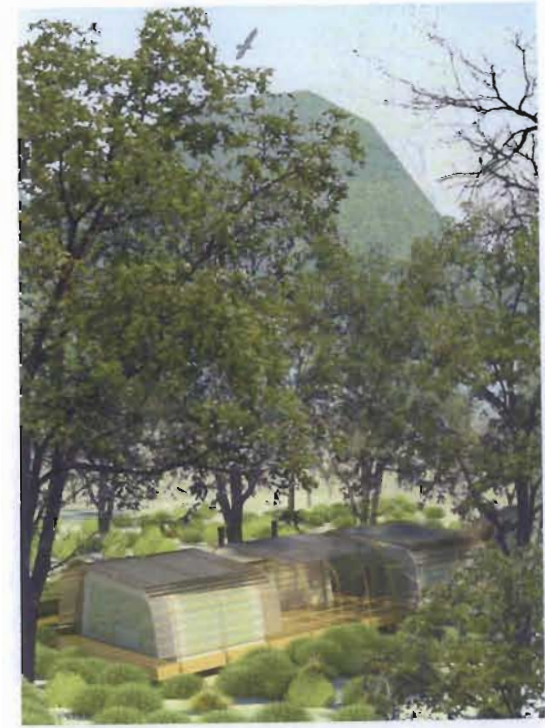
0.00 GROUND FLOOR



# accommodation unit



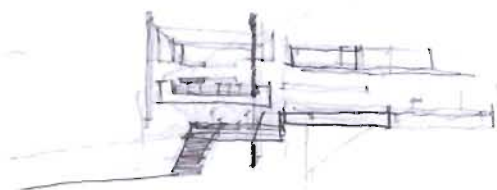
4 bed unit floor plan  
1:50



section a-a  
1:50

northern elevation  
1:50

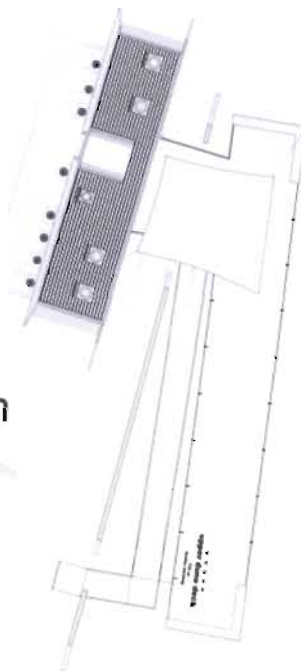
dune deck



floor plan  
1:100



roof plan  
1:100



tree canopy level



south elevation  
1:100

2.60

0.00

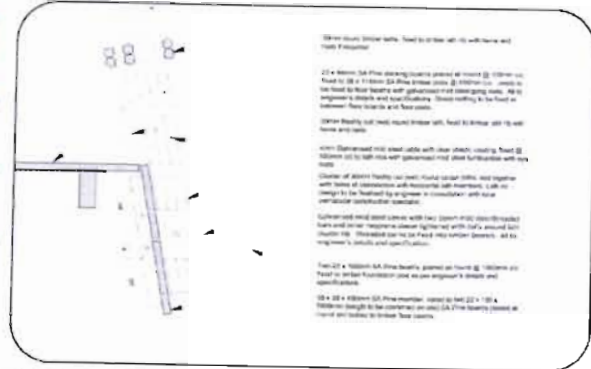


west elevation  
1:100

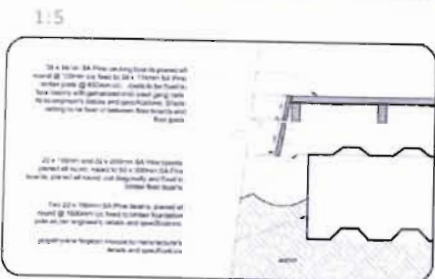
tree canopy level

2.60

0.00



lath rib connection detail



pier edge detail

1:10

# notes

1. No trees to be removed, unless so indicated on final construction drawings.

2. Care must be taken at all times not to damage the existing fauna and flora.

3. All design alterations (other than minor) must be approved by the relevant authority before any work is carried out.

4. All ground works must be carried out in accordance with the relevant authority's requirements.

## foundations

1. All foundations to be to engineer's design and specifications.

2. All foundations to be constructed in accordance with the relevant authority's requirements.

3. All foundations to be constructed in accordance with the relevant authority's requirements.

## concreting

1. All concrete to be cast in accordance with the relevant authority's requirements.

2. All concrete to be cast in accordance with the relevant authority's requirements.

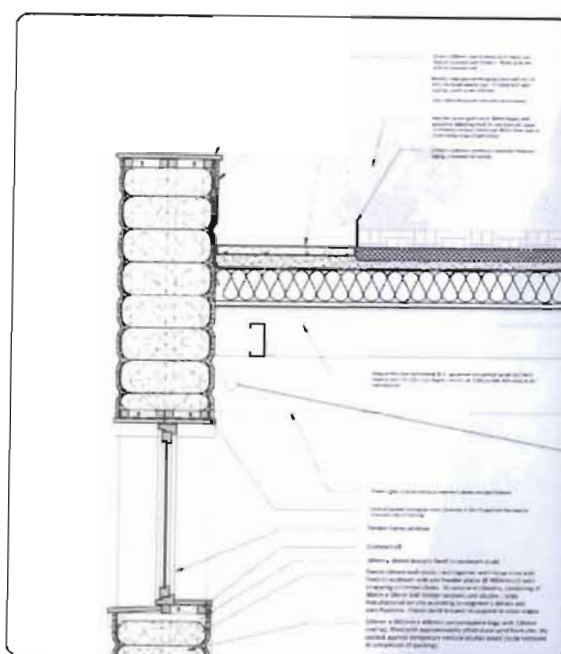
3. All concrete to be cast in accordance with the relevant authority's requirements.

## planning

1. All planning to be in accordance with the relevant authority's requirements.

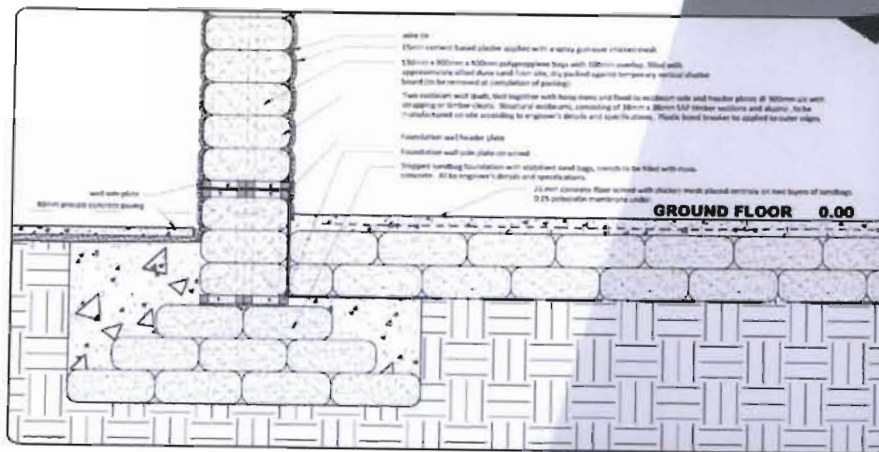
2. All planning to be in accordance with the relevant authority's requirements.

3. All planning to be in accordance with the relevant authority's requirements.



wall/roof detail

1:10



foundation / floor detail

1:10

detail plan 1:50







# indaba ngomhlaba

the story of the landscape  
an Interpretation Centre for Gomoengwazi wetland park

## primer

### schedule of accommodation

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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