

https://dspace.org/

Architecture for resilience: dialogues with place in the indigenous communities of Kuruman during the Holocene period

Maape, Sechaba

2016

http://hdl.handle.net/10539/23000

Maape, Sechaba (2016) Architecture for resilience: dialogues with place in the indigenous communities of Kuruman during the Holocene period, University of the Witwatersrand, Johannesburg, <http://hdl.handle.net/10539/23000>

Downloaded from a DSpace repository. https://dspace.org/

ARCHITECTURE FOR RESILIENCE: DIALOGUES WITH PLACE IN THE INDIGENOUS COMMUNITIES OF KURUMAN DURING THE HOLOCENE PERIOD.

Sechaba Maape

A thesis submitted to the Faculty of Engineering and the Built Environment, University of the Witwatersrand, Johannesburg, in fulfilment of the requirements for the degree of Doctor of Philosophy.

Declaration

I declare that this thesis is my own unaided work. It is submitted to the Degree of Doctor of Philosophy to the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination to any other university.

……

(Signature of candidate)

On the ……day of ….....year…….

Abstract

Since the latter part of the 20th century to the present, we have seen growing concerns about the potential collapse of socio-ecological systems due to climate change. On the other hand, palaeoenvironmentalists, archaeologists and anthropologists consistently point to evidence of how *Homo-sapiens* have survived within climate variability underpinned by an embodied/embedded relationship to their environments. Archaeological data shows how indigenous groups such as the Bushman have inhabited landscape features such as caves for longer than 10 000 years and thus survived through periods of climate variability.

Another well researched element of Bushman life is their ritual practices. Given the low supply of livelihood resources within the contexts where such communities have survived, this study hypothesised a possible relationship between Bushman ritual practices and their long-term resilience when faced with variability. Using the Holocene habitation of the Wonderwerk Cave as the main case study, this study explored the relationship between people, place and ritual. Furthermore, the study applied phenomenology as the primary data collection method. The resultant first-person experience guided the researcher in engaging with secondary data from archaeology and ethnography.

The study found that Bushman ritual practices such as trance constituted a critical adaptation tool in response to perpetually variable environments. Through such practices and their related tools such as art, space and myth, such communities managed to sustain a synchronised dialogue with place thus facilitating for ongoing dissolution of maladaptive behaviour. Another key finding is that our inability to change constitutes a key characteristic of our species today as we have been seduced into the trap of our deep psychic longing for existential continuity.

The study argues for an architecture for resilience whose primary role would be to facilitate higher fluidity in our embeddedness to place and allowing for faster and trauma-free transitioning in synchronicity to our changing environments. In conclusion, the study finds that our own contemporary climate change has implications far beyond the techno-scientific understanding which has prevailed so far and is instead calling to be understood as an existential phenomenon to be primarily resolved through relevant/responsive ritual practices to facilitate our own transitioning and continued resilience.

Acknowledgments

First and foremost I need to thank God, the kinds of insights and experiences I had while writing this thesis where certainly inspired by the infinite and the numinous. Secondly I want to thank those who came before me, both my Bushman and my Tswnana ancestry, this study was really about them, and honouring the difficult often traumatising past they endured for me to now have the opportunity to do this work. Thirdly I want to thank my parents, who both endured the struggle of apartheid and managed to raise a little boy in such tumultuous times, thank you for your support.

I want to thank my supervisors Prof Daniel Irurah and Prof Francis Thackeray. Prof Irurah has certainly opened my eyes and my heart to the world. Indeed this has been more of a rite of passage for me, and Prof Irurah was the shaman. Thank you Prof, I will be forever indebted. Prof Thackeray, who knew that when you and your wife did your excavations at Wonderwerk Cave 32 years ago it would be data that would later be used by an indigenous local for such a study, thanks to the both of you. I also want to mention Prof Ben Smith who was my previous co-supervisor prior to his relocation to Australia. He was part of the early inception of this study. In addition, I want to acknowledge Dr David Morris for his insightful discussions and allowing me access to the Wonderwerk Cave archives at the McGregor Museum in Kimberley.

I also want to thank my extended family who helped me along the way, often committing their time and emotions. I especially want to thank Puna Mokgwabone for her generous time and kindness. I also want to acknowledge the community of Kuruman, Lesego Thabo Moorosi and all the other people who participated in the study. This study is for you, and I hope that it can be a way for all of us to reflect on what has happened to our community, and perhaps be a starting point towards constructing new meanings and identities.

Contents

Declaration ..... **i**

Abstract ..... **ii**

Acknowledgments ..... **iii**

Contents ..... **iv**

List of figures ..... **xi**

Nomenclature ..... **xiv**

Chapter 1: Introduction **1**

1.1 Overview 1

1.2 Statement of the research problem and research question 3

1.2.1 Research question 3

1.2.2 Aims 3

1.2.3 Working Hypothesis 4

1.3 Theoretical Framework- the interdisciplinary approach 4

1.3.1 Ritual and deconstructing past conditioning 5

1.3.2 Evidence of deconstruction in neurophenomenology 6

1.3.3 Implications for this study; antistructure and dissolution evolved towards place adaptation and resilience 6

1.4 Methodology and research design 7

1.4.1 Primary and secondary data collection - an interdisciplinary approach 8

1.4.2 Case study method – Wonderwerk Cave as place 9

1.4.2.1 Archaeological data from at Wonderwerk – Rock engravings 10

Secondary data 10

1.4.2.2 Archaeological data from Wonderwerk cave – made artefact 12

1.4.3 Experimental archaeology as method 12

1.4.3.1 Researchers experience of making 12

1.4.4Ethnographic data and observation 13

1.4.4.1 Observation of Rituals 13

1.4.4.2 Observation of and participation in indigenous making 13

1.4.4.3 Dialogues of place 13
1.4.4.3 Note on phenomenology and subjectivity 14
1.4.5 Palaeoclimatic and palaeoenvironmental data 15
1.4.6 Data analysis and findings 16
1.4.6.1 Evidence of Holocene occupation 16
1.4.6.2 Evidence of Ritual - Analysis of secondary archaeological data 16
1.4.6.3 Evidence of place making rituals in contemporary indigenous communities as a way of better understanding and substantiating the dissolution hypothesis at Wonderwerk Cave 16
1.4.6.6 Evidence of dissolution experienced from a first person encounters with place making rituals 16
1.5 Structure of document 17
1.6 Delimitation of study and assumptions 22
Chapter 2: Literature review and theoretical frameworks 24
2.1 Introduction 24
2.2 Theory of self/place engagement from a post Cartesianism perspective 27
2.2.1 Cartesianism 27
2.2.2 Phenomenology 29
2.2.2 Embodiment and situated cognition 33
2.2.3 Neuroscience of embodiment 36
2.2.4 Neurophenomenology 42
2.2.4 Dissolution 47
2.2.5 Cultural-neurophenomenology 48
2.2.6 Ritual of dissolution – Art, creativity and the numinous element 51
2.3 Ritual and dissolution 55
2.3.1 Introduction 55
2.3.2 Ritual, art and myth in indigenous communities 56
2.3.2 The ritual process 57
2.5 Embodied ritual amongst the indigenous communities of Southern Africa 63
2.5.1 Ritual of dissolution in Southern Africa – David Lewis-Williams 63
2.5.2 Tricksters and trancers and the role of anti-structure in Bushman society 68
2.5.3 A cultural neurophenomenological framework based on Lewis- Williams, Lee, Yellen and Guenther's towards place making rituals 70
2.5.4 Place making rituals and hunter-gatherer environmental adaptation 72
2.6 Conclusion 81

Chapter 3: Methodology.....85

3.1 Introduction 85

3.2 Research design 86

3.2.1 Overview of research design.....86

3.2.2.1 Constructing insights through weaving - a bilateral reciprocity 86

3.2.2.2 Cabling method and its application in this study 87

3.2.2 The four strands 89

3.2.3 How the four strands define the research design.....92

3.2.4 A phenomenological approach.....94

3.2.5Cultural phenomenology as method.....100

3.2.6 Phenomenology as experimental archaeology 102

3.2.7 Criterion for choice of case study 102

3.3 Overview of data 103

3.3.1 Secondary data 104

3.3.1.1 Archaeological data 104

3.3.1.2 Palaeoclimatic data 105

3.3.4 Primary data.....105

3.3.4.1 Phenomenological approach to archaeological data from Wonderwerk cave and other secondary archaeological data.....105

3.3.4.1 Kuruman as place - the new phenomenological context of the Wonderwerk Cave 106

3.3.4.2 Phenomenology of place making rituals 107

3.3.4.3 Phenomenology of sacred landscapes in the Kuruman area – people's perceptions and feelings .107

3.3.4.4 Phenomenology and self-ethnography of embodied practices (making/ritual).....108

3.7 conclusion.....109

Chapter 4: Wonderwerk Cave archaeology, palaeontology and phenomenology.....110

4.1 Introduction 110

4.2 Overall context 111

4.2.1 Climate in the Wonderwerk Cave area 113

4.2.2 Comments on Bushman spatial patterns and the Wonderwerk Cave area 114

4.3Wonderwerk Cave 115

4.3.1 The 'objective' description of Cave.....115

4.3.2 Wonderwerk Cave - a phenomenological encounter of the place.....118

4.3.3 Wonderwerk Cave paleoclimate and palaeoenvironments.....125

4.3.3.2 Palaeoenvironments inferred from the petrography, stable isotope geochemistry, and pollen of the Wonderwerk Cave stalagmite 125

4.3.3.1 Palaeoenvironments inferred from micro fauna abundance 125

4.3.3.3 Previous palaeoenvironmental studies – Wonderwerk palaeoenvironments inferred from small mammal and pollen evidence.....128

4.3.4 Wonderwerk archaeology 129

4.3.4.1 Introduction.....129

4.3.4.2 Lithic artefacts 134

4.3.4.3 Non-lithic artefacts.....135

4.3.5 Phenomenology of Wonderwerk artefacts 139

4.3.5.1 McGregor Museum archives.....139

4.3.5.2 Bone working.....141

4.3.5.3 Grindstones 142

4.3.5.4 Decorated ostrich eggshell 142

4.3.5.4 Chunks and Chips 142

4.4 Findings 143

4.4.1 Evidence of hunter-gatherer (and their predecessors) inhabiting the Wonderwerk Cave area in the past 10000 years.....143

4.4.2 Evidence of climate and environmental variability at Wonderwerk Cave in the past 10000 years ..144

4.4.3 Evidence of ritual at the Wonderwerk Cave in the past 10000 years (Wonderwerk as a ritual site) 144

4.4.4 Findings from phenomenological data at Wonderwerk Cave 149

4.4.5 Findings from phenomenological data of artefacts from Wonderwerk Cave.....151

4.5 Discussion and conclusion 153

Chapter 5: Climate variability and place attachment – Synthesis of Wonderwerk Cave archaeology and place making in contemporary Kuruman 156

5.1 Introduction 156

5.2 Territoriality, flexibility and Wonderwerk Cave archaeology 157

5.2.1 Bushman territoriality and climate variability 157

5.2.2 Bushman place making rituals – change and the need for continuity 162

5.3 Place attachment and place making rituals in Kuruman 165

5.3.1 Ethnographic data of place making 166

5.3.1.1 Discussion – Mrs VM 166

5.3.1.2 Discussion 2 – Mr G 168

5.3.1.3 Discussion 3 – Ms KVK 170

5.3.2 Observation of place making rituals 171

5.3.2.1 Introduction 171

5.3.2.2 The researcher as embedded in the context 173

5.3.2.3 Pre ritual dialogues 173

5.3.2.4 Day 1 173

5.3.2.5 Day 2 174

5.3.2.6 Day 3 175

5.3.2.7 Day 4 – The day of the place making ritual 175

5.4 Findings and discussion 178

5.4.1 Findings from ethnographic data 178

5.4.2 Findings from place making ritual data 179

5.4.3 People are emotionally attached to places – “no one is meant to move you from there” 181

5.4.4 Rituals and emotions are mediators between self and place 182

5.4.5 Coping with impermanence and uncertainty 183

5.5 Conclusion – Wonderwerk place making rituals 184

Chapter 6: Rituals of dissolution and the construction and identity - synthesis of Wonderwerk Cave archaeology and a phenomenology of rituals in contemporary Kuruman 187

6.1 Introduction 187

6.2 Ritual and tools of dissolution at the Wonderwerk cave – a recap 188

6.3 The role of ritual, space and myth in meaning making and the construction of the self 189

6.3.1 Introduction 189

6.3.2 Ga-Mohana ritual site as tool of dissolution 190

6.3.2.1 Introduction to Ga-Mohana 190

6.3.2.2 Description of the site 190

6.3.2.3 Findings 197

6.3.3 Logobate Cave ritual site as a tool of dissolution 200

6.3.3.1 Introduction and previous visits to Logobate Cave 200

6.3.3.2 Description of Logobate Cave 203

6.3.3.3 Findings 207

6.4 Phenomenology of indigenous practitioners, liminality and tools of dissolution 210

6.4.1 Visiting an indigenous healer – experiencing dissolution 210

6.4.1.1 Introduction 210

6.4.1.2 The role of indigenous ritual practice in inducing dissolution and the construction of the self 210

6.4.1.3 Findings 214

6.5 Reciprocity - The role of the making and use of divination objects as tools of dissolution in the collective construction of self and meaning 217

6.5.1 Introduction 217

6.5.2 The makers context 217

6.5.3 Making the objects 220

6.5.4 Embedding the artefacts in the Kuruman context 224

6.5.6 Findings 226

6.6 Overall findings and conclusion 228

Chapter 7: Place making and rituals of dissolution – towards climate variability adaptation and resilience.....230

7.1 Introduction 230

7.2 Overview of the role of ritual as an adaptive human measure when faced with climate variability.....230

7.3 The techno-scientific rhetoric of climate change and sustainability and our inability to respond.....233

7.4 Is liminality creativity.....234

7.8 Implications for architecture.....235

7.9Conclusion.....236

7.10 Recommendations 242

References.....245

Appendices.....251

Appendix A - Wonderwerk Cave artefacts.....251

Appendix B – Wonderwerk Cave artefacts directly experienced by researcher 252

Appendix C – Wonderwerk Cave internal photographs.....254

Appendix D – Photographs of place making ritual 256

Appendix E – Photographs of Ga-Mohana Cave 257

Appendix G – Ethics clearance certificate 257

Appendix H – List of Discussions…..……. 257

List of figures

Figure 1 The bi-axial model of the San cosmos. Source (Lewis-Williams, 2004) *2*
Figure 2 Four components needed for the purposes of this study *7*
Figure 3 Map of southern Africa showing the location of Wonderwerk Cave (Chazan, et al., 2008, p. 2) *9*
Figure 4 Wonderwerk Cave looking at entrance *10*
Figure 5 A line drawing of the zebra engraving on the dolomite slab from Wonderwerk Cave (Bradfield, et al., 2014, p. 72) *10*
Figure 6 Buck Jumper – Source (Thackeray, 2013) *11*
Figure 7 Self place dialogue (working hypothesis) *24*
Figure 8 Velmans reflexive model of perception (Velmans, 2012, p. 146) *35*
Figure 9 Edelman's model of conscious experience (Edelman, 2003, p. 5523) *37*
Figure 10 Freeman's circular causality model (Nunez & Freeman, 1999, p. 145) *38*
Figure 11 A four-way sketch (Varela, 1996, p. 332) *43*
Figure 12 Varela's methodological approach to the phenomenological study of consciousness (Varela, 1996, p. 338) *45*
Figure 13 Comparison of groundless nature of reality *53*
Figure 14 Ritual as self /environment mediator *55*
Figure 15 Stages of transformation of conscious experience during trance (Lewis-Williams, 2004, p. 32) *64*
Figure 17 Bushman rock art depicting what could be shaman in trance with blood falling from his/her nose – Rock Art Research Institute *65*
Figure 16 Entoptic Phenomenon (Lewis-Williams & Dowson, 1988) *65*
Figure 18 Bushman rock art depicting what could be shamans in trance with blood falling from their noses – Rock Art Research Institute *65*
Figure 19 Bi-axial cosmology of the San *66*
Figure 20 Circular trance dance (RARI) *67*
Figure 21 Cable method on left and chain method on right. Source: (Lewis-Williams, 2002, p. 102) *86*
Figure 22Based on the cabling method, weaving of data and theoretical framework, A and B are primary and secondary data, C is the theoretical framework. *87*
Figure 23 Place making and rituals at Wonderwerk Cave during the Holocene *89*
Figure 24 ***The four strands, A*** *representing Cultural Neurophenomenology of dissolution,* ***B*** *Victor Turner's liminality and anti-structure,* ***C*** *David Lewis-Williams demonstration of bushman embodied practices linked to art and myth, and* ***D*** *Guenther's argument of Bushman and anti-structure/liminality* *92*
Figure 25 Varela's methodological approach to the phenomenological study of consciousness (Varela, 1996, p. 338) *96*
Figure 26 Case study area in context in South Africa (Beaumont & Morris, 1990, p. 146) *111*
Figure 27 Case study Area (Beaumont & Morris, 1990, p. 147) *111*
Figure 28 Kuruman Hills in the horizon (Author, 2014) *112*
Figure 29 Plan of Wonderwerk drawn by Author (2015) from (Chazan & Horwitz, 2009) *116*
Figure 30 Wonderwerk context Author (2014) *117*
Figure 31 Entrance of Wonderwerk Cave Author (2014) *117*
Figure 32 Internal view of Wonderwerk looking towards cave mouth Author (2014) *117*
Figure 33 Approach to cave entrance moving in a Southerly Direction. The cave entrance is obscured by vegetation and a mound that seems to have been recently formed. Author (2014) *118*
Figure 34 Plan showing position of stalagmite Author (2014) *119*
Figure 35 Plan showing area of rock art Author (2014) *120*

Figure 36 Rock art on east wall of Wonderwerk Cave, depictions of animals particularly in white with reddish coloured vertical stripes. Author (2014) *121*
Figure 37 Enigmatic forms towards the back of the west wall panel Author (2014) *121*
Figure 38 Wonderwerk Cave 3Ds showing movement from front of cave to back of cave. 2 shows area where rock paintings are located, 11 is the back of the cave. Source: http://zamaniproject.org/tl_files/data/Unity/Wonderwerk/Wonderwerk_VW_web.html *122*
Figure 39 Intense light from mouth of cave Author (2014) *123*
Figure 40 About half way into the cave Author (2014) *123*
Figure 41 North south section of Wonderwerk Cave showing the 3 sections discussed above Author (2014) ... *124*
Figure 42 Wonderwerk paleoclimates showing temperature and precipitation (SSF3) (Thackeray, 1987, p. 295) *126*
Figure 43 Wonderwerk Cave temperature change (Thackeray, 1987, p. 301) *127*
Figure 44 Wonderwerk Cave paleoclimate (Beaumont & Morris, 1990) *128*
Figure 45 Korana Hottentots at the Orange River in 1801, according to painting by S. Daniel (1804-6) (Rudner, 1979) *130*
Figure 46 Wonderwerk Cave, Thackeray excavation (Humphreys & Thackeray, 1983, p. 43) *131*
Figure 47 Wonderwerk excavation layers in time line. The timeline shows Holocene timeline relative to excavation layers. Author 2014 based on (Humphreys & Thackeray, 1983) *132*
Figure 48 Wonderwerk excavation areas (Humphreys & Thackeray, 1983, p. 39) *132*
Figure 49 Wonderwerk eland painting traced by M.Wilman in 1921 (Beaumont & Morris, 1990) *133*
Figure 50 Wonderwerk Cave 'grid' painting traced by M.Wilman in 1921 (Beaumont & Morris, 1990) *133*
Figure 51 Lithic artefact concentration (Humphreys & Thackeray, 1983, p. 49) *134*
Figure 52 Engraved stones from the excavation, from dated deposits (Humphreys & Thackeray, 1983, p. 90) 136
Figure 53 Decorated ostrich eggshell designs and pendants from Wonderwerk Cave (Humphreys & Thackeray, 1983, p. 89) *137*
Figure 54 Miscellaneous artefacts and bone working from Wonderwerk Cave (Humphreys & Thackeray, 1983, p. 86) *138*
Figure 55 McGregor museum archives, the right shelve is storage for rock engravings found around the Northern Cape Province of South Africa . Author (2014) *140*
Figure 56 Bone workings from the Thackeray excavation. Author (2014) *141*
Figure 57 'Art mobilier' from Wonderwerk Cave. The animal has thin incisions on its rump which according to Thackeray represent symbolic wounding associated to sympathetic magic. (Bradfield, et al., 2014) *146*
Figure 58 The "Buckjumper"; Left is sketch based on the photograph, note the three stripes depicting symbolic wounding, and on the right is the photograph of the 'buckjumper'. Source; (Thackeray, 2005, p. 7) *147*
Figure 59 Lewis-Williams' and Dowsons' table of geometrics extended to include geometrics (Lange, 2006, p. 379) *148*
Figure 60 Looking to the cave entrance from about half way into the cave *151*
Figure 61 Map of three n/oresi drawn by a! Kung man. Source (Dowson & Lewis-Williams, 2001) *158*
Figure 62 Degree of inclusivity and exclusivity in Bushman spatial organisation (Lee, 1972, p. 126) *159*
Figure 63 Bi-axial model of /Xam cosmology (Hall, 2000, p. 140) *163*
Figure 64 An open field where the Ou-Location used to be, today virtually no signs show that this was once a buzzing township . Author (2015) *172*
Figure 65 Ritual participants praying under the marque. Author (2015) *176*
Figure 66 Ritual participants on site, Mrs Z pouring traditional beer on one of the ruins of Ou-Location while speaking to the ancestors. Author (2015) *177*
Figure 67Wonderwerk Cave artefacts *188*
Figure 68 Areal image of context showing sacred sites in relation to Wonderwerk Cave represented as the yellow dot, Kuruman Town as the green dot, Ga-Mohana Cave as the purple dot and Logobate Cave as the orange dot. *190*

Figure 69 Ga-Mohana hills as the twin-hills on the far right showing their prominence from a vantage point in Kuruman town. Author (2015) *190*
Figure 70 Areal view of Ga-Mohana Hills. Google Earth *191*
Figure 71 Front view of cave at Ga-Mohana. Author (2015) *192*
Figure 72 Niches with stark blue used candle placed in niche seen here in closer detail. Author (2015) *193*
Figure 73 Researchers sensing the diffirent areas of Ga-Mohana cave. Author (2015) *194*
Figure 74 Main chamber space at Ga-Mohana with cave wall in the backgound, melted candles in the middle ground and a white dove in the foreground. Author (2015) *196*
Figure 75 aerial view of Logobate Cave. Google Earth *200*
Figure 76 Initiates performing dance in Logobate village. Source, Mr Kgopolelo Makoke *201*
Figure 78 Inside Logobate Cave. Source, Mr Kgopolelo Makoke *202*
Figure 77 Ritual participants dancing at with Logobate ritual site in the background. Source, Mr Kgopolelo Makoke *202*
Figure 79 The first cave, a dead goat in the foreground *204*
Figure 80 researchers discussing Logobate cave, the mouth of the small cave can be seen on the top right side of the hill. Auther (2014) *206*
Figure 81 A map of the RDP housing settlement showing the access road in green. Google Earth. *211*
Figure 82 Consultation room and shrine area with the healer sitting to the left. Author (2015) *212*
Figure 83 Divination objects on the mat, some of which are shells and dominos. Author (2015) *213*
Figure 84 Sitting area at healers house *214*
Figure 85 Healers wife 'throwing the objects' *214*
Figure 86 Makers house, an earth house with thatch roof. Author (2015) *217*
Figure 87 Indigenous makers art works. Author (2015) *218*
Figure 88 Finger indents from the process of making. Author (2015) *220*
Figure 89 Designs of one of the divination objects, top row are pen sketches, the two bottom rows are computer generated designs of the object. . Author (2015) *221*
Figure 90 Slices of timber with images mapped on to them to later be cut out by the makers. Author (2015) *223*
Figure 91 The researchers hands applying a finish to the artefacts, note the bandage on two of his fingers. Author (2015) *224*
Figure 92 Complete artefacts in leather pouch. Author (2015) *225*

Nomenclature

Adaptation – The collective or individual process of adjustment or change in structure and/or habit that allow for better functioning in a given environment.

Anti-structure – The state in which society, individual or culture is between two paradigms or solid constructs derived from the ambiguous moment in ritual when a participant is no longer in their previous self but has not reached their new identity.

Archaeology – The study of human activity through the recovery and analysis of material culture.

Attachment (Psycho-somatic) – An individual or collective condition of being emotionally bonded with other people, a place, objects or concepts.

Climate variability – The variability or change in climate conditions, either in the short term or the long term.

Communitas – An equal community particularly in its social form.

Cultural – Neurophenomenology – A branch of neurophenomenology that focuses on cultural practices, ritual and religion.

Dissolution – The dissolving of past psychological structures (ideas, identity, perceptions), through physiological practices such as ritual. This could also be defined as unlearning or un-conditioning.

Dualism – The philosophical notion that mind and body are two separate substances as per Rene Descartes hypothesis.

Egalitarian – A non-hierarchical equal society.

Embodiment – The term referring to the conceptual and actual unity of mind and body ultimately postulating that the human (and other sentient beings) are an emergent phenomenon and cannot be merely reduced to mind combined with body.

Embodied practice – These are physiological practices that induce various psychological states including trance.

Existential – This is a term derived from existential philosophy which is a philosophical discipline that starts with the human subject in its process of enquiry, including personal feelings, our individual mortality as a condition or situation, and thought.

Liminality – The ambiguous or in-between moment in ritual when a participant is no longer is no longer their previous self but has not reached their new identity. This is also used in relation to social, ecological, cultural and psychological liminality.

Neurophenomenology – The study of first person experience using a synthesis of methodologies from neuroscience and phenomenology.

Neuroscience – The scientific study of the human brain and nervous system and resultant human experiences such as consciousness.

Paleoclimates – Referring to the study of past climates.

Palaeoenvironments – Referring to the study of past environments.

Place – A concept derived from phenomenology referring to the subjective or intersubjective perception (mediated by emotions and\or socialisation) of geographic spaces.

Phenomenology – The philosophical study of first person perception, subjectivity and consciousness.

Ritual – a series of religious, symbolic and physiological actions performed by an individual or a collective often linked to rites, ceremonies, proceedings and services.

Reciprocity – a non-linear exchange or bi-directional agency.

Resilience – The ability for a system to resist complete collapse and regain its basic integrity when exogenously perturbed.

Territoriality - This refers to the human practices of defining ownership of space, especially natural geographic forms.

Chapter 1: Introduction

1.1 Overview

Since the latter part of the 20th century to the present, academics, scientists, governments and business leaders globally have expressed deep concerns about the potential collapse of socio-ecological systems arising from anthropogenically induced climate change (Bernstein, et al., 2007). However, people have experienced climate induced catastrophes in the past and thus evolved ways of being-in-the-world that ensured survival through such crises. (Heidegger, 1996) (Smith, 2005) (deMenocal, 2001).

Palaeoenvironmentalists, archaeologists and anthropologists consistently point to evidence of how we have lived within climate variability and constraints, and how responses to this were underpinned by people's relationships to their environments (deMenocal, 2001), (Brooks, 2006), (Turner, 1969) (Guenther, 1999). The Northern Cape Province in South Africa is rich in palaeoclimatic and archaeological findings and studies that give evidence of climate and environmental variability in the past 10000 years usually characterised by dry seasons and low precipitation (Beaumont & Morris, 1990) (Thackeray, 1984) (Humphreys & Thackeray, 1983).

In Particular, there is evidence showing habitation of natural landscape features such as rock outcrops and caves in the aforementioned area by indigenous groups well before the Holocene till present (Beaumont & Morris, 1990) (Deacon & Deacon, 1999) (Chazan & Horwitz, 2009). Furthermore, archaeologists have shown that groups like the Bushmen and perhaps their predecessors have inhabited these spaces for longer than 10 000 years thus having encountered long term climate variability (Humphreys & Thackeray, 1983). Therefore it could be inferred that such inhabitants managed to survive the various climate constraints evident in Holocene palaeoclimatic data.

These communities were often engaged in various ritual practices, some of which directly related environmental constraints and variability such as rain making rituals (Deacon & Deacon, 1999) (Lewis-Williams, 2004). From a post Cartesian dualism model of the human being as espoused by various contributors in the fields of archaeology, neuroscience, phenomenology and other knowledge fields, and using the case study of the Wonderwerk cave (Wonderwerk Cave) about 40km South of the modern town of Kuruman in the Northern

Cape Province of South Africa and its surrounding contemporary community, the aim of this study is to better understand the role of place/consciousness or self/place dialogues mediated through rituals and how this influenced the resilience of Wonderwerk Cave inhabitants during Holocene climate variability and constraints. This will be done through an exploration of ritual induced mental states achieved through instruments such as somatic priming found in myth, psycho-somatic (embodied) instruments such as dance, music and art, as well as the spaces and artefacts that make up the contingency of such practices.

The study not only relies on secondary data from the archaeological records to gain a better understanding of the role of ritual in adapting to variable environments, it also uses phenomenological methods and participant observation in which the researcher is embedded in the context and participates in a number of practices to gain a better understanding of the way in which ritual, ritual places, embodied practices, myth art and other tools contribute to increased levels of resilience and adaptability. This is an important component of the study given the difficulty to explore such phenomena through only the reliance of secondary data from anthropologists and archaeologists.

In recent years, there has been a substantial amount of research that is looking at the relationship between Bushmen art, myth and ritual practices, the places these rituals are performed and the various artefacts linked to them (Lewis-Williams, 2004) (Deacon, 1988) (Thackeray, 2005) (Humphreys & Thackeray, 1983). This huge contribution from South African archaeology is a rich resource to draw upon, and together with evidence from cultural neurophenomenology and interpretive anthropology create an opportunity to investigate the relationship between ritual and environmental adaptation.

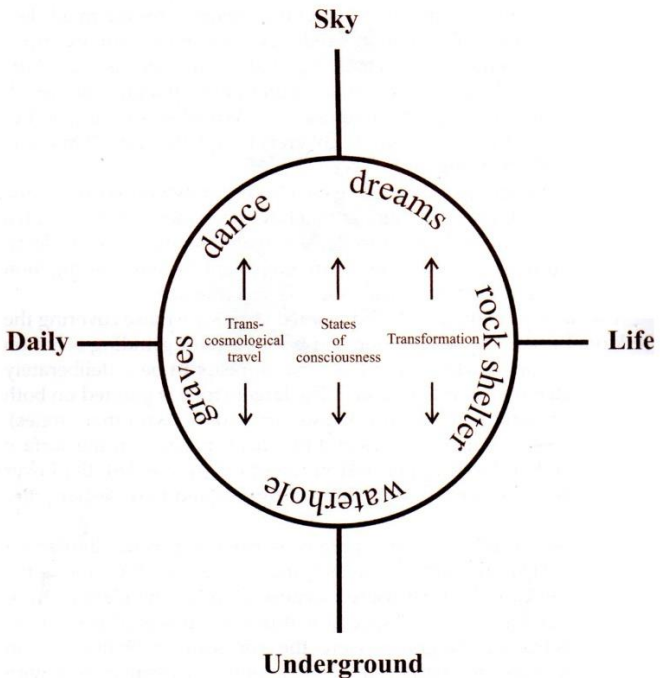


Figure 1 The bi-axial model of the San cosmos. Source **(Lewis-Williams, 2004)**

In this study, I wish to argue that myth, art and other place-making rituals emerge as implicit and embodied mechanisms that the community engages in as methods of mediating between identities, boundaries of relationships and perceptions of a changing environment to increase resilience (Relph, 1976) (Tuan, 1974) (Ingold, 2000). By negotiating boundaries of the self, the self as the other, the self as the landscape or the self as the ancestors, it was possible for people to confront variability and mitigate issues that may arise from solipsism, attachment to the self, attachment to a particular place or practice which if not mitigated could cause maladaptive behaviour resulting in poor resilience and perhaps catastrophe.

As we face our own climate crisis, energy transitions and ecological change, and have to sense variability and adapt to the new conditions, what can contemporary society, particularly in the discipline of architecture and place making learn from past communities?

1.2 Statement of the research problem and research question

1.2.1 Research question

Focusing on the interaction between **rituals (embodied practices)**, climate/environmental variability, and resilience in the communities that inhabited the Wonderwerk Cave area in the Northern Cape Province of South Africa during the Holocene to present day:

1. How did rituals; place making rituals, ritual spaces, myth and art contribute to/influence the resilience and adaptation of indigenous peoples of South Africa who inhabited the Wonderwerk cave area during the Holocene
2. What lessons of resilience might this hold for contemporary and future architecture as we encounter our own global-warming and climate change?

1.2.2 Aims

Using a post Cartesian dualism models of human environment engagement espoused by a variety of knowledge fields as the core theoretical framework, and the case study of the Wonderwerk Cave area , the study aims to weave the strands from a diverse range of previously unlinked fields (which will be applied either in theoretical anchoring, methodology or secondary data sources) in order to understand resilience and environmental adaptation among native communities in the past 10000 years in the face of past climate variability and change and especially how place-making rituals facilitated this. This

understanding is seen as critical in informing architecture for resilience in contemporary place-making in the face of the unfolding climate change in our own time.

Secondary aims are the following:

1. Present possible architectural interpretations of the forms of place making rituals that synchronises communal consciousness with environmental change.
2. To gain a deeper understanding of moments during the Holocene when humankind was faced with climatic catastrophes and possible collapse. This is in essence a way of building on the knowledge we have about climate change and ultimately could shed light on the ways in which we could face the situation we found ourselves in today.
3. To understand how people in these communities derived meaning from their interaction with the places they inhabited, and how such meaning influenced their survival.

1.2.3 Working Hypothesis

Through a continued dialogue between the self and the environment mediated through **embodied practices** often referred to as rituals, past indigenous communities developed tools of dissolving boundaries of identity and meaning to move between phenomenal worlds which allowed for a better response to their ever changing environments, thus allowing for higher levels of adaptation and resilience.

1.3 Theoretical Framework- the interdisciplinary approach

In trying to address the research issues outlined above, a particular approach has been formulated drawing from a number of knowledge fields. This approach or structure articulates the fundamental theoretical and methodological anchoring's, and how these create a framework out of which the main argument is presented.

The following are the foundational approaches aggregating vertically towards the core argument of this study;

1. **Core argument** – Dialogue through place making rituals as adaptive and resilience mechanisms;
   These are rituals evident in extensive anthropological studies argued here to continuously deconstruct past conditioning (anti-structure), a psychological process that induces creativity which in turn create the right conditions to establish new

meaning, thus allowing for people to inhabit appropriate phenomenal worlds. This is achieved through embodied practices as 'tools of dissolution' acting on the body – brain – mind.

2. **Theoretical mediator** – The body-brain-mind theoretical framework depends on a post Cartesian dualism (p-Cd) model of the human being that argues for a non-dual whole human as opposed to the mind/brain, matter/consciousness split.
3. **Theoretical Foundation** – Post Cartesian dualism framework is theoretically underpinned by phenomenology and today neuroscience, the two having converged in the study of neurophenomenology.

1.3.1 Ritual and deconstructing past conditioning

Anthropologist Victor Turner has done extensive work on ritual practices particularly transition rituals such as rites of passage. Turner (1969) established several key concepts that have proven crucial for the purposes of this study, namely:

1. The notion of liminality
2. The concept of anti-Structure
3. The notion of communitas (Turner, 1969)

These concepts will be discussed in chapter 2. What is important to note at this stage is that Turner seems to be pointing to evidence of the manner in which ritual practices facilitate the deconstruction of psycho-psychological boundaries or structures, although he does not seem to discuss extensively how this happens at a physiological level.

Similarly, and more relevant for the context in which this study is focusing, David Lewis-Williams has also studied ritual, particularly rituals of trance among the Bushmen of Southern Africa (Lewis-Williams, 2004). Lewis-William's work has engaged deeply with the relationship between art, trance and changed states of consciousness. Where as Turner speaks little about the link between art, embodied practice such as trance and a changed state of consciousness, Lewis-Williams does not seem to engage extensively with the implications of trance in relation to the notion of anti-structure and liminality.

In Tricksters and Trancers, Mathias Guenther mentions the role of anti-structure amongst the Bushmen, and how this indeed was a fundamental component of their social, religious and economic make up. Guenther (1999) also mentions the role of anti-structure as a 'principal

force of creativity' (Guenther, 1999), this is a fundamental notion for the purposes of this study, and together with the findings of Tuner and Lewis-Williams, assist in establishing a strong case of evidence of 'rituals of dissolution' amongst past indigenous communities in South Africa, and how these practices increased levels of adaptation and resilience.

1.3.2 Evidence of deconstruction in neurophenomenology

Very little has been written about the neuroscience of dissolution except for a handful of fringe academics who mostly fall within the post Cartesian dualist (p-Cd) paradigm. One such person is neuroscientist Walter Freeman who has briefly suggested the processes by which dissolution occurs in ritual practice. He explains that;

"The biological techniques for inducing dissolution are well known. Individuals separate themselves or are isolated from their normal social surroundings and support systems. They engage in or are subject to severe physical exercise as in dance, sport, military drills, lack of sleep, chemical stresses of their brains through purgatives and fasting, and the induction of powerful emotional states of love, hate, fear or anger." (Freeman, 2003, p. s59)

These neurobiological processes will be further discussed in the "dissolution" section in chapter 2 in which a variety of literatures will be appraised to demonstrate the way in which the brain is conditioned and un-conditioned, and the neuroscientific evidence for this. Given that little to no studies have been undertaken on the neuroscience of dissolution in ritual practices among indigenous communities in Southern Africa (more specifically Bushmen), the study will rely on studies of other practices of dissolutions, particularly the work done with Buddhist monks and other contemplative practitioners who will be argued here are similarly engaged in embodied practices of dissolution and anti-structure, often referred in the Buddhist context as states of non-attachment, emptiness and void.

Apart from Freeman's work, the work of Buddhist practitioner and neuroscientist Francisco Varela will also be fundamental in establishing a sound theoretical grounding for the development of the self/place dialogue through embodied practice.

1.3.3 Implications for this study; antistructure and dissolution evolved towards place adaptation and resilience

These theoretical frameworks will give grounding for the purposes of developing the self/place dialogue. If indeed the literature demonstrates sound evidence that embodied ritual

practices (trance, myth, symbolism, art and making) induce dissolution and anti-structure, and furthermore through arguing that this has an impact in the manner in which people adapt to changing environments, the implications for the study would be to find a context in which there exists evidence of embodied ritual practices including art, trance (dance), myth and symbolism.

1.4 Methodology and research design

Therefore, four key components are essential for conducting this study;

1. Place
2. People
3. Time
4. Rituals

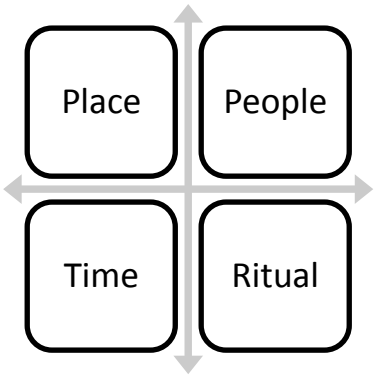


Figure 2 Four components needed for the purposes of this study

The researcher needed to root the study in place, bound within a time in which the place undergoes changes which needs to be responded to by a group of people through ritual. Therefore the choice of place has been determined by the availability of evidence of such interactions by a people engaged with place through the making of artefacts or performance of rituals over a given time.

In addition, the research needs to account for the lived experience of ritual participants in their context. This suggested a type of experimental ethnographic/archaeological method in which the researcher with others engage in embodied practices not as a replication of past practice but rather as first person subjective manner of evolving a sense of empathy which would guide a re-evaluation of the secondary data accessed for the study.

The Wonderwerk cave in the Northern Cape Province in South Africa meets the requirements listed above; people, place, time and ritual. Archaeological data indicate that various embodied place engagement activities existed amongst the cave dwellers and those dwelling in the surrounding places (Humphreys & Thackeray, 1983).

1.4.1 Primary and secondary data collection - an interdisciplinary approach

Due to the nature of the study, the researcher has had to rely on various disciplines for the acquisition of particular data sets;

1. Firstly in order to better understand the various place making activities (rituals, art and making) at Wonderwerk during the deep past, secondary archaeological, paleontological and palaeoclimatic data became the primary source.
2. Secondly, primary data is needed to engage contemporary self/place rituals amongst the contemporary indigenous communities in the area.
3. Furthermore, the researcher in keeping with non-dualistic research methodologies as espoused by neurophenomenology included himself as an avenue for collecting first person qualitative data during participation in various activities such as making artefacts and performing rituals. Other primary sources of data included photographic recording and observations as well as informal dialogues with contemporary indigenous people.

1.4.2 Case study method – Wonderwerk Cave as place

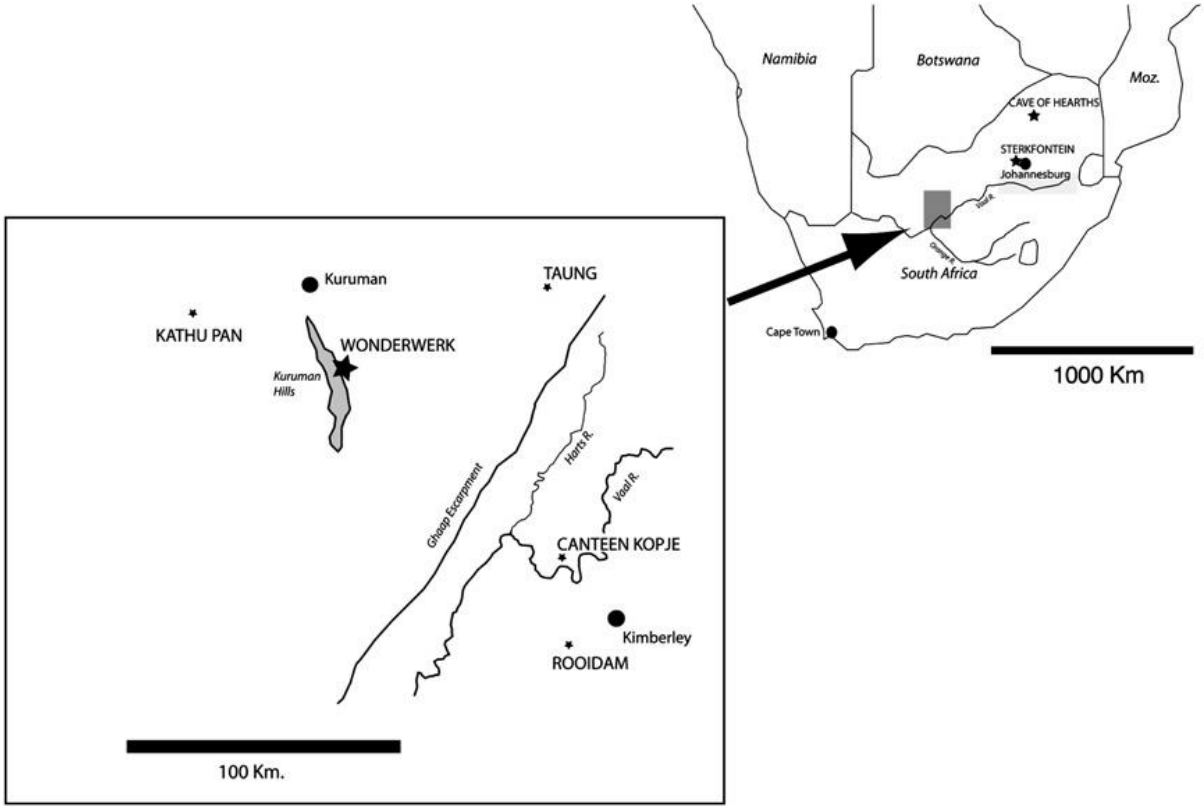


Figure 3 Map of southern Africa showing the location of Wonderwerk Cave (Chazan, et al., 2008, p. 2)

The Wonderwerk Cave is located 40km south of the town of Kuruman in the Northern Cape Province of South Africa. From around the mid-20th century, the cave has undergone various archaeological excavations and is still studied by various scholars from around the world. The cave is about 140m deep and its height (internal volume) ranges between 10 to 20 meters (Chazan, et al., 2008, p. 1).

The cave is an important case for the purposes of this study as outlined below. Firstly, there is evidence of human habitation in the cave in the past 10000 years, and secondly evidence from the cave indicates that there has been past climate variability in the area (Beaumont & Morris, 1990) (Thackeray, 1984). Excavations at the cave reveal concentration of various animals in different layers which when analysed in previous studies gave an indication of changes in the environment over time. Furthermore, these studies indicate that artefacts ranging from stone tools to pendants and decorated ostrich egg shells are evident. Thus, the Wonderwerk cave has presented a unique opportunity to frame a temporal study of the relationship between human beings and their environments.



Figure 4 Wonderwerk Cave looking at entrance

1.4.2.1 Archaeological data from at Wonderwerk – Rock engravings

Secondary data

Prof Francis J Thackeray has been studying Wonderwerk cave for close to 3 decades and has used some of the artefacts he found at the cave to develop his theory of sympathetic hunting magic (Thackeray, 2013).

