

REVELATION AND RECONNECTION

A storytelling place at the Tswaing Crater

By Jeanne-Elmè Visser



Revelation and Reconnection: a storytelling place at the Tswaing Crater
By Jeanne-Elmè Visser

Studyleader: Prof. Karel Bakker

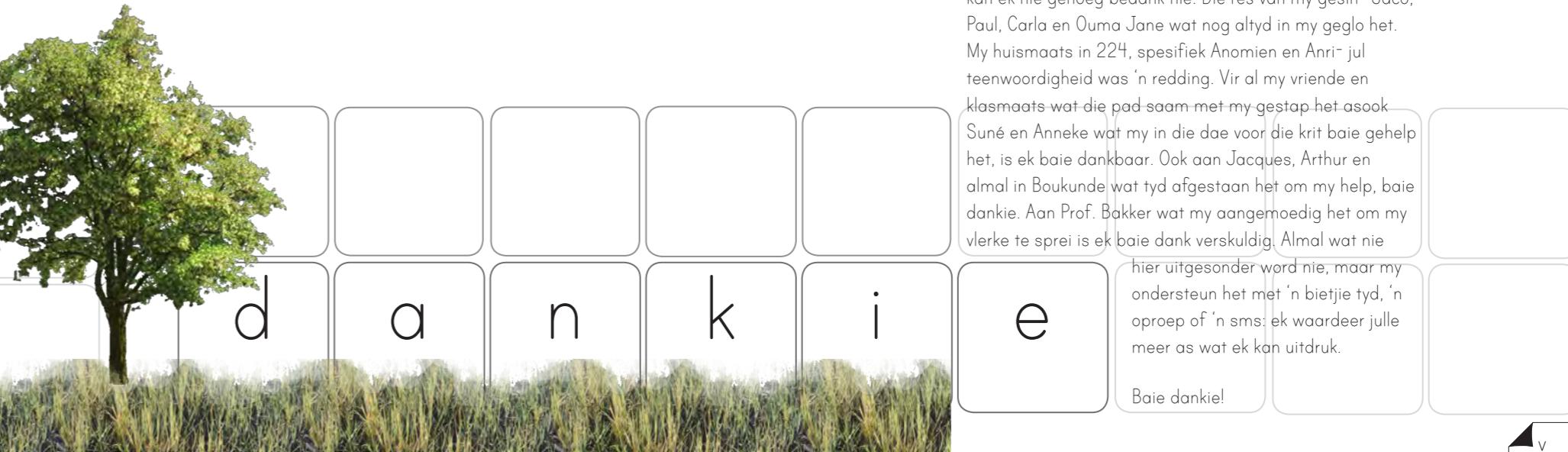
Studio masters: Jacques Laubser and Arthur Barker

Submitted in partial fulfillment of the requirements for the degree
Magister in Architecture(Professional)

Department of Architecture, Faculty of the Built Environment, Engineering and
Information Technology, University of Pretoria, South Africa.

June 2010

My ouers, vir hul ewige ondersteuning, liefde en geduld
kan ek nie genoeg bedank nie. Die res van my gesin - Jaco,
Paul, Carla en Ouma Jane wat nog altyd in my geglo het.
My huismaats in 224, spesifiek Anomien en Anri - jul
teenwoordigheid was 'n redding. Vir al my vriende en
klasmaats wat die pad saam met my gestap het asook
Suné en Anneke wat my in die dae voor die krit baie gehelp
het, is ek baie dankbaar. Ook aan Jacques, Arthur en
almal in Boukunde wat tyd afgestaan het om my help, baie
dankie. Aan Prof. Bakker wat my aangemoedig het om my
vlerke te sprei is ek baie dank verskuldig. Almal wat nie
hier uitgesonder word nie, maar my
ondersteun het met 'n bietjie tyd, 'n
oproep of 'n sms; ek waardeer julle
meer as wat ek kan uitdruk.



My ouers, vir hul ewige ondersteuning, liefde en geduld
kan ek nie genoeg bedank nie. Die res van my gesin - Jaco,
Paul, Carla en Ouma Jane wat nog altyd in my geglo het.
My huismaats in 224, spesifiek Anomien en Anri - jul
teenwoordigheid was 'n redding. Vir al my vriende en
klasmaats wat die pad saam met my gestap het asook
Suné en Anneke wat my in die dae voor die krit baie gehelp
het, is ek baie dankbaar. Ook aan Jacques, Arthur en
almal in Boukunde wat tyd afgestaan het om my help, baie
dankie. Aan Prof. Bakker wat my aangemoedig het om my
vlerke te sprei is ek baie dank verskuldig. Almal wat nie
hier uitgesonder word nie, maar my
ondersteun het met 'n bietjie tyd, 'n
oproep of 'n sms; ek waardeer julle
meer as wat ek kan uitdruk.
Baie dankie!

The subject for this dissertation is a development for the Tswaing Crater nature reserve that is dedicated to the rediscovery of the significance of place, as well as a rediscovery of the significance of self. These discoveries are made through the medium of storytelling, which is a universally understandable activity. Different theories on the perception of architecture, existential presence in the world and methods of storytelling is explored to inform a design question. The study culminates in the proposal for a built intervention that responds to the cultural and bio-physical environment and addresses problems identified during the theoretical discourse.