In sympathetic hunting rituals, the hunter re-enacts the hunt through mimicry, body gestures, and sometimes dance (Thackeray, 2013). One of the artefacts found by Thackeray is a line drawing of a zebra engraved on a dolomite slab found in the cave. According to Thackeray (2005), the incisions on the rump of the depicted zebra (Figure 5) represent symbolic wounds, and furthermore the stone is broken across the represented animal which is an act of assuring a

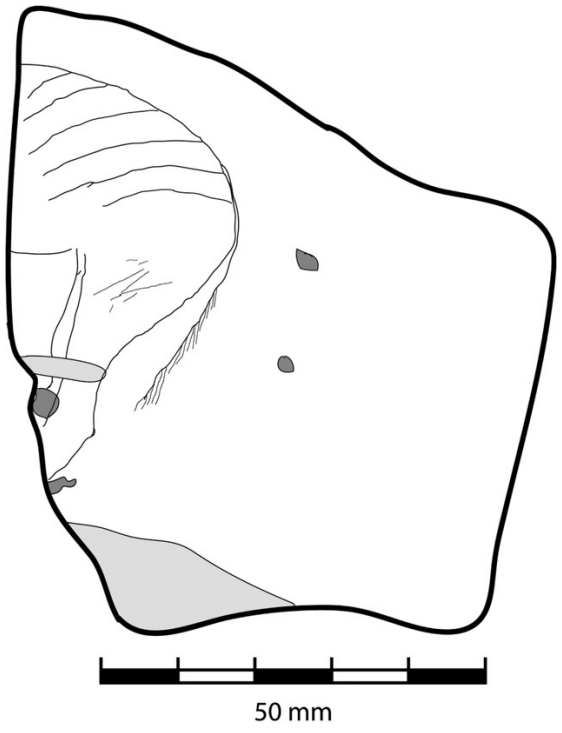


Figure 5 A line drawing of the zebra engraving on the dolomite slab from Wonderwerk Cave (Bradfield, et al., 2014, p. 72)

successful hunt (Thackeray, 2013). Thackeray argues that similar to the dolomite slab, painted stripes are drawn on the side of an animal skin, perhaps a roan antelope, worn by a ‘buckjumper’ (Figure 6) in a picture taken by WH.C. Taylor at Logageng, north of Wonderwerk Cave.

“It is suggested that painted stripes on the skin of the 'buck jumper' were symbolic of wounds associated with sympathetic rituals of the kind known by the name inguba, during which a hunter was identified with a wounded, dying animal linked to the belief that such rituals were essential to satisfy the desire for a successful hunt.” (Thackeray, 2005)

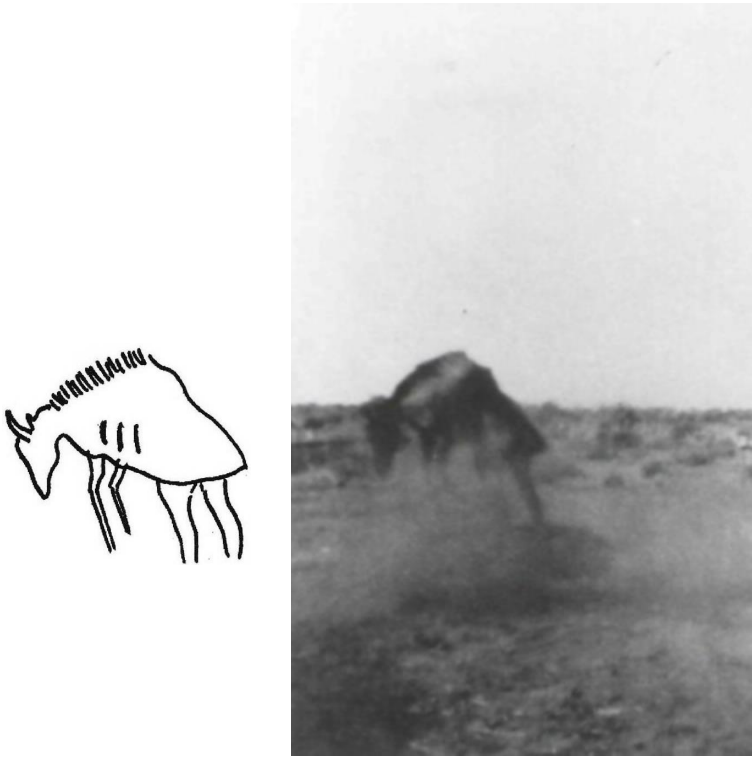


Figure 6 Buck Jumper – Source **(Thackeray, 2013)**

What Thackeray’s research points to is the various ways in which past WW Cave inhabitants could have been in dialogue with the landscape and its milieu. Sympathetic hunting magic could be co-related to the notion of dissolution in neuroscience , referring to the mechanisms of brain conditioning in which the brain is either bonding or un-bonding with a given phenomenon i.e. an animal or landscape feature (Freeman, 2003). The ritual practices of the WW Cave inhabitants such as sympathetic hunting were often embodied and emotive which is a key ingredient in neuro-phenomenological bonding and un-bonding rituals.

1.4.2.2 Archaeological data from Wonderwerk cave – made artefact

Other artefacts found at the cave are various pendants and tools from the middle Holocene. These are made of materials ranging from ostrich egg shell to quartz. The study intends to demonstrate how the making of these artefacts as well as the rituals associated with them was part of maintaining a particular orienting to the environment.

The ostrich eggshell grid patterns found at WONDERWERK CAVE have been discussed in Lange (2006) who refers to Lewis-Williams trance hypothesis relative to the engraved patterns on the eggshells. This will be discussed further in chapter 4.

1.4.3 Experimental archaeology as method

1.4.3.1 Researchers experience of making

As mentioned above, the theoretical underpinnings of this study are phenomenology and neuroscience including the sub-field of embodiment. As part of better understanding the role of the body in Holocene self/place engagement at the Wonderwerk Cave, the researcher has undertaken closely related "making" experiments.

This methodology of engagement requires the researcher to be embedded in the research using their own subjectivity as a tool for gaining insights into the subject. In one instance, the researcher experimented with the making of divination objects using materials found from the research site. This manner of experimentation brings back a vital component to understanding past making activities namely the body.

Through this method, the researcher tries to capture various embodied/phenomenological experiences such as physical pain/pleasure, somatic markers (discussed further in chapter 2), affect and any other first person experiences from making the artefacts. These experiences give insights to how a Wonderwerk Cave maker could have engaged in meaning making and the construction(development) of self in context.

1.4.4 Ethnographic data and observation

1.4.4.1 Observation of Rituals

The greater Kuruman area, which includes the Wonderwerk cave, remains home to a large indigenous community, some of whom are descendants of pre-colonial Tswana, Korana and a mixture of the two groups (Jacobs, 2003) (Shillington, 2011). From preliminary observations, the researcher encountered what seem to be activities and rituals that resemble those discussed by archaeologists referring to past indigenous communities in the area (Beaumont & Morris, 1990). These rituals, usually performed in natural settings outside of the urban areas, particularly in caves and rock outcrops could be the last remaining place/self dialogue rituals in the area. They are usually highly emotive and involving physical actions and singing including engaging with various mythological symbolisms.

1.4.4.2 Observation of and participation in indigenous making

Along with the observation of contemporary rituals, the researcher participated in the making of artefacts as still practiced in the surrounding communities of WONDERWERK CAVE. Again this was in order to gain a deeper phenomenological insight of place/self dialogues within the community. This method is a qualitative approach and is by no means expected to generate any new anthropological finding. However, when stitched together with secondary and other primary data sets it is argued to be evidence of surviving place making rituals/practices in the area.

1.4.4.3 Dialogues of place

The researcher also interacted with various members of the community through verbal dialogue in which the subject of discussion was place. Through a series of semi-structured dialogues, the researcher's intention was to have a better understanding of how the contemporary indigenous inhabitants of the area perceive the place, if they engaged in place making rituals and how they confronted variability in place over time.

It is clear from these dialogues that the community remain connected to certain mythological narratives of place often linked to specific motifs and symbols. Totemism and a variety of anthropomorphisms in ritual, dance and identity continue to exist amongst the local

community which can be linked back to the kinds of place identities that existed throughout most of the Holocene evident in Wonderwerk Cave archaeological findings.

1.4.4.3 Note on phenomenology and subjectivity

Given that the most important element being investigated in this study is practice and phenomenological experience of ritual-induced psychic liminal states, it became necessary for the researcher to apply direct/subjective experience as a key tool of the study. Whereas such psychic states have been previously researched and inferred by anthropologists using ethnographic methodologies, there exists hardly any direct-experience exploration of the inferred phenomenon. One unique example in this regard is (Keeney, 2010) where not only was direct-experience applied, but also the researcher became psychically transformed to the Bushman worldview and subsequently initiated into a shaman as a result of the direct-experience. The direct-experience/phenomenological data is used as an attempt towards corroborating secondary data from previous objective/positivistic studies.

What is additionally unique about this particular research is that unlike many studies of ritual from around the study area and wider southern African context, the researcher in this particular study is a member of the local indigenous community. This means that the researcher is radically embedded in the research, and through phenomenological methods of exploration, can rely on his capacity to understand local languages, bodily behavior and mannerisms and a collective history and inter-subjectivity that he shares with the local community.

This means that the results of the research are inter subjective in the sense that, whereas a similar study undertaken by another local-member of that community might yield similar results, the results might be different if the research is undertaken by someone from a completely different context, such as a Western context, without an open-minded readiness for a phenomenological/direct experience. This is not to say that researchers from other contexts may not find valid/useful and meaningful results. Instead, it just means that the results might reveal an alternative facet of the phenomenon studied. Furthermore results may have differed if the researcher was female (or even older than his current) in spite of being from the same context. Ritually induced somatic markers are likely to constrain (or facilitate) access to certain information and places based on gender or seniority roles and privileges within this particular community.

Having said this, results from physiologically induced psychic liminality is expected to corroborate with other studies from different contexts due to the universal embodiment of human beings and the resultant impacts of embodied practices on the brain/self. Although this is certainly influenced by social conditioning and prior priming/socialization, the mechanisms of inducing liminal states are limited to the morphology and physiology of the body, thus in this sense being universal, with infinite local variations.

These points are important to note because phenomenology as method can easily be dismissed due to its reliance on subjectively acquired data. However, the results from this study generally corroborate with findings from previous studies (Freeman, 2003) (Chazan & Horwitz, 2009) (which used objectivist methods such as neuroscience and neurophenomenological studies) and thus presents an opportunity for additional data through the researcher's direct experiences.

One could argue that anthropologists have used similar methods in the past although claiming objectivity by comparing each other's findings. This could be argued to be inter-subjective as opposed to objective, primarily because anthropologists studying indigenous communities are usually middle aged white males socialized in a Western manner. Therefore it is understandable that their results are highly likely to concur to a large extent.

Therefore the phenomenological method was used here to draw insights of ritual induced liminality and dissolution from direct experience as opposed to "secondary objective" anthropological data in isolation or stand-alone basis.

1.4.5 Palaeoclimatic and palaeoenvironmental data

Secondary palaeoclimatic and palaeoenvironmental data was studied to map out Holocene climate change at Wonderwerk Cave. Much of this work has been done using data from excavations at the cave. The data indicates that there was variability in Holocene climate at Wonderwerk (Thackeray, 1987) (Thackeray, 1984). Furthermore it demonstrates that the inhabitants of the cave must have faced various moments of climatic constraints of which they undoubtedly would have had to respond to. Along with this secondary palaeoclimatic and palaeoenvironmental data, it is the intention of this study to demonstrate the various place making activities that may have been ways in which Wonderwerk Cave inhabitants coped with environmental constraints.

1.4.6 Data analysis and findings

1.4.6.1 Evidence of Holocene occupation

The findings need to demonstrate evidence of the following:

-Evidence of climatic constraints and variability over the past 10000 years

-Evidence of inhabitation of Wonderwerk Cave in the past 10000 years

1.4.6.2 Evidence of Ritual - Analysis of secondary archaeological data

Data needs to demonstrate evidence of embodied practices at the Wonderwerk Cave over the past 10000 years in order to argue for the likelihood of practices of anti-structure and evidence of dissolution among its inhabitants. Such tools could be evidence of artefacts that could have been part of rituals, artworks and art linked to trance and myth.

1.4.6.3 Evidence of place making rituals in contemporary indigenous communities as a way of better understanding and substantiating the dissolution hypothesis at Wonderwerk Cave

This will be an analysis of primary data from observation of contemporary ritual practices, and if indeed they show evidence of tools of dissolution such as;

1. Evidence of removal from ordinary environments
2. Exposure to sensory stimulation
3. Evidence of participation in physiological embodied practices (trance, dance, exercise, fasting among others)
4. Evidence of the use of spatial instruments , perhaps symbolic (volume, darkness and light, colour, sound and form)
5. Evidence of inducing of emotion through myth, symbols and meaningful action.

1.4.6.6 Evidence of dissolution experienced from a first person encounters with place making rituals

The final stream of data was drawn from first person phenomenological encounters of ritual participants. This data was collected through interviews and was analysed to determine

evidence of dissolution and anti-structure. This was done through analysis of what ritual participants account (narrated) during and subsequent to their ritual participation. This data includes the experiences of the researcher himself and his own encounter with such rituals, thus having two sets of data that will be assessed together.

1.5 Structure of document

Chapter 1 of the document is the introductory chapter giving a brief overview of the study, the research problem, aims and working hypothesis. The chapter begins with an introduction to the broader research context, namely climate change and evidence of human activities as a response, briefly mentioning the mechanisms underpinning such responses. This is followed by a short introduction to the more specific research context of past indigenous South African communities as a case of human environment interaction. This is followed by the research question, aims and working hypothesis of the study. The chapter then moves into the theoretical underpinnings of the study, highlighting the role of embodiment and post Cartesian dualism as primary theoretical underpinnings. This is then followed by a brief discussion on methodology; under this section the case study of the Wonderwerk cave in the Northern Cape Province is introduced including key features and archaeological findings in the form of secondary data. The chapter then outlines anticipated data analysis and what evidence is needed to complete the study. The chapter concludes with the document structure and delimitation of scope.

Chapter 2 constitutes of the literature review and theoretical framework which is aimed at demonstrating the possibility of dissolution and anti-structure and its evidence among indigenous communities in Southern Africa. The chapter is split into two halves, the first half deals with theoretical frameworks from phenomenology and neuroscience which are both within the post Cartesian dualism model and both demonstrating the possibility of embodied practices of dissolution. The second half of Chapter 2 discusses evidence of dissolution and anti-structure among indigenous groups in current and past practices and experiences (namely the Bushmen) in Southern Africa.

In the first half of the chapter an overview and introduction to the theoretical fields is discussed. This is followed by a discussion on Cartesianism and its intellectual origins and thereafter by a section on phenomenology looking particularly at the work and theories of Martin Heidegger and Merleau-Ponty. This leads to the next section discussing an offshoot of

phenomenology, namely embodiment, and the various proponests of this theory. Following this is a section on neuroscience which provides a broad overview particularly on literature focusing on human/environemnt engagement and thereafter followed by an appraisal of neurophenomenology and especially the work of neurophenomenologist Francesco Varela. The section gives a detailed description of Varela's pioneering thoughts on neurophenomenology and highlighting some of his key concepts and theories on this knowledge field. The section on neurophenomenology is followed by a discussion on the notion of dissolution a critical theoretical underpinnings of the study. The subsequent section appraises cultural neurophenomenology which again is one of the foundational theoretical underpinnings of the study. Finally the first half of Chapter 2 is consolidated through a postulation of a theoretical working hypothesis developed through the fusing of the various theories discussed under the previous sections. This last section of the first half outlines the necessary and final theoretical framing in which the study was conducted.

The second half of Chapter 2 follows on from the previous section, and begins with a discussion on ritual looked at through the lenses of the theoretical framework developed in the previous section. The chapter then moves to look in more depth at the notion of ritual, specifically looking at the work of Victor Turner and his notions of liminality and anti-structure. In this section several rituals studied and interpreted by Turner are discussed from the point of view of the theoretical framework developed in the previous section. This is then followed by a section looking specifically at rituals in the Southern African context, drawing from the work of David Lewis Williams and his theories of trance and rock art in South African indigenous communities. Following this is a section that discusses findings in the work of Mathias Guenther and its relationship to anti-structure and liminality. This section once again brings together the framework from the first half of chapter two to substantiate the theoretical framework within the context of South African indigenous communities and their rituals.

Chapter 3 is the research design and methodology chapter in which the various data collection and analysis methods are discussed. This outlines the variety of methods of collecting data from seemingly disparate knowledge fields and synthesising them for the purposes of this study. This also includes a discussion of phenomenology as method and its relevance to this study.

The chapter starts by recapping the theoretical framework and the way in which it informed the research design and methodology. This is followed by a section that identifies four major theoretical anchors that create an opportunity for a research design approach drawing on neuroscience, archaeology, anthropology and philosophy. Thereafter is a section discussing the role of secondary data within the study including in particular, data collected from archaeology, palaeontology and paleoclimatology and how this fits into the overall research design. This includes methods of extracting data and how the data are analysed in subsequent chapters.

The section on archaeological data discusses the role of archaeological data in the study, looking specifically at evidence of the presence of artefacts, art, myth and ritual spaces in Wonderwerk cave during the Holocene. The section discusses how evidence of these phenomena is related to the working hypothesis and issues of dissolution.

The section on paleoclimatology will be brief, and will be discussing the need to show evidence of climate change/variability at Wonderwerk cave, and how this is captured using secondary data. Again this is discussed in relation to its role and relevance to the purposes of the study. This is linked to palaeoenvironmental data also showing changes in the environment at Wonderwerk cave during the Holocene period.

Following this is a section on primary data. It starts by highlighting once again the role of the primary data in the overall research design. The primary data was collected through ethnographic methodologies, specifically observation, journaling, interviews, photography and sketching. The primary data looked for evidence of rituals of dissolution in contemporary Kuruman 40km north of the Wonderwerk cave. The section discusses how the researcher collected the data and in what way the data were made part of the research design.

The chapter then discusses phenomenological research methodologies and the role of the researchers own experiences. This contributes to a discussion on the importance of bridging the subject/object gap and embedding the researcher in the research through his participation in rituals of dissolution. The section discusses how these data along with ethnographic data from interviews and secondary data from neurophenomenology of ritual discussed in Chapter 2 aided the development of the key arguments in the study. The final section of Chapter 3 discusses how the study analyses and interprets the data. This will be followed by an overview of the research method and design through a graphic representation.

Chapter 4 presents the data collected from secondary and primary sources. Although the two data sets are categorised as primary and secondary, secondary archaeological data such as stone artefacts, rock art and ritual spaces is also captured as primary phenomenological data. The chapter starts with a brief introduction following on from Chapter 3 and the research design as a structuring tool for Chapter 4. This is followed by a section on the secondary archaeological data from Wonderwerk Cave, specifically artefacts that could be evidence of rituals of dissolution. This is in the form of drawings of the artefacts done by archaeologists, including narrated data from journal articles. The second set of archaeological data is a presentation of rock art at the Wonderwerk Cave, in this case in the form of re-drawings of rock art also done by archaeologists and reported in various publications. Other secondary archaeological data is taken from journal articles discussing evidence of ritual use of the cave as a spatial phenomenon.

The subsequent section is brief. Using secondary data represented as graphs and narratives by palaeontologists, the study captures evidence of climate and environmental variability at Wonderwerk Cave during the Holocene which leads to the second half of the chapter in which primary data will be presented. This begins with interviews done in contemporary Kuruman in which discussion about rituals are captured and represented in narrative form. This is followed by a section on evidence of ritual places in present day Kuruman, captured through photography and journaling by the researcher. This includes evidence of artefacts and art that could indicate the presence of rituals of dissolution at these places. Also this includes a presentation of the actual ritual spaces as data through the use of photographs, maps, drawings and narratives, presenting the form and location of the spaces.

Finally the chapter presents phenomenological data, which is in written narrative form capturing the experiences of the researcher during rituals in which he himself participated. This also includes the researcher's experience of creating artefacts linked to rituals of dissolution. The data also includes photographs and sketches. Furthermore, artefacts sourced from secondary sources either captured in journals or collected during archaeological excavations are experienced by the researcher from a first person encounter in spite of them being removed from their original context. The researcher notes his experiences and records this as primary data.

Chapter 5 constitutes of an analysis of the data presented in chapter 4. Using the research design, the chapter analyses the data to derive evidence of practices of dissolution amongst

past and present indigenous inhabitants of the area. The chapter begins with a brief discussion on secondary palaeontological evidence of Holocene environmental/climate change. This is followed by a section that demonstrates evidence of rituals of dissolution linked to trance and other embodied practices present in secondary archaeological data at Wonderwerk Cave. In addition the section discusses evidence of sympathetic hunting rituals at Wonderwerk Cave and argues that this is also evidence of embodied practices of dissolving boundaries of identity. This section of the chapter address the research question by demonstrating how place making rituals contribute/influence resilience and adaptation of the indigenous peoples of South Africa, arguing that it is through the practice of ritual, art and mythology as a means of achieving dissolution and renegotiating boundaries of identity (mechanisms of changing) that resilience and adaptability to the environment is achieved.

Chapter 6 is an analysis of primary data in which evidence of rituals of dissolution is also presented. This includes the researcher's own phenomenological data, his experiences during rituals, the making of various artefacts and visits to sacred sites. The data is analysed to demonstrate evidence of tools of dissolution. Again, by demonstrating evidence of practice in rituals of dissolution, the chapter addresses the research question by presenting the ways in which dissolution is achieved through sensory stimulation (or deprivation) and how this is fundamental to the process of change, especially the transformation of self in response to a changing environment.

The above analysis is in the form of a discussion linking the data presented on the one hand, to the theoretical framework developed earlier and in particular linking to neurophenomenology, liminality, anti-structure and ongoing (renegotiation) construction of identity and meaning.

Chapter 7 constitutes a summary and conclusion of the study. It consolidates the findings from the previous chapter and gives a final demonstration of how secondary and primary data show evidence of rituals of dissolution during the Holocene till the present, and the role of these rituals in facilitating higher levels of resilience and adaptability.

The chapter also discusses the potential role of rituals of dissolution in our current contemporary context and specifically how the study and practice of architecture could play a part in re-establishing such practices. Furthermore the chapter discusses the link between rituals of dissolution and our current climate change crisis, and the manner in which such rituals create an opportunity towards our response/resilience to our unfolding climate change

crisis, this again addresses the last section of the research question, demonstrating what lessons of resilience rituals of dissolution hold for contemporary and future architecture in the context of contemporary global-warming and climate change. The study ends with a list of references and appendices.

1.6 Delimitation of study and assumptions

The focus of this study is to gain a better understanding of the role of place making rituals in enhancing resilience based on Holocene inhabitant around the Wonderwerk Cave as a case study. The study uses various knowledge fields to gain a better understanding of the self/place dialogue. What delimits the scope of the research is choosing a particular case area and its inhabitants over a given period of time. The study focuses specifically on the Wonderwerk cave in the Northern Cape Province of South Africa and the people who inhabited it.

Within this frame, the researcher explores the various evidence available in secondary archaeological and paleontological data pertaining to place/self dialogues and the various instruments people developed to better sense and adapt to place. This is supplemented with the researcher's own phenomenological encounters with various phenomena including embodied experiences of the caves.

The study is intended to add to the discourse of place in architecture but does not intend making any original or primary archaeological discoveries as this is not the researcher's primary field of study.

Based on available and published archaeological and palaeoclimatic data (Deacon & Deacon, 1999), the study assumes that the past inhabitants of the Wonderwerk Cave survived environmental variability of the Holocene era to present. Therefore the study does not seek to prove this but rather takes it as a given and instead focusing rather on the role of place making rituals in such circumstances. Furthermore, based on secondary archaeological data (Humphreys & Thackeray, 1983), it will be assumed that the inhabitants of the Wonderwerk Cave where Bushman and their predecessors (Holocene hunter-gathers), and further assumes that the inhabitants had a pan-San culture or something similar. Therefore the study is not set out to prove the existence of place making rituals at the Wonderwerk Cave, and will rather be assuming, based on other archaeological studies of Southern African hunter-gatherers

(Lewis-Williams, 2005), that indeed these kinds of rituals were practiced by Wonderwerk Cave inhabitants, at least those from the later Holocene. The study is not set out to do any new archaeological, palaeoclimatic, paleontological, neuroscientific or anthropological work. It is scoped to investigate place making which is the subject within the researcher's interest and competencies.

The study also does not attempt to clearly identify the specific ethnic group of the Wonderwerk Cave inhabitants, but rather, based on generalisations in previously published works, assumes that the inhabitants of the cave were the ancestors of the modern day Bushmen (Thackeray, 2005) (Beaumont & Morris, 1990) (Humphreys & Thackeray, 1983). Thus some of the artefacts found in the cave through archaeological excavations are also assumed to have belonged to the ancestors of the Bushmen who are therefore assumed to have lived in the cave during the Holocene.

The study is also not focusing on social structures although it touches on these issues, based on secondary data. Instead the focus is specifically on appraising available evidence in relation to the role of ritual and dissolution, making/creativity/skill/art/place amongst the Wonderwerk Cave inhabitants. Primary data linked to the researcher's key competencies within the field of design, architecture, making, creativity, as well as those of others with similar competencies as those of the researcher.

Chapter 2: Literature review and theoretical frameworks

2.1 Introduction

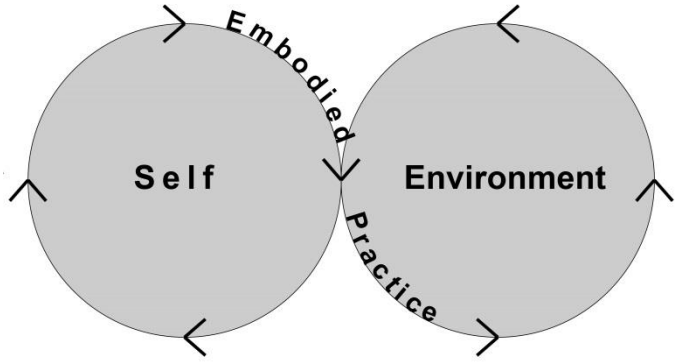


Figure 7 Self place dialogue (working hypothesis)

This study is intended to contribute to the body of knowledge mainly concerned with a new and more appropriate approach to architecture given our current and emerging socio/environmental challenges. As outlined in the previous chapter, this is to be done by developing a theory of **the self – place dialogue** (Figure 7) over time which will be presented here as mechanisms of change of the self in response to change in the environment argued to be an adaptive strategy. In the subsequent chapter through a variety of literature we will see how change in self is possible in a post Cartesian dualism (p-Cd) framework, where on the one hand the self, through embodied practices usually known as ritual, gains the capacity to loosen past conditioning and adapt to new identities, ideologies, beliefs and indeed environments, and in the process managing to dissolve the boundary of self and the landscape through embodied practices in direct contact and embeddedness .

Thus the post Cartesian dualism self, through somatic and existential tools of dissolution facilitated through art, architecture, myth and performance, encounters a moment of infinite potentiality, creativity and emptiness. This is however an often risky and treacherous place reported by many initiates, artists and other deeply inspired individuals as painful and terrifying (Peters, 1989). Often the risk is for one to be ‘lost in the pitfall of the nihilism’ as

put by neuroscientist/Buddhist practitioner Francesco Varela, but is encountered safely through a 'profound practice' (Francisco J Varela - what we do and what we see is not separate, 2011). Ritual, myth, art, architecture and performance become crucial instruments for the industry of dissolution or "tools of dissolution", all acting on the body through the senses.

The p-Cd model has many proponents, and in the following sections these authors and some of their theories will be appraised as a way towards developing a self-place theoretical framework. They are accessed from a variety of disciplines, namely philosophy (specifically phenomenology) cognitive psychology, neuroscience, neurophenomenology, anthropology, archaeology, architecture and art.

The chapter is divided into two parts. The first half gives a brief overview on the concept of Cartesianism and its roots in the Enlightenment, and how this has influenced our contemporary Western views of the self. This is followed by an introduction to perhaps some of the earlier proponents of the p-Cd model in the West, namely a field of philosophy called phenomenology. In particular this will focus on the works of Martin Heidegger who spoke extensively about our relationship to the environment, specifically outlining a practical engagement with ones surroundings. This is then followed by a section looking at embodiment, a concept with its roots in phenomenology and allows for a reframing of the dominant Western notion of the disembodied mind. This is a crucial section for the study because it begins to demonstrate how it is that self is grounded in a specific world, environment and landscape. It is also this chapter that develops the basis for pre-cognitive knowledge that transcends the conceptual self which is essential in framing a dialogue between selves and environments, rivers, rocks, trees and ant hills.

The section that follows focuses on findings in neuroscience, which has over the years tried to better understand self, consciousness and mind. This is also done from a post Cartesian dualism perspective. However unlike the phenomenologists, neuroscience relies on scientific methods of enquiry namely objectivism and positivistic argumentation. Following this is a section discussing the notion of dissolution which explicates the biological mechanisms behind un-conditioning the brain and dissolving boundaries of identity. What follows is a section looking at an interdisciplinary field that has synthesised scientific methods with those from philosophy, namely neurophenomenology. This field of neuroscience not only studies the objective data acquired by the scientist as observer but also relies on first person data as

salient in trying to better understand consciousness, empathy, fear, meaning and other human subjective phenomenal experiences. Neurophenomenology is therefore one of the foundational theoretical fields for this study, and together with the others mentioned above, create firm ground for developing a model for the self/place dialogue.

Following this is a section discussing an offshoot of neurophenomenology, namely cultural neurophenomenology. Included in this section is work from anthropologist whose theoretical foundations are also based on a p-Cd model, particularly the work of anthropologist Timothy Csordas (1994). Csordas' work demonstrates the ways in which embodied ritual practices are fundamental in the formation of a self often seen in religious ceremonies and rites. Csordas has studied indigenous communities and observed embodied practices and conceptions of the self that further substantiate the p-Cd model. The final section of the first half of chapter 2 is a brief discussion on creativity and ritual practice, arguing that creativity is a fundamental element of transition rituals or rituals of change.

This leads to the second half of the chapter which will be an exploration of ritual practices, drawing on work from anthropology and archaeology and synthesising some of their insights with the theories discussed in the first half of the chapter. The first section will be a discussion on the ritual process, specifically drawing on the work of anthropologist Victor Turner (1969, 1973) and his study of Ndembu rituals. In this section notions of liminality, anti-structure and communitas will be introduced. The subsequent looks at the work of archaeologist David Lewis-Williams (1998, 2005) and his extensive work on Southern African indigenous communities who are argued to demonstrate embodied practices of self-place dialogues. The section looks at some hunter gatherer ritual practices including the art, myth and performance that make up bushman rituals. Following this is a section discussing Mathias Guenther's (1999) work on bushman religion, especially as it is linked to anti-structure and liminality.

The last section is a brief discussion in which the key theories discussed in previous sections are synthesised to develop the main theoretical framework. The chapter then conclude by giving an overview of the theoretical framework which then guides the study through the subsequent chapters.

2.2 Theory of self/place engagement from a post Cartesianism perspective

2.2.1 Cartesianism

Cartesianism could be seen as an ontology that postulates the mind to be separate from the body, and has often been linked to 15th century philosopher Rene Descartes. According to Descartes' 6th meditations, mind is a separate substance from the body;

> First, I know that everything which I clearly and distinctly understand is capable of being created by God so as to correspond exactly with my understanding of it. Hence the fact that I can clearly and distinctly understand one thing apart from another is enough to make me certain that the two things are distinct, since they are capable of being separated, at least by God. The question of what kind of power is required to bring about such a separation does not affect the judgment that the two things are distinct. Thus, simply by knowing that I exist and seeing at the same time that absolutely nothing else belongs to my nature or essence except that I am a thinking thing, I can infer correctly that my essence consists solely in the fact that I am a thinking thing. It is true that I may have (or, to anticipate, that I certainly have) a body that is very closely joined to me. But nevertheless, on the one hand I have a clear and distinct idea of myself, in so far as I am simply a thinking, non-extended thing; and on the other hand I have a distinct idea of body, in so far as this is simply an extended, non-thinking thing. And accordingly, it is certain that I am really distinct from my body, and can exist without it. (Rene Descartes in Rodriguez-Pereyra, 2008, p. 71)

Descartes believed that the mind (consciousness or self, because, in this case Descartes is speaking in first person) and the body are distinctly different substances, and that the one substance (consciousness or the self "I") can continue living without the other. This has often been interpreted as the premise out of which Cartesian dualism is formed (Heidegger, 1996) (Lakoff & Johnson, 1999) (Nunez & Freeman, 1999). However some do feel that this assertion has been misunderstood and that it was not Descartes intention to formulate today's ontology commonly known as Cartesianism (Afloroaei, 2010);

"To this end, I will call attention to one of the most serious accusations levelled at Descartes and the entire modern philosophy, i.e. "the dualism of substances": the human body and soul have been understood as being two completely separate substances." (Afloroaei, 2010, p.

106). Never the less, a number of scholars (Nunez & Freeman, 1999) have maintained that Descartes was the originator of these ideas, and some (such as Martin Heidegger) have written specifically to Descartes meditations (Heidegger, 1996).

Thus, in the Cartesian model the mind is the seat of rationality, reason and pureness, whereas the body was an input device that was often times a hindrance to the workings of the mind (Ingold, 2000, p. 165; Alsop, 2005, p. 6). Reason was that which separates us from other animals and allowed humans to tower above nature and dominate it (Lakoff & Johnson, 1999, p. 17). Cartesianism and later substance dualism were possibly the root causes for other dualistic attitudes in the human psyche such as mind –body, subject-object, culture-biology and nature-nurture (Nunez & Freeman, 1999, p. xi). Cartesianism took its strong hold when it attempted to reduce symbolic knowledge and human reason to formal mathematical logic (ibid).

Later cognitivism was developed within two theories which are substance dualism theory which postulated that the mind was essentially separate from the body and functionalism which saw the mind as a set of mechanisms that can perform functions independent of the body (Nunez & Freeman, 1999, p. xii). The arrival of the digital computer became a perfect platform to test the dualist ontology due to the computer allowing for an interaction with a 'mind' that was not connected to any biological or neurobiological element, and indeed not linked to any social, cultural or environmental context. The computer was thus assumed to be a symbol of the mind, an input output device that had applied reasoning to manipulate information (ibid).

These conceptions of the human as a dualistic entity, mind and body, have had a profound effect on the way we live today through influencing a wide range of fields including education, politics, ecological philosophy, leadership, law and so on (Sweetman, 1999). However in the past century the dualist agenda has been put to question and a new breed of scientists, philosophers and scholars are working hard to close the gap that separates the mind from the body or self from a world. As one will see in the following sections, Cartesianism, substance dualism and functionalism have been characterised as problematic ontologies and the reversal of such views could form a critical move in the human history towards a better understanding of ourselves in relation to our environments (Nunez & Freeman, 1999, pp. xiii-xvii) (Alsop, 2005) (Sweetman, 1999).

Reason, which the Enlightenment and later Cartesianism held at the highest esteem and saw as raising the human above nature has equally not escaped the post Cartesian dualist ontologies;

"Reason is not disembodied, as the tradition has largely held, but arises from the nature of our brains, bodies, and bodily experience. This is not just the innocuous and obvious claim that we need a body to reason; rather, it is the striking claim that the very structure of reason itself comes from the details of our embodiment." (Lakoff & Johnson, 1999, p. 29)

2.2.2 Phenomenology

Phenomenology is one of the primary theoretical fields anchoring this study. This is because phenomenology positions itself within a non-Cartesianism framework and is primarily concerned with the human as a whole and a non-reducible being in a non-reducible existential space or 'place' (Heidegger, 1996) (Dryefus & Wrathhall, 2006) (Pallasmaa, 2009, p. 127) (Norberg-Schulz, 1979).

Phenomenology is believed to have been one of the most influential philosophies in the West in the past two centuries (Dryefus & Wrathhall, 2006, p. 1). It is known to be concerned with reframing the dominant dualistic model of the human being, especially through a critique of the object -subject dichotomy and instead developing a framework of a human being fundamentally embedded in a world whilst also being the world (Ingold, 2000, p. 168).

Phenomenology could also be perceived as a critique of science's objectivity claims as a method of understanding the world. Whereas scientist creates a gap between themselves and that which they are studying, phenomenology sees this gap as an ontological flaw and by consequence creating fallacious fragmentations between the subject and object. Husserl argued that the error often made is science being taken as the most fundamental description of our reality as opposed to our lifeworld (Dryefus & Wrathhall, 2006, p. 330). Phenomenologists such as Martin Heidegger and Maurice Merleau-Ponty were very clear about their position regarding Cartesianism, wishing to reverse its ontological framing (Ingold, 2000, p. 169). In Being and Time (1927 cited as Heidegger, 1996), Heidegger discusses his views in relation to those of Descartes. He describes Descartes as defining an ontological distinction between "nature" and "spirit' and thus proceeds to critique such oppositions (Heidegger, 1996, p. 84). The self and the world are not seen as separate entities, and what Heidegger (1996) calls Dasien refers to the reconstitution of this ontological

duality; ""Self and world belong together in the single entity, the Dasein. Self and world are not two beings, like subject and object, or like I and thou, but self and world are the basic determination of the Dasein itself in unity of the structure of being-in-the-world"" (Heideggar in Dryefus & Wrathhall, 2006, p. 361) This is perceived as an epistemic solution to our common assumption that we have " both an experience of a causal natural world external to ourselves, and a purposeful world of consciousness internal to ourselves"(ibid.)

Furthermore, Dasein is essentially defined by one's interaction with things (ibid). Much like an explorer tracking through the forest by handling leaves to clear their path, Dasein continuously moves into an existentially determined future by grasping various things. According to Heidegger, a human's engagement with a world is not merely through a disengaged perceptual cognition (sitting on the couch as in clinical psychology) but is instead an embeddedness, "handling, using and taking care of things which has its own kind of knowledge" (Heidegger, 1996, p. 63). What Heidegger refers to as "handiness" is the knowledge of the world one acquires through an engagement with the world. In his famous example of the hammer, Heidegger (1996, p.65) argues that by merely observing or analysing the hammer, one is closed out from knowing the hammer. It is only when one uses the hammer in taking care of things that the hammer is known.

Heidegger's phenomenology also begins to outline an ecological ontology in which useful things exist due to their relationship with a number of other relating phenomena. A piece of furniture, a spoon or a door is in its nature nested and entangled within a meshwork of other things in order to have its beingness (Heidegger, 1996, p. 64). Cotemporary philosopher Manuel Bremer in (Dryefus & Wrathhall, 2006, p. 310) argues that the "ecological structures of consciousness have been a – or even the main – topic of…phenomenological theories of consciousness". Consciousness is seen as grounded in the body and situated in an environment (Dryefus & Wrathhall, 2006) (Merluae-Pontey, 2008).

According to Ian Thompson (Dryefus & Wrathhall, 2006, p. 445) this notion of an ecological model is argued by eco-phenomenologists to be an antidote to our contemporary ecological crisis. Phenomenology's non-dual framing presents an opportunity to reframe the human's relationship with environment. "Mind/world dualism and the fact/value divide seem obvious when one is theorising from within the modern tradition (where they have functioned as axioms since Descartes and Hume at least), but phenomenologists argue that these conceptual dichotomies fundamentally mischaracterize our ordinary experience" (Dryefus & Wrathhall,

2006, p. 446). According to Thompson, this dichotomisation of self and world fails to see a fundamental intertwinement, splitting subject from the object world. This has become the modern ontological standpoint thus reducing nature to a meaningless object realm which ultimately causes the subject to subdue it (Dryefus & Wrathhall, 2006, p. 446).

Place or place making in phenomenology refers to not merely seeing our environments in a reductivist manner as mathematically determinable objects out there in a world, but rather that humans primarily see environments as non-fragmented wholes imbued with collective and individual meaning. Coates and Seamon argue that;

"In conventional environmental research and design, landscape is typically examined in terms of its parts; geology, hydrology, climate, topography, soil, vegetation, animal life and so forth. Information is then itself correlated statistically or graphically, and the result is an objective picture of the physical environment" (Coates & Seamon, 1984, p. 7)

However in phenomenological terms, the 'observer' does not merely look upon a complete and finite object, but through actively creating boundaries, edges and relationships, facilitates the emergence of meaning and identity into the landscape, the river, the home or the factory. Indeed home is a clear indication of the manner in which we dwell, and through memories, emotions, and physical practices we articulate its edges and delineation, its identity becomes dynamically circumscribed (Ingold, 2000) (Relph, 1976) (Seamon & Mugerauer, 1985) (Hauge, 2007). Concepts such as home in a phenomenological sense cannot be merely reduced to bricks, concrete, doors and windows. From the position of an individual, family or community, these 'objects' acquire significant and existentially salient meaning. Spaces determine behaviour, outlooks and the momentum of a people. Furthermore as much as people give places identity, places equally partake in the creation of people's identity;

"The influence place has on identity …is seen as a result of a holistic and reciprocal interaction between people and their physical environment; people affect places, and places (and the way places are affected) influence how people see themselves... *place* is a geographical space that has acquired meaning as a result of a person's interaction with the space" (Hauge, 2007, p. 45). Place making rituals would thus refer to the ways in which people actively construct meaning and identity into places, and in a reciprocal/recursive manner have this place identity help construct their sense of self. 'Place making rituals' facilitate the continuous reciprocal reframing of consciousness to have the appropriate

perception of the environment as a non-reducible whole experienced phenomenologically with existential significance as it unfolds and changes, hence the use of the word ‘place’ drawing from the phenomenologist account of place. As we will see later, this study argues that if the environment changes and the self or consciousness remains tethered to a previous understanding of its surroundings it runs the risk of maladaptation.

In the field of architecture, a considerable amount of research has been undertaken studying issues of place and place making. Architectural theorists such as Christian Norberg-Schultz, Juhani Pallasmaa and Davis Seamon have contributed immensely a phenomenological perspective of architecture and thus trying to address the issues that arise from objectivist and dualistic perceptions of place in architecture. However, very little has been written about the phenomenology of change in place and the subsequent need for the self to reciprocate. Norberg-Schultz in (Larice & Macdonald, 2007) recognises that places are not static; “The structure of place is not a fixed, eternal state. As a rule places change, sometimes rapidly.” (Larice & Macdonald, 2007, p. 279).

Unfortunately this is as far as Norberg-Schultz goes and does not engage in the mechanisms humans could have devised to deal with such changing places, both physically and in meaning that place has for them. This is surprising considering the real and traumatising experiences of loss of place seen in land expropriation, war and natural disasters. Furthermore architecture hardly, if ever, deals with the potential trauma of bringing a building into being, as well as the subsequent impacts that building has on a society. One project is sited in (Brislin, 2012) in which the experience of losing place due to change is captured;

“Finnish architect-artists Marco Casagrande and Sami Rintala have spoken of their surprise at the powerful emotion displayed during the final moments of their work *Land(e)scape* (1999), where abandoned barns of Finland were set on spindly legs to follow their farmers to the cities in the south, and then burned violently to the ground. The flames spontaneously evoked tears in the witnessing crowd, in an atmosphere they described as ‘strangely shamanistic’; a return to the primitive self…These were not simply the tears of nostalgia. This very human response is symbolic of a deep desire to find the balance between anomie and rootedness in the flux of change…” (Brislin, 2012, p. 9)

As we will see later, emotion and an existential encounter with our world are part of the way in which we are creating meaning and dynamically renegotiate boundaries of identity. It is thus part of the task of this study to develop a better understanding of the ways in which people reframe meaning in place (place making rituals) and how this can in turn influence a renegotiated self-identity.

2.2.2 Embodiment and situated cognition

In phenomenology, the body is a nested ecology within a multiplicity of other nested ecologies. Referring to James Gibson, anthropologist Tim Ingold argues that the mind and perception do not reside in the head but are a result of the organism as a whole in its environment (Ingold, 2000, p. 3). This assertion echoes that of Heidegger's being-in-the-world and the knowing of things through 'taking care of things'. According to phenomenologist Merleau-Ponty, ""the body is the vehicle of being in the world"…neither object nor instrument; it is rather the subject of perception." (Ingold, 2000, p. 169).

Embodiment is a field of phenomenology often associated with phenomenologists Merleau-Ponty and Sartre. In the embodiment model of the human being, what is conventionally seen as mind and body is reconceptualised as a whole system that is irreducible and instead of operating as a linear causal system is rather a system of circular causation (Nunez & Freeman, 1999, p. 143) (Pallasmaa, 2009). Hoffman in (Dryefus & Wrathhall, 2006, p. 253) argues that the objectification of the body is due to ones perception of other bodies as objects thus applying this conception to one's own body. Embodiment is thus tasked to undo this objectification by showing that one's body is accessible from the first person perspective (Dryefus & Wrathhall, 2006, p. 253).

Part of the apprehension of the body experienced from the first person perspective is the body's role as a perceptual instrument from which the world of useful things is encountered (Dryefus & Wrathhall, 2006, p. 255). In Merleau-Ponty's ontology of the human being, humans are literally their bodies (Merluae-Pontey, 2008) (Dryefus & Wrathhall, 2006, p. 369). This is re-emphasised by architect Juhani Pallasmaa in one of his seminal works *The thinking hand* (Pallasmaa, 2009). Drawing from various proponents of the embodied ontology Pallasmaa states that "human consciousness is an embodied consciousness; the world is structured around a sensory and corporeal centre. 'I am my body,'… 'I am what is around me'…'I am the space, where I am'…'I am my world' (Pallasmaa, 2009, p. 13).

The body is seen as both subject and object, or rather transcending such dualities, collapsing the boundaries between self and world. In this conception, the body is a knowing entity, the entire body and not only the head or rather the brain (ibid). Tim Ingold demonstrates this non-duality by emphasising how one can conceive of the human as having an embodied mind or and enminded body, showing that the two are merely a matter of approach (Ingold, 2000, p. 171). Ingold makes us aware of the subtle manner in which one may revert to conventional binaries, and how this is so deeply entrenched into our popular ontologies(Ibid).

The body's form and biological processes are embedded within a world of stimulation encountered through the senses but as an agent with intentionality and not merely a passive receptor (Nunez & Freeman, 1999, p. 56). This assertion is drawn from such as that of Merleau-Ponty (2008) and Heidegger (1996) (as in Dasien) who framed a model of consciousness that took into account the embeddedness of an agent immersed in a real world environment. Consciousness being grounded in the body thus meant that all aspects that make up the self including thoughts, ideas, feelings, dreams and other related phenomenal experiences are not separate from the physical world, but instead were part of a continuum in which a circular engagement/rapport occurs, a kind of dialogue.

Furthermore, this meant that the landscape, the rivers, the planets, the buildings and all aspects of what is conventionally seen as making up the 'external' world have potential to perturb, construct or interact with those aspects of the self traditionally seen as 'internal'. This in turn would mean that the construction, structure and perceptions of the self and identity become situated (Nunez & Freeman, 1999, p. xi). In a similar conception of a situated cognition, Max Velmans argues that consciousness is not only embedded in the world but is hooked up to the entire universe in what he refers to as reflexive monism (Velmans, 2012).

According to his model, Velmans argues that;

> …human consciousness is embedded in and is supported by the greater universe…in humans, the proximal causes of consciousness are to be found in the human brain, but it is a mistake to think of the brain as an isolated system. Its existence as a material system depends totally on its supporting surround, and the content of consciousness that it in turn supports arise from a reflexive interaction of perceptual processing with entities, events, and processes in the surrounding world, body, and the mind/ brain itself. (Velmans, 2012, p. 160).

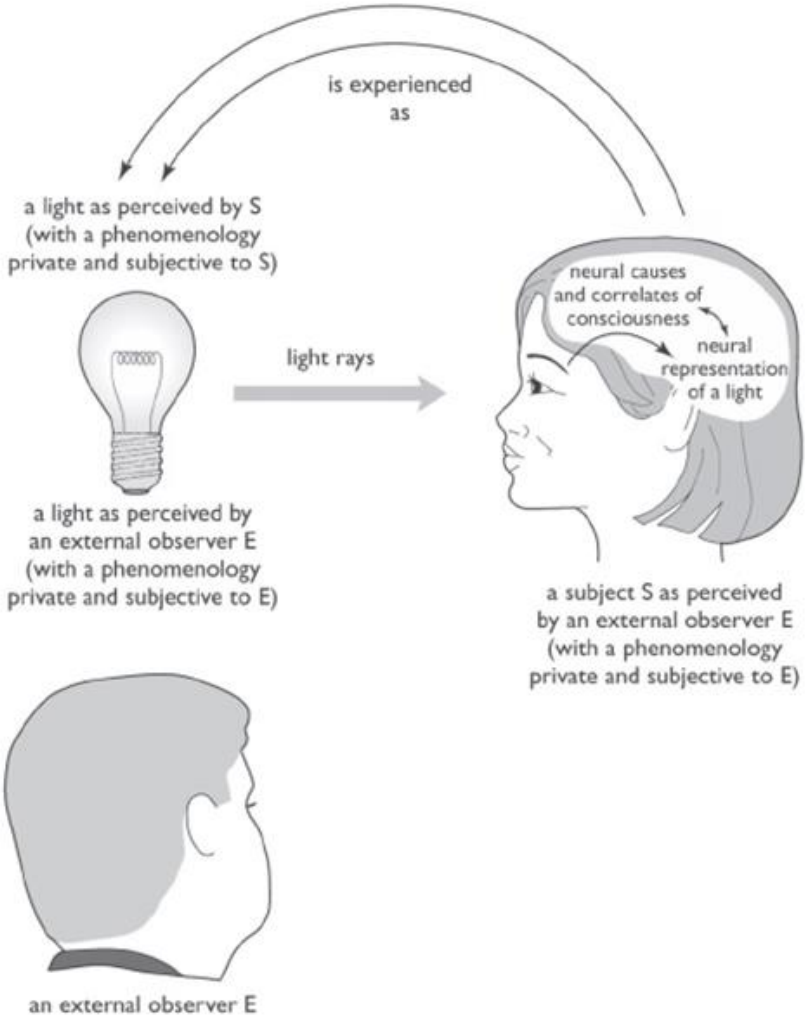


Figure 8 Velmans reflexive model of perception (Velmans, 2012, p. 146)

2.2.3 Neuroscience of embodiment

Neuroscientists are beginning to develop new insights into the way in which we engage and perceive the world around us. Indeed these findings have put to question some of the dominant Enlightenment/Cartesian views that separated the brain from the mind or consciousness. It is mainly practiced within an ontological framework of materialism, theoretical framework of objectivity and methods of positivism, third person observation and reductionism (Edelman, 1993) (Edelman, 2003). Neuroscience has found its way to mainstream literature and has impacted various fields such as politics (Lakoff, 2008), leadership (Robertson, 2012) architecture (Mallgrave, 2013) (Mallgrave, 2010) and business with the emergence of fields such as Neuro-economics. The obsessive use of the prefix 'neuro' is perhaps a testament to the current wave of excitement and curiosity regarding existential questions and the nature of the human being.

In spite of this 'neuro-madness', neuroscience is putting forth compelling arguments that have a deep impact on the ways in which we view our place in the world. Not un-similar to the phenomenological concepts of embodiment discussed above, neuroscience primarily falls within a materialism and naturalist framework (Dryefus & Wrathhall, 2006, p. 330), and regards cognitive and emotional phenomena as being the emergence of brain/body/environment activity (Edelman, 2003). According to Neuroscientist Gerald M Edelman in a paper entitled *Naturalizing Consciousness* (Edelman, 2003),

"Scientific understanding of consciousness in neural terms requires the acceptance of a number of constraints. Any account of consciousness must reject extraphysical tenets such as **dualism**, and thus be physically based as well as evolutionary sound. Consciousness is not a thing but rather, as William James pointed out, a process that emerges from interactions of the brain, the body and the environment." (Edelman, 2003, p. 5520).

Indeed this type of assertion firmly grounds consciousness on the earth and suggests that our fundamental identity is a reflection of our embeddedness.

In postulating the capacity for consciousness to be a system yielding differentiated yet unitary states, Edelman's model of the dynamic core frames consciousness as a circularly caused complex system linked to the region of the brain called the thalamocortical system. In this model, phenomenal perception emerges from complex brain-body-environment interactions.

The dynamic core, according to Edelman behaves as a functional cluster, mainly interacting with itself (thalamocortical system) while also interacting with other brain regions such as serotonergic, cholinergic and dopaminergic nuclei (Edelman, 2003, p. 5520). This model appreciates the complex nature of the emergence of subjective experience. However Edelman is wise to explain that a theory of subjectivity cannot replicate the experience it describes or explains, "a theory to account for a hurricane is not a hurricane." (Edelman, 2003, p. 5521)

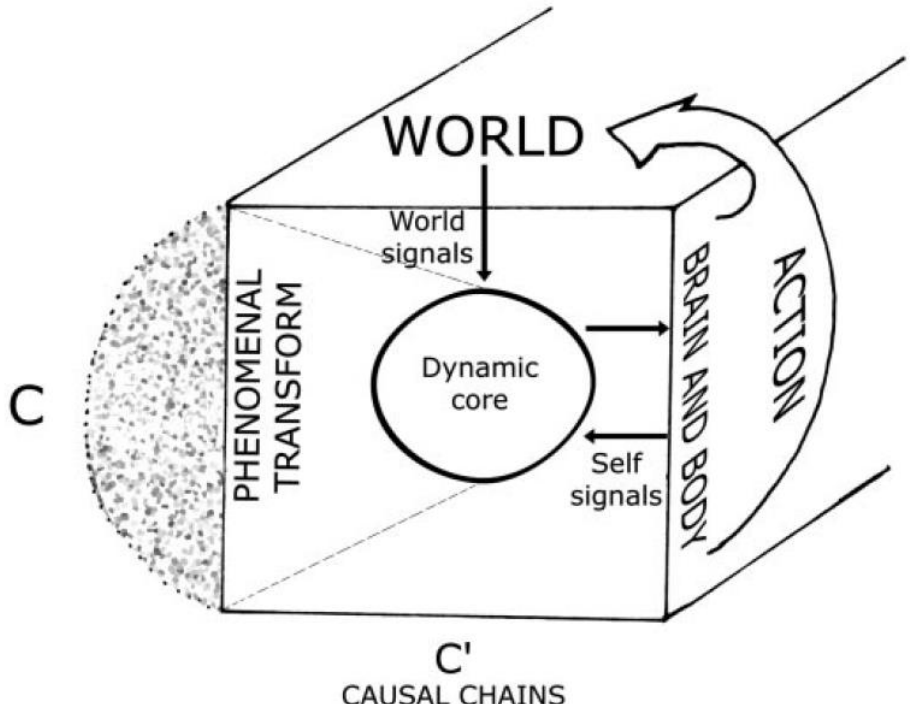


Figure 9 Edelman's model of conscious experience (Edelman, 2003, p. 5523)

Edelman's model creates a useful framework for developing a theory of self/place dialogue. Similar to Velmans' reflexive monism, Edelman's model embeds the subject within a world and although not as explicitly as Velmans, brings in being-in-the-world as a fundamental component of the emergence of the subjective self. In addition, Edelman mentions the role of emotions neurologically represented as different neuro-transmitting regions of the brain as fundamental in the formation of consciousness. Although he does not directly account for the formation of the self through emotion, he does allude to such a notion.

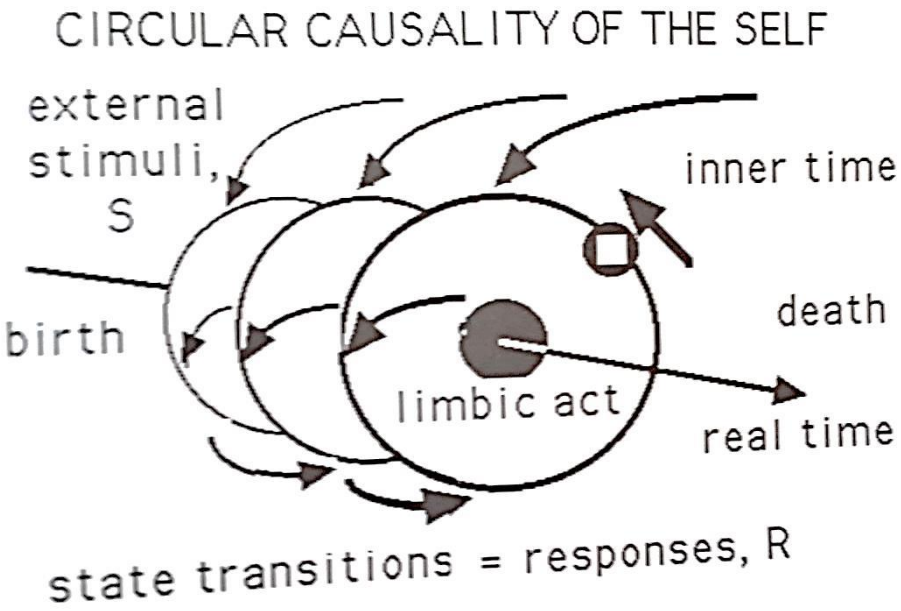


Figure 10 Freeman's circular causality model (Nunez & Freeman, 1999, p. 145)

Another model similar to that of Edelman and Velmans is drawn from the work of cognitive neuroscientist Walter J Freeman. In a similar fashion, Freeman sees consciousness being the emergence of complex relationships. He also postulates a fundamentally different causal relationship between consciousness, the brain and the environment when compared to the mainstream account. In Freemans view, causality needs to be better analysed in order to gain a deeper understanding of consciousness (Nunez & Freeman, 1999, p. 144). According to Freeman, "Analysis of causality is a necessary step toward a comprehension of consciousness, because the forms of answers depend on the choice among meanings that are assigned to 'cause.'" (Nunez & Freeman, 1999, p. 144).

A key component of framing the relationship between consciousness and the world according to Freeman is his conception of intentionality. For Freeman, the self's perception of the world is not that of a mere "passive recipient of information from the world" as postulated in linear causality, but is rather "a purposive action in which an animal directs its sense organs towards a selected aspect of the world…" (Nunez & Freeman, 1999, p. 146). That which is acting out into to the world in expectation is formed from past experiences. In this model the key features of intentionality are its directedness towards some future state or goal, its unity and its wholeness (Nunez & Freeman, 1999, p. 147). **Intent** could be perceived as purpose or motivation, and according to Freeman it has its origins in the brain, while **unity** refers to the

experience of the combined sensory modalities as a *gestalt*, and **wholeness** refers to the steady and orderly changes in the self and its behaviour that constitute its maturation and development through learning in a given context which could be perceived as striving to fulfil ones potential through a lifetime (Ibid).

Freeman argues that intentionality cannot be explained through linear causality and is better explicated through circular causality in terms of 'action-perception cycles' (Freeman citing Merleau-Ponty, 1942 – (Ibid)); "Perception concomitantly is the outcome of a preceding action and the condition for the following." (Nunez & Freeman, 1999, p. 148) Freeman's model which is similar to that of Edelman, breaks down duality in this case of subject and object, the two being interactively assimilated in a seamless flow. Again this echo's the phenomenologist's conception of being-in-the-world, an embeddedness in which self acts into the world through the agency of the world itself, that is to say, a situation where agency begins to corrode and one postulates rather an unfolding or universal intentionality (see Bohm(1980) for unfolding universe and implicate order).

It's worth noting that these neuroscientific models lead to an interesting and salient philosophical possibility that could be useful in better understanding place/self dialogues, namely that perceptions of the world are embodied and situated. This is to say, perceptions of the environment emerge out of the very same environment they perceive. In Velmans', Edelman's and Freeman's models, the "greater universe" according to Velmans or "world" according to Edelman and Freeman are involved in the emergence of consciousness and perception in some kind of circular causal chain. They point to the fact that these perceptions are embodied and explicitly or implicitly mediated by affect and memory. In neuroscientific terms affect or emotional mediators are represented as various neuro-chemical systems (Freeman, 2003). It has only been until recently that rationality was perceived to be at its best outside of the interference of emotion (Lakoff & Johnson, 1999). This Enlightenment view is now being reviewed, and emotions are largely perceived as being fundamental in the self's capacity to act in and perceive the world (Lakoff, 2008) (Lakoff & Johnson, 1999).

In his somatic marker hypothesis, Antonio Damasio argues that "Emotions are a major factor in the interaction between environmental conditions and human decision processes, with these emotional systems (underlying somatic state activation) providing valuable implicit or explicit knowledge for making fast and advantageous decisions." (Damasio & Bechara, 2005, p. 368) Furthermore Damasio argues that "emotion-related processes are required for skills

and knowledge to be transferred" (Damasio & Immordino-Yang, 2011). Far from the conventional view of emotions, this theory questions our common view of intelligence, reason and rationality as far removed (or detached) from emotions.

Damasio's somatic marker hypothesis was developed from the observation of patients who have suffered damage to their frontal lobe (Damasio & Immordino-Yang, 2011). These patients, particularly those with damage centred at their ventral and medial aspects of these regions displayed severe impairment to their capacity to make personal and social decisions (Damasio, 1996). According to Damasio, before the brain damage the patients seem to have normal cognitive functioning, and a stable life. However after the damage they developed a pattern of poor decision making especially in their personal/social life (Ibid). Activities such as planning ones day, plans of the future or even choosing a partner became difficult for these patients to such an extent that the individual would lose their job, friends and family relations (Damasio & Bechara, 2005, p. 1413). In spite of these abnormal social behaviours, the patient's intellect, memory and problem solving skills remained normal, and their knowledge of good social behaviour remained intact. However this did not seem to aid in the patient's capacity to make appropriate socially decisions.

Damasio's observation is that the part of the brain that was damaged would have been primarily responsible for the expression and experience of emotions. Without this, people are unable to make appropriate decisions. According to Damasio's hypothesis, this is because implicit knowledge, or as he refers to it 'dispositional knowledge', represented in the form of emotions and feelings from various past experiences is stored in the body (Damasio proposing the ventromedial prefrontal cortex) and being expressed when a similar situation arises (Damasio, 1996, p. 1414). In Damasio's words;

> …when a situation arises for which some factual aspect has been previously categorised, related dispositions are activated in higher-order association cortices… This leads to the recall of pertinently related facts which will be experienced in imagetic. Simultaneously, or nearly so, the related ventro- medial prefrontal linkages are also activated, and as a consequence, the emotional disposition apparatus is activated too (e.g. in the amygdala)." (Damasio, 1996, p. 1415)

Indeed one could say that based on Damasio's findings, our experience of the world and the manner in which we encounter it is not only through intellectual and cognitive means, but

also through emotional affect. To this end pain, according to Freeman is 'intentional' because it drives the organism or self towards healing (Nunez & Freeman, 1999, p. 147). This along with Damasio's hypothesis demonstrates the intentionality of the self towards future outcomes that is reflexive and is navigated by somatic markers. According to the models discussed above, one acts out into the world expectantly, with the arising of implicit or explicit emotional links to an image as the instrument through which failure or success, wrong or right are linked/referred to past experiences. These emotional markers facilitate rational reasoning and in situations where brain regions that are responsible for such markers are damaged, reasoning is impaired as well.

One emotion that is of great importance in understanding our connection to the world around us, our landscape and our places is the feeling of empathy. Empathy is our capacity to know and/or shear the subjective state of another (Decety & Ickes, 2011). This capacity has however not been well understood until recent findings in neuroscience. According to Hatfield et al in (Decety & Ickes, 2011, p. 19), "primitive emotional contagion is a basic building block of human interaction, assisting in "mind reading" and allowing people to understand and to shear the feelings of the other." Furthermore, Hatfield et al have a definition of emotional contagion as "the tendency to automatically mimic and synchronize facial expressions, vocalizations, postures, and movements with those of another person and, consequently, to converge emotionally"(Ibid).

According to Hatfield et al, mimicry is a fundamental component in the processes of empathy as seen in facial expressions, voices, posture and so on. Referring to the postural feedback hypothesis, Hatfield et al argue that there are as many nuances of emotions as there are physical actions (Decety & Ickes, 2011, p. 24). Posture is linked to performance, our emotional memory stores our past experience, and for performers, this has to be executed in a series of logical physical actions in the given circumstance (Ibid). Our bodily movements are also seen as a means to empathise with the other, which for the purposes of this study creates a salient theoretical framework towards 'place' empathy.

Neuroscience explains mimicry to be underpinned primarily by the operation of 'mirror neurons'. First discovered in area F5 of the ventral motor cortex of monkeys by means of electrophysiological studies and subsequently found in other cortical areas, these neurons fire when a certain type of action is performed and when an observer perceives the same action

being performed by ‘the other’ (Dryefus & Wrathhall, 2006, p. 332) (Decety & Ickes, 2011, p. 24). According to neuroscientists this is the neural basis of empathy. Clinical psychiatrist Daniel Siegel has been developing a theory of mind in which knowing the mind of the other is most central. He argues that mirror neurons allow for one to have “sight” of the internal state of others, and together with having the capacity to be aware of one’s own internal state develops the concept of “mind-sight” (Siegel, 2010, p. 60).

According to Siegel, mirror neurons respond only to the observed intentionality in the carrying out of actions of the other such as sipping a cup of tea. The neurons fire as a prediction of the others intentions, and those in the premotor area of the frontal cortex cause one to get ready to in this case ‘sip’ as well (Ibid). The body creates an internal subjective map of the others internal state, a type of resonance (Ibid). These mechanisms are perhaps some of our most crucial forms of social adaptation.
Ratcliffe in (Dryefus & Wrathhall, 2006) argues that “Mirror neurons provide a possible explanation of how action perception can be precisely *perception* and not *implicit inferences* or *tacit theorising*. An inter-modal link between perception of others and activation of one’s own motor system constitutes the basis for a perceptual appreciation of others, not as mere objects that causally interact with the world but as agents, like oneself.” (Dryefus & Wrathhall, 2006, p. 333). According to Ratcliffe, this is basis for intersubjectivity and that central to intersubjectivity is our ability to infer the intentional states of the other in order to predict, interpret and explain behaviour (Ibid).

2.2.4 Neurophenomenology

Neuroscience has only recently begun exploring being-in-the-world using scientific methods of third person observation and has developed compelling models of an embodied and grounded structure of consciousness embedded in its physical world (Varela, 1996). Neuroscience is however firmly rooted in reductivist, positivistic methods, and depends on object/subject or looking from a distance as a method of exploration (Petitot, et al., 1999, p. 2).

However, some neuroscientists have already detected a problem in the narrow methodological approaches of neuroscience, particularly in its account of consciousness (Ingold, 2000; Nunez & Freeman, 1999; Petitot, et al., 1999). Cognitive scientist, anthropologist and philosophers have made attempts at closing the explanatory gap between

the emergence of subjectively experienced phenomena and the verifiable physiological mechanisms of the brain. Francisco Varela, one of the first 20th century neuroscientists to attempt closing this gap warned that;

> "the danger for the scientist and philosopher is nihilism, by which I mean the inability to stop experiencing things and believing in them in a way one's theory says is an illusion. Theoretical ideas like "being no one" (that there are no such things as selves but only neural self-models) … or that consciousness is the brain's "user illusion"..." (Thompson, 2004, p. 382).

These concerns arise from neuroscience's tendency to reduce human experience to neural activities and often fail to acknowledge the irreducible nature of everyday as well as profound human experiences. Love, compassion, fear, existential anxiety, religious encounters and other fundamental human experiences are reduced to mere neuronal/bio-chemical activity in the brain as opposed to being seen as real and viable encounters. Similar to the opposite extreme view that would posit reality as only being mental, that all phenomena are presented to us as mental and thus no physicality exists (this is often the view attributed to idealism), materialist neuroscience often falls into the trap of undermining experience itself and tends to discount the very essence of being which is 'being' itself.

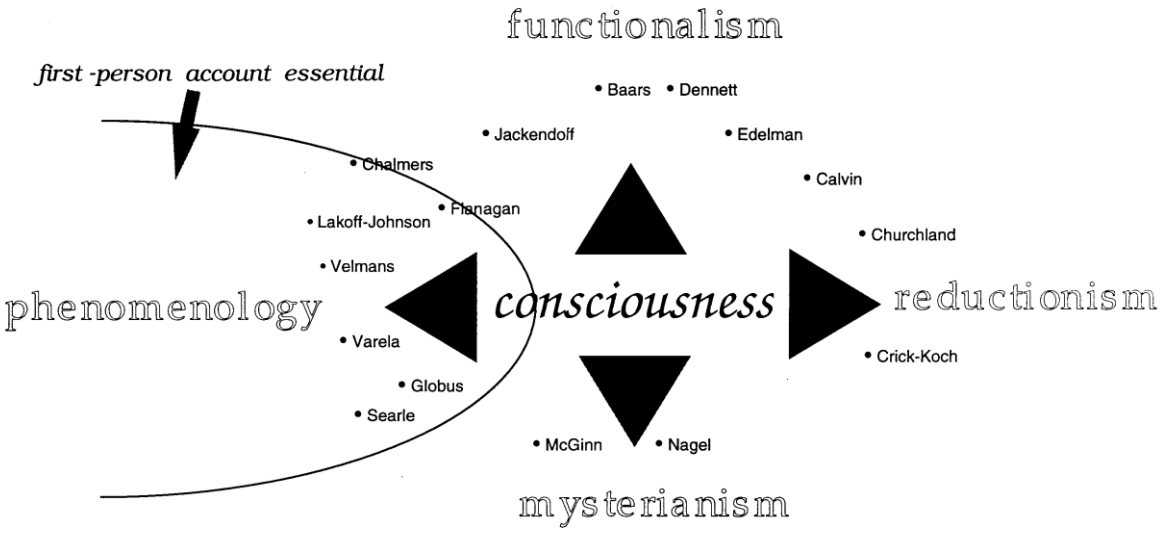


Figure 11 A four-way sketch (Varela, 1996, p. 332)

In his 1996 paper, *Neurophenomenology- A Methodological Remedy for the Hard Problem*, Varela sets out to deal with the explanatory gap between subjective experience and physiological phenomena by introducing the concept of neurophenomenology (Thompson, 2004; Varela, 1996);

> My claim is that the so-called hard problem that animates these Special Issues of the Journal of Consciousness Studies can only be addressed productively by gathering a research community armed with new pragmatic tools enabling them to develop a science of consciousness. I will claim that no piecemeal empirical correlates, nor purely theoretical principles, will really help us at this stage. We need to turn to a systematic exploration of the only link between mind and consciousness that seems both obvious and natural: the structure of human experience itself. (Varela, 1996, p. 330)

At the time of Varela's writing of the paper, neuroscience's reductionist view of consciousness ignored the emergence and existence of phenomenal experience as a real and natural aspect of human beings, and reduced the self and other aspects of consciousness to being merely the functioning of the brain, which Varela captured as "You're nothing but a pack of Neurons" (Varela, 1996, p. 333).

Varela responded to this by developing a model that positions lived experience at the centre of the methodological approach towards understanding consciousness. Lived experience would be the ground out of which all knowledge including the natural sciences themselves emerge;

> To return to the things themselves is to return to that world which precedes knowledge, of which knowledge always speaks and in relation to which every scientific schematization is an abstract and derivative sign language, as the discipline of geography would be in relation to a forest, a prairie, a river in the countryside we knew beforehand (M. Merleau-Ponty, 1945, p. ix) (Varela, 1996, p. 336).

Varela believed that it was important to return to the things themselves in order to understand consciousness and then developed a methodological approach based on what he called phenomenological reductionism (PhR). In what sounds like a very Buddhist approach, the first step in his methodology is to forget one's own biases; this is what Varela refers to as *attitude.* Following on the suspension of beliefs is what he called *intuition*, a moment in

which one sees the world without the "habitual fog of separating experiencer and world". The third step is the development of some communicative process, an intersubjective dialogue or description. And lastly he describes a type of development of discipline or praxis. (Varela, 1996, p. 337)

Phenomenological reductionism	+
Aspects of method	**Characteristics of resulting examination**
Attitude	bracketing, suspending beliefs
Intuition	Intimacy, immediate evidence
Invariants	inscriptions, intersubjectivity
Training	stability, pragmatics

Figure 12 Varela's methodological approach to the phenomenological study of consciousness **(Varela, 1996, p. 338)**

Unlike mere introspection, Varela argues that the PhR method requires a deep type of suspension of assumptions in order to allow for an unfolding or revealing to occur, a kind of presencing or deeper seeing/sensing.

In this way, Varela developed a theoretical and methodological field of neuroscience research now commonly referred to as neurophenomenology, combining third person observation of brain functioning with subjective encounters of the world as directly experienced by the self (Varela, 1996). The field has since grown and has been the theme of a variety of journal publications particularly in the *Phenomenology and Cognitive Science Journal* often discussing issues based on 'Husserlian phenomenology', phenomenology of Merleau-Ponty and Sartre and Heideggerian Phenomenology in relation to cognitive-neuroscience. Husserlian phenomenology seems to however be the basis for much of Varela's own work especially when dealing with issues of intentionality (Petitot, et al., 1999).

Neurophenomenology has deeply explored issues of meaning, embodiment, emotions and especially ritual (Dornan, 2004). These themes are salient in the development of the self/place dialogue theory, and through the neurophenomenological framework, one can better posit the processes that underpin the making of self. Metaphor and the creation of meaning in a neurophenomenological sense are grounded in the body and its relationship to the environment. The very form of the body, its movements, influences by psycho active agencies and its situatedness or embeddedness in the world made up of social and physical

contexts become the source of meaning observable in obvious concepts such as, up, down, left and right to more complex phenomena such as temporality, ritual and God (Neisser, 2003; Nunez, et al., 1999).

> Metaphor is…a linguistic trope interpreted through conscious experience. By evoking an image, emotion, or affordance, metaphors give new "flesh" to their tenorial subject. Rooted in embodied experience, these images are value laden for the interpreter in virtue of the worldly context…The general notion of an embodied schematism becomes more interesting when it is extended beyond strictly cognitive or conceptual functions. Considered as the ground of imagination, it becomes integral to conscious mental life in general and the interpretation of metaphor in particular. (Neisser, 2003, pp. 33-39)

This moving beyond cognitive or conceptual functions demonstrates the pre-objective positions of phenomenologist such as Merleau-Ponty, thus grounding meaning and furthermore imagination in the body and its location in world. The body as a pre-objective form is not merely the physical body as a standalone entity, but is a body in a world, a pre-given position prior to any conceptualisation of such positioning (Keeping, 2006, p. 181). According to Keeping, our pre-objective body "is the primary level of consciousness which underlie all our objectively posited thoughts and acts and makes them possible."(ibid).

According to Keeping, Merleau-Ponty suggest meaning is not merely referring to relation of symbols to symbols, but rather it is making reference to those elements mattering to an organism (Keeping, 2006, p. 183) "meaning… refers to how something counts in the animal's scheme of things, its needs and desires, its abilities and vulnerabilities. It is not a construction of culture or of consciousness, but a relation between the body and the world." (ibid).

Thus it can be surmised that neurophenomenology gives far greater importance to ones perception of the world and demonstrates how this very personal, subjective culturally and socially determined perception has a deep impact on the brain, immediately reversing the usual linear attitude of the brain constructing perception in an outwardly fashion. Here instead, ones experiences and interpretation of the world have as much an impact on the brain as the brain on the perception one has of the world. Indeed embodiment and phenomenology

demonstrate clearly the cyclical reciprocal nature in which meaning is made both and simultaneously at a neural as well as at the level of experience itself.

2.2.4 Dissolution

A fundamentally important aspect of neurophenomenology is its capacity to neurologically account for the manner in which selves are changed and transformed through physiological practices.

> The biological techniques of inducing dissolution are well known. Individuals separate themselves or are isolated from their normal social surroundings and support systems. They engage in or are subject to severe exercises as in dancing, sports, and military drills, lack of sleep, chemical stresses of their brains through purgatives and fasting, and the induction of powerful emotional states of love, hate fear or anger. (Freeman, 2003, p. 16)

Here neuroscientist Walter Freeman describes a process called dissolution in which past conditioning is deconstructed through diverse spatio-psycho-physical activities, symbols and emotional states. This indeed translates to embodied practices, commonly known as ritual and more often studied by anthropologists. The symbolic salience of these rituals has often been seen as having **conceptual** (as opposed to embodied) significance which in turn acts on the disembodied psyche of the performer and the observer, a typically Cartesian perspective. However, when reviewed from a neurophenomenological perspective while taking into account the post-Cartesian-dualism framework that sees the mind/body dichotomy as fallacious, then one appreciates a much more nuanced and subtle phenomenon during rituals of dissolution.

Embodiment, neuroscience and existential phenomenology begin to give us a better perspective on the role of the body during ritual rites of passage and transition. Freeman suggests that oxytocin, the chemical that induces bonding and un-bonding is primarily responsible for the neurochemical mechanism of dissolution (Freeman, 2003, p. 17). One can then presume that a variety of neurotransmitters must accompany the process of dissolution as part of the contingency of painful and pleasurable physical and sensory experiences including the spectrum of somatic forces during rituals.

According to Freeman, oxytocin, a neuropeptide, is naturally released during labour, and is part of a crucial bonding process between mother and child (ibid). Carter further substantiates this as the following:

> The effects of these hormones on social bond formation are especially apparent following periods of stress or anxiety. For example, social bonds are associated with birth or the introduction of a novel partner. Of possible relevance to behavioral attachment is the capacity of hormones, such as oxytocin and vasopressin, to overcome anxiety or fear. Brief exposure to oxytocin or vasopressin can facilitate social contact and in some species selective sociality. (Carter, et al., 2006, p. 85).

Freeman argues that not only does oxytocin assist in the process of pair bonding, such as the release of the hormone during sexual intercourse, but is also the chemical that induces the breakdown of past learning (Freeman, 2003, p. 18). Freeman argues this to be most likely to happen in concert with other neuropeptides acting on several and areas of the brain.
Based on neuroscience research it is now clear that dissolution is an embodied process; the chemicals in the brain are somehow activated by physical activities with which the body is engaged. It is no surprise that the ritual processes of dissolution in rites of passage all around the world, in which the boundaries of the self/identity are dissolved and recreated, share a universal pattern as we will see in the section bellow.

2.2.5 Cultural-neurophenomenology

As a subcategory of neurophenomenology, this branch of neuroscience often takes on the study of cultural practices such as ritual, religious experiences and rites. Dornan (2004) defines of cultural neurophenomenology is as follows;

> …incorporating insight from a wide variety of fields (anthropology, psychology, phenomenology, and neuroscience), cultural neuro-phenomenology likewise seeks to explore the processes of articulation between experience, meaning, and practice as manifest through the embodied individual. (Dornan, 2004, p. 28)

This, of course, is in line with Varela's attempt to include experience in understanding consciousness, self and real life. According to Dornan, religious experiences are part of the normal functioning of the human brain and nervous system. Evidence in MRI scans demonstrate that during religious experiences there is a definite shift in brain activity, and for

example the part of the brain that distinguishes between self and other often goes quiet (perhaps an indication of the dissolution of boundaries of the self), "…leading to the very real perception of becoming one with the universe…This sense of wholeness or union is often interpreted as 'feeling god' or communing with the sacred." (ibid). This is later elaborated in relation to anti-structure and communitas drawn from Victor Turners study of Ndembu rituals.

In addition, and more specifically in relation to the context explored for the purposes of this study, religious experiences of transition represented as doorways and alternate realities and transformation into spirit beings have also been explored by cultural-neurophenomenology, claiming that these are also based on neurobiological mechanisms and are a shared human phenomena (ibid);

> The physiological basis for this cross-cultural phenomenon has been explored in great detail by cultural neuro-phenomenologists who, drawing from cross-cultural anthropological data as well as from the neurosciences and the phenomenological tradition, suggest that the structure of the human mind encourages the experience of transformation and world-shifting, particularly during activities which cause alterations in an individual's state of consciousness. For example, some argue that the experience of portaling can be 'explained in terms of radical re-entrainment of the neurological systems mediating experience in the brain (ibid)

Dornan argues that the shared cross cultural aspects of religious experience are a reflection of the common human nervous system that transcends specific cultural nuances. She uses entopic phenomena as an example, and argues that these are a phenomenological starting point in pre-objective experience which is then later given cultural signification; this not to undermining the importance of culture in embodied meaning. Furthermore Dornan argues that ritual is fundamental in meaning making and not just symbolic representation. Ritual participants create meaning by physically acting and participating in an experience. This both creates and re-affirms a belief. Using the example of Mayan power structures and ritual, she argues that Mayan state religious systems were built on individual experience and interpretation of the world which is constructed, through shared participation in ritual practice, into a coherent cosmology(Ibid).

This ongoing construction of a shared reality is fundamental for the purposes of this study and as Freeman has observed, the de-construction of reality seems to be a fundamental and

universal aspect of human society. According to cultural neurophenomenology, this in part, relies on human neurobiological activities, often triggered through ritual practices which we have now seen depend on an embodied non-dual model of the human being. Phenomenological meaning, identity, self and community are thus facilitated through such ritual activities and practices.

Thomas Csordas, an anthropologist and cultural phenomenologist who has written extensively about the link between embodiment, religion and culture, takes the body to be the existential ground of culture and self. He draws on a phenomenological approach, and considers the pre-objective body as fundamental, the body as experienced or rather experiencer. To emphasis the manner in which the body later became objectified in post-colonial societies, Csordas refers to a famous conversation between Maurice Leenhardt and a New Caledonian indigenous philosopher;

> Leenhardt suggested that Europeans had introduced the notion of "spirit" to the indigenous way of thinking. His interlocutor contradicted him, pointing out that they had "always acted in accord with the spirit. What you've brought is the body" (Csordas, 1994)

Csordas concepts, which fall within a post Cartesian dualism framework, try to deal with the dualities discussed in previous sections, mind/body, culture/biology, mental/material and so on. Indeed this is similar to the work of Varela, Freeman, Ingold, Johnson, Lackoff, Nunez and a number of others mentioned in previous sections. Csordas emphasises that prior to either idealisms or reductionism is a lived world, pre-objective in which objects and subjects are realised. Referring to the religious experiences of a Navaho man, he argues that "…religious experience is [not] reducible to a neurological discharge but … is a strategy of the self in need of a powerful idiom for orientation in the world" (Csordas, 1994, p. 287)

Furthermore he illustrates in several accounts of ritual the manner in which religious experiences, particularly those linked to healing have the potential to literally act on the body as organism;

> This discourse embodies a cultural rhetoric capable of performing three essential persuasive tasks: to create a *predisposition* to be healed, to create the experience of spiritual *empowerment,* and to create the concrete perception of personal *transformation.* It is shown that this threefold process activates and controls healing

> processes endogenous to the supplicant in healing, and either redirects the supplicant's attention toward new aspects of his actions and experiences, or alters the manner in which he attends to accustomed aspects of those actions and experiences. The result is the creation of both a new phenomenological world, and new self-meaning for the supplicant as a whole and holy person. (Csordas, 1983, p. 333)

What Csordas' refers to as exogenous factors are tools that assist the supplicant to reframe or re-orientate themselves; "exogenous factor that provides the specific form of effectivity of ritual healing is constituted by distinctly definable rhetorical devices that 'persuade' the patient to attend to his intrapsychic and interpersonal environment in a new and coherent way." (Csordas, 1983, p. 335). 'Persuade' as a concept is arguably an apt and useful term for the purposes of better understanding rituals of dissolution. What is missing though in Csordas' account of ritual transformation is the use of tools of dissolution as in the actual psycho-physiological processes such as dance, chant, movement, sound and other elements which arguably infuse potency within what he refers to as rhetorical devices of persuasion. Indeed this creation of a new phenomenological world requires a ritual experience in which tools of dissolution are present. These tools have the capacity to act on internal neuro-psychological states, influencing the ritual participant's perceptions. Once again using Freemans account, one sees that ritual practice as a means of re-orientation requires more than mere discussion but an entire process to induce persuasion or dissolving of a particular conditioning.

To emphasise this Dornan argues that "the symbols and abstract ideas of a religion do not have the social force of belief unless there is some performative, experiential aspect to provide meaning and import to those symbols… it is within the process of rearticulation between symbol and experience that the ability of ritual to transform experience lies" (Dornan, 2004, p. 29)

2.2.6 Ritual of dissolution – Art, creativity and the numinous element

We thus see that crucial to re-orientating, re-constructing and dissolving the boundaries of the self and meaning, embodied practice is crucial;

> At some threshold the customary structure of the individual begin to crumble, and a collapse may occur that was described by Ivan Pavlov as 'transmarginal inhibition', the stage of physiological arousal beyond which further excitation leads to

> paradoxical depression. The experience may range from ecstatic visions of angels and blinding illumination through degrees of elation or discomfort to the stark terror of psychic free fall… There is a loss of normal constraints on behavior, and, in extreme instances, of language, locomotion, posture and even consciousness as the individual collapses. (Freeman, 2003, pp. 16-17)

Freeman is describing a stage during ritual practice, often evident in trance, when the practitioner seems to encounter some kind of ritual ordeal. This usually follows hours of ritual practice, ending in what seems to be involuntary fits and convulsion, what Freeman describes as "loss of normal constraints on behaviour". In an article titled *Trance, Art and Creativity* (Gowan, 1975), John Gowan describes an encounter with what he describes as the 'numinous element', encountered at three levels, prototaxic, parataxic and syntaxic. He describes the numinous element as the following;

"that aspect of reality which creates life, that aspect which is uncreated itself…Christians might call the holy spirit…it had a quality of mystery, fascination, awe, and dread to it…it is akin to what Jung called the "collective unconscious"…a frightening kind of thing which hits the child…this element may be thought of as not having any characteristic of its own; therefore, able to take on any characteristics which we assign to it." (Gowan, 1975, p. 2)

According to Gowan, an encounter with the numinous element is most frightening when it is unmediated, prototaxic - referring to "experience before the use of symbols at all" (Gowan, 1975). Gowan categorises trance as falling under a prototaxic encounter of the numinous, along with proactive drugs and schizophrenia.

In a 1984 interview, Francesco Varela speaks of the inherent formlessness of reality, and describes its potential to consume the ego and locate one in a state of nihilism;

> We're all sharing something we call a common ground, but, this common ground is not something that is pre-given, each one of us has actually made it into a proper world, it's a multiversality. So ground is a very feminine quality, of making something possible, instead of being a very masculine quality of 'the out there' that you have to fit into…the Buddhist tradition…had made its own discovery of this groundless nature of human reality, that you cannot rely on some absolute truth or absolute judgement, that every form of knowing, or every form of ignorance is contextual… they warn you that if you don't pay attention, if you don't have a

> profound work on what is it for you in your life to confront that lack of foundation, you're gonna fall into the pitfall of that nihilism…which is exactly the kind of pitfall that Heidegger fell into… So what it comes down to… that confronting this lack of foundation makes it essential and points to the need for a human practice…for a human transformation into that…you have to grow into it…human beings do not know how to handle that, that's basically the message of the Buddhist tradition… that is to say, you're already pretty well off if you understand that and recognise it, but that is nothing compared to the need to understand the immaturity with which we are born to confront it because maniacally…we want to solidify things! (Francisco J Varela - what we do and what we see is not separate, 2011)

This groundlessness that Varela describes could be argued to share properties with what Gowan is referring to as the numinous;

	Comparison of groundless nature of reality and the numinous	
	Gowan	**Varela**
1	collective unconscious	common ground
2	Prototaxic	Groundlessness
3	Aspect of reality which creates life	ground is a very feminine quality
4	not having any characteristic of its own	cannot rely on some absolute truth
5	able to take on any characteristics which we assign to it	is not something that is pre-given, each one of us has actually made it into a proper world
6	a frightening kind of thing	fall into the pitfall of that nihilism
7	Confronted through trance	Confronting this lack of foundation makes it essential and points to the need for a human practice… Buddhism

Figure 13 Comparison of groundless nature of reality

This takes us back to Freeman's statement, in which he describes a "threshold" where "the customary structure of the individual begin to crumble ", leading to an experience that " may range from ecstatic visions of angels and blinding illumination through degrees of elation or discomfort to the stark terror of psychic free fall" (Freeman, 2003).

A number of other scholars have written about this threshold including Joseph Campbell (Campbell, 2008), Otto Scharmer's 'bottom of the U' (Scharmer, 2016) and scholars in Eastern philosophy. What will be argued here is that what Varela is referring to as

groundlessness is perhaps what is confronted by ritual practitioners during trance. This could be comparable to what anthropologist Victor Turner refers to as liminality or anti-structure (discussed later) , the inherent groundless nature of reality confronted during ritual practices of transition, implicit in the actual notion of transition, change or transformation.

Groundlessness and its relation to rituals of dissolution present an opportunity to better understand our capacity to create boundaries of meaning and identity. Groundlessness creates the necessary condition for creativity and change to occur because the alternative of an absolute pre-given world 'out there' (or even objectively verifiable) would suggest that we are bound to a limited set of static and solid conditions. Even within an ontology that posits the body and the world as finite, this limitation stretches out to such a degree that humanity hardly lacks the capacity to engender alternatives. Thus creativity, creation of the self, creation of new meanings and creation of realities seem to have a far richer source if indeed reality in its essence is groundless. Perhaps, as we will see later, it is no wonder that trance, art and changed states of consciousness are so intertwined in indigenous societies.

This is in no way an attempt at trying to give a supernatural account of creativity; on the contrary, what this could point to is a cultural neurophenomenological postulation for what people experience when they engage in rituals as processes of creativity, which will be argued here are processes of dissolution. A groundlessness ontology means that the antithesis of the limitations of a conditioned mind is a mind full of creative potential, and as we have seen, a vehicle to this vast potential is ritual practice. One could postulate that without a groundlessness ontology, reached through ritual practice, humanity becomes grossly incapacitated to deal with change.

These practices remain grounded on an embodied pre-cognitive, pre-analytical model of the human experience, and indeed demonstrate the manner in which human neurobiological processes and our lived experience are part of a reciprocal formation of meaning. In *The Meaning of the Body* (Johnson, 2007), Mark Johnson argues that;

> …our ability to make new meaning, to enlarge our concepts, and to arrive at new ways of making sense of things must be explained without making reference to miracles, irrational leaps of thought, or blind impulse. We have to explain how our experience can grow and the new can emerge from the old, yet without merely replicating what has gone before. (Johnson, 2007, p. 13)

Indeed from a phenomenological perspective, particularly in its manifestation as embodiment, groundlessness could be a shared human experience with its roots in a common existential pre-cognitive situation, and is perhaps encountered in rituals of dissolution where change or potential for change is crucial. In emphasis, this notion is fundamental in developing a theory of dissolving boundaries of identity and meaning making. The following section looks specifically at rituals of dissolution and practices in the context of anthropology and archaeology, and attempts to synthesise some of their main concepts with what has been discussed thus far. What we will see is that groundlessness, transcending present conditioning, dissolving boundaries of identity and meaning are perhaps the core goals of ritual practices. This is arguably a fundamental pre-requisite for any human community or individual to survive any change, social, political, environmental or existential. From rituals of marriage to funerals, it is becoming ever clearer that rituals of dissolution are key in achieving the necessary phenomenological transition needed in dealing with a variable world.

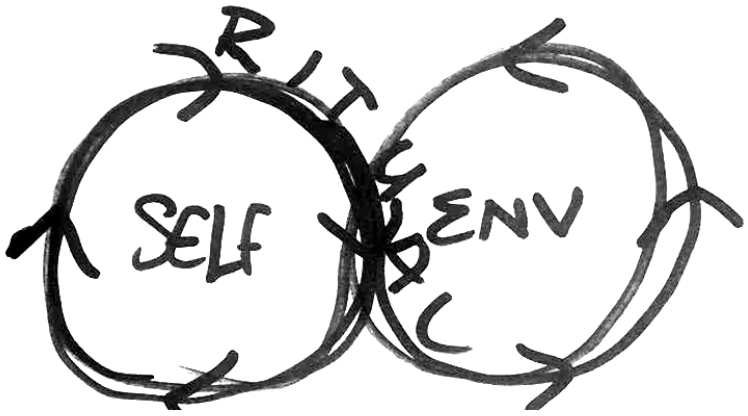


Figure 14 Ritual as self /environment mediator

2.3 Ritual and dissolution

2.3.1 Introduction

The sections above have given us a lens through which we can now look at the role of ritual, art and myth in increased levels of resilience and adaptability among indigenous people. What is apparent at this stage is that mind/self/consciousness and culture can be influenced/perturbed by the activities of the brain/body and environment in a reciprocal manner. According to phenomenology, neuroscience, neurophenomenology and cultural-

neurophenomenology, all practiced within a post Cartesian dualism framework, the role of ritual practice is to construct or deconstruct phenomenal worlds. These assertions assist us in developing a particular framework within which to explore the role of ritual, art, myth and architecture towards increased resilience and adaptation in past indigenous communities.