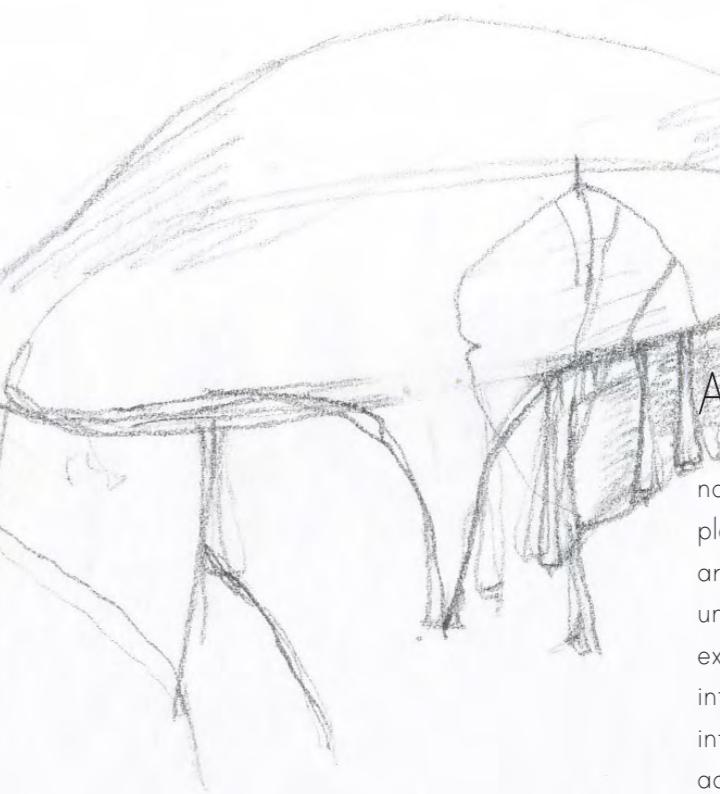


Fig. 1

Abstract

The subject for this dissertation is a development for the Tswaing Crater nature reserve that is dedicated to the rediscovery of the significance of place, as well as a rediscovery of the significance of self. These discoveries are made through the medium of storytelling, which is a universally understandable activity. Different theories on the perception of architecture, existential presence in the world and methods of storytelling is explored to inform a design question. The study culminates in the proposal for a built intervention that responds to the cultural and bio-physical environment and addresses problems identified during the theoretical discourse.



35	DESIGN	DEVELOPMENT	100
4	PROGRAMME		
48	5		
6	TECHNICAL	RESOLUTION	

TABLE OF CONTENTS

1	INTRODUCTION	2	2	LITERATURE STUDY	4	3	SITE ANALYSIS	14
1.1. Introduction	Overview: Site		2.1.	Introduction to the contemporary cultural context		3.1.	Impact Craters	
1.2. Research methodology	Theoretical enquiry		2.2.	Investigation of core theoretical concepts:	2.2.1	Impact crater distribution	3.1.1	Impact crater distribution
1.3. Goal	Programme Client		2.2.2	Loss of orientation and identity	3.1.2	The meaning of meteors and meteorites		
			2.2.3	Reconnection to the natural environment	3.1.3	Impact craters as catastrophic sites		
			2.2.4	Orientation in time	3.1.4	Impact crater and orientation in time		
			2.2.5	Time in the natural environment				
				Conclusion				
			2.3.	Physical translation as proposed by theory	3.2.	Biophysical site analysis	3.2.1	Location and context
			2.3.1	Dwelling	3.2.2	The cultural history of the site		
			2.3.2	Gathering	3.2.3	Tropicalegetation, topography and geology		
			2.3.3	Enclosure: Exposure	3.2.4	Site sensitivity and existing infrastructure		
			2.3.4	Weak architecture	3.3.	Development framework		
					3.4.	Metaphysical site analysis	3.4.1	The sacred nature of Tswaing
					3.4.2	Ancient precedents		
					3.4.3	The journey through the site		
					3.4.4	Precedent		

4.1. The Client	5.1. Introduction	6.1. Structural Typologies
4.2. Oral literature	5.2. The path	6.2. Material Palette
4.2.1 Introduction	4.2.2 A definition of storytelling	6.2.1 Brick
4.3. Oral literature in Africa	5.3. Parti diagrams and site programme	6.2.2 Timber
4.3.1 Different styles of oral literature	5.4. The landscape revealed	6.2.3 Concrete
4.3.2 The role of oral literature in the society	5.5. Justification of built form	6.2.4 Copper
4.3.3 The role of oral tradition in museums	5.6. Wall in the landscape	6.3. Gridshell roof structure
4.3.4 Precedents	5.7. Concept diagrams	6.3.1 Background
4.3.4 Conclusion	5.8. Storytelling place	6.3.2 Laminated timber
4.4. Programme:	5.8.1 Plan	6.3.3 Construction
4.4.1 The aim of the programme	5.8.2 Occupation	6.3.4 Precedents
4.4.2 The influence of oral literature	5.8.3 Concept development	6.3.5 Development of the gridshell roof
	5.8.4 Development of the section	
5.9. Multimedia experience and restaurant	5.9.1 Plan	6.4. Copper cladding
5.9.2 Structure	5.9.2 Circulation	6.5. Green roof
5.9.3 Stylistic characteristics	5.9.3 Occupation	6.6. Section AA
	5.9.4 Concept development	6.7. Thermal comfort
	5.9.5 multimedia experience	6.7.1 Passive cooling
	5.9.6 Concept development	6.7.2 Trombe wall
	restaurant space	6.7.3 External shading devices
	Development of the section	6.7.4 Earth-coupled cooling
6.8. Acoustic performance		
6.9. Stormwater treatment		
6.9.1 Grassed swale		
6.9.2 Pervious pavement		
6.9.3 Rainwater retention garden		
6.10. Self-composting toilets		
6.11. Greywater treatment		
Conclusion		135
Bibliography		136
List of Figures		138