2.3.2 Ritual, art and myth in indigenous communities

For the purposes of this study, we will frame ritual as having imbedded within itself art and myth. In cases where these phenomena are explored individually, they will be referred to as ritual, art or myth in the reductivist sense, but it is crucial to note that a ritual from a phenomenological perspective cannot merely be reduced to its parts. Rituals, particularly those in rites of passage are well documented by anthropologists as have been observed in virtually all parts of the world (Turner, 1982; Turner, 1974; Turner, 1969; Levi-Strauss, 1978). A well-known characteristic feature of these rituals is the process of transition (Turner, 1969, p. 95), which is commonly interpreted as a symbolic representation of transition into a new way of life. This is the popular Western ontology, however on closer inspection, as we have seen above, one soon realises how little is understood about the underlying experiences people actually undergo when participating in these rituals. What seems to be fundamental, yet not always accounted for in traditional anthropological interpretations of ritual, is the role of the body/senses or embodiment, the existential subjective encounter that is experienced (the ordeal described above), its nature and the effect that it has on the ritual participants. What is often emphasised is the ‘symbolic’ or ‘metaphoric’(not in the ‘Lackoffian’ sense) salience of these ritual practices.

However as we shall see below, these ritual practices show evidence of universal features; among them is the body’s physical engagement with symbols (either holding, carrying, cutting or lifting them) the presence of sensory stimulus, emotionally charged activities, rhythmic chanting and singing, the use of artistic objects and other artefacts. Furthermore, emotions, orientation and place are parts that make up a whole experience, a symphony of dissolution, crafting and manipulating boundaries of self and identity.

2.3.2 The ritual process

Anthropologist Victor Turner describes ritual as the following;

> A ritual is a stereotyped sequence of activities involving gestures, words, and objects, performed in a sequestered place, and designed to influence preternatural entities or forces on behalf of the actors' goals and interests. Rituals may be seasonal, hallowing a culturally defined moment in the climatic cycle or the inauguration of an activity such as planting, harvesting, or moving from winter to summer pasture; or they may be contingent, held in response to an individual or collective crisis. Contingent rituals may be further subdivided into life-crisis ceremonies, which are performed at birth, puberty, marriage, death, and so on to demarcate the passage from one phase to another in the individuals life-cycle… (Turner, 1973, p. 1100)

Elsewhere Turner speaks more extensively of the role of ritual in dealing with collective and individual crisis. He argues that 'life-crises' are existential moments in which an individual [or group as shown above] has to transition from one phase of life or social status to another (Turner, 1967, p. 7).

From a phenomenological perspective, rituals seem to be fundamentally linked to our bodies, our body's locations in space, time and the manner in which we shape and move them. Typical of rituals are the ways in which we have developed mechanisms to act on the senses, including our sensing of our own bodies. Music, colours, space (volume, light, and sound), symbols or shapes, physical sensations such as pain directly experienced on the body and processes or symbolic patterns over time, all of which are acting on the body and the senses seem to give rise to the potential to transition from one identity to another or arguably induce what Freeman calls dissolution. This confluence of experiences seem to act on the brain in such a way that it suspends ones common perception of the world to make room for a shift in perception. As mentioned previously from Freeman (2003), place and more specifically removing a ritual participant from normal social surroundings to a new spatial setting is a common component of ritual. Turner describes the ritual process based on Van Gennep's model as separation, margin (liminal phase) and aggregation.

In his study of Ndembu rites, Victor Turner demonstrates the importance of the sacred site. The Ndembu diviner in a rite to address a woman's infertility "decrees that the rite must begin at the water hole or burrow, either of a giant rat or of an ant-bear" (Turner, 1969, p.

20). Furthermore, a hut is built in a secluded place outside the village parameter for the woman, similar to that of a female initiate after puberty rites.

In addition to place or choice of site, the body is manipulated in space in various ways. The participant, her husband, family members, diviners and doctors undergo a series of complex positioning's and movement in meaning imbued existential space or place (the patient and her husband move through a tunnel built for purposes of the ritual), including the use of visual, olfactory and bodily sensed instruments such as singing (the swaying song), fire (or smoke), water (medicine) being splashed on the body by the doctor, and finally the woman and the man sitting in the secluded hut (Turner, 1969).

Furthermore, the entire ritual is accompanied by various symbols, also placed in a number of positions in space such as the white pullet against the woman's right breast, the position of male ritual participants relative to female, the ritual space relative to the river and so on(Ibid). These are spatial phenomena that are placed in a variety of ways relative to the participants of the ritual, which have symbolic salience to the participant, particularly the patient. However this might be an over simplification, and perhaps what is of significance are the tools of dissolution experienced through the body (both in its placement in existential space, emotional stimulation and the senses) that dissolve the patients current intentional structure making room for a new identity, in this case a 'fertile woman' (Turner, 1969, pp. 20-42). One must note that the scientific/objective efficacy of this ritual in relation to the woman's capacity to fall pregnant is difficult to ascertain, particularly when one assumes that the outcome of the ritual is indeed the capacity to fall pregnant. Turner himself has a stab at this explaining that;

> From the standpoint of twentieth-century science, we may find it strange that Ndembu feel that by bringing certain objects into a ring of consecrated space they bring with these the powers and virtues they seem empirically to possess, and that by manipulating them in prescribed ways they can arrange these powers…to destroy malignant powers. But given the limited knowledge of natural causation transmitted in Ndembu culture, who can doubt that under favourable circumstances the use of these medicines may produce considerable psychological benefit? (Turner, 1982, p. 43)

Drawing from Freeman's theory of dissolution and cultural neurophenomenology, perhaps what Turner has concluded points to the role of the ritual being a means of re-formulating an

existential framework or diverting one from a particular outlook to another, in that way perhaps having potential to produce "considerable psychological benefits": "The symbols and their relations as found in *Isoma* are not only a set of cognitive classifications for ordering the Ndembu universe. They are also, and perhaps as importantly, a set of evocative devices for rousing, channelling, and domesticating powerful emotions, such as hate, fear, affection, and grief." (Turner, 1969, p. 43) . Indeed we have seen earlier the role of emotions in the construction of our world, and furthermore the construction of a self (Damasio's somatic marker hypothesis) (Damasio, 1996).

It can thus be argued that the Ndembu ritual as a non-reducible experience to the ritual participant shows evidence of instruments or tools of dissolution acting on the ritual participant's body/brain (neural make up) to induce the right type of condition for transiting into a new existential perspective. Based on a type of reductionism of the ritual, because indeed it is not possible to speak of the ritual without speaking of its constituent parts such as symbols, use of space and orientation, and combining this with findings from neurophenomenology of rituals as discussed in previous sections, it can be deduced that through both a deep personal encounter by the ritual participant, the value or salience they place on the ritual symbols and processes, including the various physiological instruments that make up the ritual acting on the body through the senses and direct contact, dissolution is induced and an opportunity for re-orientation, new meaning and a transformation of a self is actually achieved to a verifiable extent.

Turner (1969) refers to this condition as liminality, the in between phase during a transition from one identity to another or the dissolved edge between two identities or realities. Turner describes liminality or the liminal persona as;

> …necessarily ambiguous, since this condition and these persons elude or slip through the network of classifications that normally locate states and positions in cultural space. Liminal entities are neither here nor there; they are betwixt and between the positions assigned and arrayed by law, customs, convention, and ceremonial. As such, their ambiguous and indeterminate attributes are expressed by a rich verity of symbol in the many societies that ritualize social and cultural transitions. Thus liminality is frequently likened to death, to being in the womb, to invisibility, to darkness, to bisexuality, to the wilderness, and to an eclipse of the sun or moon. (Turner, 1969, p. 95)

One of the character outcomes during the liminal phase is what Turner refers to as *communitas*, a temporary heightened sense of oneness with the other comparable to the oneness discussed in cultural neurophenomenological accounts discussed earlier. It seems that what Turner is referring to is a state of dissolution, a moment when the boundaries of a self are dissolved and in turn developing a feeling of oneness between me and other or communitas.

In another Ndembu ritual, Turner (1969) demonstrates the various symbols that represent the liminal phase. During rites where a commoner is taking up a new role as chief-elect, a small shelter is constructed a distance away from the main village. The hut is known as the Kafu or Kafwi meaning "to die". The chief and his ritual wife clad in virtually nothing are instructed to enter the Kafu just after sundown, in which they sit in a modest position being washed with a special medicine mixture with water brought from a river site that holds historic and cultural signification. Next is the rite of Kumukindyila, which means "to speak evil or insulting words against him". This begins with a cut on the underside of the chiefs left arm and medicine pressed on the incision. The two are roughly forced to sit on a mat, the wife cannot be pregnant during the ceremony and the two cannot have partaken in sexual intercourse several days before the ritual.

What follows is the ritual facilitator breaking into a homily;

"Be silent! You are a mean and selfish fool, one bad tempered! You do not love your fellows, you are angry with them….Yet we have called you and we sat that you must succeed to the chieftainship. Put away meanness, put aside anger….But you, Chief Kanongesha, Chifwanakenu…you have danced for your chieftainship because your predecessor is dead…you must give up your selfish ways, you must welcome everyone, you are the chief…" (Turner, 1969, p. 101) Thereafter anyone who has been wronged by the chief-elect is given a chance to revile and insult him. The chief-elect continues to be splashed with medicine, at intervals being struck by the ritual facilitator's buttocks against him as a gesture of insult. He is prevented from sleeping as "part of an ordeal", he is sent to do menial tasks and is expected not to be resentful during such instructions. (Ibid)

Turner is demonstrating the in between or liminal phase during the rite of passage from an ordinary member of the community to a chief. Several elements stand out that one could categorise as tools of dissolution inducing the liminal phase at which time a new identity can be taken up.

Similar to the fertility rite described above and Freeman's description of rituals of dissolution, the use of place, particularly isolation (separation) is evident in this particular rite. The body is poorly adorned and assumes symbolic positions of "humbleness". The ritual participant is exposed to pain in the form of an incision on the arm, although Turner does not indicate the pain numbing or stimulating property of the medicine applied over the cut. The ritual participants have been primed for the ritual by prohibiting them from performing sexual acts prior to the ritual; they are 'mistreated' and verbally and physically assaulted, including deprivation of sleep, continuous application of 'medicine' and demeaning activities. During the physically and emotionally induced states, the chief-elect is verbally given a new identity in the form of the homily.

This could arguably be evidence of embodied practices of dissolution, and indeed demonstrate the tools of dissolution that induce the liminal phase;

- isolated
- pain
- lack of sleep
- chemical stresses of their brains through fasting
- induction of powerful emotional states – hate, fear or anger
- body posture (humble)
- psycho-physical shame

The body seems to be the primary instrument through which dissolution, or liminality is achieved. This includes the body's position (i.e. lowly posture) in space. In his popular reader titled The *Winner Effect* (Robertson, 2012), neuroscientist Ian Robertson describes the mechanisms in which body posture release neurochemicals that 'match' the symbolic significance of the posture such as standing up straight inducing a feeling of strength or slouching producing depressive feelings. This could indeed be the case in the "humble" posture of the chief-elect, including all other physio-cultural instruments that induce various emotions and feelings.

When combined, Turner's notions of communitas and liminality formulate his theory of anti-structure, which could be interpreted as a situation where humans transcend structural systems primarily experienced as relationships that are "undifferentiated, equalitarian, direct, extant, nonrational, existential I-Thou relationships." (Turner, 1974, p. 274) Furthermore, anti-structure is "the egalitarian "statement for humanity" …, representing the desire for a total, unmediated relationship between person and person…" (ibid). This resonates with

earlier assertions by Dorman (2004) when referring to the feeling of "being one with the universe" encountered by religious practitioners during ritual.

It is thus arguable that one could compare the basic structure of Turner's ritual process with what Freeman describes as dissolution. More specifically, in addition to the notion of dissolution, we see that embodied ritual practices not only create the correct neural condition for taking on new identities/ideas/realities, but through which social bonds are mediated. The notion of communitas, liminality and anti-structure when combined with findings from cultural neurophenomenology present an opportunity to further argue the case of anti-structure in the resilience and adaptability capacity of past indigenous communities.

Indeed if anti-structure, communitas, liminality and dissolution are part of our capacity to deconstruct and reconstruct our phenomenal realities in response to change, then we could make the assertion that past communities increased their chances of survival through accessing social, psychological and ecological fluidity as facilitated by a diverse range of ritual practices. As we will see in the next section, embodied rituals were often part of a mediating processes between a self and other, including human and animal, human and landscape and human and human. Given that findings in cultural neurophenomenology and anthropology demonstrate our capacity dissolve our boundaries of identity, it is argued here that this is evidence of our capacity to re-construct realities that best aid us to better respond to environmental constraints.

Whereas very little has been written about the role of rituals in dealing with climate crisis in past indigenous communities, it will be argued here that based on Turner's definition of ritual as discussed at the beginning of this section and his demonstration of the role of ritual in dealing with collective and individual transition and crisis, it is probable that environmental crisis was part of the contingency of crises resolved through rituals of dissolution. If as we have seen rituals aid communities to transition from one way of life to another as well as foster communal anti-structure which mitigates psycho-social lock-ins, it would thus follow that environmental change would be better responded to by inducing psycho-social liminality. Climate and environmental change would be experienced as change in precipitation, fauna and flora, and thus a particular way of life (Deacon & Deacon, 1999) (Thackeray, 1984), conditions that will be responded to with greater flexibility, creativity and adaptability facilitated by an openness and readiness to respond.

2.5 Embodied ritual amongst the indigenous communities of Southern Africa

2.5.1 Ritual of dissolution in Southern Africa – David Lewis-Williams

"Consciousness can be launched on the intensified trajectory by a number of conditions that include ingestion of psychotropic substances, sensory deprivation, pain, fasting, meditation, audio and rhythmic driving (such as dancing, chanting, and drumming), fatigue…" (Lewis-Williams, 2004, p. 32)

This quote is extracted from the work of archaeologist David Lewis-Williams in one of his seminal works *San Spirituality* (Lewis-Williams, 2004). It has an uncanny resemblance to Freeman's description of dissolution, which demonstrates a possible robust link between Freeman's notion of dissolution and the rituals of Southern African hunter gatherer communities and the theoretical framings described above.

Lewis-Williams has spent a large part of his career developing a better understand of the role of trance in the production of rock art amongst the Koi/San communities of Southern Africa. According to Lewis Williams, some of the images seen in Koi/San rock art are directly linked to the trance dance; "Given the overwhelming importance of the trance dance for San life, well-being, religion, and cosmology, it should come as no surprise that San rock art was principally concerned with the dance and all its diverse cosmological implications and experiences." (Lewis-Williams, 2004).

The trance dance is one of the central spiritual instruments in San culture. It functions as an orientating device and provides Shamans with potency which aids in physical and social healing (Lewis-Williams, 2004, p. 87). The trance dance is undoubtedly an embodied activity. It is often held at night and carries on till dawn, at which time the dance is at its most intensive state; "The rhythmic movements, the sounds of their rattles, the women's clapping and the intensity of their concentration combine to alter the shamans' state of consciousness. The Kalahari San do not use hallucinogens, though they may have done so in the past. They begin to move along the intensified trajectory… and eventually fall into "unconsciousness." " (Lewis-Williams, 2004, p. 89).

Part of the evidence of trance and its effects on the brain survive as artefacts and rock art seen all over Southern Africa. One of Lewis-Williams' key arguments is the representation of phenomena that are characteristic of trance states in the brain, namely;

Stage 1	Entoptic phenomena
Stage 2	Construal of entoptic phenomena
	Vortex
Stage 3	Iconic images, Transformations Peripheral and integrated entoptic phenomena

Figure 15 Stages of transformation of conscious experience during trance (Lewis-Williams, 2004, p. 32)

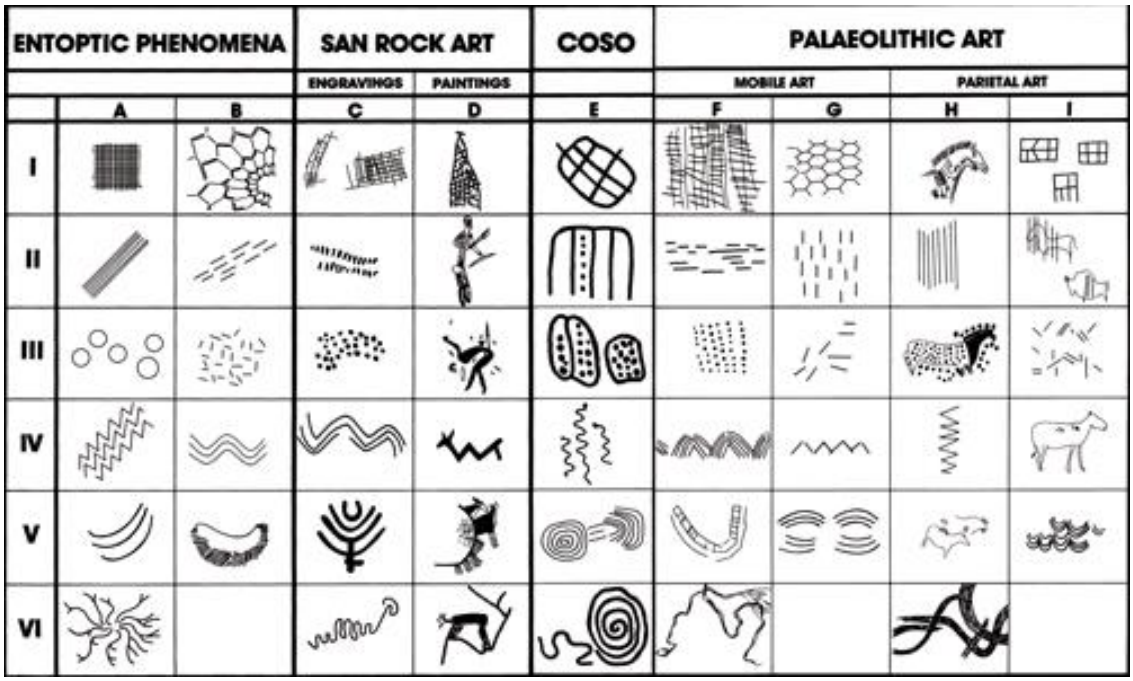


Figure 18 Entoptic Phenomenon **(Lewis-Williams & Dowson, 1988)**

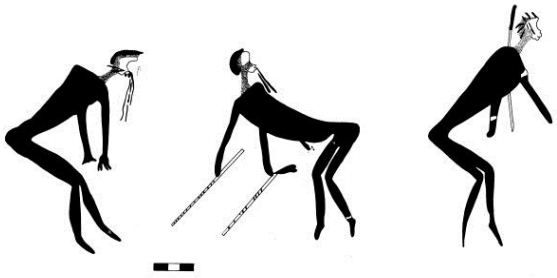


Figure 17 Bushman rock art depicting what could be shamans in trance with blood falling from their noses – Rock Art Research Institute

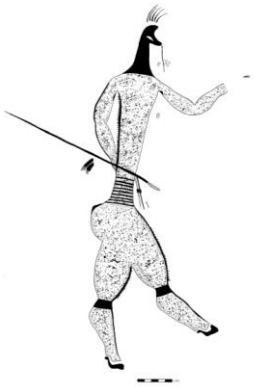


Figure 16 Bushman rock art depicting what could be shaman in trance with blood falling from his/her nose – Rock Art Research Institute

These states are part of our neurological make up, and are characteristic of the kind of processes that are activated during ritual trance (Lewis-Williams, 2004, p. 35). Lewis-Williams argues that during ritual trance the shaman would bleed through the nose, represented in a number of rock art paintings found in the archaeological records (Lewis-Williams, 2004, p. 90). In addition, the shaman would often experience him/herself transform into an animal, again this being commonly represented in the rock art such as depictions of therianthropes shown below (Lewis-Williams, 2004, p. 166).

This indeed is a demonstration of the role of trance in the creation of rock art, however Lewis-Williams does make a note of the reversal or rather reciprocal nature of trance demonstrating that not only did the trance produce rock art, but similarly the rock art was part

of the ritual process; “Maqhoqha showed how people of old danced in the rock shelters, and, raising their arm, turned to the images when they wanted more power (she used the Xhosa word amandlda). The images, especially those made with eland blood, were reservoirs of potency.” (Lewis-Williams, 2004, p. 105)

Lewis-Williams also discusses extensively the role of myth in ritual, particularly what he refers to as “metaphors of transition”. What is generally understood is that these mythic symbols represent aspects of psychological movement through the San’s tiered cosmology, which Lewis-Williams argues represents the changing levels of consciousness (Lewis-Williams, 2004, p. 111).

Lewis-Williams demonstrates a clear relationship between ritual, art and myth in a complex and nuanced account of San cosmology. Key factors to consider for the purposes of developing the argument presented in this study is the following:

- use of place as medium for inducing trance
- pain or suffering during trance
- lack of sleep
- chanting, dancing and rhythmic singing
- use of art or artefacts as means to induce trance (increasing levels of potency)
- possible chemical stresses of the brains in the past through hallucinogens
- induction of powerful emotional states
- body posture

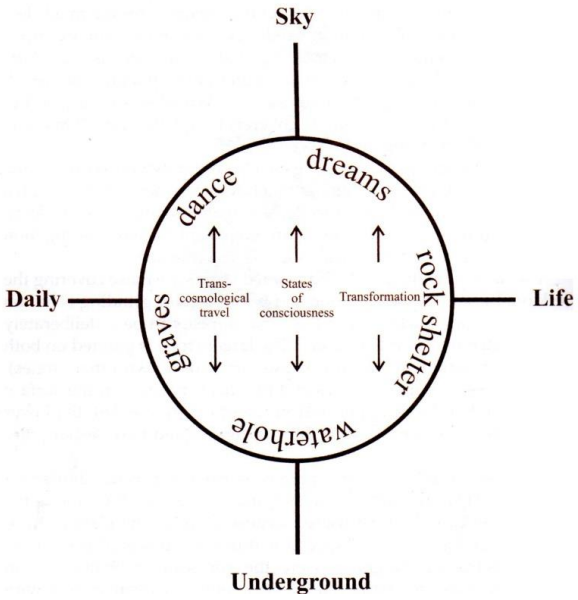


Figure 19 Bi-axial cosmology of the San

This indeed is a clear indication that in addition to the very culturally specific meaning behind the ritual activities of the San, an equally fundamental neuro-phenomenological and universal activity is implicitly being described through Lewis-Williams’ findings, namely the processes of inducing dissolution. In his 1982 paper titled *The Economic and Social Context of Southern San Rock Art*, Lewis-Williams further demonstrates the link between ritual, rock art and Bushman social constructs. He argues that bushman socio-economic tensions are mediated through trance practices;

"The symbolic labour of the various /Xam medicine men, then, operated on the condition of social cooperation and on the renewal of nature. This labour was frequently, but not always,



Figure 20 Circular trance dance (RARI)

performed during a dance. The medicine dance is still the overriding cooperative ritual activity in San society…The women sit in a tight circle to clap and sing the medicine songs while the men dance around them. The social efficacy of the dance need not be doubted; rhythmic unity tends to establish emotional unity." (Lewis-Williams, 1982, p. 433). Also "The intense reality of "non-reality" was a key component of the complex way in which San rock art images did not merely reflect but also constituted social relations." (Lewis-Williams, 2005, p. 224)

Lewis-Williams demonstrates a clear appreciation of the role of ritual in dealing with the tensions that arise from economic and ecological constraints. What Lewis-Williams does not discuss in any extensive way however is the manner in which ritual dissolves could bridge delineations of identity or individualism through physiological practices. In (Lewis-Williams, 2005, p. 438), he interprets the content of Bushman ritual to be symbolic to the observer as opposed to being neurophenomenological transformative agencies or at least facilitate and maintain or dissolve a particular psycho-social perception. Indeed he makes a clear link between socio-economic and ecologic systems as well as the role of the shaman in managing these systems, trance as a medium for constructing an intersubjective phenomenal reality is hardly given enough attention.

2.5.2 Tricksters and trancers and the role of anti-structure in Bushman society

In his book *Tricksters and Trancers* (Guenther, 1999), Mathias Guenther develops an argument based on Turners notion of anti-structure and applies this to the Bushman. Guenther, although not entirely in line with Turners view, argues that the Bushmen live in a perpetual state of liminality:

"Yet, as suggested by this account of Bushman society and beliefs, their difference is even deeper than that: such societies are not just against the state and hierarchy, but against structure and order; they are not just egalitarian societies, but liminal ones, and are not just acephalous, but amorphous. The difference between the two types of society lies at a social structural level deeper than the organizational and institutional plane of power and politics." (Guenther, 1999, p. 240)

Furthermore, Guenther alludes to the role this continued state of liminality plays in Bushman life, and argues that it is a fundamental component of a society's capacity to develop and

maintain creativity and novelty outside a conditioned and sedimented structure. He explains that:

> This processes of "liberation" of society from the strictures and structures, and the resultant liminality, is a society's principal force of creativity and font of culture. It brings about the envisioning- beyond the given structure- of new possibilities, creating a "'more than this' dimensionality of existence"… The contradictions and ambiguities generated by such a state of liminal foment are…"creative negations" that beget a *mundus inversus* that reinvents life with a vigour and a *Spielraum* [a playful inventiveness] attainable (it would seem) in no other way… (Guenther, 1999, p. 237)

Indeed Guenther spends a large portion of his discussion demonstrating the relationship between Bushmen religion, ritual and society. In the last chapter, Guenther discusses extensively the limitations of trying to interpret Bushman religion and society using functionalism and structuralism as a theoretical framework arguing that Bushman religion, especially its manifestation as the tricksters and trancers is inherently anti-structure and evades all attempts to try and ground it in a structure. In addition, Guenther demonstrates the role of ritual in inducing dissolution in Bushman religion;

> …the trickster is the prominent figure of Bushman myth, lore, and religion, injecting into these areas of Bushman culture creative ferment, along with laughter… The world he inhabits, the dreamlike "First Order", along with its surreal inhabitants, is likewise an instrument of creative dissolution of the order of things. Turning to the real world, we see the shaman-dancer, who through his experiences of trance and transformation, enters alternate states of consciousness and being and opens up another path towards another world, of inversion and possibilities. (Guenther, 1999, p. 238)

What this demonstrates is the link between the role of ritual in inducing dissolution in bushman religion, and furthermore demonstrates the manner in which this dissolution was part of fostering creativity, an attribute that is key in dealing with variable and novel circumstances. Although Guenther does not explicitly link this creative capacity to coping with environmental variability, it is argued here that this capacity to 'creatively dissolve' the order of things through ritual was indeed a method of coping with environmental change and flux, this will be discussed later in the study. Guenther mentions a ritual's capacity to induce "envisioning- beyond the given structure- of new possibilities, creating a "'more than this'

dimensionality of existence". In a situation of change in environment, the capacity to create a 'more than this dimensionality of existence' would serve to be a crucial way of enhancing fitness and surviving.

2.5.3 A cultural neurophenomenological framework based on Lewis-Williams, Lee, Yellen and Guenther's towards place making rituals

What has been presented in the previous two sections will be argued here to be evidence of rituals of dissolution in Bushman culture. Based on evidence of physiological embodied ritual practices in Bushman societies discussed by both Lewis-Williams and Guenther, as well as Guenther's notion of creative engagement, transformation and change through liminality, and lastly evidence in both scholars work regarding the role of embodied ritual practice in developing communitas or egalitarianism (although in later publications Lewis Williams has argued that Bushman societies were not as egalitarian as is commonly believed) through the dissolution of individualism, social hierarchy and structure, it will be argued here that Bushman societies evolved fluidity as a method of coping with social, physical and ecological impermanence and change.

Based on a cultural neurophenomenological approach and evidence presented by archaeology and anthropology, what Varela describes as 'groundlessness', what Freeman describes as dissolution of 'intentional structures' and both Turner and Guenther term 'anti-structure' all point to realities continuous change and impermanence as our actual reality. Furthermore it will be argued here that dealing cognitively and psychically with impermanence is essential for survival, and is perhaps why such long standing universal human adaptations evolved, in particular practices that induced the necessary social and psychological states necessary to cope with change. Change implies that what was once part of life can one day no longer exist, and this much is true with ideas, social constructs and personal beliefs. Indeed this demonstrates the inability of humans to pin down absolutes and essentialist dogmas. This groundlessness seems to be at the same time costly for humans due to the implications of having to perpetually re-create new intentional structures. However it seems to be equally essential in imagining pathways out of potential lock-in traps and outdated social conditioning that is destined to be maladaptive.

This is the core argument of this study and through investigation of a particular case study, namely the Wonderwerk Cave during the Holocene, further empirical demonstration of

rituals of dissolution as a mediator of change or mechanism through which impermanence can be engaged with will be explored. Indeed change experienced by humans, change in the environment (social, economic, physical or relational) from a neurophenomenological perspective seems to require mechanisms that facilitate dissolution of past intentional structures. Based on what has been presented above, this is argued to have been the candidate for adaptation in view of climate change and environmental constraint experienced by past communities in southern Africa and is further substantiated in chapter 5.

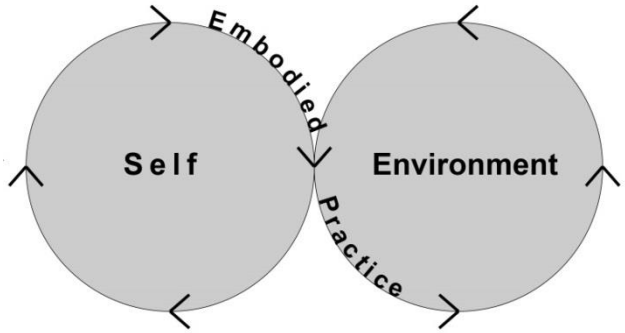
<table>
<tr><td colspan="2">Development of core argument and theoretical framework</td></tr>
<tr><td>Cultural-neurophenomenology (Freeman, Varela and others)</td><td>Anthropology (Victor Turner)</td></tr>
<tr><td>Bushman and embodied practice (trance)</td><td>Bushman and Anti-structure</td></tr>
<tr><td>David Lewis-Williams</td><td>Mathias Guenther</td></tr>
<tr><td colspan="2">Ritual of dissolution enhancing levels of creativity, innovation and reframed meanings and boundaries of identity as a response to a changing environments towards increased levels of resilience and adaptability in Bushman society

</td></tr>
</table>

Figure 21 Development of core argument and theoretical framework

Indeed, because rituals of dissolution and ant-structure foster creativity and innovation and the capacity for one to transcend their own conditioning, this was a salient adaptive strategy for past Wonderwerk Cave inhabitants when faced with climate variability and other environmental constraints that require the self to change in response.

2.5.4 Place making rituals and hunter-gatherer environmental adaptation

Given the insights presented above, we can now return to the notion of place making rituals. Phenomenology of place, particularly in the field of architecture does not address the issue of change of place. As discussed earlier, architecture hardly speaks of the ways in which people deal with loss of place or change in place, and the attachments people have to places. This is not merely a change in the physical environment, but also changes in meaning, emotional connection and other existential issues arising out of change in place. What then can we say about change in place and change in the self, given what has been discussed above.

Place and place identity are concepts that are derived from environmental psychology. (Proshnsky, et al., 1983) argue that place identity "is a complex cognitive structure which is characterized by a host of attitudes, values, thoughts, beliefs, meanings and behavior …" (Proshnsky, et al., 1983, p. 66). Although Proshnsky, et al's approach to place attachment is based on a cognitive science perspective, the authors mention and agree largely with Tuan (1974) and Relph (1976), who both approach place identity from a phenomenological perspective. Proshnsky, et al demonstrates that place and meaning of place is closely linked to the self and self-identification, the boundaries of the self are in a sense extended to place.

They argue that place identity is established through ones direct engagement with a place;

> It grows out of direct experiences with the physical environment; these experiences in turn become modified and transformed by cognitive processes and the effects of still other subsequent direct experiences with the physical environment. And continually being woven into this cognitive fabric we call place-identity and thereby exerting an influence, are the assimilated values, norms, and attitudes germaine to physical settings that define the person's day-to-day existence. (Proshnsky, et al., 1983).

In Yi-Fu Tuan's view "topophilia is the bond between people and place or setting" (Tuan, 1974, p. 4), this is indeed an extension of the self; a psycho-somatic bond influences the manner in which we construct our values and beliefs.

Architect Heinrich Kammayer accomplished an invaluable PhD study in which he interrogated the ritual of building a home in indigenous communities of southern Africa. In particular, he studied Sotho women and the moments in their lives leading to the building of a

house. Kammayer's basic argument was that the building of the house was more than just a project that resolves issues of shelter, but instead through reciprocal processes, the building of the home was equally the vehicle of creation of self for the Sotho woman;

> Making and being 'made' is a paradigm of lived experience applicable to all human beings who have intentions of being made but must also be prepared to execute those intentions. This is a subjective statement and its validation could only be induced from observation of *BaSotho* females making their unique buildings-as-artefacts, if these women were being 'made' through their actions of making then it must also apply to other makers. (Kammayer, 2010, p. ii)

Kammayer's dissertation is grounded on phenomenology and embodiment as its theoretical framework, and looks at the ways in which the self is made through embodied practices, in this case through building a home. According to Kammayer, the process of being a Sotho maker begins while the foetus is still in the womb. Throughout the maker's life she practice making, supported by other skilled practitioners. Eventually the time comes when the maker has reached a threshold and undergoes a type of initiation rite, part of which is building the house. The building of the house is part of her appropriation of new roles and new responsibilities towards her community. Kammayer points out; "The shaping of identity and sense of self of the maker, through the acts and procedures of making is realized through a reciprocal evolution between self and artefact" (Kammayer, 2010)

Based on previous our previous discussions, this embodied reciprocal process is argued here to be a process applicable to other makers and their artefacts. Through iterative processes, embeddedness and engagement, the maker crafts the artefact as much as the artefact crafts the maker. Kammayer also mentions the 'ritual' of making in what could be seen as having ingredients needed for inducing dissolution;

"…her participation in the act of plastering was essential to her experience of the strain, pain and understanding of procedures. Personal participation in the act of plastering was essential to also experience of the exertion required, feel the fatigue in the body, the mass of earth she repeatedly picked up and held in her hand, the wetness and consistency of the mixed ingredients and then the force, and counterforce of the body, needed during application." (Kammayer, 2010, p. 280)

Here Kammayer (2010) mentions the 'strain' and 'pain', as well as the 'fatigue in the body' and the 'mass of earth repeatedly picked up'. Based on Freeman's (2003) views discussed earlier, these are arguably embodied practices that demonstrate the required physiological priming necessary for inducing the loosening of boundaries of identity. Whereas this might appear as a mild version of the extreme rituals of dissolution discussed above, anyone who has been involved in any prolonged project will be familiar with the intensity, pain and emotional investment of bringing any creation into being. Thus perhaps what Kammayer is addressing in his thesis, although not explicitly said, is an example of rituals of dissolution, where in his case the ritual used as a tool of dissolution is the making of the artefact. Indeed the making acts on the senses, the body and the brain, and is thus a way of generating what is needed in crafting a new identity (this case towards a woman's role in her society and culture).

What is important to note about Kammayer's thesis is his notion of reciprocity, that by acting on something, in this case an artefact, one is equally acted on, and that this engagement is an embodied non-dual relationship. The building is not merely being crafted and manipulated by the maker, but through practical engagement the maker is also crafted, a kind of bonding and merging of identities. What neurophenomenology (Freeman, 2003; Varela, 1996) demonstrates is the manner in which the crafting of the self is achieved through this engagement, as well as the communal and social context that facilitates the necessary emotional incentive to achieve activation of the mechanisms by which boundaries of identity are constituted. Place making rituals in this case are literally the ritual of making a place, and the way in which this making of place reciprocally makes a self.

Speaking about architecture and identity, architect Rick Joy argues that; "These are spaces that condition behaviours as much as they are eventually conditioned by their inhabitants. We dwell in architecture and architecture dwells in us." (Joy, 2012, p. 40). In this paper, Joy briefly discusses the reciprocal role of architecture in constructing our sense of self. Joy demonstrates the manner in which he allows the place to act on him, and argues that it is by "taking the time to become intimately immersed in its particular natural characteristics" that one begins to sense place (ibid). He continues by asking "How do we inspire unique moments, precious experiences of place-connectedness and authentic presence…? I believe small incidents suffice – like the daily routine walking on raw desert grounds… or ascending

through an immersive stone maze…" (ibid). Indeed, Joy seems to be touching on the need for an embodied engagement with place, recalling Heidegger's notions of knowing through doing.

However what Joy is referring to extremely mild compared to the embodied practices discussed above. Indeed he acknowledges the need to embed oneself in place, and be practically engaged as a way of allowing the place to act on one's self and perhaps facilitate a way of knowing place through this engagement. Yet as we have seen in rituals of dissolution, bringing the self into contact with a new perception is not 'a walk in the park' and requires a large contingency of tools to allow for the dissolution of pre-conceptions and allow for a deeper sensing and establishing new identities. In our practice or even experiencing of architecture we hardly articulate enough what kind of rituals are needed for an individual or community to connect, bond or un-bond with places as later suggested under Chapter 5. Whereas we speak extensively about the role of architecture in underpinning identity, we do not seem to understand deeply enough the ways in which the self is ushered into a new phenomenal world and establishes new meaning in place. Kammayer (2010) demonstrates that this emerges from being physically engaged in doing, as well as the emotional and existential incentives that allow for a new place to come to being not only physically but perhaps more importantly phenomenologically. The building of the house is the creation of a world, and it is argued here that this is done through tools of dissolution allowing not only the woman but the rest of the community to inhabit a new paradigm.

Now turning to place connectedness in Bushman societies, In her paper titled *The power and place in understanding Southern San rock engravings* (Deacon, 1988), archaeologist Janette Deacon demonstrates the significance of place in the interpretation of San ritual and cosmology;

> …places in the vicinity of known living sites of nineteenth century /Xam San can be associated with rainmaking metaphors alluded to in the folklore of the people who lived there. They suggest that particular places that may be near waterholes, on north-facing hillslopes or on landmarks that have legendary connotations for rain, were used repeatedly by rainmakers. Engravings at these places reinforced the power already present there because the animals and other themes depicted carried metaphorical significance that inspired the rainmakers and their assistants. The engravings were probably done by medicine men themselves who recorded what they had seen during

> trance hallucinations, or who used animal depictions to inspire themselves and others. (Deacon, 1988, pp. 136-137)

Towards the end of her paper, Deacon briefly mentions the notion of place attachment, and goes as far as using the term topophilia making reference to the work of Yi-Fu Tuan. Deacon mentions the manner in which the loss of land experienced by the Bushman was a 'cultural and religious disaster' (Deacon, 1988, p. 138). Hesitantly, right at the end of the paper Deacon cites Tuan and mentions that "Environment may not be the direct cause of topophilia but it provides the **sensory stimuli** [not Deacons emphasis] that we choose from to 'lend shape to our joys and ideals', even though these may change according to the cultural norms at particular times" (ibid).

Furthermore, "The fact that some men referred to themselves as Brinkkop men could also imply that these dolerite hills played a part in men's initiation. I suggest that the dying words of !Kuarra kkau epitomised the bond that developed between men and the hills in the landscape they knew and loved. In terms of the metaphors he used, his spirit was half-way to a final resting place when he said 'My heart stands in the hill'. His descendants would then be able to call on his spirit for help either with rainmaking or other matters'" (Deacon, 1997, p. 24).

When reading Deacon from a cultural neurophenomenological perspective, what appears silent is the relationship between the rituals performed at the various places she has discussed and what she later tentatively alludes to, namely place attachment. Indeed, Bushman must have had some kind of attachment to their place, however it will be argued here that mediating and managing this attachment was necessary for dealing with environmental variability, and that rituals were indeed a way of mediating bonding and un-bonding to place, social structures and resources.

In his paper *!Kung Spatial Organization: An Ecological and Historical Perspectives* (Lee, 1972), Richard Lee argues for Bushman place attachment as follows;

> Nevertheless, the ties to the n!ore are certainly based on sentiment as well as economic expediency; this emotional content is expressed in the following quotation from a young woman member of group now living at ***/ai/ai:***

> [You see us here today but] you know we are not /ai/ai people. Our true n!ore is East at /dwia and every day at this time of year [November] we all scan the eastern horizon for any sign of cloud or rain. We say, to each other, "Has it hit the n!ore?" "Look, did that miss the n!ore?" And we think of the rich fields of berries spreading as far as the eye can see and the mongongo nuts densely littered on the ground. We think of the meat that will soon be hanging thick from every branch. No, we are not of /ailai; /dwia is our earth. We just came here to drink the milk. (Lee, 1972, p. 142)

This demonstrates that like all other humans, Bushman hunter-gatherers had the potential to be attached to place and establish some kind of place identity. However Lee was discussing this situation above in the context of trying to better understand Bushman spatial organisation/orientation, and one of his most fundamental findings was the role of being able to re-constitute social/ecological boundaries in response to climatic variability and constraints (see chapter 5). According to Lee, it was due to the Bushman's capacity to move from place to place and in the process reforming their social bands that allowed them the ability to cope with changes in availability of resources, and especially water. Territorial boundaries were continuously dissolved as a way of making sure that access to resources by interacting groups was not prohibited;

> …a hunter-gatherer group may be able to satisfy subsistence requirements within 100 km2 for 4 years out of 5 but it will still go out of *the business* unless it has access to a much larger area during the fifth year. And in order to ride out environmental fluctuation over the course of 50, 100, or 200 years, the area to which the group must maintain access must be even larger, probably on the order of 10 times the area it covers in a single good year.
>
> Maintaining access to such a large area is really a question of maintaining cordial working relations with one's neighbours occupying the space. So the environmental problem has a social solution…Indeed, it would be difficult to visualize how a patrilocal territorial organization could function in the Bushman case. I would predict that such a society could survive only to the extent to which its members could slough off their patrilocality and territoriality and approximate the flexible model … (Lee, 1972, p. 140)

Indeed, it was the capacity to have fluid social structures (if any at all) that the Bushman could move around in response to changing environmental conditions. These ideas are emphasised by archaeologist John Yellen In his paper titled *Long Term Hunter-Gatherer Adaptation to Desert Environments: A Biogeographical Perspective* (Yellen, 1977), which demonstrates a salient practice in Bushman society, namely the manner in which societies constructed and deconstructed themselves depending on climatic variability; "…in an environment subject to severe and unpredictable change, it is obviously advantageous for a population to be able to alter its distribution rapidly in order to put the most people in the places where the most resources are available." (Yellen, 1977, p. 270).

Given what has been discussed above in relation to place-attachment and self-identity in place, how is it that the Bushman, who as we have seen are fully capable of place attachment and a sense of ownership, capable of dealing with moving and 'dispossessing' places allowing others to gain access to scarce resources? To emphasise place attachment once again we turn to Marc Fried (2000) in (Wilson, 1966) discussing peoples responses in situations where they have been displaced;

> But for the majority it seems quite precise to speak of their reactions as expressions of grief. These are manifest in the feelings of painful loss, the continued longing, the general depressive tone, frequent symptoms of psychological or social or somatic distress, the active work required in adapting to the altered situation, the sense of helplessness, the occasional expressions of both direct and displaced anger, and tendencies to idealize the lost place. At their most extreme, these reactions of grief are intense, deeply felt, and, at times, overwhelming. (Wilson, 1966, p. 359).

Fried has published several papers and is also mentioned in Proshnsky, et al. (1983) for his large body of work dealing with the loss of place. As we can see above, the loss of place is an existential crisis and understandably so due to the deep bonds people make with places. Elsewhere he has published on the negative impacts of place attachment;

> However, many people remain addicted to encompassing forms of continuity in community attachments. Spatial identities which are highly functional at one point can thus become dysfunctional. These commitments can become the basis for contagious violence and bloodshed… (Fried, 2000, p. 193).

Indeed, we can see that place attachment is not always desirable, and because of the variable nature of our environments, it becomes necessary for us to reconstitute our place-self identities. Therefore how indeed did the Bushman achieve the capacity to continuously reconstitute their sense of place identity, what were the mechanisms and 'practices' as Lee puts it, that influenced the malleability of boundaries. It will be argued here that this was indeed achieved through rituals of dissolution. Based on arguments drawn from Freeman, Guenther and Lewis-Williams as presented in previous sections, it was the Bushman's engagement in rituals of dissolution that in turn induced a 'perpetual state of liminality', which as we have seen was facilitated through the 'Trickster' or the 'Trance dancer', thus allowing them to continuously negotiate boundaries of identity, bonding and un-bonding to self and to place. Gray argues that;

> …hunter-gatherers promoted, through cultural means, the playful side of their human nature and this made possible their egalitarian, nonautocratic, intensely cooperative ways of living. Hunter-gatherer bands, with their fluid membership, are likened to social-play groups, which people could freely join or leave. Freedom to leave the band sets the stage for the individual autonomy, sharing, and consensual decision making within the band. Hunter-gatherers used humor, deliberately, to maintain equality and stop quarrels. (Gray, 2009)

These sentiments echo those of Guenther, and although Gray does not explicitly link ritual to a fluid sense of self, it is clear that the Bushman developed mechanisms of dissolving boundaries of the self, and thus gaining the capacity to be open and accessible.

Lewis-Williams (1982) argues the following statement based on his opposition to what he calls innatist or functionalist approaches to rock art;

> In the first place, the aesthetic interpretation reduces cultural phenomena to an innate tendency and directs explanations inwards to mental states about which we can know nothing. Ecology, economy, social structures and demography, for instance, are eschewed to supposed individual states of mind…" furthermore "…the promotion of group cohesion may or may not have been a consequence of rock painting, but it is inadequate to account for the practice. (Lewis-Williams, 1982, pp. 429-431).

Later in his career, we see that Lewis-Williams discusses the manner in which ritual participants would turn to the rock paintings as a way of inducing ritual potency, which was also cited in Deacons paper discussed above (Lewis-Williams, 2004) (Deacon, 1988).

Although we know today that Lewis-Williams acknowledge the role of rock art in ritual potency, and that indeed rock-art has a reciprocal relationship with change of consciousness (Lewis-Williams, 2004), from a cultural neurophenomenological perspective, ecological, economic and social structures were reciprocally in dialogue with the intersubjectivity and neurophenomenological makeup of humans, and the same can be said for the Bushman, as is the case with all human beings. To dichotomise ritual and ecology and to not see the manner in which the one influences the other in a reciprocal non-deterministic manner is to not appreciate a holistic account of being human. Even though it is agreeable that one cannot merely resort to an individual's idiosyncrasies as an explanation for rock art, mental states and the manner in which we influence them through ritual practices seem to be part of the way we collectively construct meaning and identity. From a non-dualistic perspective, this identity is not fixed and can be malleably extended to self-identify with places, people, animals, objects and ideas. Neurologically, mediating bonds is not merely a passive cognitive process but instead requires embodied practices that would in particular induce dissolution of a self on an ongoing basis (Freeman, 2003).

Based on the insights discussed above, we see can deduce that the rituals of the Bushman are in this way no different, and rock art along with the myths and physiological practices accompanying it in a ritual act on the body and thus the processes of managing boundaries of identity are mobilised. Indeed this demonstrates the manner in which we have a level of agency as humans and are not merely determined by our surroundings, we engage them and persist, sometimes failing to respond accordingly and thus needing to device appropriate ways of navigating their variability.

The values and principles that form social systems are not a given and is thus logical that we construct them and cultivate them through practice. Had the Bushman not devised methods of bonding and un-bonding to things, situations and places (which is perhaps what we see manifest as non-attachment and egalitarianism) how could they have managed to deal with the demise of resources and the need to share, move or change. Indeed the potency of ritual

and its capacity to loosen self-identification, possession and position is vital to survival, thriving and perusing a meaningful life.

It is therefore in this regard that we identify place making rituals as rituals that allow humans to deal with a variable environment. Therefore place making rituals are indeed rituals of dissolution whereby in this case facilitate dissolving ones perception of place and self-identification to place in order to meet the demands of change in place, which again is argued here to be the primary method that aids a self to be ushered into a new paradigm often requiring the death of the old and the creation of a new self. As we have seen in Bushman society, place making rituals are a fundamental way of negotiating environmental change by developing the capacity to re-constitute, dissolve and construct meaning. It is on the basis of such insights that the working hypothesis of the study emerged and subsequently substantiated based on data and analysis as reported in the subsequent chapters of the study.

2.6 Conclusion

This chapter focused on outlining the theoretical framework for this study, and developed it through consolidating various theories from a variety of knowledge fields.

What was critical was demonstrating right at the start of the chapter the role of the post Cartesian dualism framework as fundamental for the arguments posed in this study. A p-Cd framework, along with concepts drawn from phenomenology, anthropology, embodiment, neuroscience, neurophenomenology and cultural neurophenomenology could in the final analysis allow for a framing of the dialogue between self and place; particularly the manner in which self and place co-evolve.

The p-Cd model allows for a bridge between the ‘inner’ and the ‘outer’, ultimately demonstrating that the self is an entity that has the potential to be changed and perturbed by a variety of forces due to its direct embeddedness in the world. This capacity to change is crucial in the argument posed in this study. Indeed it is only through the possibility of change in self that a society has the opportunity to adapt to its surroundings. However prior to the findings of neuroscience, very little was known about the mechanisms through which change is induced amongst human beings. This could also have been a result of the gross misunderstanding of the ecology of the self as postulated by Cartesian dualism and perhaps the narcissism that came out of the Western Enlightenment period. Indeed within a p-Cd

model, the self can be perturbed, and rightly so, which in this study is argued to be well demonstrated in hunter-gatherer communities such as the Bushmen.

The chapter relied on literature from neuroscience to demonstrate the ways in which the brain is acted on by the environment, and although presenting its ideas within a reductivist paradigm, neuroscience was a useful way of gaining deeper insights of the self as open to being acted on by the world. We saw that emotions have the capacity to change the structure of the brain, and that the brain has the capacity to change emotions, thus demonstrating the non-linear symphony that makes up the maturation of self. In addition neuroscientist Walter Freeman articulated the ways in which rituals, through emotions and the plasticity of the brain, can influence the self, identity, meaning and perception. Freeman's notion of dissolution is one of the underpinning theoretical foundations for this study.

However because of neurosciences reductivist approach, it was necessary to draw on a theoretical framework that accounts for consciousness being whole and non-reductive phenomena. Looking at Varela's work on neurophenomenology, we saw that our experiences of the world as whole non-reducible encounters have a profound influence on our brains and selves. Neurophenomenology, a merge between traditional neuroscience and phenomenology demonstrates the importance of accounting for both the reductivist approach to understanding our experiences, while also trying to understand the structure of consciousness as it is experienced. Cultural neurophenomenology went a step further and dealt with ritual experiences, religious encounters and other cultural phenomena through appreciating the neurophenomenological underpinnings of those experiences. This section thus concludes with a discussion on groundlessness and the creative potential that is argued to be part of rituals of dissolution, arguing that this is a fundamental element of human existence and aids in surviving impermanence and change.

The notions of anti-structure, groundlessness, liminality and dissolution all seem to point to an inherent dialectical movement of form and formlessness of reality as encountered by human beings in the phenomenological sense and in particular, experienced during ritual practice and manifest in various socio-ecological/economic situations. It seems that we construct meaning through various practices, and that this is an ecologically embedded process that assists us to encounter the world in ways that best assists us to be in it. Creativity, art, myth and ritual seem to be synonymous to the process of forming meaning in groundlessness, and it would seem that we ourselves form an integral part of forming the

world, neither in an idealism framework nor objectivist one, but through a continuous intersubjective reciprocal process which could be argued to amount to a dialogue.

The chapter then dealt with ritual, and referred to the work of Victor Turner to gain better understanding of the ritual processes. Turner provides useful concepts, namely liminality, anti-structure and communitas. These ideas are argued to be consistent with cultural neurophenomenological ideas of dissolution and groundlessness. The section then identifies tools of dissolution in rituals, which are the emotional, sensorial and embodied tools that induce dissolution as are evident in Turner's anthropological studies. This was then followed by examples of rituals in the Southern African context drawing primarily from the work of David Lewis-Williams. Again Lewis-Williams is argued to have been demonstrating rituals of dissolution, in this case in the form of the trance dance and its connection to rock art and the making of other artefacts.

Mathias Guenther's work gave insights that link the work of Turner to that of Lewis-Williams. Guenther discusses Bushman anti-structure and liminality and argues that this created a fluidity and creativity in Bushman communities. Again this was argued to be synonymous with the creative potential of groundlessness discussed by Varela, and that this was achieved through rituals of dissolution. This groundlessness and perpetual liminality was argued to increase adaptive capacity when encountering environmental change. The final part of the chapter discussed place making rituals and demonstrated the way in which rituals of dissolution can be understood as mechanisms in which new phenomenological place worlds can be imagined and materialised. By looking at Sotho woman and how they materialise self through making, as well as the role of place in Bushman communities, we gain a glimpse at the manner in which making ushers the self into a new phenomenal world.

Thus, place making rituals are indeed rituals of dissolution needed for people to inhabit the appropriate phenomenal world, and as demonstrated, this requires an embodied engagement and practice, as opposed to a mere cognitive passive and disengaged dualistic attitude. Place making rituals are thus imperative as mediation tools between self and a variable environment.

The subsequent chapters discuss evidence of rituals of dissolution at the Wonderwerk Cave in the Northern Cape Province during the Holocene till present. Using the theoretical framework developed in this chapter, the chapters articulate the manner in which indigenous

communities used myth, art and place making rituals as ways of re-defining boundaries of identity and thus demonstrate potential for better coping with a variable environment.

Chapter 3: Methodology

3.1 Introduction

This chapter outlines the research design and methodological approach that aided in the collection, presentation and interpretation of secondary and primary qualitative and quantitative data towards addressing the research question posed in Chapter 1.

The first section outlines the research design based on the theoretical framework developed in Chapter 2. This includes a brief discussion on the need to anchor the study in a particular case area and time. Following this is a section presenting the role of secondary sources by outlining the kind of data needed for the purposes of the study and the manner in which the data were analysed and interpreted. This includes archaeological data, palaeoclimatic data and ethnographic data (from published work), all of which is anticipated to develop a better understanding of self/place engagement during the Holocene at the Wonderwerk and surrounding areas.

The third section of the chapter presents the role of primary data in this study. This includes a section on primary ethnographic data which is in the form of dialogues as opposed to formal interviews, phenomenological data of the researcher's own encounters with archaeological artefact, phenomenological data of the researcher's experience of participation in embodied practices and phenomenological and analytical (descriptive) architectural data of ritual spaces.

3.2 Research design

3.2.1 Overview of research design

3.2.2.1 Constructing insights through weaving - a bilateral reciprocity

Drawing from (Wylie, 1989), Lewis-Williams discusses the manner in which the gaps of knowledge and information often experienced in archaeological research can be resolved (Lewis-Williams, 2002, p. 102). When trying to construct explanations, scientists often claim to be following logical chains of interlocking information, whereas he argues that instead, what is happening is a weaving or intertwining of data threads.

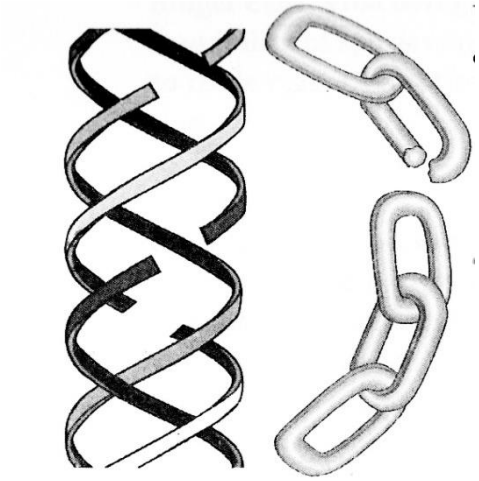


Figure 22 Cable method on left and chain method on right. Source: (Lewis-Williams, 2002, p. 102)

Lewis-Williams specifically uses the example of ethnographic data to substantiate findings from the archaeological records where all that remains is the material culture of a past people. Furthermore, in his example, he links people and cultures from different spatial and temporal times (contemporary indigenous hunter-gatherer communities and past hunter-gatherers). Lewis-Williams continues to caution of the tendencies to make erroneous conclusions using cabling, and the manner in which we tend to impose our modern worldviews and ways of life onto past realities.

In this study, due to the fact that hunter-gatherer ways of life at the Wonderwerk Cave (the case-study site) have long ceased to exist, as well as the absence of studies done regarding place making rituals in the area, it was necessary for the researcher to rely on a number of sources (including contemporary indigenous inhabitants of Kuruman), primary phenomenological data as well as secondary data from archaeological records. In addition the researcher has constructed a theoretical standpoint regarding place making by allowing both archaeological data of past communities and contemporary ones to reciprocally and circularly give substantiation to each other. This deeply relies on the theoretical frameworks of neurophenomenology and embodiment, with which we can infer common experiences,

proclivities and situations between past and present human beings. Although it is common amongst archaeologists to vilify inferring our present way of being onto the past; given our common neurological make up, as well as the universal situation of environmental variability, it is possible to conclude that past people confronted similar issues as we do today and equally had to confront them at an embodied, pre-cognitive level with similar constraints and freedoms. Therefore the study embraces a bi-lateral reciprocity in which data from the archaeological records not only give us insights into the present, but the present also gives us insights into the past, and together assist us to look forward to our unfolding/changing future.

3.2.2.2 Cabling method and its application in this study

Very little, if anything, has been written about the role of ritual in coping with environmental variability amongst indigenous communities of southern Africa. Equally virtually nothing has been written about the role of meaning making of place in increased levels of resilience. As we have seen in Chapter 2, Janette Deacon (1988) hesitantly connects rituals and place attachment, perhaps unintentionally alluding to the role of ritual in bonding and un-bonding self to place. It is hardly surprising that the research focus in archaeology or architecture for that matter has not identified environmental variability and ritual as a research question, perhaps reflecting the symptom of an inherent dualistic attitude in the knowledge fields, and it is now due to our own need to deal with climate change and its subsequent dilemmas that we have been provoked/challenged to question this status-quo mind-set.

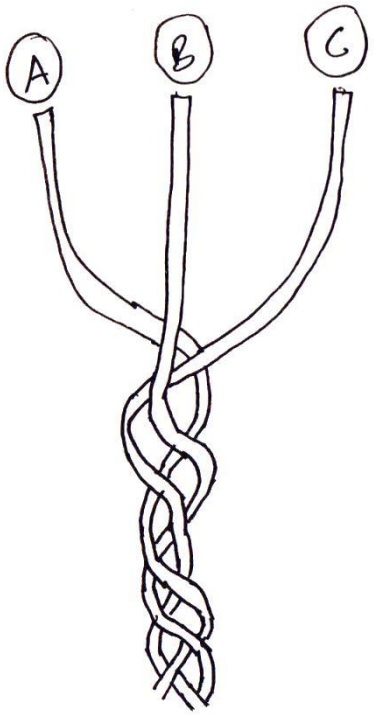


Figure 23 Based on the cabling method, **w**eaving of data and theoretical framework, A and B are primary and secondary data, C is the theoretical framework.

Whereas archaeology may not have given us a clear indication of indigenous place making rituals, based on the work of Lewis-Williams, Guenther, Deacon, Turner and the cultural neurophenomenologists, we can start weaving a picture of what this might have been. Thus in order to demonstrate the role of place making rituals towards the increasing of past indigenous communities resilience and adaptability when facing climate

and environmental variability and constraints, the research design aims to combine the findings discussed in the theoretical framework as well as secondary and primary phenomenological data to develop a picture of indigenous place making rituals at the Wonderwerk Cave.

Based on the theoretical framework, the research sets out to identify rituals of dissolution as evidence of practices that induced liminality and anti-structure among the indigenous inhabitants of the Wonderwerk Cave during the Holocene till present. As we have seen in Chapter 2, the main argument is that it was the capacity to dissolve boundaries of identity through rituals of dissolution and its subsequent liminality, communitas and anti-structure that past indigenous communities dealt with climate variability.

Therefore the research design is anchored on the theoretical framework and uses the framework as a guiding instrument when sourcing, presenting and analysing data. As has been argued so far, the post Cartesian dualism (p-Cd) model espoused by the various contributors discussed in Chapter 2 offers an alternative approach to understanding the human-environment relationship which this study has pursued further. This is done through a weaving of three strands of primary data, secondary data and the theoretical framework (Figure 22).

In other words, both primary and secondary data from various knowledge fields is woven with guidance from the sources discussed in the Chapter 2. For instance secondary data from archaeology (i.e. artefacts from the case site with markings identified as entoptic phenomena) is analysed to demonstrate evidence of rituals of dissolution and thus show that indeed inhabitants of the case site engaged in such rituals during a particular time and thus building a case for how they could have dealt with climatic/environmental variability.

Place making and rituals at Wonderwerk Cave during the Holocene		
A **Primary data**	**B** **Theoretical framework**	**C** **Secondary data**
• Phenomenological approach to archaeological data from Wonderwerk cave • Phenomenological data of experience of contemporary ritual	**Cultural Neurophenomenology**: Varela, Freeman and dissolution, embodiment. Csordas and cultural neurophenomenology	• F. Thackeray – Wonderwerk cave palaeoclimatic data of climatic and environmental change during the Holocene • Beaumont and Morris -

practices • Phenomenological data of contemporary making of artefacts • Recording of existence of contemporary rituals of dissolution – Photography, journaling • Ethnographic data - experience of contemporary ritual participants, ethnography of ritual places, ethnography of local myths • Architectural mapping of contemporary ritual places (sacred sites) near Wonderwerk	**Victor Turner**: Anti-structure, Liminality, Communitas, the ritual process **Mathias Guenther**: Bushman anti structure, bushman communitas, creativity and openness **David Lewis-Williams/Janette Deacon**: Bushman embodied rituals and trance. Power of place in bushman rock art.	Wonderwerk cave palaeoclimatic data of climatic and environmental change during the Holocene • Humphreys and A. Thackeray – Artefacts from Wonderwerk cave (Decorated ostrich eggshell designs) • Beaumont and Morris – Mythology in Wonderwerk area • Beaumont and Morris – Rock art at Wonderwerk • Beaumont and Morris – Rock art and mythology in contemporary Kuruman area • Lange - Decorated ostrich eggshell designs at Wonderwerk linked to Lewis-Williams' Bushman trance • F. Thackeray – sympathetic hunting rituals as place making rituals

Figure 24 Place making and rituals at Wonderwerk Cave during the Holocene

3.2.2 The four strands

The theoretical framework of this study is the foundation upon which the data can be analysed and discussed. It has presented what is referred to here as the four strands of the study which are;

1. Cultural neurophenomenology of dissolution
2. Victor Turner's ritual, liminality and anti-structure
3. David Lewis-Williams demonstration of bushman embodied practices linked to art and myth
4. Guenther's argument of Bushman and anti-structure/liminality

1. The first strand is drawn from a multidisciplinary field called cultural neurophenomenology. In order to construct the main argument of this study, it was necessary to develop a theoretical framework that supports the possibility of a self/environment dialogue. This meant that the self, including mind, thought, memory,

identity and other mental phenomena within consciousness could be perturbed and changed by 'externalities' such as physical and social environments. The theoretical framework that supported this was the post Cartesian dualism (p-Cd) framework. Two epistemic fields, namely science and philosophy were discussed in order to develop the self/place framework.

What emerged was the role of the mechanisms of mediation between the self and the environment which were demonstrated to be embodied physiological practices, often within a cultural and social context. The term used to identify and discus these practices was dissolution, the dissolving of a self. Very little has been written about the neuroscience of dissolution except for a handful of fringe academics that mostly fall within the post Cartesian dualist (p-Cd) paradigm. One such person is neuroscientist Walter Freeman (2003) who has briefly suggested the processes by which dissolution occurs in ritual practice. Because of the limited research done on rituals of dissolution from a neuroscientific perspective, it was necessary to find evidence of rituals of dissolution elsewhere.

2. The second strand is drawn from anthropology. As we have seen in the previous chapter, anthropologist Victor Turner (1969) has done extensive work on ritual practices particularly transition rituals such as rites of passage. Turner established several key concepts :
   - Liminality
   - Anti-Structure
   - Communitas (Turner, 1969)

   Using interpretive anthropology, Turner (1969) discusses rituals which will be argued here to be one and the same process discussed above evident in Freeman's(2003) discussion on rituals of dissolution. Turner (1969) refers to the liminal phase initiates experience, the space between two identities. In addition he discusses the concept of anti-structure, which is liminality evident at an 'institutional' level. Lastly he discusses communitas, which is evidence of liminality at a communal level. Communitas and anti-structure manifest as egalitarianism in social situations due to the ongoing dissolution of any differences, hierarchies and monolithic institutionalism.

However, due to Turner's third person/objective interpretive approach, very little is discussed about the phenomenology or first person experience of liminality and anti-structure. In Freeman's discussion, he describes a moment where the 'customary structure of the individual begin to crumble' and they experience psychic freefall (Freeman, 2003, p. 17). Turner (1963) says very little about the relationship between the physiological practices that induce liminality buts instead interprets in detail the metaphoric and symbolic meaning of the rituals. Supplemented with cultural neurophenomenological evidence, Turner's notion of liminality is better understood as a non-dual embodied practice that induces dissolution, which is argued here to be that out of which liminality, anti-structure and communitas emerge.

3. The third strand comes from work done in the field of archaeology and anthropology. Similarly, and more relevant for the context in which this study is focusing, David Lewis-Williams (2004) has also studied ritual, in particular rituals of trance among the Bushmen of southern Africa (Lewis-Williams, 2004). Lewis-William's work has engaged deeply with the relationship between art, trance and changed states of consciousness, including the manner in which this influences social cohesion and egalitarianism amongst the Bushman (Lewis-Williams, 1982). He has done so through demonstrating evidence of various visual depictions in the rock art; included within his evidence are images of entoptic phenomena such as zig zags and grid patterns as well as therianthropes, all of which he interprets to be evidence of the link between rock art, changed states of consciousness and bushman social structure (ibid). Whereas Turner speaks little about the link between art, embodied practice such as trance and a changed state of consciousness, Lewis-Williams does engage with the implications of trance in relation to bushman socio-ecology. Through a structuralist approach Lewis-Williams demonstrates the link between physiological practices and changed mental states. As we saw in Chapter 2, this is argued to be the same as Freeman's dissolution. Similar to Turner, Lewis-Williams says little to nothing about the phenomenology of trance and instead keeps to interpretation and structuralism as his theoretical framework of making sense of the data. Although Lewis-Williams briefly discusses the role of art in inducing trance, it is argued through this study that art, myth, dance, chanting and rhythmic movements are part of the reciprocal mechanisms of dissolution, of which are all evident in Bushman ritual practices.

4. The final strand is once again derived from anthropology. In *Tricksters and Trancers* (Guenther, 1999), Mathias Guenther mentions the role of anti-structure amongst the Bushmen and how this was indeed a fundamental component of their social, religious and economic make up. Guenther also mentions that anti-structure was a 'principal force of creativity' (Guenther, 1999), this is a fundamental notion for the purposes of this study and because the ritual process seems to be underpinned by a creative force, something that seems to invariably exist in parallel to change for example when losing one's identity during a rite of passage ceremony, one is then crafted to a new identity such that a new self emerges. This along with the previous three strands could assist in establishing a strong case of evidence of rituals of dissolution amongst past indigenous communities in South Africa, and how these practices increased levels of adaptation and resilience through inducing fluid psycho-social communities far more capable of dealing with change. Once again it is argued here that rituals evident in bushman communities, particularly physiological practices which are likely to have been evident in all the practices in bushman societies (as in trance dance), were rituals of dissolution as discussed from a cultural neurophenomenology stand point. Guenther bridges between the work of Turner and Lewis-Williams, which in turn, for the purposes of this study develops a compelling argument for evidence of rituals of dissolution (or anti-structure) in bushman communities.

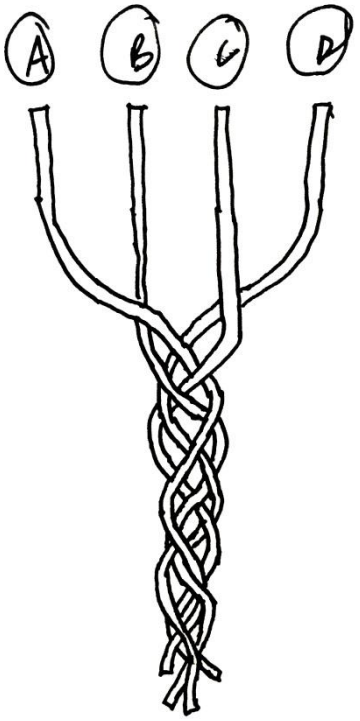


Figure 25 **The four strands, A** representing Cultural Neurophenomenology of dissolution, **B** Victor Turner's liminality and anti-structure, **C** David Lewis-Williams demonstration of bushman embodied practices linked to art and myth, and **D** Guenther's argument of Bushman and anti-structure/liminality

3.2.3 How the four strands define the research design

Given our hypothesis; "Through a continued dialogue between self and the environment as guided (underpinned) by **embodied practices** often referred to as rituals, past indigenous communities developed tools of dissolving boundaries of identity and meaning to transit between phenomenal worlds which allowed for a

better response to their ever changing environments, thus allowing for higher levels of adaptation and resilience." (See Chapter 1 p4), the research design aims to identify rituals of dissolving boundaries of meaning from both primary and secondary data.

The theoretical framework gives the grounding for embodied ritual practices as mediating mechanisms between self and a perpetually changing environment which in turn is framed as the dialogue argument. If indeed the literature demonstrates sound evidence that embodied ritual practices (trance, myth making, symbolism, art and making) induce dissolution (individual level), anti-structure (communal level) or groundlessness, and furthermore through arguing that this has implications in the manner in which people adapt to changing environments (based on findings from (Lee, 1972), (Yellen, 1977) and (Deacon, 1988)) the intention for this study is therefore to demonstrate evidence of these rituals in past indigenous inhabitants at the Wonderwerk Cave and surrounding area.

In other words, for the purposes of answering the research question, namely; "Focusing on the interaction between **rituals**, climate/environmental variability, and resilience in the communities that inhabited the Wonderwerk cave in the Northern Cape Province of South Africa during the Holocene to present day: How did place making rituals contribute/influence resilience and adaptation of the indigenous peoples of South Africa and what lessons of resilience might this hold for contemporary and future architecture as we encounter our own global-warming and climate change?", the four strands create the necessary theoretical foundation that would demonstrate the manner in which rituals can facilitate the appropriate change in the self, meaning, perception and identity as a response to a changing environment. What the four strands demonstrate, and the subsequent chapters emphasise, is that change of self (at individual and collective levels) in response to the environment is not a mere passive cognitive disembodied process such as siting on a long couch having a discussion with a clinical psychologist, but rather as cultural neurophenomenology shows us, requires a whole experience in which the 'body', 'mind' and environment act as a non-dual reciprocal system.

The second half of the research question is addressed by demonstrating the role of place making rituals in contemporary Kuruman, the contemporary social context of the Wonderwerk cave. The study explores contemporary place making, the boundaries of identity people have delineated between themselves and places, the manner in which people cope with variability in the environment and the role of rituals and of dissolution in place making today. The researcher identifies the role of shamans and traditional healers in the

community today, their methods of practice and the nature and potency of their rituals of dissolution. Through field work and phenomenological methodologies discussed below, the researcher identifies Kuruman as place, how indigenous inhabitants have constructed Kuruman, including the sacred sites (which in the past were used as tools/places of dissolution), and contemporary places such as new buildings, and how these are assimilated into people's psyches.

The findings from these data will aid us in better understanding how place making rituals serve contemporary society, and how this impacts the resilience and adaptability of modern indigenous people. From there, implications towards architecture for resilience (now and into the future) can be inferred, conceptualised and developed.

3.2.4 A phenomenological approach

In Chapter 2 it was argued that anthropologists have been engaging the subject of ritual for some time, however this has often been done through interpretive anthropology as method, as well as structuralism as the theoretical approach. These approaches tend to create a dichotomy between researcher and research, or subject and object. Implicitly they create a gap, and often pay little attention to the way in which the ritual participant is affected by their experience as a whole non-reducible encounter. Structuralist methodologies often only gain understanding through a type of reductionism, which in itself is not necessarily a totally inappropriate approach were it not for the fact that it fails to account for the actual fundamental lived experience of the ritual participant (Guenther, 1999) (Ingold, 2000) (Tilley, 1994). In order to gain a deeper understanding of the manner in which self and environment are coupled, particularly the ways in which embodied rituals constitute mediating processes in this coupling, it is necessary to find a methodology that does not inherently or implicitly fall within the limitations of a dualist approach.

Therefore a key component towards understanding place making rituals is to account for the phenomenological experiences of the ritual participant. What is important is developing a way of drawing out directly from ritual experiences to better understand phenomena such as what Freeman describes as a "psychic freefall" or what Varela calls groundlessness, and begin understanding the role of tools of dissolution in such processes. Therefore as a means towards gaining a deeper understanding of place making rituals, dissolution and construction

and deconstruction of meaning and identity, it is fundamental that the research engages in first person accounts of ritual, either through active observation, participation or both.

David Seamon in a chapter titled *A Way of Seeing People and Place: Phenomenology in Environment-Behavior Research* (Wapner, et al., 2000) argues that;

> If one key phenomenological assumption is the intimate connectedness between person and world, a second assumption relates to what I call "radical empiricism"—the particular manner in which this person-world connectedness is to be studied. In using this descriptive phrase, I attempt to encapsulate the heart of phenomenological method by indicating a way of study whereby the researcher seeks to be open to the phenomenon and to allow it to show itself in its fullness and complexity *through her own direct involvement and understanding*. In that this style of study arises through first hand, grounded contact with the phenomenon as it is experienced by the researcher, the approach can be called *empirical*, though the term is used much differently than by positivist scientists who refer to data that are materially identifiable and mathematically recordable. (Wapner, et al., 2000, p. 162)

This is echoed by Varela arguing that the "…phenomenological approach starts from the *irreducible* nature of conscious experience. Lived experience is where we start from and where all must link back to, like a guiding thread." (Varela, 1996, p. 334)

Seamon (in Wapner 2000) identifies 3 main methodological aspects of the phenomenological approach;

1. Direct contact with the phenomenon
2. Assume that one does not know the phenomenon but wishes to
3. The researcher as human instrument is the heart of phenomenological method, thus the specific research methods she uses should readily portray human experience in experiential terms. (Wapner, et al., 2000, p. 163)

This is indeed echoed by Varela's phenomenological reductionism as discussed in Chapter 2;

Phenomenological reductionism	+
Aspects of method	**Characteristics of resulting examination**

Attitude	bracketing, suspending beliefs
Intuition	Intimacy, immediate evidence
Invariants	inscriptions, intersubjectivity
Training	stability, pragmatics

Figure 26 Varela's methodological approach to the phenomenological study of consciousness (Varela, 1996, p. 338)

Seamon's first aspect of a radical empiricism requires the researcher to be embedded in the research through direct exposure. This would include being involved in activities such as ritual practice, observation of ritual participants, extensive dialogues with participants and a deep understanding of the context. This would include direct exposure to artefacts and a careful recording by the researcher of those artefacts as they appear to her/him.

The second aspect requires the researcher to assume no prior knowledge of the phenomena being studied, similar to Varela's 'bracketing' or 'suspending beliefs'. This also means that apart from the direct experience of the phenomena as a methodological approach, no other 'method' is imposed on the relationship between the researcher and the phenomena they encounter. The researcher allows the event to unfold and act on them in a true sense without prior interpretations, expectations or constructs similar to the way one would encounter making a cup of tea or taking a walk.

In the third aspect Seamon argues that "The best phenomenological methods, therefore, are those that allow human experience to arise in a rich, unstructured, multidimensional way." This means the researcher needs to be open and flexible while continuously resisting constricting the flow of events and be open to uncertainty. (Wapner, et al., 2000, p. 163) Some of the methodological tools of drawing data as the researcher are sketching, journaling and mapping, all of which are fundamental architectural research methodologies very familiar to the researcher conducting this study as would be guided by his architectural discipline and professional practice. Seamon describes these as part of the 'first person phenomenological research' tools.

Of course this can be criticised as a purely one sided perspective of the world, namely that of the researcher and thus the researcher is required to account for the lived experiences of others. Seamon calls this existential-phenomenological research (Wapner, et al., 2000, p. 165). This would comprise of the following;

> 1) identifying the phenomenon in which the phenomenologist is interested; (2) gathering descriptive accounts from respondents regarding their experience of the phenomenon; (3) carefully studying the respondents' accounts with the aim of identifying any underlying commonalities and patterns; and (4) presenting results, both to the study respondents (in the form of a "debriefing" about the study in ordinary language) and to fellow researchers (in the form of scholarly presentation). (Wapner, et al., 2000, p. 166)

Indeed phenomenology as a method has been criticised on the grounds that it fails to be reliable. However, Seamon argues that it is through an 'intersubjective corroboration' that reliability can be achieved, "in other words, can other interested parties find in their own life and experience, either directly or vicariously, what the phenomenologist has found in her own work?" (Wapner, et al., 2000, p. 171). In addition, four criteria have been developed by phenomenological scholars to deal with the potential unreliability of a phenomenological approach; these are *vividness, accuracy, richness,* and *elegance*. Vividness refers to the quality of reality and honesty that draws the reader in, accuracy would be believability, whether or not the reader can recognise the phenomena in their own lived experience or can imagine the situation vicariously, richness referring to the depth and quality of description and elegance which points to a careful, crafted and skilful articulation without unnecessary additional material. (Wapner, et al., 2000, p. 171)

Gaining a deeper understanding of the ways in which people re-orientate, learn, unlearn and bond as well as the tools (spatial, somatic or performative) that are applied to induce such processes is the fundamental task of this study. A phenomenological approach thus exposes the key elements of rituals of dissolution and place making as they are encountered by ritual participants.

Archaeology has equally explored phenomenology as a method, often within the Post-processual and post structuralist movement. Both have advocated in a variety of ways the importance of lived experience as part of gaining deeper insights into past phenomenal worlds. In addition, the body and its structure, position and orientation has been identified as a way of understanding material culture from the past. Furthermore, work has been done to identify phenomenological methods of interpreting the relationship between past ritual, place making and environment (Tilley, 1994) (Ingold, 2000) (Hamilton, et al., 2006). The problem of trying to understand past ways of life purely from ethnographic data most of which

represents the informants cognition and interpretation of the world, has also been identified as problematic by post structuralist archaeologists.

Here archaeologist Christopher Tilly demonstrates this;

> …unacknowledged reasons or intentions are often fundamental: people may not be fully aware themselves of what they are doing and why. So the intentions an archaeologist might reconstruct would often not be the same as those which might have been held by prehistoric agents if we could only interview them. Consequently there is never likely to be one way to understand landscapes in terms of intentions, but many. It becomes a multiple field of interpretive possibilities, a dialogue between the archaeologist and the material remains of practice. The only reason to be depressed about this is if we are striving for certainty. But that is not the name of the game in any social science. Just as we can't read past minds, we can't read those in the present either. Whether we can even understand our own individual minds adequately is inherently problematic. We try to make sense of the material with which we work, explore interpretive possibilities which may throw more, or less light, on that which we seek to understand. (Tilley, 2004, p. 78)

This is indeed an important assertion due to what we commonly see as a conventional methodological approach in which archaeologist and anthropologists rely heavily on interpretations of those interviewed through ethnographic methodologies. The informant and those interpreting them, as well as cross references of other informants are taken to be the truth, however we know that even in modern society we can often hold a collective perspective that is not necessarily true, but is however propagated through media as an example (climate change denialism comes to mind in this instance). Therefore a non-cognitivist approach relies little if at all on reports but instead focuses on embodied encounters with past artefacts.

To emphasise this Tilly argues the following;

> The traditional view of perception is that it flows from the mind. We are therefore dealing solely with cognitive processes. An alternative phenomenological view suggests that perception flows from the mind in the body. In other words, the manner in which humans perceive the world is intimately bound up with the kinds of bodies

> we all have, and in a basic sense, share. We see the world in and through the fleshiness of our bodies: perception is embodied. Now this perspective moves us away from a focus on intentionality and meaning as traditionally understood and in the manner discussed so far. We do not just interpret with our minds in a distanciated way, but through our sensing bodies. The body, in effect, becomes a primary research tool. (Tilley, 2004, pp. 78-79)

Here Tilly speaks in the tradition of phenomenology as discussed above and in the previous chapters. We see that the researcher is in a fundamental way embedded in the research, not as a specific individual with his or her proclivities but as an embodied human being which validates their embeddedness as the primary method of collecting and interpreting data. In speaking specifically about rock art, Tilly argues for a phenomenological approach, in which the art is encountered through the body arguing that we must consider "…the manner in which the carved panels and the individual images physically impact on an observer and the manner in which perception of them is mediated through the human body itself, either at rest, or in movement..." Furthermore, in reference to the rock art he postulates that "They exert an agency through the body that must look down, look up, move among them, or view them at a distance, walk to the right or to the left, turn and so on. They may also, to various degrees, exert a purely visual fascination and power by drawing in and transfixing vision, acting as 'traps'…" (Tilley, 2004, p. 79)

Although Tilly's assertions compliment the approach of this study, it is however a case of 'throwing the baby out with the bath water' to not consider the work done by archaeologists and anthropologist using structuralist methods; this has therefore been factored into the study of past place making primarily through a rereading of related data as secondary data for the study. The researcher is indeed embedded in the research bearing in mind that he comes with his own preconceptions which are in this case embraced and indeed relied on, and thus counts on his phenomenological encounter with various objects, places and experiences; but this does in no way exclude the work done by archaeologist and anthropologist who did not rely on phenomenological approaches. Therefore data from a variety of sources including embodied experience will be weaved together, not with the intention of deriving 'certainty' but rather 'explore interpretive possibilities which may throw more, or less light, on that which we seek to understand' (Tilley, 2004). It is through this imperative that the need to 'weave' as the core methodological approach emerges.

3.2.5 Cultural phenomenology as method

The work of anthropologist Thomas Csordas becomes deeply useful in trying to unravel the process of re-orientation and dissolution. In his article *The rhetoric of transformation in ritual Healing* (Csordas, 1983), he develops a method of understanding the transformational capacity of ritual healing and the processes that are necessary in such rituals. Csordas names three fundamental components to consider, namely *predisposition*, *empowerment* and *transformation*. As discussed in Chapter 2, these elements make up the elements in which the supplicant is 'persuaded' to transform (Csordas, 1983, p. 348). *Predisposition* would refer to a supplicant being exposed to the idea that healing is possible and that the healers and methods of healing are coherent and legitimate. *Empowerment* is a persuasion to the supplicant that indeed he or she is experiencing the healing effect of the spiritual power and *transformation* would refer to the supplicant being persuaded to change and accept the cognitive and affective behavioural transformation that constitutes healing. (Ibid)

Indeed this is a crucial aspect for better understanding the potency of rituals of dissolution and the role of persuasion. However as mentioned in the previous chapter, Csordas (1983) does not account for the manner in which persuasion is achieved. In his example of Pentecostal ritual healing he records primarily the verbal dialogues of healers and supplicants but what is left out from a cultural neurophenomenological perspective is the fact that in Pentecostal ritual prayer, sounds, groaning, whistling, shaking, music, singing, the church as a place, the stain glass windows, the ornamentation and indeed the prayer in tongues forms part of the atmosphere that adds 'potency' to the persuasion or re-orientation. Although Csordas (19830 values phenomenology as a theoretical framework, it is not clear if he employs phenomenology as a methodological approach.

For an architect, sensing atmosphere as well as being able to articulate the constituent parts that create a said atmosphere is a crucial skill that assists in the analysis and creation of spaces. By using the senses and understanding aesthetics at a highly fundamental level, then developing the competencies to articulate the gestalt in various ways including writing, drawing and other forms of making, architects have emerged with what is arguably a phenomenological methodological approach. Architect and theorist Juhani Pallasmaa has written extensively about this notion of 'atmosphere' which is available to the architect;

"We have an amazing capacity to grasp complex environmental entities through simultaneously multisensory sensing of atmospheres, feelings, and moods. This capacity to instantaneously grasp existential essences of vast entities, such as space, places, landscapes and entire cities, suggests that we intuit entities before we identify their parts and details." (Robinson & Pallasmaa, 2015, p. 60). Indeed architecture education is an education of holding many parts together as a cohesive whole and understanding how that symphony has existential, emotional and physiological effects on the individual and the community.

One fundamental aspect Csordas (1983) does mention is the role of *predisposition*, meaning that the ritual participant is already within a context in which he is exposed to concepts, constructs and ideas that carry somatic salience such as the image of Jesus or the malignant forces of demons and serpents. Therefore a crucial methodological element for this study is attaining and demonstrating how ritual participants are predisposed to the ritual context even before the core ritual performance. This is argued here to be a crucial element that is not entirely visible during the actual ritual. This could be a large spatio-temporal-psychological context such as a myth which ritual participants are constantly exposed to as priming, a somatic build up that both validates the ritual at a communal and individual level, while at the same time creating the necessary emotional significance that as we have seen from neurophenomenology is necessary for inducing the appropriate somatic markers or neuropedides that brings about the intended dissolution. This again is a clear indication why the researcher is required to be embedded in the research and be deeply exposed to the collective narrative of the community as well as that of individuals.

Finally Csordas (1983) seems to be able to elegantly write very detailed accounts of the ritual participant's experiences, often represented as written narrative. This eloquence and clear sequence of narrative is perhaps what was discussed earlier to be 'richness' and 'elegance'. He simply writes what was spoken by the ritual participant, perhaps directly as a transcription (at least that is what it seems like), perhaps demonstrating his skill as an ethnographer and anthropologist. This could arguably be seen as a phenomenological approach, simply writing what was said (although one cannot capture every nuanced gesture, tone of voice, mood and emotion) and using this as raw data to later be interpreted. This is an important methodological approach and forms a key component of the research design of this document.

3.2.6 Phenomenology as experimental archaeology

An important thing to note regarding the phenomenological approach to the research is that the researcher is using his own lived experience of particular situations and phenomena as a tool of exploration. However unlike conventional experimental archaeology, the researcher is not trying to replicate past situations like reproduce past ritual practices. As we have seen in Chapter 2, rituals and the impact they have on a person are part of a larger social, cultural and religious context. Once the ritual is performed out of its context, it is most likely to lose meaning and potency. For instance, a Christian ritual that is held in high reverence could in another context be meaningless or perhaps offensive. It will not be enough to enact a ritual or make an artefact from the past without its context because the artefact's meaning changes in different contexts.

Therefore in the case of this study, the researcher has decided to engage in rituals that are presently active and validly embedded within an existing social and cultural context such as place making rituals in contemporary Kuruman. These rituals may not be the same as those practiced by past people but are arguably acting on the human body and brain through similar principals. The rituals are alive and combined with existing and active myths, social constructs and given the variety of present day meanings people associate with them, they serve as a better indication of the manner in which ritual acts on the brain, body and self. Using these data, the researcher creates a better opportunity to understand phenomena from a lived experience as well as through observation.

3.2.7 Criterion for choice of case study

The criteria for choosing the case area was finding a place that could demonstrate in parallel strands evidence of environmental change over a long time span, and at the same time demonstrate potential for the existence of place making rituals during the same period. Thus the criteria were as follows;

- The site needed to have prolonged evidence of inhabitation hence the significance of the Holocene.
- The site needed to have enough archived archaeological, historical and palaeontological data to demonstrate the existence of climate/environmental variability.

- The site needed to demonstrate general evidence of ritual practice within the archival data/records.

The case study that emerged from the above criteria was the Wonderwerk cave in the Northern Cape Province of South Africa during the Holocene till present (the site is described in detail in Chapter 4). In addition, because the cave is no longer inhabited by humans, and currently serves primarily as a research site, the research area was projected out from the Wonderwerk Cave to include the contemporary town of Kuruman, were today's indigenous people of the area reside. Contemporary place making rituals from Kuruman were weaved with findings from secondary data to deepen our understanding of the phenomena under investigation.

3.3 Overview of data

The study relied on both primary and secondary data; secondary data were needed in order to allow for better sense of place making rituals using the Wonderwerk cave during the Holocene period as an exploratory tool as well as climate data as evidence of environmental variability during that time. Primary data were then sourced in order to better understand contemporary place making rituals. The primary and secondary data combined try to close the temporal and methodological gap in order to facilitate a better understanding of the phenomenology of environmental variability adaptation through combining findings from past practices with contemporary practices. Given that no work has been done to acquire empirical phenomenological data of Holocene indigenous place making rituals at the Wonderwerk Cave, it was thus important to include the researcher (who is a contemporary indigenous inhabitant of the area) as well as others from today's indigenous inhabitants of the areas in order to facilitate direct phenomenological encounter with ritual. This is in no way trying to reconstruct past indigenous place making by extrapolation but applies neurophenomenology as the basis for using other lived experiences to gain a better understanding of what is argued here to be a common human experience, "there is a neurological bridge between us and that remote period." (Lewis-Williams, 1998, p. 14)

Secondary data was required for the following

- Gaining an understanding of and demonstrating evidence of Wonderwerk cave climate/environmental variability during the Holocene

- Demonstrating evidence of ritual and ritual artefacts at the Wonderwerk cave during the Holocene
- Demonstrate evidence of ritual practices at the Wonderwerk cave during the Holocene
- Demonstrate evidence of myth as part of ritual constructs

Primary data was required for the following;

- Understanding phenomenologically the processes of rituals of dissolution including the experiences of ritual participants
- Gain insights on the role of ritual spaces and other artefacts in inducing dissolution
- Expose the role of myth in inducing dissolution
- Gain a better understanding of the ways in which new meaning and identity emerge through rituals of dissolution

3.3.1 Secondary data

The need for secondary data in this study is to attain information that would otherwise require the researcher to engage other knowledge fields such as palaeontology or archaeology which fall outside his scope of expertise. The following section demonstrates the role of secondary data in this study, the manner in which they were acquired, analysed and interpreted.

3.3.1.1 Archaeological data

The role of archaeological data in the study is to address the research question by demonstrating evidence of rituals at the Wonderwerk cave during the Holocene. Furthermore the intention was to identify evidence of ritual practices that were embodied (psychosomatic) with the intention of demonstrating practices that affected the ritual participant's consciousness. Whereas the study could not directly measure the influence of ritual on past ritual participant's consciousness, with theoretical insight from Lewis-Williams and Guenther, the intention was to demonstrate evidence of artefacts that could be linked to trance and change of consciousness. This was done primarily through engaging academic publications including journal articles. A few key resources were identified such as Francis and Anne Thackeray's (Bradfield, et al., 2014) (Thackeray, 2005) (Thackeray, 2013) (Humphreys & Thackeray, 1983) as well as Lange (Lange, 2006). Frances Thackeray's publications were particularly useful because of the link between artefacts and ritual.

Besides artefacts at the cave as evidence of embodied ritual practice, art was also identified and demonstrated. This was sourced from academic publications, particularly in (Beaumont & Morris, 1990). Furthermore, myth was also identified in secondary sources as a means of demonstrating and exploring the role of myth in rituals of dissolution in the area.

The analysis of this data was done through identifying art and artefacts that have been presented by archaeologists as either having been part of ritual or demonstrating characteristics that are indicative of them being part of ritual practice. In the case of art and artefacts, this would prompt the following;

- Does the art or artefacts possess representations of entoptic phenomena?
- Does the art or artefacts possess evidence of other embodied practices?

3.3.1.2 Palaeoclimatic data

Palaeoclimatic or palaeoenvironmental data was necessary to demonstrate if indeed there was variability in the environment during the Holocene till present. This data was sourced from academic publications and presented as written narrative and graphs. The analysis of the data needed to represent patterns of climatic and environmental variability in the area as reported by a diverse range of studies and archives based on the cave and its surroundings.

3.3.4 Primary data

The role of primary data in this study was to address the research question by accessing phenomenological data of rituals of transition from both the researcher's direct ritual-encounter as well as from contemporary indigenous ritual participants. Based on phenomenology as discussed above, the intention was to gain a better understanding of past indigenous place making rituals by studying contemporary rituals and weaving the data to develop new insights.

3.3.4.1 Phenomenological approach to archaeological data from Wonderwerk cave and other secondary archaeological data

The researcher does not only present findings from academic publications in relation to the art and artefacts that were found and remain present at the Wonderwerk Cave, but rather in addition to this the study presents the researcher's own encounter with the artefact. Again this is to account for an embodied experience of the art and artefacts, bearing in mind that

they indeed have different ‘symbolic’ meaning to that which the researcher drew from them. But nonetheless, the embodied approach was a crucial way of gaining a better sense and feeling of ritual practice.

The researcher therefore recorded his encounter with artefacts that have been excavated from the site such as bone points, engraved rocks, flakes and other artefacts which are archived in the McGregor Museum in Kimberley in the Northern Cape Province of South Africa. Indeed the artefacts have been removed from their original context, and it is hard to determine whether or not they are from the Wonderwerk Cave or had been moved found/collected from elsewhere; nonetheless the artefacts were re-encountered phenomenologically in order to gain a better sense of their role in rituals of dissolution. The researcher considered the following;

- The texture and feeling of the art/artefacts when held in the hands
- The size of the art/artefacts relative to the body
- The details of the art/engravings
- The colour and form of the artefact
- The somatic experience when encountering the artefact

The data were analysed for any evidence of the manner in which the artefact affects the body and the senses as a way of approximating its role in inducing dissolution.

3.3.4.1 Kuruman as place - the new phenomenological context of the Wonderwerk Cave

The researcher participated in field discussions with contemporary indigenous people from the Kuruman area 40km north of the Wonderwerk cave. The researcher prompted participants randomly selected as well as specifically identified. Those specifically identified have been previously engaged by the researcher and have experiences of psycho-physical and social change in Kuruman and thus could engage in the manner in which their environments changed and how they attempted to cope. In the general sample of participants, use of photographs, maps, drawings and other objects, were used to provoke discussions around perceptions of Kuruman as place. Some of the tools used to engender conversations were pictures of a snake, which from previous studies had been identified as a mythic animal in the area.

Furthermore, the researcher engaged participants in discussions of how the place was (its past), how the place has changed and what emotions are attached to which places at present. The dialogues were recorded using a hand held recording device as well as journal entries, sketches, photographs and notes. The researcher also collected data of how people perceived Kuruman phenomenologically by asking them to do quick sketches as some form of a map (sometimes combining orthographic views with perspective) and naming the different places and briefly discussing what those places to them in order to determine the salience of the places. To mitigate participants attempting to representing 'reality as it is', they were required to do quick priority sketches as individuals and some as a group.

Analysis of the data was done by identifying attachment to places, the frequency a particular place is discussed and represented on the maps, the frequency of a particular emotion in relation to a place, the feelings, perceptions and emotions attached to a particular place that may no longer exist (one example is land that was expropriated in the past).

3.3.4.2 Phenomenology of place making rituals

In addition the researcher participated in a place making ritual that was aimed at assisting residents of Mothibistad Township, about 15km east of Kuruman, to cope with having been forcibly removed. The researcher participated in the ritual and recorded the event through voice recording and photography. The researcher also actively participated in the preparations of the ritual until the actual day of the event.

The data was then analysed to draw out evidence of tools of dissolution (embodied physiological practices) and if the way in which these aided the community to create new meaning and bond with the new place they were moving to.

3.3.4.3 Phenomenology of sacred landscapes in the Kuruman area – people's perceptions and feelings

Similar to doing a phenomenological study of Kuruman as place, the researcher did a similar study of sacred landscapes such as Wonderwerk cave, the Kuruman eye, Ga-Mohana Cave, Legobate Cave, all being contemporary sacred landscapes. Based on a similar approach, this was done through informal discussions held in various parts of the greater Kuruman area with randomly selected individuals or groups as well as indigenous practitioners from the target sites. In the case of the randomly selected (secular) participants, the researcher once again

prompted discussions regarding spirituality, myths, healers and sacred places by the use of photographs, divination objects and maps. The participants were once again requested to draw the various places and symbols (although this was not directly asked for apart from it being a part of the discussion).

Due to the isolation of the Wonderwerk Cave from the main inhabited area, particularly due to its rare activity as a ritual space but rather known to few as a research site, the researcher specifically prompted discussions about the Wonderwerk cave among participants to determine both its presence and its lack of presence in their psyche. In addition participants were asked how they felt about these people, places and practices. The intention was to identify the places that permeate in the collective consciousness of the local inhabitants, as well as the myth, rituals and people associated to them. Furthermore, the researcher recorded the feelings people expressed of places and their associated practices to determine the frequency and nature of emotional response to those particular places. This also included attempts to identify possible levels of secrecy and mystery of such places in a qualitative manner.

3.3.4.4 Phenomenology and self-ethnography of embodied practices (making/ritual)

Finally, it was also deemed important for the researcher to be engaged in both the making of artefacts that are part of the practice of inducing dissolution as well as the actual ritual practice with and in the context of contemporary indigenous communities.

Participation in rituals was done through identifying a ritual practitioner in the community (by asking around) and arranging to meet them. The researcher, using his own body and experience, engaged in the practice and took note of his experiences. This data was later recorded and analysed to gain an additional view on how the ritual induces dissolution. This is to say, the researcher set out to phenomenologically sense the tools/experience of dissolution during the ritual.

This includes the following;

- Cognitive or dialogic methods of inducing dissolution
- Use of sounds (music), smells, visual tools and other sensory stimulants
- Pain or suffering during ritual

- Lack of sleep
- Chanting, dancing and rhythmic singing
- Use of art or artefacts as means to induce trance (increasing levels of potency)
- Induction of powerful emotional states
- Body posture

The researcher set out to create tools of dissolution or divination objects as a way of better understanding the criteria of what gives the artefact ritual potency. This included identifying an appropriate material, identifying an indigenous maker to participate in the making, as well as using the objects in the context of the community as a way of understanding the way in which potency is acquired and used in rituals.

3.7 conclusion

In this chapter we see how the cabling method is a fundamental tool needed to weave a tapestry of data that is often left silent in silos. The phenomenological approach allows the researcher to be embedded in the research and include subjective experiences as part of the data. In fact this particular data makes it possible to encounter subjective issues such as emotion, existential phenomena and personal change as, otherwise unobservable or limited when explored in purely objective methods.

Another fundamental need for the cabling method is the opportunity it gives to infer situations from a different yet similar context to another place, which is indeed a method applied by researchers, archaeologists and anthropologists. It is not always possible to have direct ethnographic data; however this does not mean we cannot infer aspects from one people to another. This is fundamental for the purposes of this study because no ethnographic data exists from Holocene inhabitants of the Wonderwerk Cave, however using a cultural neurophenomenological approach we can infer certain cultural-biological phenomena. By virtue of the cave inhabitants having also been humans, we have an opportunity to connect with them through our own embodiment and existential experience, again demonstrating the importance of the researcher's embeddedness in the research.

In the following chapters, the study demonstrates how secondary data from archaeology, anthropology, and palaeontology is weaved with phenomenological data to construct an argument for the purposes of addressing the research question.

Chapter 4: Wonderwerk Cave archaeology, palaeontology and phenomenology

4.1 Introduction

The following chapter addresses the research question at a broader level, it present findings from archaeological and palaeontological secondary sources and demonstrates the long term habitation of past indigenous people in the area as well as evidence of climate and environmental variability during this time.

The chapter is important because it presents the research context of the study and the manner in which this case study helps us to address the research question. The chapter begins with an overview of the context. This is followed by a brief discussion on the contemporary climate of the area and key climatic features. The following section briefly looks at comments that have been made about spatial construction of the inhabitants of the area, particularly in relation to Bushman territoriality. Following this is a short 'objective' description of Wonderwerk Cave, followed by a section describing the cave phenomenologically.

Following this section is a presentation of Wonderwerk palaeoclimatic data; this is then followed by a section on archaeological findings from Wonderwerk cave. Again a phenomenological study is done, this time looking at the archaeological data as experienced by the researcher. This is then followed by a section discussing the findings from the different data that have been presented and finally the chapter ends with a conclusion.

4.2 Overall context

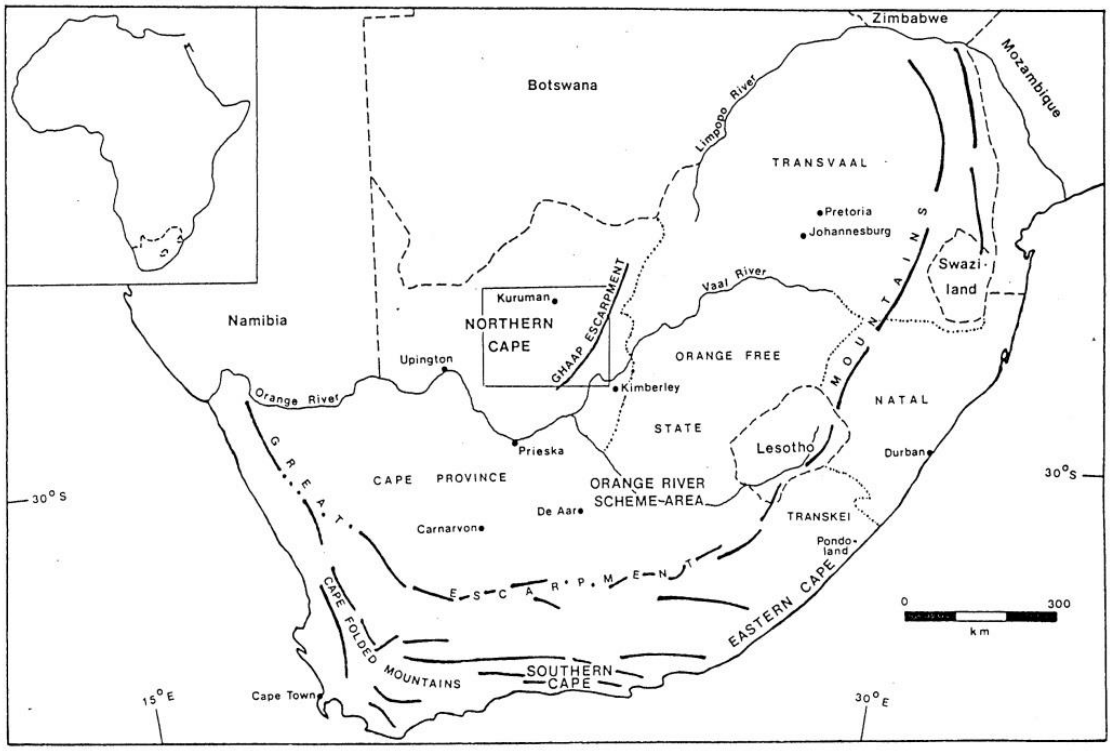


Figure 27 Case study area in context in South Africa (Beaumont & Morris, 1990, p. 146)

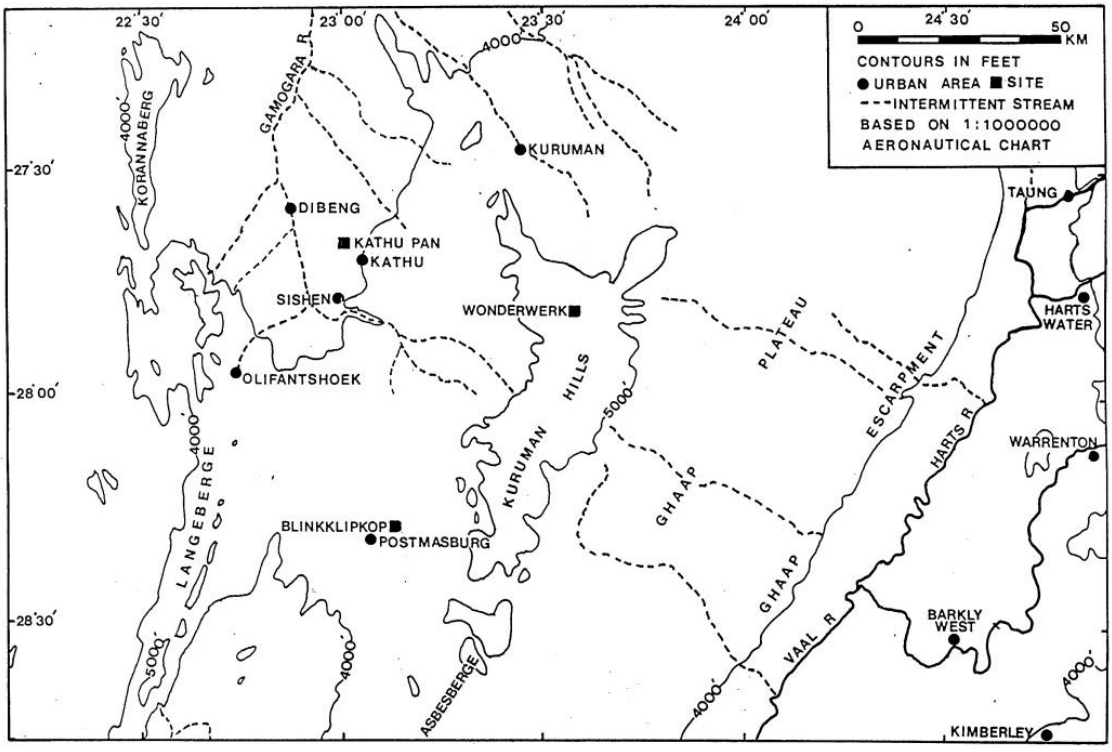


Figure 28 Case study Area (Beaumont & Morris, 1990, p. 147)



Figure 29 Kuruman Hills in the horizon (Author, 2014)

The study area is located in the Northern Cape Province of South Africa with the Holocene to present as a temporal frame. The study area has the Wonderwerk Cave in the Northern Cape Province of South Africa as its centre due to the availability of palaeoclimatic and archaeological data that have been excavated there. The area is known to have been inhabited by Bushman hunter-gatherer and later by pastoralist and other 'social group types' (Deacon & Deacon, 1999) (Beaumont & Morris, 1990) (Humphreys & Thackeray, 1983).

The contemporary town of Kuruman is located 40km North of Wonderwerk Cave and falls within the study area. Kuruman is in the John Taolo Gaetsewe district municipality (which is a better representation of the research area) with a population of about 224 000 people of which 84% are black Africans (census2011, 2011). Kuruman has been chosen to demonstrate contemporary socio-environmental interactions in the contemporary Wonderwerk area. The area radiating around 100km from Wonderwerk has been demonstrate to be endowed with evidence of rock art and making of various artefacts during the Holocene, particularly artefacts linked to the Bushman (Beaumont & Morris, 1990) (Humphreys & Thackeray, 1983). Today rock art is still evident around the area including in the Wonderwerk Cave, Ga-Mohana Cave and other sites in the Ghaap Plateau, although many of these sites are yet to be studied in depth.

The study area has two main distinctive features which are the Kuruman Hills running in a north south axis and the Ghaap Plateau which is east of the Kuruman hills. The area is climatically semi-arid with low precipitation. According to Humphreys & Thackeray (1983);

> The major sources of water in the Northern Cape which are ultimately dependant on rainfall for their existence, and which are of considerable importance from an ecological point of view, are pans and springs."(ibid). Springs in particular make up an important feature of the landscape in the area, and earlier travellers in the area reported the abundance of springs such as the Kuruman eye which today provides the contemporary town with water (Humphreys & Thackeray, 1983, p. 20).

Many of the springs have dried up due to modern industrial activities and borehole exploitation; as a result what we see today is not necessarily a reflection of palaeoenvironments of the area, but rather it is the result of very recent human activities.

The Wonderwerk area has been the focus of a number of archaeological studies exploring among other things material culture from the deep past. Most of the studies have been reported in various publications such as the work of (Chazan & Horwitz, 2009) (Chazan, et al., 2008) (Beaumont & Morris, 1990) (Bradfield, et al., 2014) (Humphreys & Thackeray, 1983) (Thackeray, 2013) (Thackeray, 1984) just to mention a few. In the following sections secondary data from the Wonderwerk Cave will be presented. Much of this data has been argued by (Humphreys & Thackeray, 1983, p. 281) to represent a single complex, demonstrating a common cultural environment although this is not clearly represented in all sequences in the archaeological findings. Given the commonality of artefacts in the area it will not be part of the scope of this study to do an extended study of the all archaeological sites in the case area.

4.2.1 Climate in the Wonderwerk Cave area

Much like the rest of the Northern Cape, the Wonderwerk Cave area experiences extreme climatic variations from very hot summers with temperatures up to 38 degrees Celsius, to cold winter temperatures going down to -5 degrees Celsius. The area falls within the a summer rainfall region which is accompanied by summer thunderstorms (Humphreys & Thackeray, 1983, p. 20). The climate is also classified as winter dry, semiarid arid mesothermal climate with no surplus water at any season (ibid).

The area thus relies on two important types of water sources which in themselves depend on rainfall, namely pans and springs. A number of these sources are currently present within the study area including the "Kuruman Eye", the Kathu pan and Boesmans Gat. Pans dry up and fill up depending on rainfall, and when full may carry water for an extended period of time (ibid). Springs are an important component of the ecological system and appear in many parts of the study area. There have been reports of over 10 springs on the Ghaap Plateau providing over 2.25 million litres of water per day. The "Kuruman Eye" has been reported to provide the town with about 18 million litres of water per day. This figure is likely to have lowered due to high levels of borehole activities from industry and farming in the area (ibid).

Whereas many of these springs have dried up those that are still active are often associated with mysticism by the local community, often associating the springs to the "Waterslang" or mythical snake (Beaumont & Morris, 1990, p. 135).

4.2.2 Comments on Bushman spatial patterns and the Wonderwerk Cave area

In Humphreys & Thackeray (1983, pp. 27-31) in a section titled *Man-Land Patterns*, the authors discuss the work of Van Vreeden (1961) in which a detailed study of place naming in the Northern Cape was done. According to the study, the naming of places was indicative of the attitudes people had towards the place. More specifically the work demonstrated the kind of attitudes Khoisan and early European settlers had towards water sources (Humphreys & Thackeray, 1983, p. 27).

According to the study, place naming in Khoisan culture was often linked to water sources, demonstrating the importance they assigned to the resource (Ibid). There was a common presence of names such as; !ab (river), //gami (water), /aus and /ous (spring), xora (excavated water) and =gab (waterhole) (ibid). According to Van Vreeden (1961), the distribution of names reveals a pattern such that drier areas to the west where digging is necessary for accessing water revealed the use of names based on xora, in the eastern area where there are more rivers and springs, and hence a reliable sources of water, names were based on //gami and /aus.

In relation to the study are, Humphreys & Thackeray (1983) note the following:

> What is particularly interesting is that in the project area (i.e. the Kuruman Hills and Ghaap Escarpment) there are only two places where the word /aus is used; in both cases the springs concerned are weak in comparison with the others in the area and so Van Vreeden suggests that the tendency was to associate them with weaker water sources to the west. All the strong reliable springs, on the other hand, were distinguished by the use of //gami. It is thus clear that the Khoisan name-givers were very conscious not only of water source itself, but also its reliability (Humphreys & Thackeray, 1983, p. 27)

Based on this and other data showing population densities and mission settlement around the Kuruman area, Humphreys & Thackeray (1983) argue that the study area has a widespread distribution of reliable water sources. They emphasised this because of previous discussions about Bushman land patterns (i.e. Lee (1972)). Humphreys & Thackeray (1983) seem to imply that mobility patterns would have been impacted (perhaps reflecting something different from what has been previously said) by the availability of water and the distribution of water sources around the study area.

4.3Wonderwerk Cave

4.3.1 The 'objective' description of Cave

Wonderwerk Cave is a large cave embedded within the Kuruman Hills about half way between the town of Kuruman (with the cave about 40km from Kuruman) and Danielskuil in the Northern Cape Province of South Africa (Humphreys & Thackeray, 1983). From around the mid-20th century, the cave has undergone various archaeological excavations, and is still being studied by various scholars from around the world (e.g. (Beaumont & Morris, 1990) (Thackeray, 1984) (Humphreys & Thackeray, 1983) (Chazan, et al., 2008) . The cave extends to about 140m into the Kuruman Hills and its height ranges between 10 to 20 meters (Chazan, et al., 2008, p. 1).

The cave is believed to be a solution cavity in the stromatolithic dolomite of the Campbell Rand formation, and has a near flat curved roof and vertical side walls (Humphreys & Thackeray, 1983, p. 35). Is faces north to north west, such that light only penetrates into a shallow portion of the cave while the rest of the cave is remains in darkness, about 45m of the cave (ibid). Towards the entrance of the cave is a large stalagmite about 5m high which is

located at about 19m towards the mouth of the cave. In addition, within the entrance zone of the cave are rock paintings depicting various animals such as elephants, giraffes, eland, gemsbok, ostriches as well as geometrics such as grids, ladders, combs and other enigmatic designs (ibid).

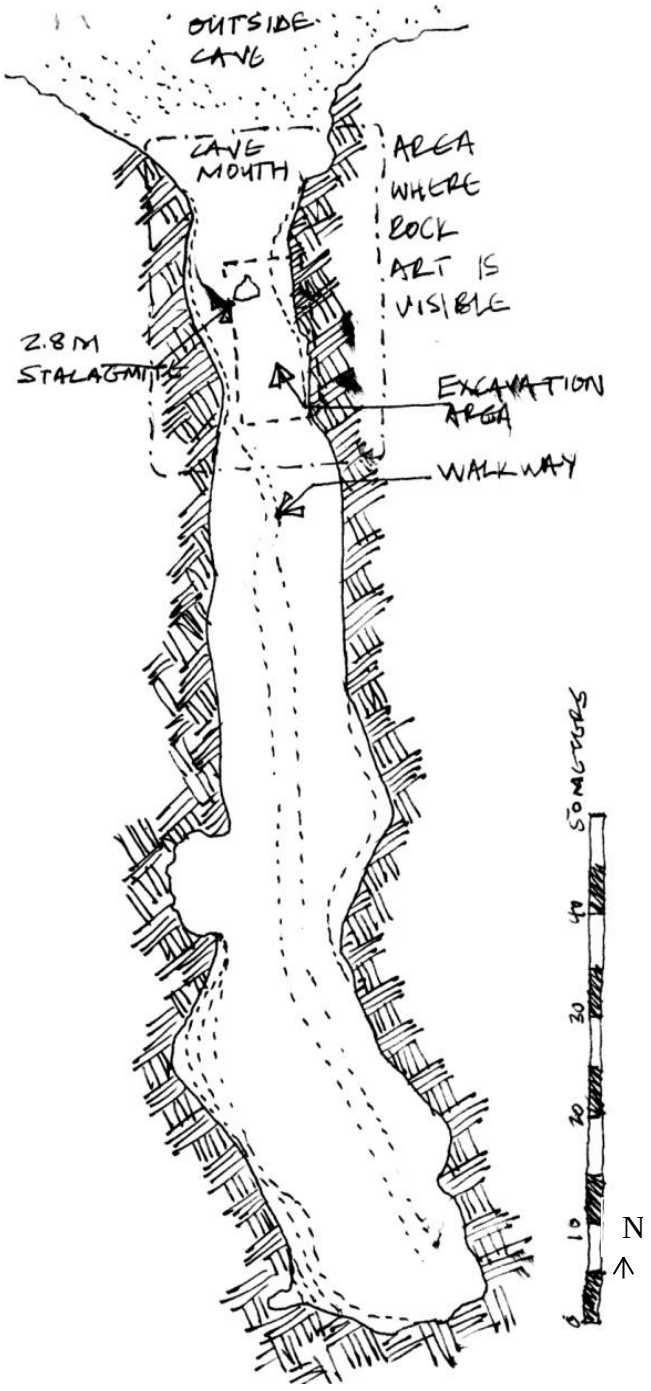


Figure 30 Plan of Wonderwerk drawn by Author (2015) from (Chazan & Horwitz, 2009)



Figure 31 Wonderwerk context Author (2014)



Figure 32 Entrance of Wonderwerk Cave Author (2014)



Figure 33 Internal view of Wonderwerk looking towards cave mouth Author (2014)

4.3.2 Wonderwerk Cave - a phenomenological encounter of the place

Vehicular access to the cave is via the R31 road connecting the towns of Kuruman and Danielskuil. When driving to the site from Kuruman, the road is oriented north-south and divides the Kuruman hills to the west and the Ghaap plateau to the east. Thus, when driving south one is continuously confronted with the vastness of the plateau and a 'wall' of hills to the west. The hills generally seem regular, similar and homogenous when one is not familiar to the landscape, and it can often be difficult to locate the turn-off to the cave if one is not mindful of the signage. However the "boundedness" of the hills on the one side and the openness of the plateau on the other could easily be sensed as general visual ordering/bounding structures of the area. Furthermore the hills stretch out to go beyond the line of sight in the north-south axis; therefore there is a continuous visual connectivity across the area. In a different way the Ghaap plateau draws one's vision to a seemingly endless and vast expansive space, in which the horizon seems to disappear into an infinity. Therefore the ground plane of the plateau in sensed as an enormous body/being.

This gives presence to a massive sky, which, in a variety of occasions, will have large cloud formations and in other occasions when it is raining, columns of rain will connect the space between the cloud and the large ground mass. Due to the expansiveness of the space, particularly eastwards towards the plateau, it is common to see an entire rain cloud formation with columns and randomly patterned lightning strikes embedded within the sometimes large cloud formation. On arrival one enters the site through a vehicular access road leading to a



Figure 34 Approach to cave entrance moving in a Southerly Direction. The cave entrance is obscured by vegetation and a mound that seems to have been recently formed. Author (2014)

gate house. At this point one is facing the hills directly but the cave itself is not visible at that point (see Fig. 30) . Today the site has modern buildings, the guard house, a display and information centre and a few lodgings. The cave entrance is slightly elevated and obscured by trees from the perspective of one entering from the main gate (see Fig.31). As one enters the site the cave mouth becomes apparent on the left when facing a Westerly direction. On occasions, when the researcher visited the site, he would park his vehicle about 50m away from the entrance of the cave. Once one has alighted from the car one approaches the cave mouth by walking up a small incline.

After the incline one reaches a flat open level of ground which is in essence at the same level as the ground level of the cave. At that moment one is confronted by the large cave entrance and the terraced forms of the hill within which the cave is contained. The cave entrance is not totally visible and is slightly obscured by trees. The cave gate is also a prominent visual element as one approaches the entrance of the cave. From a distance, not much of the inside can be discerned. In fact during summer visits, the cave mouth barely lets any light in but rather exhibited a deep dark shadow with only a shallow recess of light close to the entrance. On most of the occasions the researcher visited the cave alone, at which times the property keeper would spend only a short time orientating the researcher but otherwise the researcher would spend most of his time in isolation with the site ambience being usually very quiet.

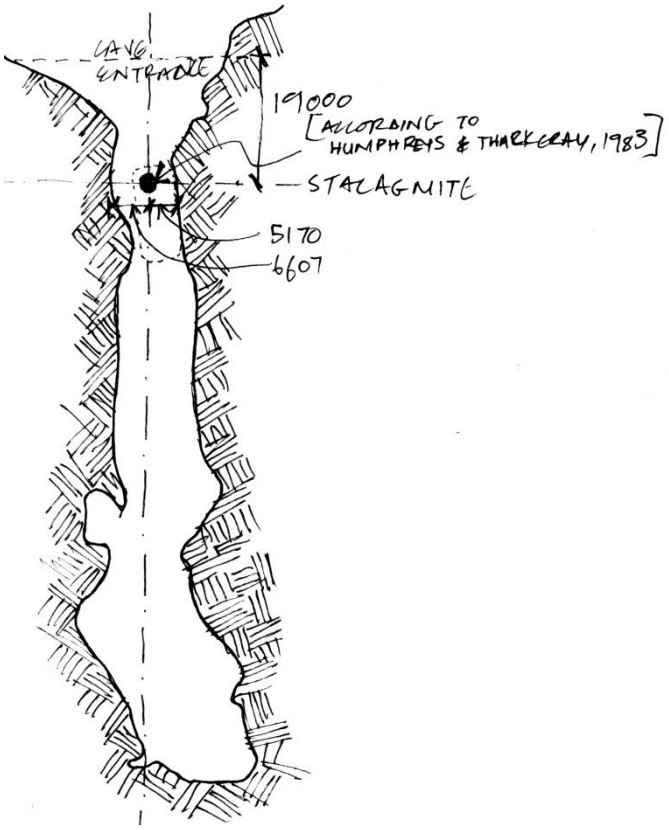


Figure 35 Plan showing position of stalagmite Author (2014)

As one approaches the cave, one encounters the large stalagmite just off centre of the cave mouth. Other forms are apparent, including ‘enigmatic’ and ‘organic’ [the researcher is mindful of the ‘subjective’ nature of these observations however these are included as a way of representing a high resolution of data and not exclude such aspects of his experiences]

natural forms of the cave including cavities. However the most prominent feature of the entrance area by far is the large stalagmite that seems to be at the centre of the cave and almost dividing the cave or creating an axis.

In actual fact the stalagmite is about 5170mm from the east wall and about 6607mm from the east wall when measured from an approximated central axis point (see Fig.34). Based on 3D scans done by Heinz Ruther in (Chazan & Horwitz, 2009), the stalagmite is about 3200mm high from the current modern floor. It is however a prominent feature as one enters the cave.

Arguably the second most prominent feature of the cave is the rock art on the east face of the cave. The rock art is painted in earth tones, brownish-reddish tones, and from first glance one notices animal depictions. On closer inspection one begins to notice other images, particularly vertical stripes which dominate the panel. The rock art is about eye level, which for the researcher was about 1.70m, meaning that the panel was between 1.5m to 2.2m from the ground making a kind of horizontal band towards the back of the cave. On closer inspection of the art one notices that some of the vertical stripes are sometimes drawn over/through the animals following each other in a horizontal pattern.

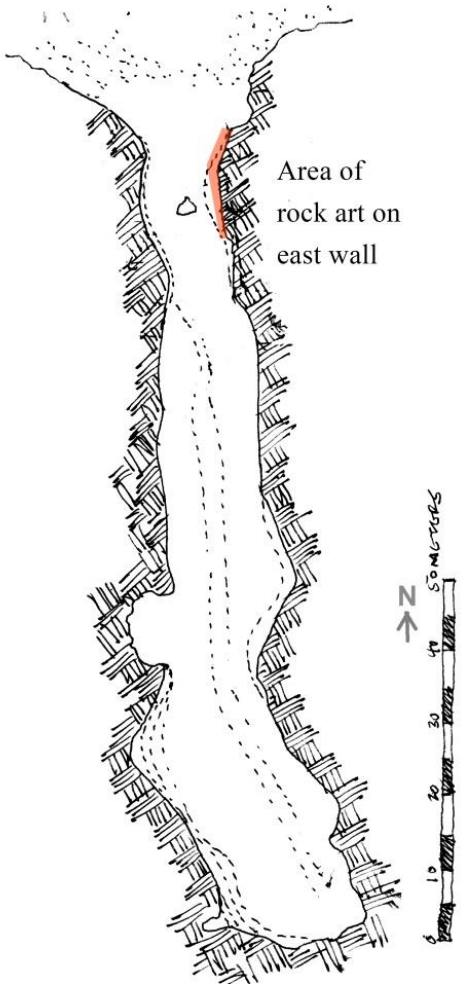


Figure 36 Plan showing area of rock art Author (2014)

The panel moves into the cave and about 5m past the stalagmite towards the inside of the cave. The opposite panel on the west wall also has rock paintings, but unlike the opposite panel, the art on the west wall is not as easily visible as one enters the cave [perhaps due to damage and graffiti]. The west wall rock art also has animal depictions and geometric shapes. Geometrics are even more common towards the back of the panel. Most if not all of the rock art at Wonderwerk is towards the front of the cave. As one moves deeper into the cave, about 5 to 6m past the stalagmite, no rock art is evident.



Figure 37 Rock art on east wall of Wonderwerk Cave, depictions of animals particularly in white with reddish coloured vertical stripes. Author (2014)



Figure 38 Enigmatic forms towards the back of the west wall panel Author (2014)

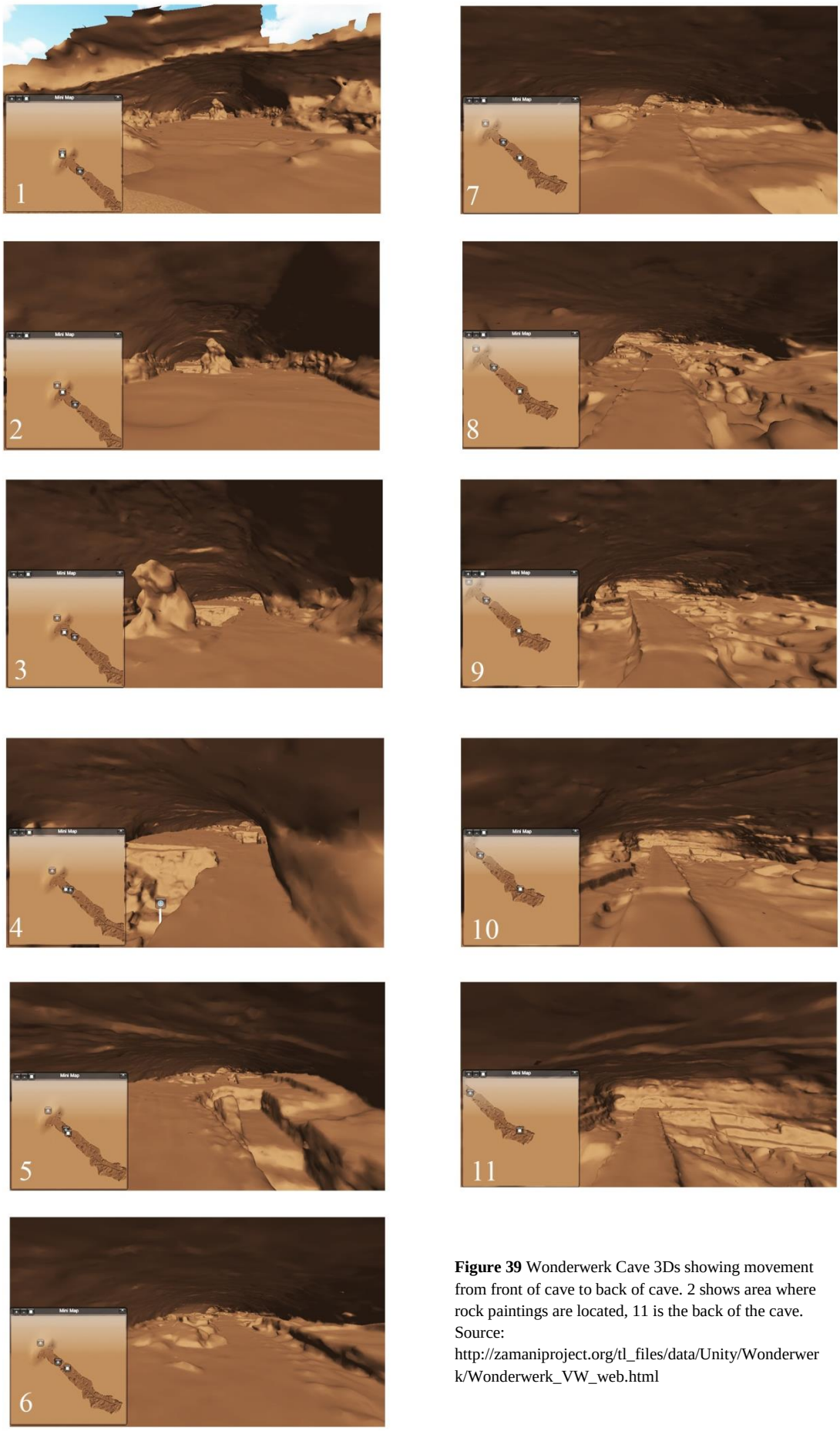


Figure 39 Wonderwerk Cave 3Ds showing movement from front of cave to back of cave. 2 shows area where rock paintings are located, 11 is the back of the cave. Source: http://zamaniproject.org/tl_files/data/Unity/Wonderwerk/Wonderwerk_VW_web.html

As one moves deeper into the cave, the sounds from outside become increasingly muted. The further one moves back the more quiet and dark it becomes. Others who have visited the cave have mentioned the moderate and constant temperature towards the back end of the cave (where the mean annual temperature is about 18 degrees as determined by Thackeray (1984)). As one moves deeper, the ceiling of the cave gets lower and the scale of the space tightens.

At some point the cave has a slight change in its north south axis angling slightly to the east, just enough so that when one looks back one cannot see the entrance of the cave (noting of course that this is only from the view one accesses from the walkway designated by archaeological projects). At this point one is completely isolated from the outside and experiences absolute silence to such an extent that one can hear one's own breathing.



Figure 40 Intense light from mouth of cave Author (2014)

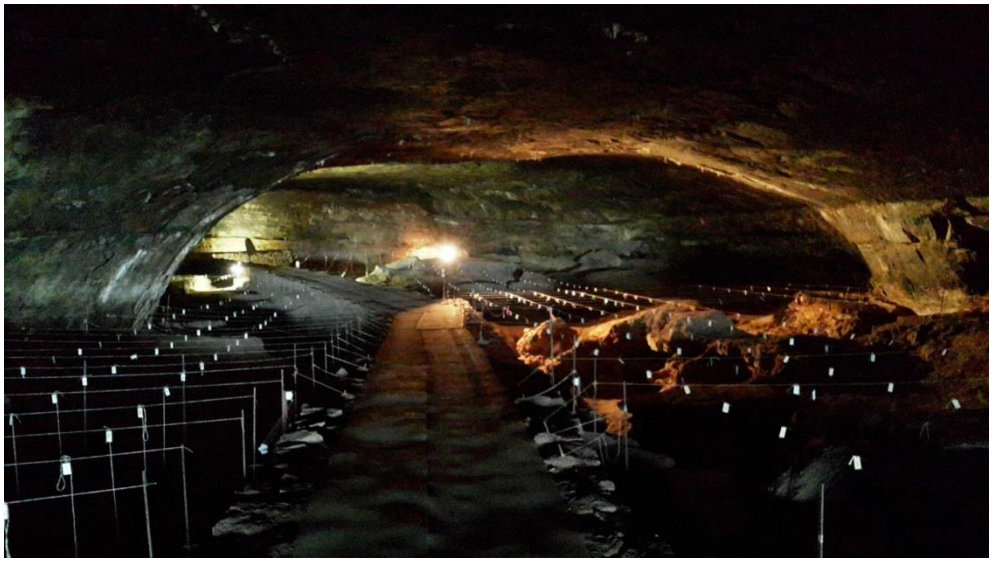


Figure 41 About half way into the cave Author (2014)

Due to the different heights of the cave ceiling, as well as the undulating form of the cave in plan, one experiences thresholds as one walks through the cave, in a way encountering the space in the form of chambers such that one could divide the space into about three zones as follows, a) the front of the cave in which the rock art appears, Excavation 1, and the stalagmite, b) the second part which would be the middle section, (c) and the last section at the back of the cave. When one looks back to the entrance from about 50m into the cave, light coming from outside is bright due to the contrasting dark inside and the bright exterior light illuminating the entrance.

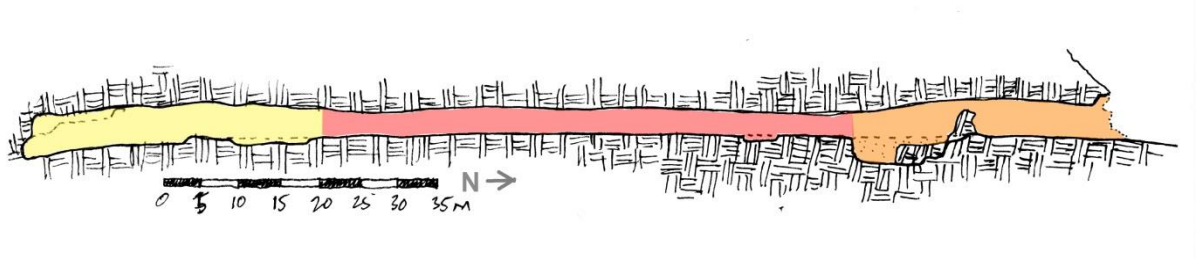


Figure 42 North south section of Wonderwerk Cave showing the 3 sections discussed above Author (2014)

4.3.3 Wonderwerk Cave paleoclimate and palaeoenvironments

The following section focuses on palaeoclimatic data from Wonderwerk Cave. These data are drawn from different secondary sources in which a variety of methodologies were used to infer environmental change during the Holocene. None of the data was the researcher's own primary.

4.3.3.2 Palaeoenvironments inferred from the petrography, stable isotope geochemistry, and pollen of the Wonderwerk Cave stalagmite

In a publication by (Brook, et al., 2010), analysis of data taken from the large stalagmite towards the entrance of Wonderwerk Cave demonstrated palaeoclimatic change during the Holocene period in the Wonderwerk area. The data were obtained from petrography, stable isotope geochemistry, and pollen from the stalagmite at the cave.

According to (Brook, et al., 2010), the data suggest that the climate was wetter at about 33,000BP, as well as between 23,000BP and 17,000BP, and 4,000BP to present. Furthermore the time between 17,000BP to 13000BP experienced a drier season, and possibly between 33,000BP and 23,000BP, as well as from 13,000BP to 40,00BP based on a depositional hiatus evident from the data (Brook, et al., 2010, p. 882).

4.3.3.1 Palaeoenvironments inferred from micro fauna abundance

Using fluctuations in relative abundance of rodents and insectivores represented at the cave, Thackeray (1987) could infer palaeoenvironmental change during the Holocene. The species that were analysed in the study are still evident today in specific environments in South Africa. These different species of micro-fauna (rodents) thrive in different environments, some preferring drier climates, others being able to tolerate very cold climates. Thackeray (1987) explains, "*Saccostomus campestris hirita* have the highest loadings on F1 and occur in relatively warm, subtropical areas…By contrast, *Otomys saundersae* to more southerly (cooler) regions of Southern Africa." (Thackeray, 1987, p. 292). Evidence of variability and abundance of these fauna in excavation layers at cave (and other sites) was indicative of changing climates over time.

Arbitrary sample number	Site	Layer	SSF1	SSF2	SSF3	Temperature estimated from SSF1 (°C)	Date, B.P. (years before present)	Laboratory number for dated samples
	Wonderwerk							
6		2	80	92	52	18.80		
7		3a	83	93	64	18.87	1890±50	Pta-2542
8		3b	85	87	50	18.95	2910±60	Pta-2543
9		4a	85	90	57	18.95	4240±60	Pta-2541
10		4aLH	84	84	44	18.90		
11		4b	90	83	23	19.15	5180±70	Pta-2544
12		4c	94	79	19	19.30	7430±60	Pta-2798
13		4d	92	65	3	19.20	10 200±90	Pta-2786

Figure 43 Wonderwerk paleoclimates showing temperature and precipitation (SSF3) **(Thackeray, 1987, p. 295)**

Based on the findings, Thackeray (1987) has inferred that paleoclimates in the area underwent fluctuations from warmer drier climates (in the early Holocene) to cooler wetter climates. More specifically, data show that temperatures around the cave area changed from 'warmer' to 'cooler' (in the late Holocene), and varied from 19.2^{o}C about 10000 years BP to about 18.8^{o}C from about 1,890 years BP onwards (Figure 40-41).

Furthermore, findings from Thackeray(1987) show a change in precipitation as shown in Figure 40 under column heading SSF3 which shows a precipitation index on a scale of 0 to 100, 0 being very low precipitation and 100 being high levels of precipitation. The data show a change in the precipitation index from 3 about 10,000 years BP to 57 about 4,200 years BP and going down again to 52 towards the present time.

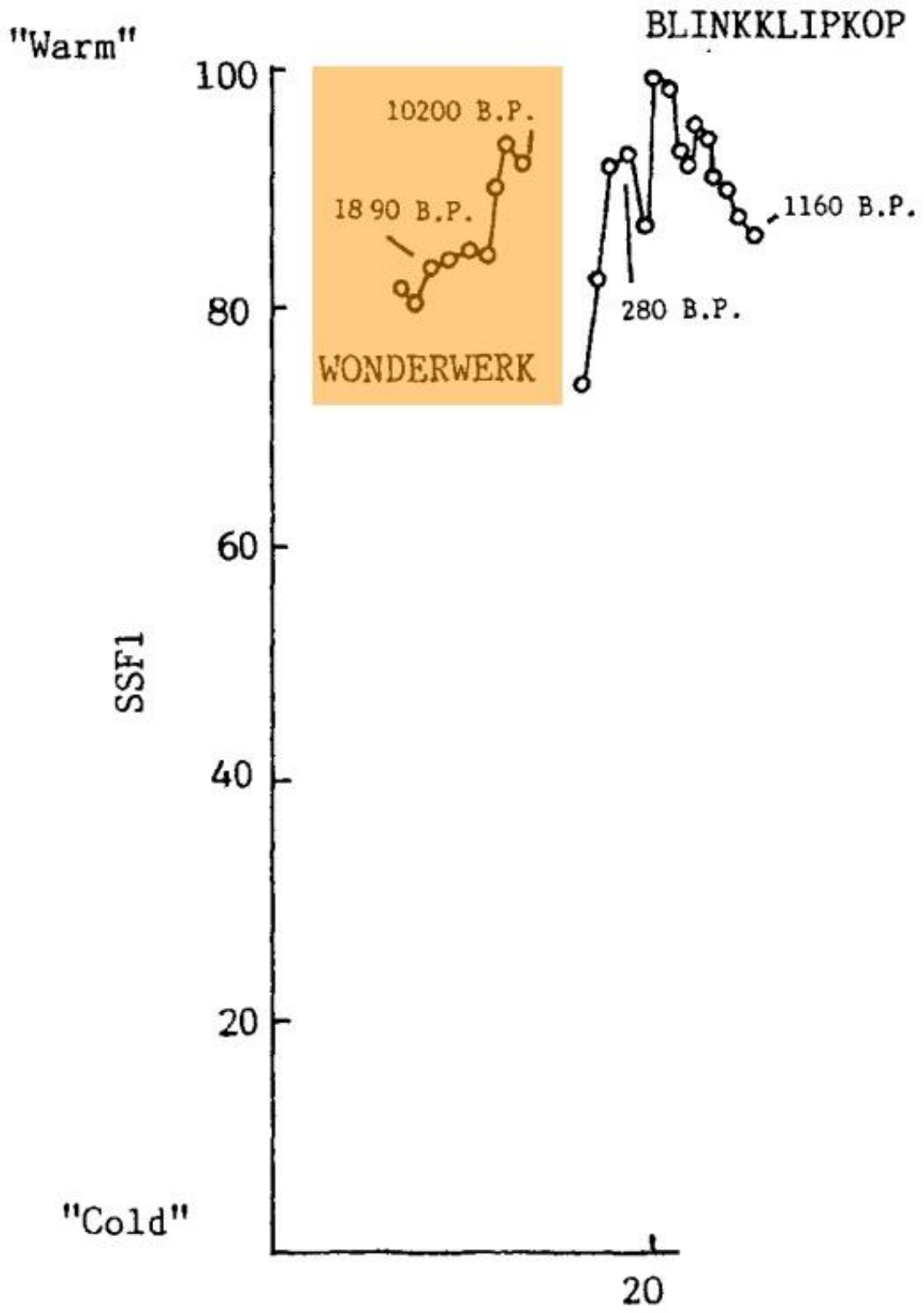


Figure 44 Wonderwerk Cave temperature change **(Thackeray, 1987, p. 301)**

4.3.3.3 Previous palaeoenvironmental studies – Wonderwerk palaeoenvironments inferred from small mammal and pollen evidence

Additional findings from excavations at the cave corroborate Holocene climate variability (Vogel, 1984, pp. 329-338) (Humphreys & Thackeray, 1983, p. 94). Similar to Thackeray (1987), Avery (1981) conducted a study of microfaunal remains from stratum 4d (representing between 9000 and 10000 BP) of the Thackeray and Beaumont excavations. The study was aimed at analysing changes in the relative abundance of microfaunal species which reflected climate variability in the cave area during the Holocene (Humphreys & Thackeray, 1983, p. 94).

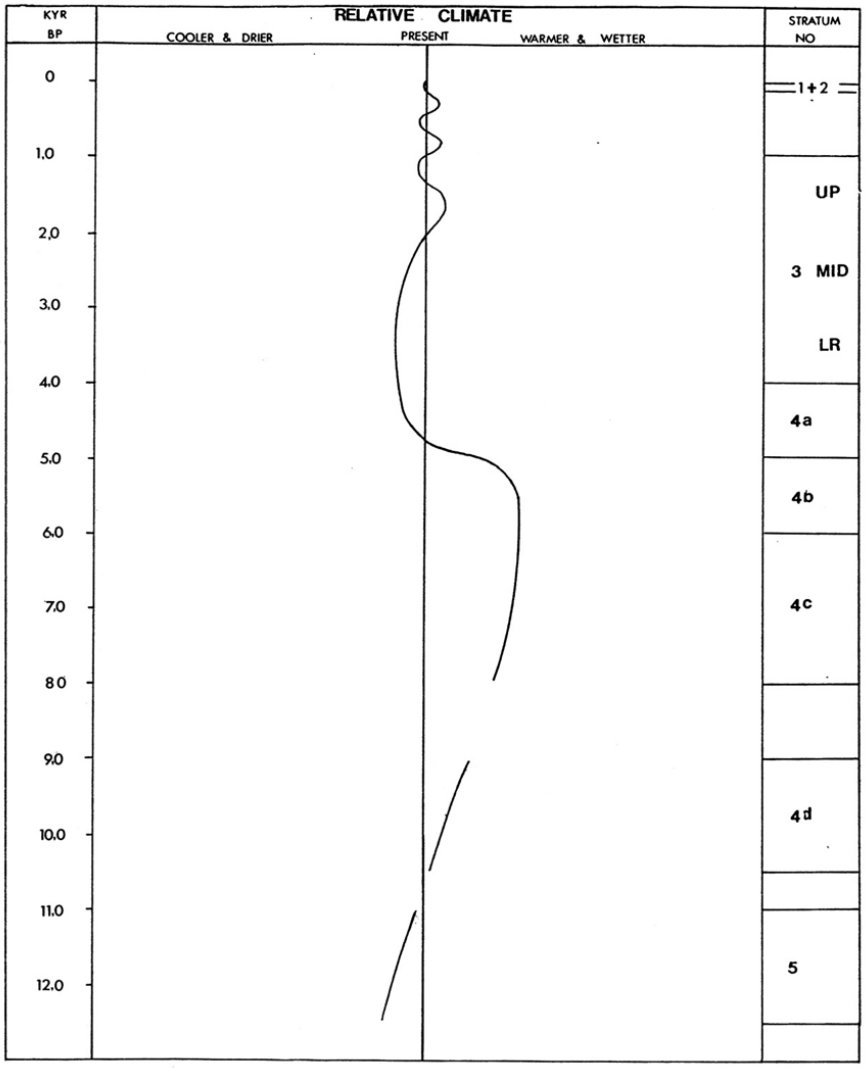


Figure 45 Wonderwerk Cave paleoclimate (Beaumont & Morris, 1990)

Avery's study suggests that Wonderwerk paleoclimates saw a dry period between 10,000 and 9,000 BP with open scrub and a trees or bushes in the cave area. The period between, 9,000 and 6,000 years BP is considered to have been slightly less dry while the period between 6,000 to 5,000 years BP saw expansions in vegetation (Humphreys & Thackeray, 1983, p. 95). According to Avery (1981), conditions after 5,000 years BP became drier with short grass and scrubs (Humphreys & Thackeray, 1983, p. 95).

From a separate study in which pollen from the cave was analysed by Van Zinderen Bakker (1982), similar results were found except that data drawn from microfaunal remains showed that the late Holocene was wetter during 4,000BP whereas the pollen data showed this to have occurred around 3,000 to 10,00BP. Nonetheless these studies demonstrated similar palaeoclimatic patterns around the cave during the Holocene (Figure 42).

4.3.4 Wonderwerk archaeology

4.3.4.1 Introduction

Archaeological data were sourced from secondary sources in academic publications. The following section focuses on archaeological findings from the cave. Although there have been several archaeological excavation projects at the cave, the following section will primarily focus on archaeological findings from excavation conducted by A.I Thackeray and J.F Thackeray, as well as excavations by P. Beaumont.

According to Rudner (1979), the Wonderwerk Cave area was historically inhabited by Korana Bushman, as depicted in Samuel Daniel's illustration(1801) (Figure 43). Although the cultural findings at Wonderwerk have not been proven empirically to have belonged to the Bushman, it is widely agreed upon that the people that inhabited the Wonderwerk Cave area were ancestors of the Bushman (Chazan & Horwitz, 2009) (Beaumont & Morris, 1990) (Humphreys & Thackeray, 1983). This is important to mention because the basic argument of this study is primarily focused on Bushman as the indigenous community that faced and endured Holocene climate variability in the area

A large proportion of the artefacts was found towards the entrance of the cave. The majority of the data presented here are from areas 5, 6 and 7 of excavations, primarily focusing on cultural phenomena as opposed to floral and faunal remains. A large proportion of the

artefacts found in the Thackeray excavation was from a layer denoted 4aLH which correlates with the period of around 5000 years BP (Figure 44, 45).

Very little has been said about the rock art in the cave apart from a short description by Rudner & Rudner (1968); “The paintings are mostly designs in white, red or yellow, similar to those in the Carnarvon area, i.e. 'grids', 'combs' and one-pole 'ladders'; but there are also some crude outlines and filled-in silhouettes of animals in white, yellow, red or black ostrich, eland, elephant, birds and other animals. There are also two groups of eland in thick white outline…” (Rudner & Rudner, 1968). Given the poor representation and interpretation of the rock art in the cave, not to mention the fact that no known dating of the rock art that occurs on the cave walls has been done as yet, the data presented here will be primarily that form of rock engravings from both the Beaumont and Thackeray excavations.

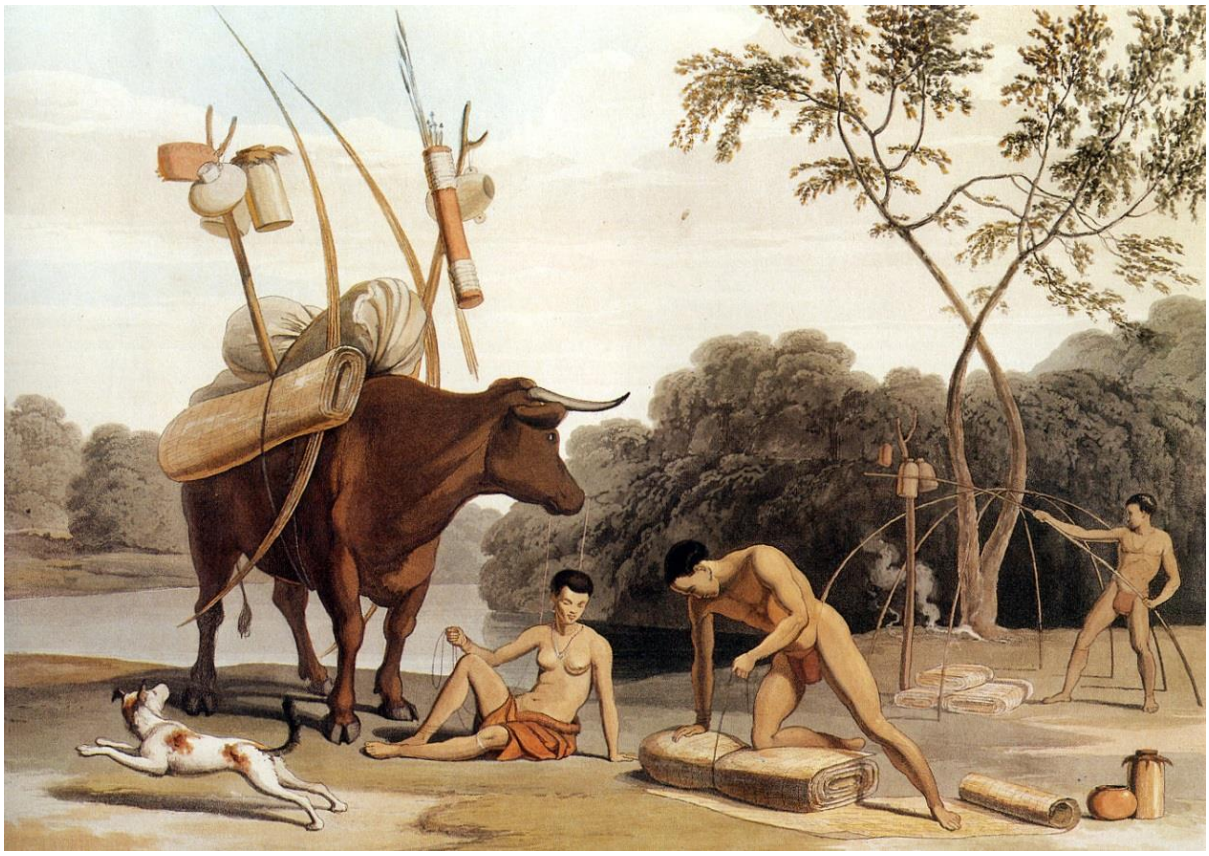


Figure 46 Korana Hottentots at the Orange River in 1801, according to painting by S. Daniel (1804-6) **(Rudner, 1979)**

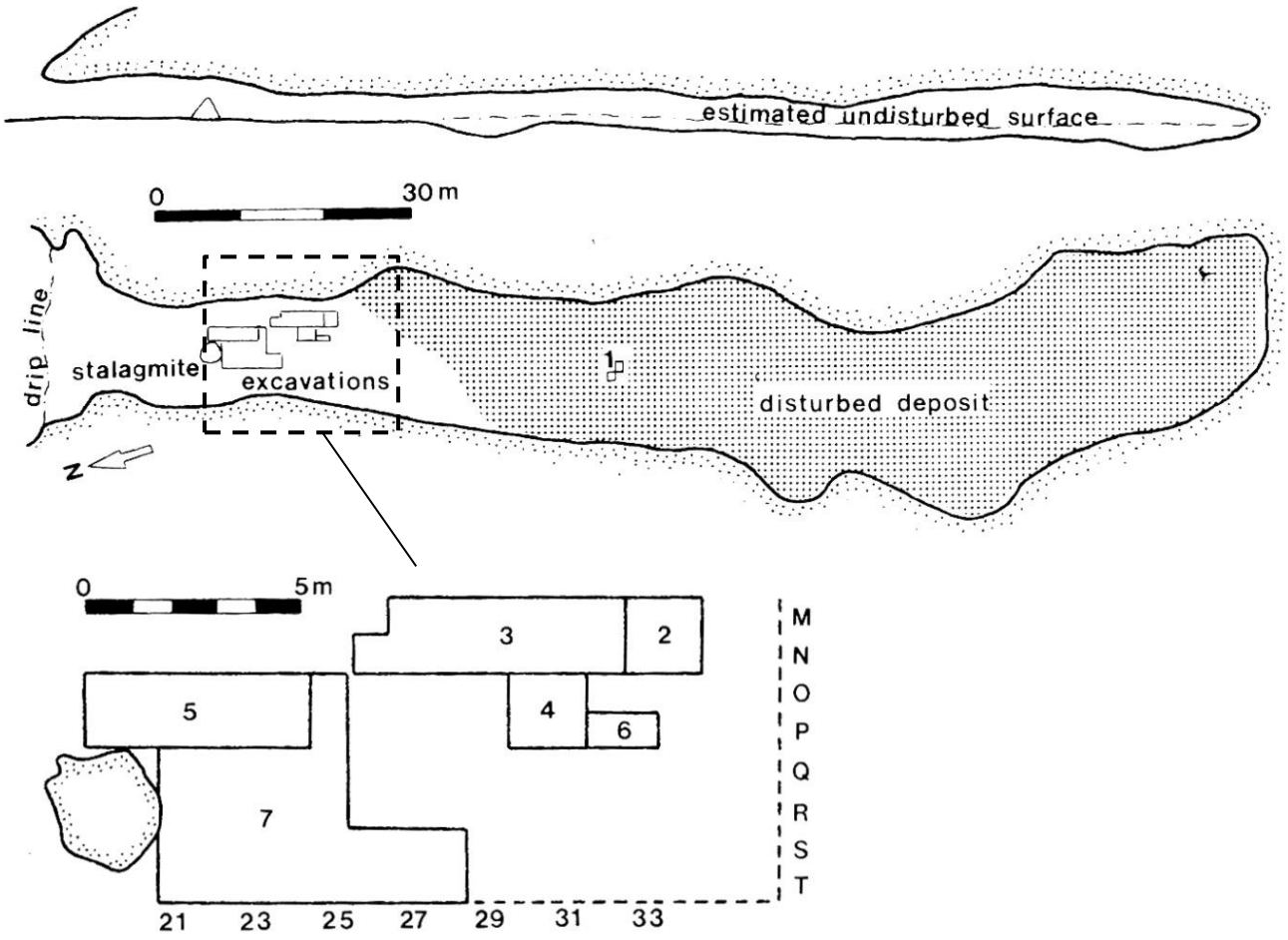


Figure 47 Wonderwerk Cave, Thackeray excavation **(Humphreys & Thackeray, 1983, p. 43)**

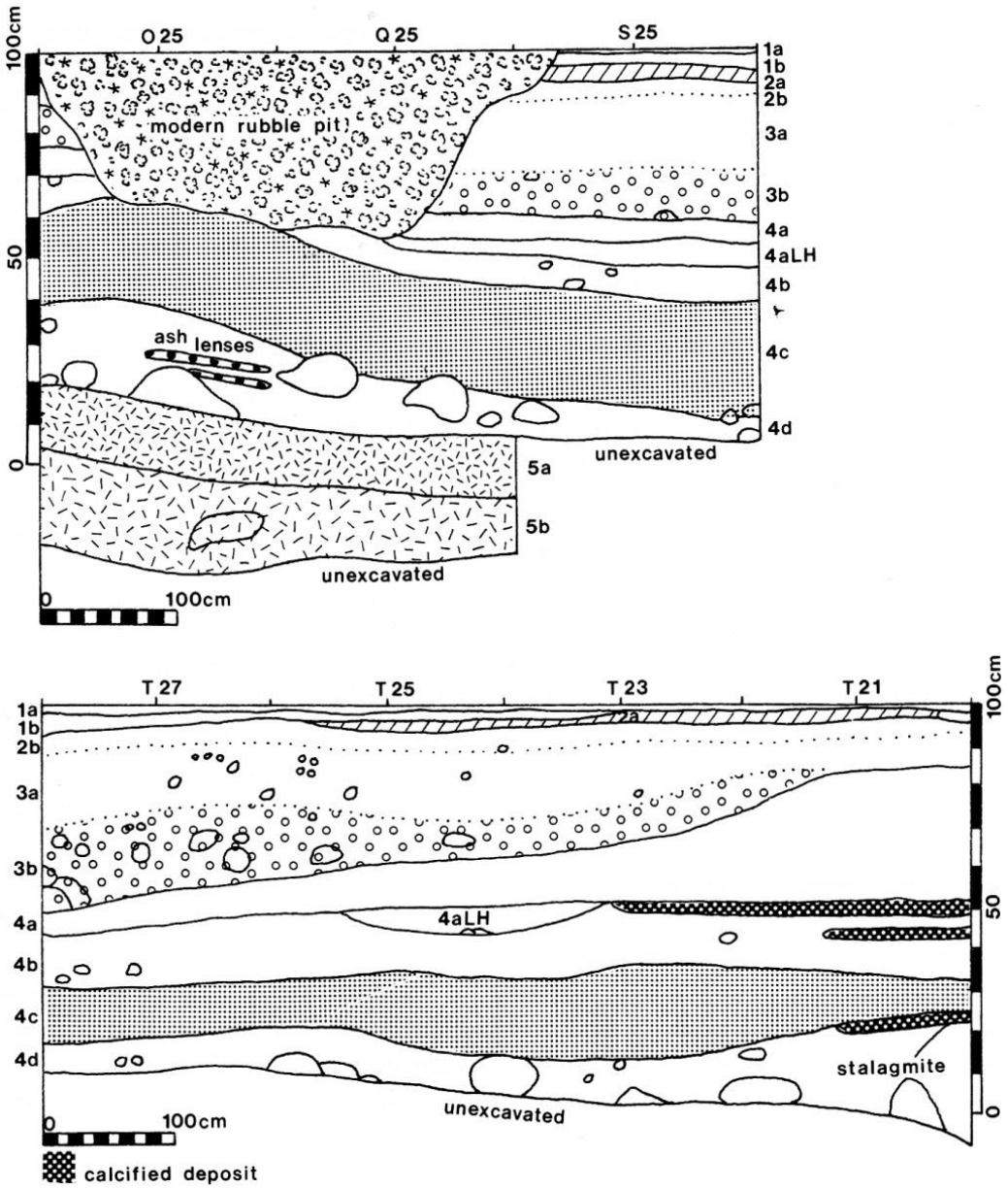


Figure 49 Wonderwerk excavation areas **(Humphreys & Thackeray, 1983, p. 39)**



Figure 48 Wonderwerk excavation layers in time line. The timeline shows Holocene timeline relative to excavation layers. Author 2014 based on **(Humphreys & Thackeray, 1983)**

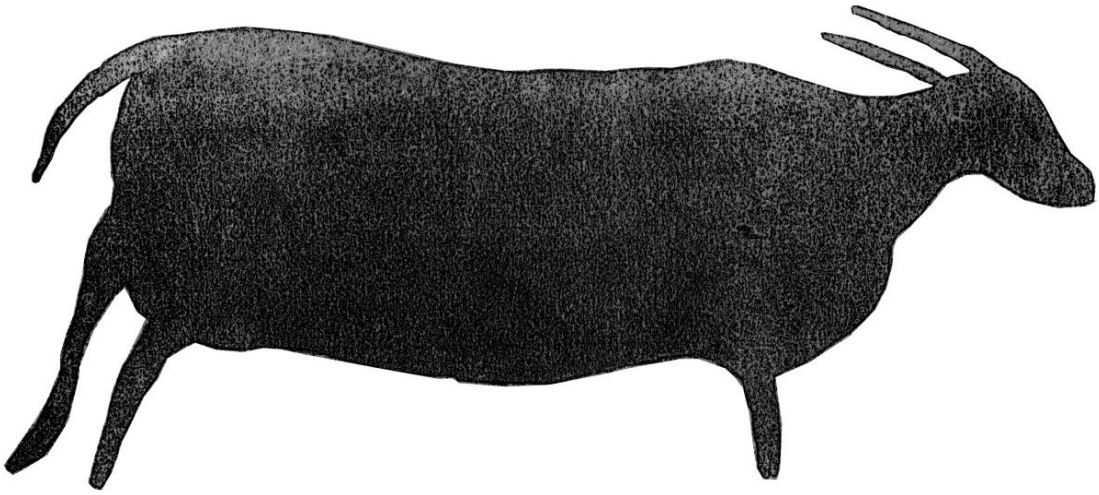


Figure 50 Wonderwerk eland painting traced by M.Wilman in 1921 **(Beaumont & Morris, 1990)**

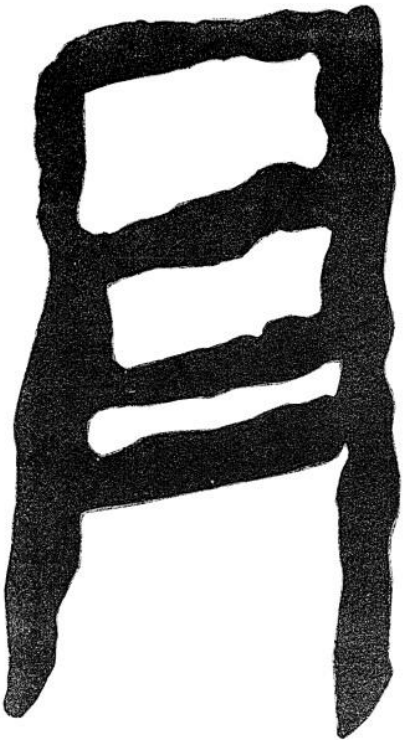


Figure 51 Wonderwerk Cave 'grid' painting traced by M.Wilman in 1921 (Beaumont & Morris, 1990)

4.3.4.2 Lithic artefacts

The largest concentration of lithic artefacts from the Thackeray excavation was found between layers 2b-4c (refer to figure 46) (Humphreys & Thackeray, 1983, p. 48). More specifically, layer 4aLH (dated about 5000 years BP) had the highest concentration of lithic artefacts (Ibid). Non-retouched (retouched referring to artefacts that were previously made and discarded then later picked up and further worked on) artefacts were of highest volume in most of the layers accounting for about 80% of the artefacts found, retouched artefacts accounted for less than 4.1% and utilized artefacts accounted for about 10-15%. A variety of raw materials was found in the Thackeray excavation including banded ironstone, chert, quartz and dolomite.

The lithic artefacts made from these raw materials include scrapers, backed blades, segments, cores and stone grinders. Besides the lithic tools, other lithic artefacts found excavated at the cave are ferruginous ore nodules (red and yellow ochre and specularite), pallet fragments, stone ring fragments and chert pendants (Appendix A).

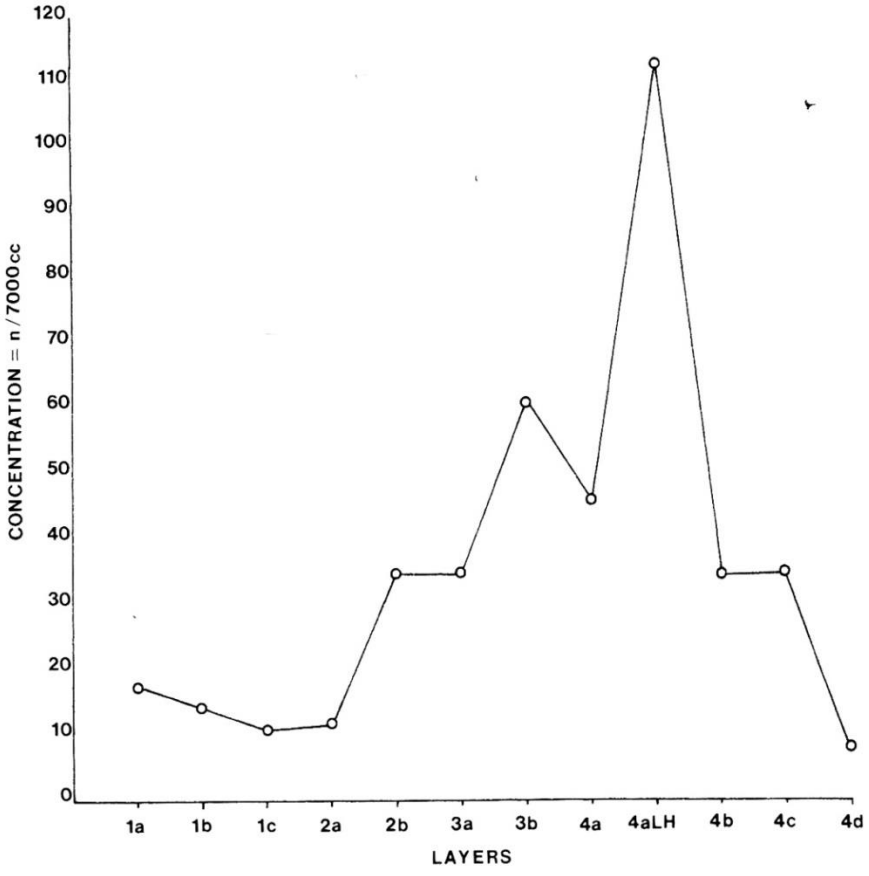


Figure 52 Lithic artefact concentration (Humphreys & Thackeray, 1983, p. 49)

In addition, other lithic artefacts of particular interest are the engraved stones Q24/4aIV (Figure 50) is a broken piece of dolomite with an enigmatic ‘ladder’ depiction designed with lines dated to about 4,880 years BP. R25/3aIII-3bI is also a broken piece of dolomite with an engraved zebra showing the animals hindquarters. This particular engraved stone was dated to about 3,990 years BP (Humphreys & Thackeray, 1983) (Thackeray, et al., 1981).

Finally what is of particular interest regarding the excavated lithic artefacts is that they represent two different industries as well as cultural complexes. The data indicate differences in artefact attributes, raw material usage as well as the kind of retouched artefacts present (Humphreys & Thackeray, 1983, p. 98). This implies that the inhabitants of the cave may have changed during the early Holocene.

4.3.4.3 Non-lithic artefacts

Bone artefacts were found across various layers of the Thackeray excavation. These include incised decorated bone fragments, notched bone and complete and almost complete bone points used as arrowheads (Figure 52) (Humphreys & Thackeray, 1983, p. 75). Ostrich eggshell were also found, both decorated and in plain form (Figure 51). In addition ostrich eggshell beads, flask mouths and pendants were also found. The ostrich eggshells were represented in most of the layers in the excavation, some of which having elaborate decorations and stained with haematite and red ochre (Humphreys & Thackeray, 1983, pp. 73-92). Other non-lithic artefacts were metal found in layer 1-3a (all modern artefacts such as nails, safety pins and bolts), pottery found in layer 1-3b, wood and fibre, glass artefacts found in layer 1-3a of which some are scrapers and flakes. The inventory of artefacts represented here is a sample of a much larger inventory of artefacts found from both the Thackeray and Beaumont excavations. For a more detailed representation of the archaeological findings at Wonderwerk Cave refer to (Humphreys & Thackeray, 1983) and (Beaumont & Morris, 1990).

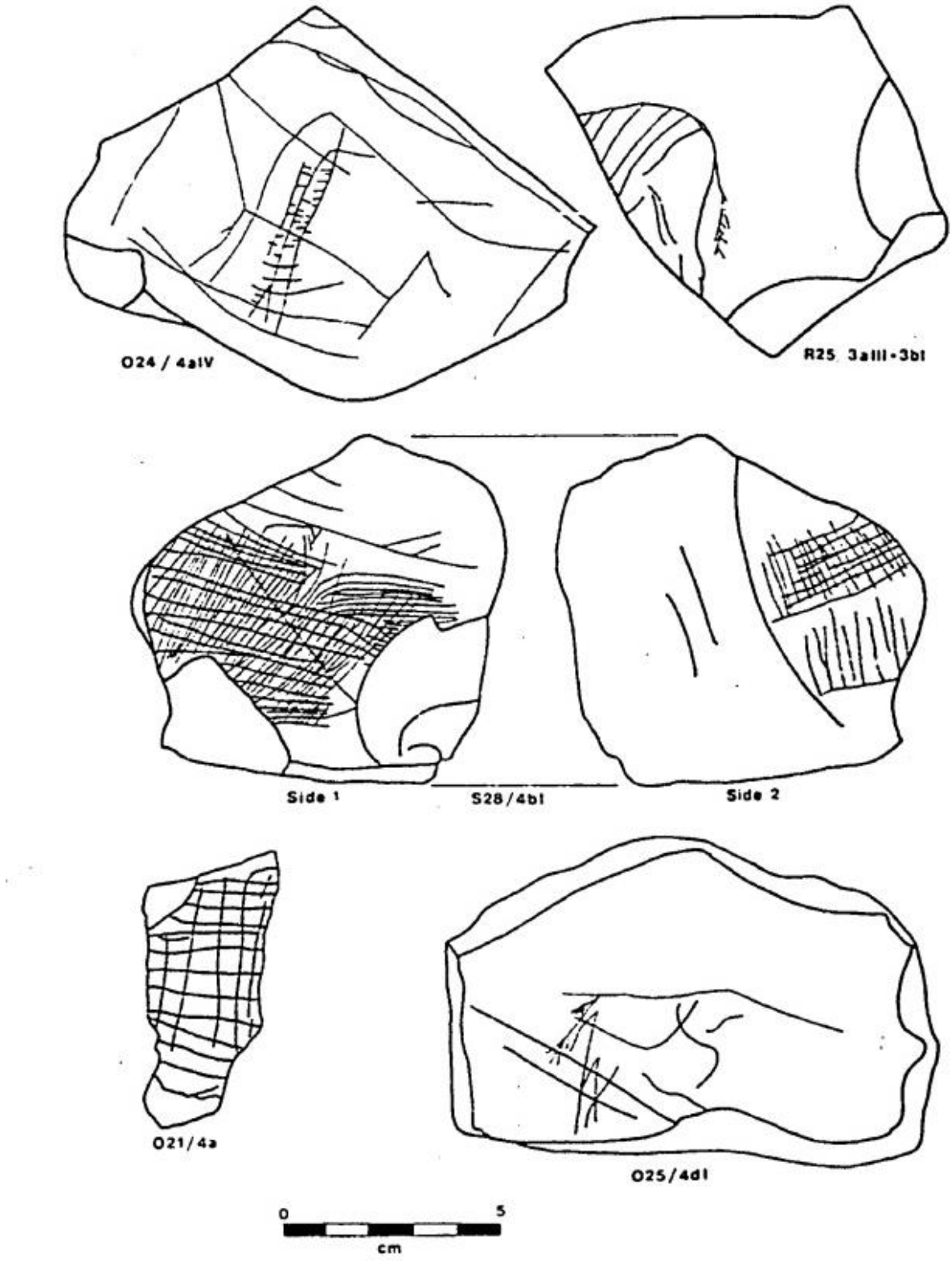


Figure 53 Engraved stones from the excavation, from dated deposits (Humphreys & Thackeray, 1983, p. 90)

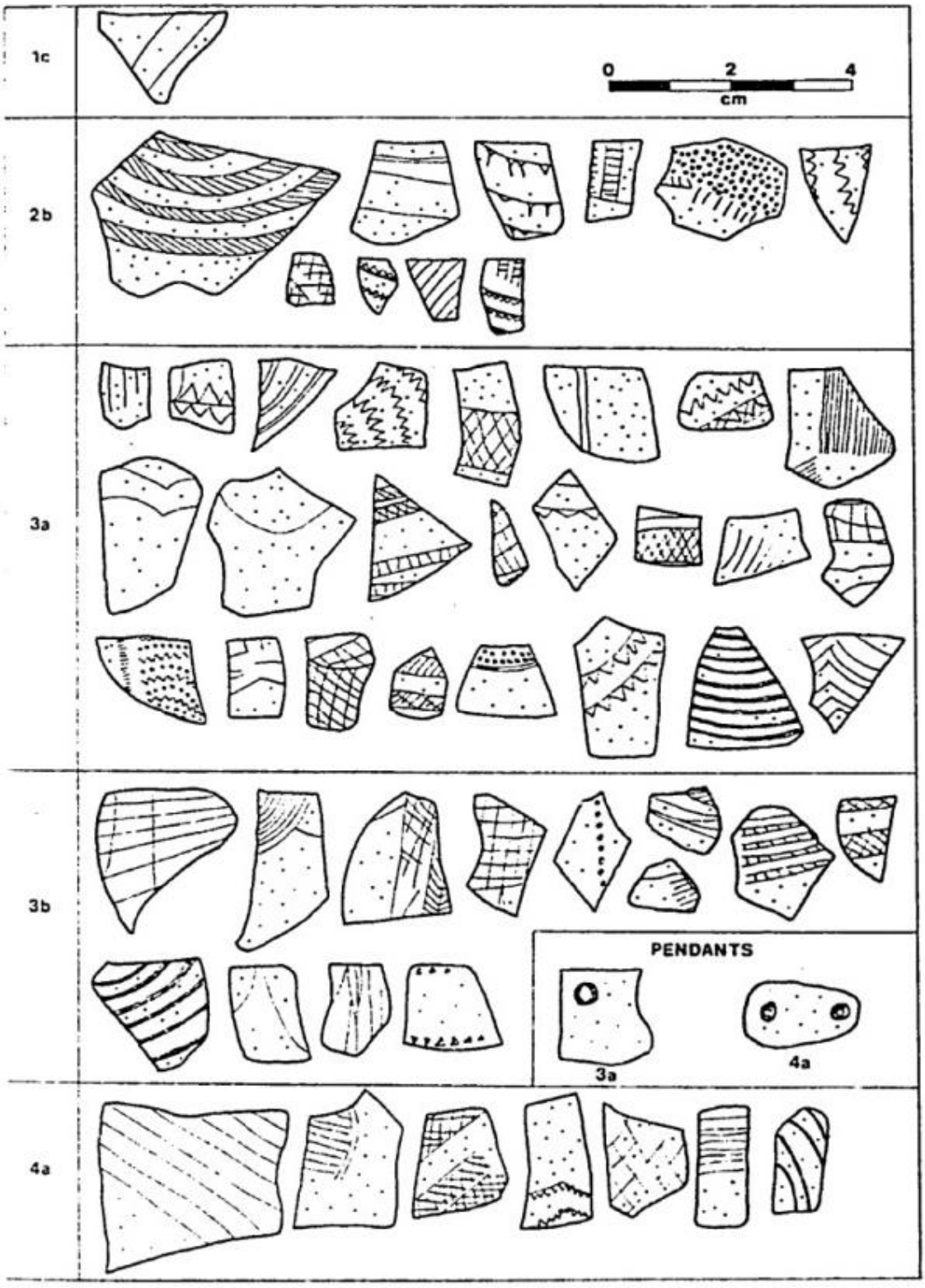


Figure 54 Decorated ostrich eggshell designs and pendants from Wonderwerk Cave (Humphreys & Thackeray, 1983, p. 89)

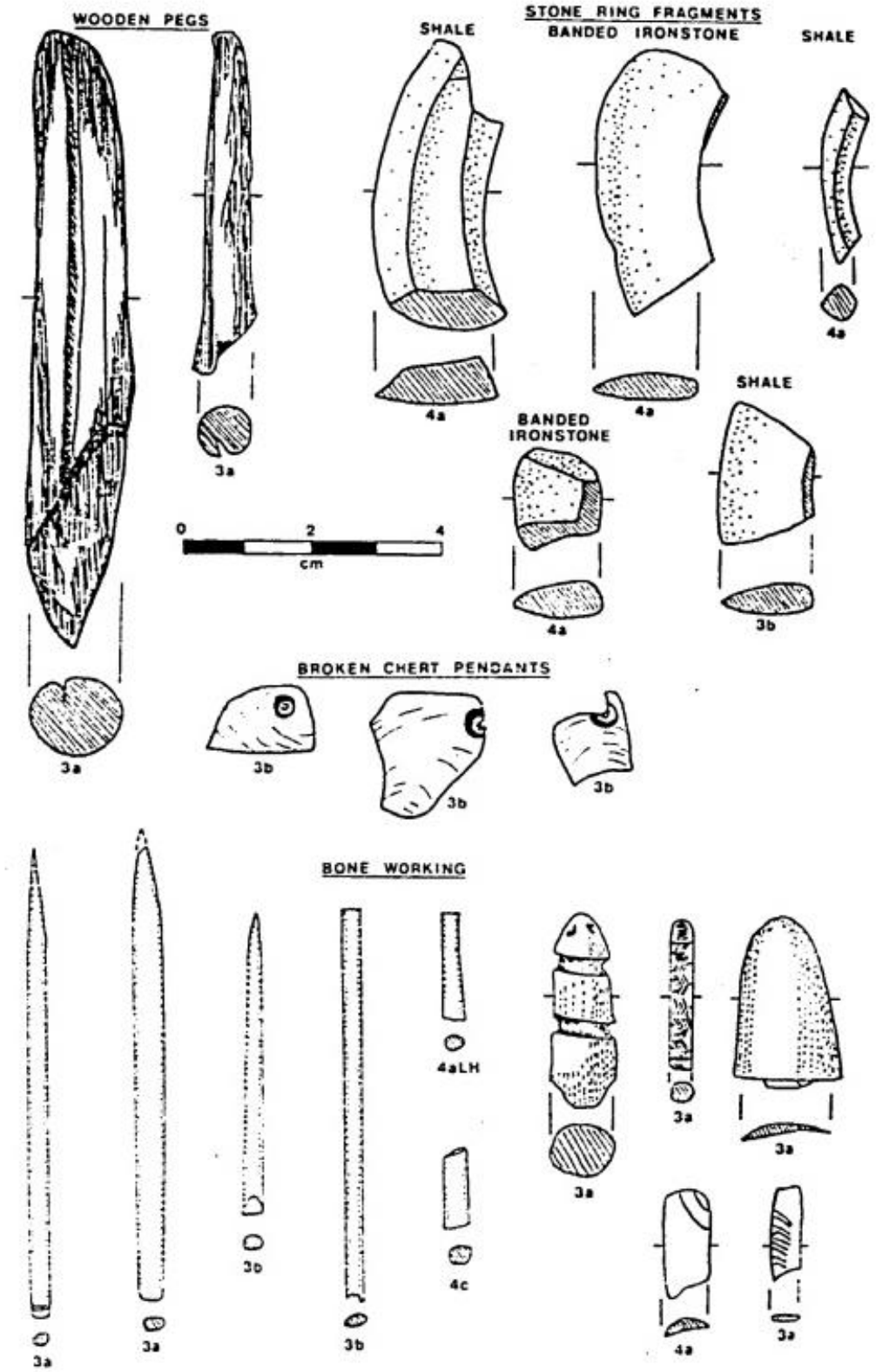


Figure 55 Miscellaneous artefacts and bone working from Wonderwerk Cave (Humphreys & Thackeray, 1983, p. 86)

4.3.5 Phenomenology of Wonderwerk artefacts

As part of the phenomenological methodology outlined in this study, artefacts from both the Beaumont and Thackeray excavations were studied directly by the researcher. This was done at the McGregor Museum in Kimberley in the Northern Cape Province of South Africa. Some of the artefacts that were directly examined were scrapers, flakes, blades, beads, decorated ostrich egg shells and grinders, all found at different excavation layers.

A sample of the artefacts from different excavation layers was observed, photographed, felt and sketched. At the time of the visit to the McGregor Museum, the researcher knew very little about the identity of the artefacts, the context in which they were made and their function. Therefore the impression that is expressed was from a first encounter with very little background knowledge of the artefacts. What is presented below is a small sample of the artefacts encountered by the researcher during one of the visits to the archive.

4.3.5.1 McGregor Museum archives

The researcher visited the McGregor museum where most, if not all, the artefacts are kept. This was facilitated by Dr David Morris who is the head of the archaeology department at the museum. The archive is located away from the public exhibition of the museum and is accessed through a controlled access at the north-west end of the building. Once in the building one passes the reception area and then proceeds to walk down a long corridor towards the archives. There are several offices along the corridor with glass facades through which one can see work being done by archaeological researchers. During this particular visit, a student was in the process of scanning human bones for a research project.

Once past the offices, one enters a large foyer type space lit with artificial lighting. The space was particularly cold and isolated from the external environment. There were shelves and large tables in the centre of the space, with a variety of artefacts displayed on the shelves and surfaces. Many of the artefacts were stone tools and other lithic artefacts. There were also a variety of maps and pictures on the walls as well as on the surfaces of the space.

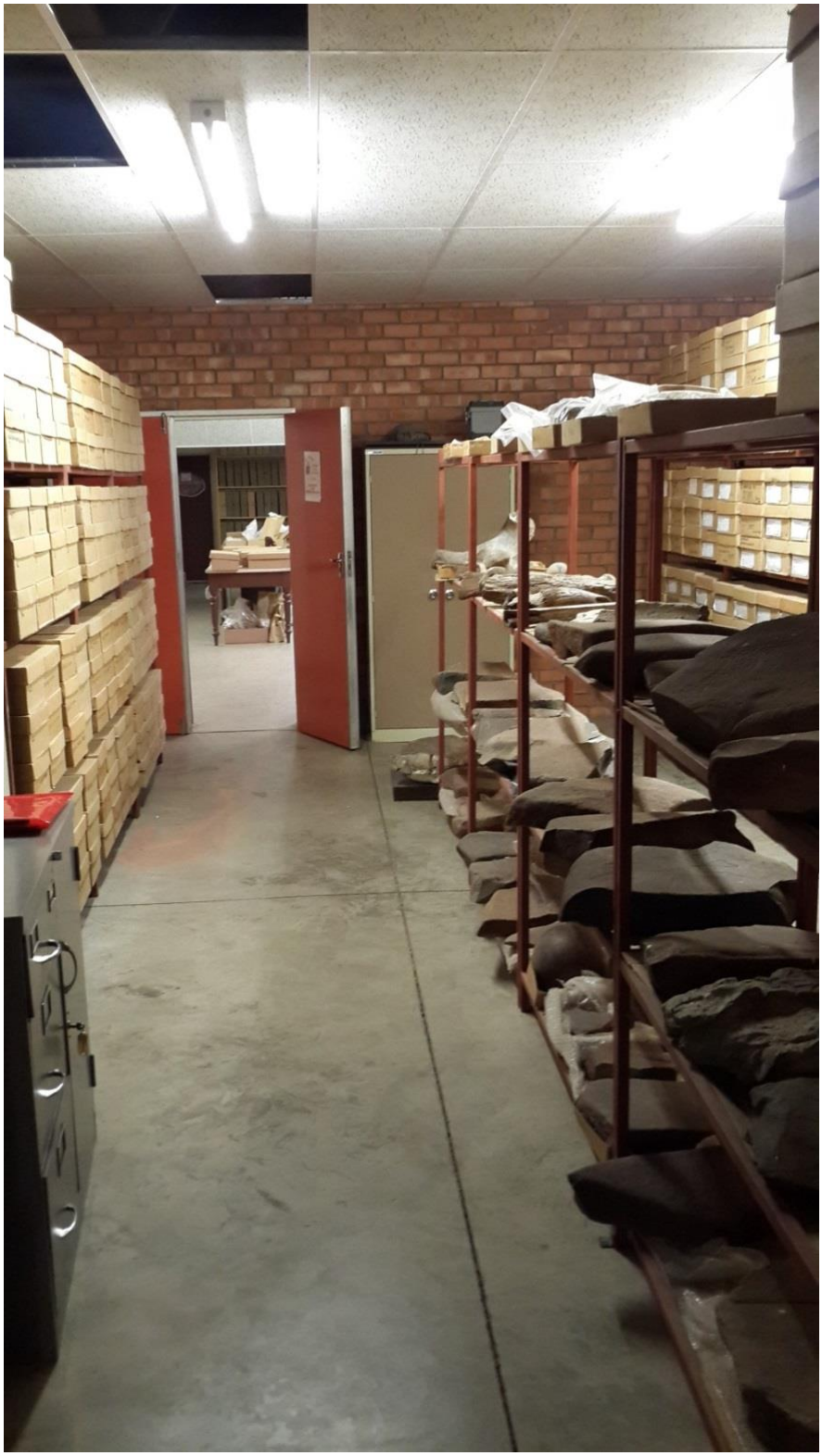


Figure 56 McGregor museum archives, the right shelve is storage for rock engravings found around the Northern Cape Province of South Africa . Author (2014)

Past the foyer space was the archive room in which a large contingency of artefacts were stored, some in boxes on shelves and others resting exposed on the shelves. A large number of these were large hand axes, rock engravings and other tools and artworks. A large number of artefacts were stored in brown cardboard boxes on the shelves with the boxes were marked with white stickers. The stickers had the name of the site were the artefacts were excavated, the horizon (excavation layer) and the debitage (the category of artefacts i.e. 'Chunks and Chips').

4.3.5.2 Bone working

The bone artefacts were stored in boxes named 6508 Wonderwerk, horizon (e.g. 3a), debitage (e.g. Formal tool, specularite, haematite, European objects, pottery, worked bones). The artefacts were stored in stapled plastic bags among other artefacts contained within the box. The worked bone artefacts were brownish in colour and small in size, able to fit between the thumb and index finger. The common shape of the artefacts was tube like, and some of the bone artefacts seemed "sculpted" and were recognisable to the researcher as cultural artefacts. One of the bone artefacts in particular was decorated with a very intricate and precise pattern made with very thin incisions (Figure 54). The artefact did not in any way resemble a bone and if it was not for the labelling, the researcher would have no way of knowing what the artefact was crafted from.



Figure 57 Bone workings from the Thackeray excavation. Author (2014)

4.3.5.3 Grindstones

Similar to the bone artefacts, the grindstones were also stored in a cardboard box, in this case labelled 6508 Wonderwerk, horizon (e.g. 4aLH 4d), debitage (e.g. Grinders). Most of the grindstones were not in plastic bags except for one which also had a smaller stone in the bag presumably the grinding stone. The grinders were smooth rocks, heavy when lifted, particularly one larger grinder (Appendix B). Due to preservation requirements, it was not possible for the researcher to use the grinders, as part of the phenomenological methodology; however it was possible to hold the artefacts which fit comfortably in the hand, particularly the small grinding stone that accompanied one of the grindstones. The grindstones had a curvilinear face on one side and a more flattened face on the other; it was thus possible to infer the manner in which the object was orientated in relation to its placement on a flat surface.

4.3.5.4 Decorated ostrich eggshell

The decorated ostrich eggshells were also labelled 6508 Wonderwerk, horizon (e.g.3a), debitage (e.g. Formal tool, specularite, haematite, European objects, pottery, worked bones). The eggshells were also in a stapled plastic bag; in one particular case many eggshell fragments were stored in one bag (Appendix B) The eggshells were marked with a number on the inside face, and in some cases thin incisions patterns were visible on the outer shell. Some of the eggshells were decorated with thin parallel lines and dots. It was not possible to feel the eggshells because of the need to protect the artefacts from damage.

4.3.5.4 Chunks and Chips

A large inventory of artefacts in the archives was that of the lithic artefacts. Similar to the decorated ostrich eggshells, these artefacts were in large quantities in the plastic bags. The artefacts did not clearly demonstrate cultural features, at least not as clearly visible as the decorated ostrich eggshells or some of worked bones. The artefacts were homogenous and did not have clear differentiating features, perhaps due to the quantity of artefacts within one plastic bag.

4.4 Findings

The following section presents a discussion on findings from the data presented above as well as publications that have presented a variety of findings regarding the data. Five main findings in relation to the data are discussed;

- Archaeological data revealing evidence of hunter-gatherer (and their predecessors) inhabiting the Wonderwerk Cave area in the past 10000 years – cultural artefacts (lithic etc.)
- Palaeoclimatic data revealing evidence of climate and environmental variability at Wonderwerk Cave in the past 10000 years
- Archaeological data revealing evidence of ritual at the Wonderwerk Cave in the past 10000 years (Wonderwerk as a ritual site)
- Findings from phenomenological data at Wonderwerk Cave
- Findings from phenomenological data of artefacts from Wonderwerk Cave

4.4.1 Evidence of hunter-gatherer (and their predecessors) inhabiting the Wonderwerk Cave area in the past 10000 years

Based on the study done by Humphreys & Thackeray (1983), it is clear that the Wonderwerk Cave has been inhabited during the past 10000 years. The archaeological data shows evidence of cultural activity in virtually all of the excavation layers at the cave. Based on radiocarbon dates, findings at the cave indicate that there is no gap in the Holocene sequence. However, this is not to say that the cave was occupied daily or yearly, but rather that the artefacts found there demonstrate a continued, albeit sporadic, occupation of the cave (Humphreys & Thackeray, 1983, p. 96).

A large component of the archaeological findings at the cave is lithic artefacts such as scrapers, blades and rock engravings, although there is also a relatively large representation of non-lithic artefacts such as ostrich eggshell pendants and bone points. According to Humphreys & Thackeray (1983), the lithic tools from the cave represent two different industries as well as cultural complexes implying a change in the inhabitants from the early Holocene towards the mid Holocene. Secondary data don't clearly demonstrate if this change was related to social or environmental changes, but the data clearly demonstrate some kind of adaptation in terms of either a complete change in cultural practices or a change in inhabitants.

Based on these findings and previous publications there is strong evidence that the people who inhabited the cave and its surrounding areas were the predecessors of contemporary or the direct ancestors of the Bushman (Rudner, 1979) (Chazan & Horwitz, 2009) (Thackeray, 2013); we can therefore assume that a 'pan San' culture and its various components would have been practiced at the cave, at least in the later parts of the Holocene represented in the later cultural complex.

4.4.2 Evidence of climate and environmental variability at Wonderwerk Cave in the past 10000 years

Palaeoenvironmental and palaeoclimatic data from the cave demonstrate clear evidence of environmental variability in the past 10000 years. Although the data does not show daily or annual variability, we can assume that the environment was never constant. The data show evidence of periods of drier climates during the early Holocene and again during the middle Holocene. In addition the abundance of fauna in the archaeological deposits demonstrates changes in the natural eco-systems where animals that thrive in a particular condition (i.e. drier) are represented indicating that a particular climate condition was prevalent at the time.

Along with the findings presented above, we begin to see that the cave's Holocene inhabitants faced climatic variability, and in spite of the constraints that may have occurred due to drier or cooler conditions, there seems to be a relatively continuous occupation of the area. Given what has been previously discussed in Chapter 2, we can assume that the hunter-gatherers that occupied the cave and its surrounding area during the Holocene practiced similar ways of coping with both seasons as well as long term Holocene climate and eco system variability (Yellen, 1977).

4.4.3 Evidence of ritual at the Wonderwerk Cave in the past 10000 years (Wonderwerk as a ritual site)

Several publications have demonstrated the link between ritual and the artefacts at Wonderwerk Cave. Chazan & Horwitz (2009) have briefly discussed the use of the cave as a ritual site, focusing on the front end of the cave as having been an area where rituals such as the trance dance could have been practiced;

> …it serves as a singular locality with clear symbolic associations for local communities, while at some point during the Later Stone Age, between 10,000 years

> ago and the Colonial period, the cave served as a home base cum ritual site. (Chazan & Horwitz, 2009, p. 523).

In describing the front of the cave Chazan & Horwitz (2009) refer to the presence of rock paintings as evidence of ritual practice linked to Later Stone Age (LSA) or Holocene inhabitants;

> The monochrome, bichrome and polychrome rock paintings that cover the walls adjacent to the cave entrance… indicate that, at some point during the LSA, the site was imbued with ritual as well as aesthetic significance for indigenous hunter-gatherers or pastoralists …The images of animals as well as geometric forms refer to experiences of the ordinary world as well as to realms of the senses, imagination and beliefs…It is likely that the rock paintings were produced during more than one period of the LSA as both naturalistic representations of animals and geometric fingerpainted figures are included"…"This demonstrates that even in the LSA the cave was a focus of intensive, long-term ritual attention." (Chazan & Horwitz, 2009, p. 526)

Furthermore, Chazan & Horwitz (2009) also discuss the back of the cave, making particular emphasis on the quality of the space, its darkness and quietude. Using archaeological findings, they then demonstrate the manner in which Early Stone Age inhabitants of the cave frequently visited the back of the cave, and possibly did so for reasons beyond utilitarianism. Chazan & Horwitz (2009) Conclude that;

> …the manuports introduced into Excavation 6 added to, or perhaps were a manifestation of, the overall sensory experience of this location. As such we interpret the occupation of the back of Wonderwerk Cave as representing a set of intentional and repeated activities relating to sensory perception (silence, darkness, touch), that were distinctive and meaningful for the hominins who used this area of the cave. (Chazan & Horwitz, 2009, p. 534)

Although Chazan & Horwitz (2009) are not discussing the Holocene inhabitants of the Wonderwerk Cave as having visited the back of the cave due to it sensory qualities, they do imply that the back of the cave has a particular quality that impacts the senses in a way that may have had symbolic reasons for occupying it. Indeed when seen from a cultural neurophenomenological perspective as postulated by Freeman (2003) as reviewd in detail in Chapter 2, one may postulate that the sensory deprivation at the back of the cave may have been part of the contingency of ritual tools used by the Holocene inhabitants of the cave to induce liminal states and possibly dissolution.

Elsewhere, Thackeray (2013) argues that one of the rock engravings found in the Thackeray excavation presented earlier in this chapter is linked to ritual. More specifically Thackeray argues that the artefact is linked to sympathetic magic in relation to hunting. From his analysis of the stone engraving, Thackeray postulates that the animal (a zebra) depicted on the rock was symbolically wounded by deliberately breaking the stone down the middle where the animal was engraved (Thackeray, 2013, p. 2). This is part of a type of ritual where symbolically wounding or killing a representation of an animal is related to a belief that this will guarantee of success in the hunt (Figure 50).

Thackeray argues that this type of ritual could have been linked to trance, and substantiates this argument by referring to a photograph called the "buck jumper" in which a ritual participant who is wearing an animal skin is depicted to be jumping to mimic the animal's behaviour and also depicts symbolic wounds on the side of the animal's skin. The photograph is reported to have been taken in the Wonderwerk area at a place called Logageng (literally meaning cave) (Thackeray, 2013, p. 2). Thackeray associates the "buck jumping" ritual to death:

> "Lichtenstein's evidence and the photograph of the 'buckjumper'"…"can be used together with a valuable 19th century account of a rock painting of therianthropes at the Melikane shelter in Lesotho"…"to suggest that hunting rituals associated with sympathetic hunting magic were conceptually related to trance during which individuals were believed to 'die at the same time as the antelope', in the belief that hunters could thereby access control over game" …"'Death' was a metaphor for trance" (Thackeray, 2013, p. 2)



Figure 59 The "Buckjumper"; Left is sketch based on the photograph, note the three stripes depicting symbolic wounding, and on the right is the photograph of the 'buckjumper'. Source; **(Thackeray, 2005, p. 7)**

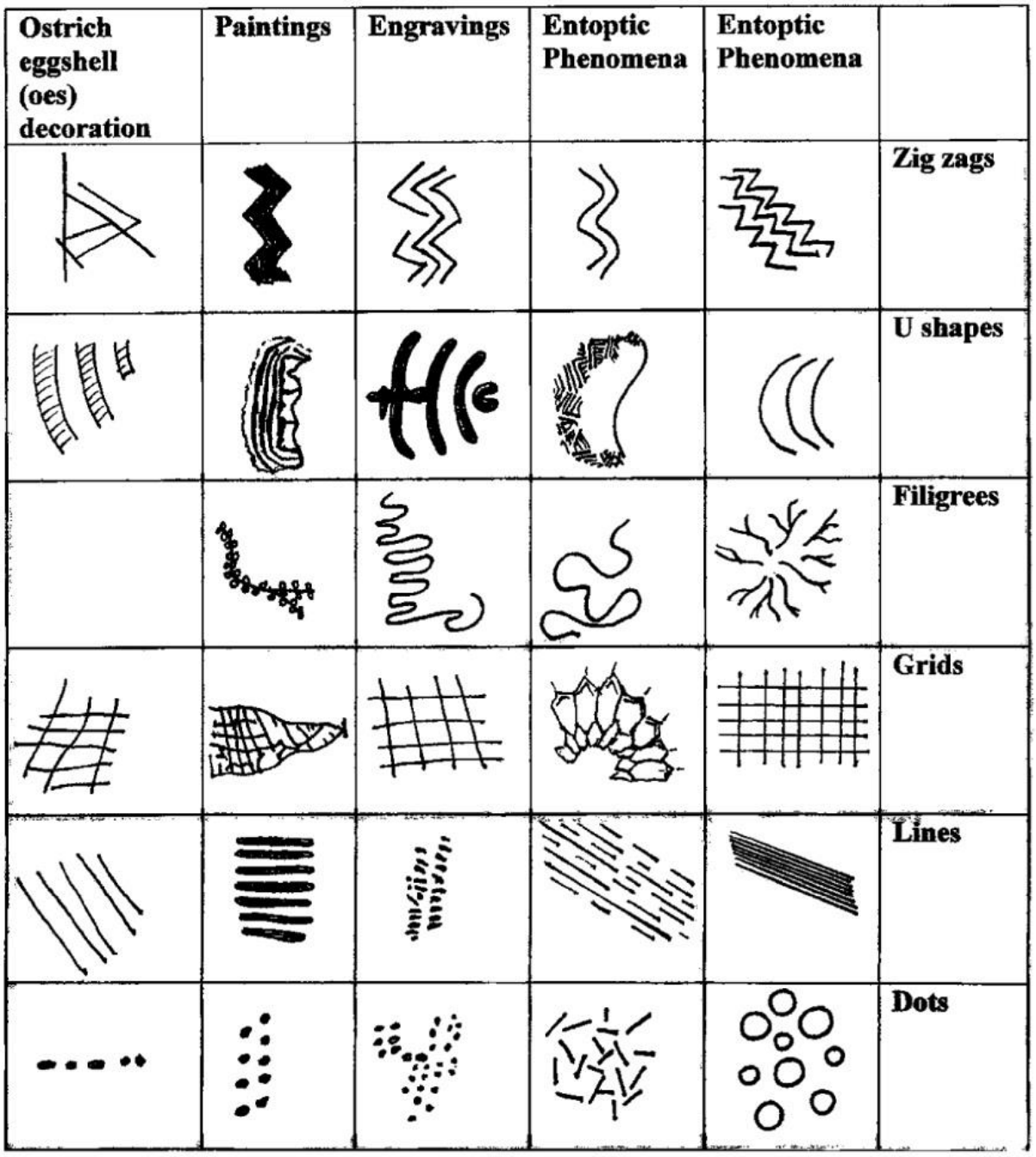


Figure 60 Lewis-Williams' and Dowsons' table of geometrics extended to include geometrics (Lange, 2006, p. 379)

Finally, trance and ritual related to the Wonderwerk artefacts have been discussed by (Lange, 2006). Based on analysis of the decorated ostrich egg shells found in the Thackeray excavation, Lange argues that the decorations on the eggshells are linked to entoptic phenomena.

As we have seen in the previous chapter, entoptics experienced are linked to changed states of consciousness during trance (Lewis-Williams, 2004). Figure 57 is a redrawing of the drawing by Lewis-Williams & Dowson (1989) with the inclusion of the geometrics found on the decorated ostrich eggshells from the Wonderwerk Cave excavation (Lange, 2006, p. 379). Lange is implying that what is depicted on the ostrich eggshells is connected to what is sensed during trance, linking in this case trance to middle Holocene inhabitants at Wonderwerk. Lange states;

"If there is truth in the ostrich eggs' serving a similar purpose to rocks or cave walls, then interpretation similarities should be evident, especially in the use of geometrics in engraving." (Lange, 2006, p. 379)

4.4.4 Findings from phenomenological data at Wonderwerk Cave

The researcher has visited the cave on a number of occasions, sometimes alone and in other occasions in groups. This required an extensive drive out of the main urban centre (Kuruman town) past the rolling Kuruman Hills and the vast Ghaap Plateau.

On occasions when the researcher visited the cave alone, he was overwhelmed by the silence, particularly at the back of the cave. Perhaps due to previous experiences and reports of a mythical snake living at the cave, a story that he had been told within his community throughout his youth, the researcher felt anxious and uncomfortable. Other reports from visitors have been similar, with one visitor in particular describing the place as frightening.

On occasions where the researcher visited the cave with the presence of other visitors, similar feelings were noted by more than one person. In spite of the presence of other people, the feelings, particularly at the deepest end of the cave, was of discomfort and sometimes fear.

The rock paintings at the entrance of the cave were virtually beyond logical understanding by the researcher. They surround the visitor on both sides and are clearly visible (perhaps not in detail) as one enters the cave; thus certainly creating a 'first impression'. For the researcher, the impression they created was a sense of mystery or perhaps even mysticism. Due to the

fact that these paintings are the first thing one confronts when entering the cave as opposed to being deep in the back of the cave, they create a mood that one carries as one enters the deeper end of the cave. One would certainly not have access to the rest of the cave without having to confront the rock paintings near the entrance.

Even when one looks closer at the rock paintings, they do not give any clue or insight into their intended meaning, in fact the closer one looks the more elaborately mysterious and enigmatic they seem. Some of the art is painted as layers over others, thus creating a sense of "layeredness" and indeed deepening the sense of mystery [at least for the researcher]. Furthermore, the height of the rock paintings from the ground starts from about 1.5m and one could say that they are at about eye level. This gives a human scale to the paintings and the space in general, in other words they are not painted on the ceiling of the cave or in obscure inaccessible places (noting that the floor level of the cave has been significantly altered in the past 100 years through natural forces) (Humphreys & Thackeray, 1983). This sense of scale gives one the impression that a human (or humans) had been present in the cave (although not giving any indication when, perhaps a moment before the researcher entered the space, perhaps 2000 years before present), a feeling similar to how one would feel when one wakes up in the morning to find unfamiliar foot prints in the garden, or returning from the bathroom to find that one's coffee mug had been moved from one place on the desk to another.

As one moves further into the space, one feels more disconnected from the 'outside world' (which is at some point represented by light coming in from the cave mouth), and a deep sense of isolation and separateness is felt. This is further amplified by moving through the different chambers. The cave certainly presents a sense of threshold as one moves further in; the sensation of space form changing, the scale becoming smaller and more intimate and the reduction of light and sound from outside leaves one a cumulative sensation of moving away from what is known and familiar, ordinary and taken for granted to a heightened awareness of ones presence in the space and a feeling of approaching the unknown.

This is not the first account regarding the quality of space towards the back of the cave. Chazan & Horwitz (2009) have discussed the quality of experience at the back of the cave, making emphasis on the darkness and quietude in this area:

> It is the quietest area of the cave, being sheltered from outside sound, which is muffled or extinguished by the time it reaches the back. No echo is produced here, but sound resonates. Most notably, as documented by the first excavators Malan and

> Wells (1943: 259), the quantity of natural light diminishes as one penetrates deeper into the cave. The back of the cave is a zone of darkness that is poorly illuminated by daylight from the entrance. If, as noted before, the entrance overhang projected further forward in the past, even less light would have penetrated to the back of the cave. The view from Excavation 6 towards the cave entrance is limited to a small circle of light which creates a silhouette of the entrance and the adjacent 4,5m high stalagmite. Although at the back of the cave the roof is high and the cave still wide, the general ambience in this zone is one of stillness, darkness and enclosure. (Chazan & Horwitz, 2009, p. 528)

Therefore the general experience the researcher had in all the occasions that he has visited the cave is a feeling of unease, discomfort and a sense of mysticism. Elements of the cave such as the rock paintings indicate the presence of people in the cave, making the space feel eerie. By being right at the beginning of the cave, as well as their enigmatic nature, the paintings set the tone for ones experience into the rest of the space. As one moves further into the cave and is more isolated from the outside, feelings of discomfort and a tension in the body arise, as if one's body wants them to turn back, similar to being on the edge of a diving board looking down to a swimming pool 3 meters down.

4.4.5 Findings from phenomenological data of artefacts from Wonderwerk Cave

Due to the need to protect study and store the cave artefacts, it was not always easy to access them. Furthermore the cave artefacts and many other artefacts at the museum had been removed from their original context, which in this case would be the Wonderwerk Cave excavation site near the entrance of the cave. Whereas one cannot argue that an artefact has only one context and its life ends when it is displaced from that context (Ingold, 2013), the new context of the artefact (Mc Gregor Museum), gave the artefact a particular meaning to the researcher, that it is now an object of study.

In spite of this, the artefacts did possess phenomenological information that placed them within a human context. For instance the scale of the objects and their form, particularly the grindstone, engaged the body of the researcher in a particular way. The position in which one places the grind stone on a surface (flat surface facing down) seems to act on the best position of interaction between the body and the object. When first encountering the grindstone one

explores it, eventually holding it in the most comfortable position. One can only hold the artefact up for a certain amount of time therefore it is then placed on a surface. Instinctively the object ‘asks to be placed’ on the flat stone surface as its reciprocal.

The scale of the artefacts was generally a size that fits into the hand, like the beads, in a way expressing human dexterity and the limitations of scale in the processes of making. The artefact was small, but it was big enough to be held between the thumb and the index finger. This is similar in the case of the bone artefacts, which were presumably been worked by human hands, but at the scale of the finger and the palm. None of the artefacts were made from material that could otherwise not allow for handling (thorny or prickly surfaces), and together with their form and scale, lent themselves to being handled. Indeed these artefacts must have been recognisable to archaeologists who had previous training to identify them, but even to the untrained mind, the form, scale and materiality of the artefacts equally present themselves in suggestive interaction with human hand, as if they beseech a human – curl of palm or finger, in order to be fully figured out.

However the most important phenomenological data for the researcher in relation to the artefacts was that they were indeed human artefact, made by people similar to the researcher. This is more recognisable when interacting with the artefacts from a first person subjective encounter. The artefacts are no longer representations in a book, which enforces a distancing between the researcher and the artefact, and often represents the artefacts in a kind of abstract orthogonal view, but they are rather felt in real time and real space. The visit to the museum, which is a real building in an existing context, and the subsequent exposure to the artefacts give a deeper contact with the humanness of the maker of the artefact and thus a deeper sense of empathy is invoked.

This ultimately provoked the researcher to infer a human life and in particular an existential quality towards the inhabitants of the cave. By invoking the researchers own embodiedness and existential orientation (or lack thereof) as a method of sensing these qualities, the makers of the artefacts could be assumed to have had somatic states, fears, desires and joys. In spite of how obvious this might seem, it is not often possible for researchers to appreciate these factors and thus often subverting past people into objects of study.

Therefore the primary finding from the phenomenological study of the cave artefacts was the very real way they allowed the researcher to be open towards empathising with past inhabitants of the cave.

4.5 Discussion and conclusion

What is clear from the data presented above is that Wonderwerk Cave inhabitants were confronted by climate variability during the Holocene. Although the data do not necessarily show population fluctuations and clear correlation between occupation and climate/environmental change, previous studies such as (Yellen, 1977; Lee, 1972; Chalquist, 2007) safely allows us to assume that the inhabitants had to deal with changing environments and would have developed adaptive mechanisms towards coping with such variabilities.

Based on palaeoclimatic and palaeoenvironmental data, we can argue that inhabitants of the cave needed to cope with environmental variabilities over centuries or millennia, meaning that habitation of the cave, that was sustained over generations could have been frequently interrupted and inhabitants forced to abandon the place even when it had been occupied over several generations and hundreds of years.

Furthermore, inhabitants would have encountered more immediate and single generational climate variability and constraints, particularly during the earlier Holocene when the environment was drier and negatively impacted on water sources such as springs and pans. Based on Bushman territoriality as discussed in Chapter 2, we can assume that Wonderwerk Cave inhabitants knew of and applied crisis mitigation strategies for psychically facilitating relocation or separation needed in reorganisation of bands such as breaking the band into smaller numbers. Although Humphreys & Thackeray (1983) argue that water is abundant in the area, based on palaeoclimatic data this was not always the case, particularly in the early Holocene (Brook, et al., 2010; Thackeray, 1987; Van Zinderen Bakker, 1982).

What is interesting in the archaeological findings is that sometime during the early Holocene a significant cultural change occurred as is reflected in the kind of artefacts that where found representing the early Holocene and those representing the later Holocene. Although Humphreys & Thackeray (1983) does not give a clear indication of what caused this change, it is interesting to note that this was the period when the environment was drier and therefore perhaps indicating a re- occupation of the cave after it had been abandoned for some time (possibly for several years or hundreds of years).

The archaeological evidence of the cave also indicate that the inhabitants (at least those from the later Holocene who were most been hunter-gatherers and possibly the predecessors to the modern Bushman reported to have been living in the area) performed rituals and possibly

engaged with the cave as a sacred site. Caves around the world have been used as ritual sites or portals to different realms (Hume, 2007) (Moyes, 2012). For a number of reasons, people have preferred caves as sites of ritual and thus rendering the cave as the architectural ancestor of the temple or cathedral (Hume, 2007, p. 7). Caves were places where culturally relevant meaning and identity evolved, as well as places where people could connect to 'other worlds' (Moyes, 2012, p. 1). According to Moyes (2012), the deep dark recesses of caves were never used nor ever suitable for habitation; instead these areas were more likely to have been used for ritual purposes (Moyes, 2012, p. 6). Here Moyes quotes Brian Hayden;

> Rockshelters were far preferred for habitation areas since they were less damp and had much better lighting… they also acted to concentrate the warmth of the winter sun if they were south facing…[**I**]n the few instances when true caves were used for living, camps or structures were always made near the mouth of the cave, where there was both light and shelter…[T]he deep recesses of the caves were used only for sporadic ritual purposes. (Hayden, 2003, p. 100) in (Moyes, 2012, p. 6)

It is thus no surprise that evidence of ritual should emerge from the archaeological excavations of Wonderwerk Cave. Most of the artefacts of the cave were located at the front of the cave, which would indicate that more habitation occurred at the front of the cave instead of the dark deeper areas. Indeed this has been seconded by Chazan & Horwitz (2009) who also argued that the front of the cave may have been the area that was inhabited;

> The current entrance is large and provides an unobstructed panoramic view of the surrounding area. Hence it is not surprising that the most intense ESA and LSA hominin occupation occurred in this part of the cave. Sound travels freely from outside the cave into this well lit space. These features, as well as the low and gently angled scree slope that connects the interior of the cave to the landscape outside, recall a rock shelter more than a deep cave environment. (Chazan & Horwitz, 2009, p. 525)

The front of the cave would have therefore been the one most likely to be inhabited by Holocene inhabitants as compared to the back of the cave. In addition Chazan & Horwitz (2009) argues the back of the cave may have been used for its aesthetic characteristics by early Stone Age inhabitants. Although archaeology is yet to demonstrate the use of the back of the cave as a ritual space by Later Stone Age inhabitants, based on arguments posed by

(Hume, 2007; Moyes, 2012), we can assume that the Later Stone Age inhabitants could have also used this part of the cave for ritual purposes. Nevertheless given the large plausibility of ritual practice at the front of the cave as discussed by Chazan & Horwitz (2009), and the link to ritual and artefacts discussed by Thackeray (2013) and Lange (2006), it is clear that the cave was indeed a ritual site.

The rituals discussed in relation to the cave, the comprehensive phenomenological investigation done by the researcher as well as the theoretical framework discussed in Chapter 2, particularly the literature relating to liminality and dissolution comprehensively lead to the finding that the cave as a phenomenological structure was likely to have been part of the tools of dissolution that accompanied other ritual practices such as trance dance, rock painting and mythology. This then allows for the conclusion that the Wonderwerk Cave archaeology demonstrates practices of dissolution and the inducing of liminality among the Holocene inhabitants of the Wonderwerk Cave during the Holocene.

Therefore we may conclude that Wonderwerk Cave inhabitants encountered long term climate variability (among other natural and socio-cultural uncertainties) and corroborating to other studies on hunter-gatherer environmental adaptation, exercised adaptive strategies to mitigate collapse. Furthermore, we see that the inhabitants of the cave and its surrounding areas exercised rituals which, based on our theoretical framework, facilitated for liminality and dissolution. The following chapter further explores the relationship between climate variability and dissolution, and how the cave inhabitants would have dealt with changing environments in order to enhance levels of adaptation and resilience.

Chapter 5: Climate variability and place attachment – Synthesis of Wonderwerk Cave archaeology and place making in contemporary Kuruman

5.1 Introduction

The previous chapter argued how people have resiliently inhabited the Wonderwerk Cave area for the past 10000 years; in this chapter the research question is addressed in a broader sense and in the subsequent chapter more detailed and specific elements of the research question will be considered towards key resolution and finding. This chapter explores the way in which past indigenous people dealt with a variable environment, and what the role place making rituals had in increasing their resilience. The chapter applies the cabling method to demonstrate the role of ritual in dealing with the existential issues arising from immediate and long term environmental variability and change. Corroborating what has previously been discussed in studies such as (Marshall & Ritchie, 1984; Dowson & Lewis-Williams, 2001; Cashdan, 1983; Lee, 1972; Yellen, 1977), the chapter introduces the notion of "place attachment" as an existential human phenomenon that the human species including Bushman hunter-gatherers, had to contend with, both as a facilitator as well as an inhibitor of resilience through adaptation.

This will be done using three main strands of the 'cable' which are, archaeological data from Wonderwerk Cave (to demonstrate long term climate variability as well as long term habitation of place by hunter-gatherers), phenomenological data from Kuruman (demonstrating how attachment to place is mediated) and the third strand being published literature discussing Bushman territoriality and place bonding mechanisms (Hall, 2000).

The key findings presented from the previous chapter, namely that the Wonderwerk Cave area did indeed encounter climate and environmental variability in the past 10000 years, that Bushman and their predecessors inhabited the area in the past 10000 years and that rituals were performed at the cave in the past 10000 years will be discussed in relation to Bushman territoriality, and the manner in which past people had the capacity for flexibility when faced with climate variability. This flexibility will then be further discussed in relation to findings from a phenomenological study of contemporary place making rituals undertaken by the researcher.

The chapter will conclude with a discussion on the potential of place attachment and the importance of a society having mechanisms to mediate lock-in traps of such attachment especially when confronted with fast paced variability.

5.2 Territoriality, flexibility and Wonderwerk Cave archaeology

5.2.1 Bushman territoriality and climate variability

There is no systematic and currently available ethnographic to draw from concerning spatial order and territoriality at Wonderwerk Cave. We are only left with artefacts and other archaeological remains that give us convincing indication of human habitation in the cave and its surroundings over the past 10000 years. However the data from Wonderwerk cave is unique in that it demonstrates three fundamental pieces of information namely that;

- The area was inhabited by people, presumably hunter gatherers for the past 10000 years
- That these people faced climate variability in those 10000 years.
- That rituals such as the trance dance were being practiced there during the past 10000 years

This demonstrates the possibility of intergenerational occupation of the cave, as well as climate conditions that may have caused inhabitants to experience periods of resource constraints. What is not evident from the Wonderwerk Cave data is empirical evidence of the use of ritual to mediate variability; however given the fact that we know that inhabitants from Wonderwerk Cave were Bushman or their predecessors, we can draw on studies done elsewhere that demonstrate the manner in which Bushman used ritual to mediate environmental variability and thus apply it to our long term environmental change and occupation at the Wonderwerk Cave. This is not done to prove that Wonderwerk Cave inhabitants used ritual as a mediator to cope with change but rather we are assuming based on other publications that this was the case, and in so doing, facilitate an opportunity to explore how rituals would have facilitated coping with variability and change.

As we have seen in Chapter 2, there are a variety of scholars who have studied the issue of territoriality amongst southern African hunter gatherers. Some of the scholars have looked at Bushman territoriality from a utilitarian view such as Cashdan (1983) and Yellen (1977) to a lesser degree (See Chapter 2). The former has been criticised by Barnard (1986) as being too deterministic stating that the simplicity in this approach failed to provide adequate explanations for the diversity in Bushman social organisation as well as the relation between environment and ideology (Barnard, 1986).

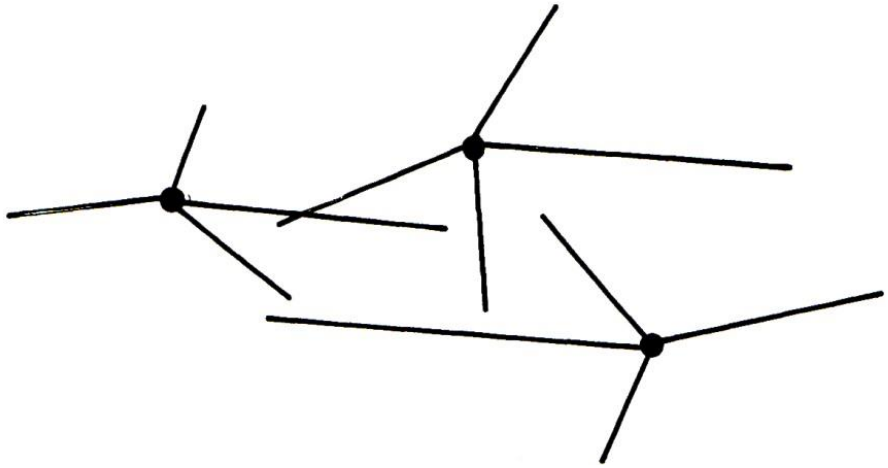


Figure 62 Map of three *n/oresi* drawn by a! Kung man. Source (Dowson & Lewis-Williams, 2001)

We have seen that other scholars such as Lee (1972) and Marshall & Ritchie (1984) demonstrate evidence of Bushman territoriality characterised to be open ended and thus allowed for members of other bands to cross such loosely defined territorial boundaries as a way of dealing with resource constraints due to environmental variability. According to Marshall & Ritchie (1984);

> A *n!ore* is primarily an idea, a collection of rights that a person carries in his mind.' They asked a !Kung man to draw a map of three *n!oresi.* [figure 61] shows his diagram which depicts three waterholes and lines where men and women went to hunt and gather. We can see from this map the open endedness of the *n!oresi* and their overlap. The lines are not paths, but the extent of the zone of exploitation. People go to hunt or collect plant foods and then return to the central locus where food is shared. ((Marshall & Ritchie, 1984, p. 83)

In a similar vein Yellen & Harpending (1972) argue;

> …the extreme fluidity and movement of !Kung population provides a very efficient mechanism for adjusting to both seasonal and yearly variation in the relative abundance of unevenly scattered resources. Thus a similar model may be hypothesized for other modern and prehistoric populations which inhabited roughly similar areas. (Yellen & Harpending, 1972, p. 252)

This is not to say that other Bushmen groups have not been known for a far less open endedness and willingness to allow others to access resources (Cashdan, 1983) (Hall, 2000) (Sealy, 2006). Given what has been discussed above, how would a non-mobile band with in group attitudes cope with climate and related resource variabilities? Cashdan (1983) attempts to answer this in the following:

> It might be asked why the !Ko should respond to scarcity by closing off ties with outsiders (a territorial response) when such ties, and the interterritorial visiting they facilitate, are themselves often used as a means of coping with scarcity. The answer to this seeming paradox lies in the distinction that must be made between scarcity on the local and scarcity on the regional level. Moving in with relatives in other areas is a good means of coping with the risk of *local* scarcity (assuming that the chances of scarcity in the different local areas within a region are more or less random), but it presupposes abundant resources in some neighboring territory and can therefore work only in a situation of local scarcity but regional abundance.… Interterritorial visiting, in other words, is essentially a distributional mechanism. When there is scarcity on the *regional* level, this mechanism will no longer work, and we can expect the territorial mechanisms of social exclusion to come into play. (Cashdan, 1983, p. 55)

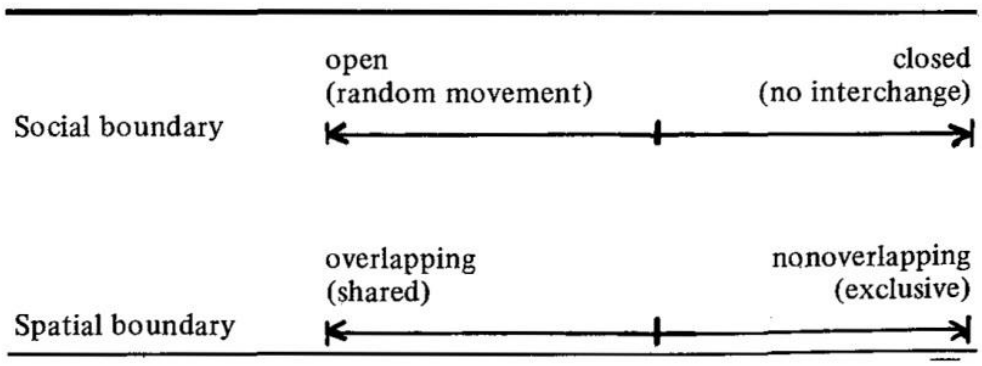


Figure 63 Degree of inclusivity and exclusivity in Bushman spatial organisation (Lee, 1972, p. 126)

Whereas Cashdan (1983) demonstrates the utilitarian significance of interterritorial flexibility practices; she is at the same time hypothesising that they are only applicable in cases where there is local scarcity coupled with regional abundance. This view seems to be ruling out the possibility of a regional scarcity with variation in local scarcity. One cannot merely assume that just because a territory has scarcity that this is the case in the entire territory. It may be that for instance a 'weak' water hole in one territory has dried up due to drought, but a less 'weak' one elsewhere remains active.

In contrast an insular group would have no access to other group resources, nor would they have the capacity to move when resource availability (or lack thereof) required them to do so. Perhaps what authors such as Hall (2000) and Cashdan (1983) are demonstrating are incidences of maladaptation as they tend towards lock-in, and not merely cultural nuance. Furthermore, alternative models by other scholars such as Lee (1972) and Yellen (1977) seem to corroborate what Guenther (1999) and others have argued regarding the egalitarian nature of Bushman societies, their attitudes towards possession/property and anti-structure.

As we have seen in Chapter 2 it is generally agreed upon that Bushman groups allowed access to each other's resources and this is often interpreted as egalitarianism. However, it is worth noting that some scholars such as Lewis-Williams (2004) do not concur on the degree of egalitarian attitudes and practices of the Bushman. Although how it is that these territories have remained so loosely bound, open ended and overlapping, we can agree that they certainly are not the kind of spatial order one would find in the contemporary era where geopolitical wars are regularly fought over tightly delineated territories.

Therefore based on the above discussion and the more detailed discussion in Chapter 2, we have some evidence on the practices by which Bushman groups engaged with resource scarcity. In relation to our case area and the Wonderwerk cave, Humphreys & Thackeray, (1983, p. 30) demonstrate the general availability of water in the form of springs and pans in the Northern Cape province and especially showing how many settlements in the area (including the study area) were formed near water sources. Some Tswana settlements are argued to have been as large as 10000 people during the early 17th century (Shillington, 2011) (Beaumont & Morris, 1990), and many of the missionaries settled near springs such as the Kuruman Eye. Humphreys & Thackeray (1983, p. 31) argue that unlike !Kung mobility patterns that relied on the availability of water, inhabitants of the Wonderwerk area would

have been more likely to have other factors such as presence of game or plant resources influence their mobility due to the general availability of water in the area.

Implicitly Humphreys & Thackeray (1983) seem to be arguing that water may not have been a critical factor in the type of spatial order and organisations at the Wonderwerk Cave area; however given the data appraised in Chapter 4 in relation to Holocene climate variability at the cave, it cannot be assumed that the springs, pans and water holes in the surrounding area may have been perpetually active. Elsewhere Humphreys & Thackeray (1983) imply this when discussing place names associated to springs that are either 'weak' or 'strong' and more reliable;

> What is particularly interesting is that in the project area (i.e. the Kuruman Hills and Ghaap Escarpment) there are only two places where the word /aus is used; in both cases the springs concerned are weak in comparison with the others in the area and so Van Vreeden suggest that the tendency was to associate them with weaker water sources to the west. All the strong reliable springs, on the other hand, were distinguished by the use of //gami. It is thus clear that the Khoisan name-givers were very conscious not only of water source itself, but also its reliability (Humphreys & Thackeray, 1983, p. 27)

Thus it is arguable that the Wonderwerk Cave inhabitants would have dealt with variability in availability of water as well as related resources such as animals and plants. Given the long term variation and the expected episodic changes in the environment, and based on Bushman environmental variability adaptation mechanisms discussed above we can arrive at a key finding , Wonderwerk Cave inhabitants would have needed to confront climate variability through three key options which are;

- Changing their band structures (group numbers in relation to availability of resources).
- Changing methods of subsistence (change their diet in relation to available plants and animals).
- Relocate either temporarily on a cyclical basis or long-term displacement without a return.

All the three options above demonstrate a change in the environment that requires a change in status quo and especially in behaviour and thus inevitable detachment from one practice or

situation to another as well as the need to be voluntarily disconnected to ones kin or even the need to abandon ancestral land and be assimilate into other bands. All these strategies would have called for ways of dealing with the existential/psychic issues that would arise from such dire interventions. From our contemporary times, we cannot help but phenomenologically connect with the suffering and trauma such experiences could have induced, similarly thus infer the need for coping interventions.

5.2.2 Bushman place making rituals – change and the need for continuity

We rarely find systematic discussions and studies exploring how past hunter-gatherers would have been affected by the need to move from a place they had occupied over long periods of time or any of the other situations that may arise from the need to cope with environmental variability and change. Furthermore we do not have many resources indicating how the rapid alteration of groups from small to large groups due to the need to balance numbers with availability of resources impacted on past people and indeed how they coped with being separated from close kin ties (see discussion in Chapter 2). The Wonderwerk Cave data show that the cave was occupied for long periods, arguably intergenerationally. If this is the case, then at some point inhabitants must have indeed developed an attachment to place, while at the same time being occasionally faced with the need to confront the kind of options appraised in the previous section.

Lee (1972) demonstrates this Bushman place attachment when he briefly discusses the emotional connection a young !Kung woman has to a n!ore (Chapter 2). This is indeed a stark contrast from the usual objective and disconnected representation of Bushman lived experience in which issues of subjective emotion, meaning and existential phenomena are seldom accounted for. Except for (Deacon, 1986; Deacon, 1997; Deacon, 1988), very little has been written about Bushman and existential space and place, and the manner in which people established bonds with places, objects and each other, and how they confronted the deep impermanence and variability of their environments. This is indeed a large oversight, perhaps due to the limitation in the nature of archaeological data that can survive over time and thus become available to contemporary excavators. But more likely it is perhaps research methods that intentionally deny subjectivity of the researcher and those being researched. It is this ‘intended disconnect’ which phenomenology and neurophenomenology approaches in particular, strive to bridge and thus facilitate for deeper insights from our archaeological and anthropological studies.

Therefore it is important to consider the effects of bonding, attachment and detachment when trying to better understand how it is that Wonderwerk Cave inhabitants dealt with climate and environmental change that may have forced them to abandon their home or be separated from close relations. Hall (2000) discusses rituals practiced by Bushmen groups when dealing with variability. He demonstrates to us that burial was a mechanism used by people in the mid Holocene to create self-identification with place. His research also demonstrates that meaning in place had to be re-conceptualised when environmental (thus resource) circumstances changed.

> Resource intensification was appropriate at a stage in the regional sequence when accommodating people, space and resources required new strategies. The shift of Welgeluk from burial ground to a camp correlates with the intensification process and indicates the growing importance of the riverine habitat. This general context provides some ideas as to why Welgeluk was re-conceptualised as a place, but it would require that the burials took on new meanings that underwrote the shelter as appropriate as a camp...An examination of the food waste sequence suggests a context within which the shelter as a place and the burials within it was reconceptualised. (Hall, 2000, p. 143)

In this example, Hall (2000) demonstrates the way in which meaning in place, and self-identification to place is something that mid-Holocene hunter-gatherers needed to negotiate. Bonding to place was established through burial rituals which were within the Bushman/San cosmological framework (bi-axial cosmological framework; Figure 61).

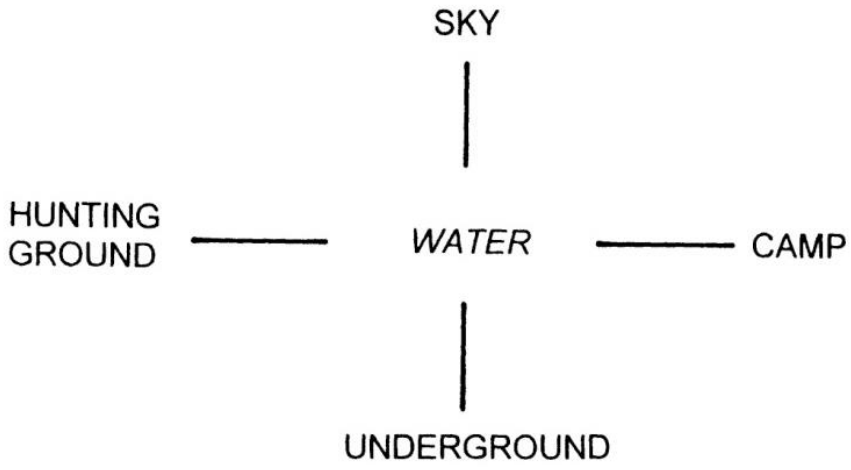


Figure 64 Bi-axial model of /Xam cosmology (Hall, 2000, p. 140)

This example demonstrates the need within this particular group of Bushman to establish a sense of continuity through forming a connection to the land and the ancestors. Indeed, as has been discussed elsewhere, these costly activities (ancestral burial rituals) would not have survived if they did not serve a fundamental role to people, and one senses the conflict between the need to be in proximity to a food resource, yet find ways to reframe existential conditions that had previously been set up in order to induce flexibility and relocate when the need arises.

Apart from this, very little else has been written about place making rituals in Bushman culture, and not much has been reported from anthropological sources in relation to the topic. As previously mentioned, Deacon (1986) has discussed the home place of the Bleek and Lloyd /Xam, in which case Deacon seems to be implying that Bushman may have been potentially attached to places and that this was mediated through rock paintings and meaning attached to other features of the landscape. However based on what has been previously discussed especially in Chapter 2, we know that people have the neuro-propensity to be attached to places, things and indeed other people. We know that the need for rootedness is neuronally provided for amongst humans, and based on a cultural neurophenomenological framework, this would indeed have applied, even more so to the Bushman in the past. However as we are currently starting to understand in our contemporary time, attachment as brought about by the instinctive need for rootedness may be maladaptive and could bring about trauma and related existential crisis. The question then arises; faced with such paradoxes, how did Bushmen mitigate place attachment and attachment to resources, solipsistic attitudes and tight boundaries as a way of harnessing resilience and adaptability, yet avoid the existential calamity that arise from groundlessness and being uprooted?

Due to the limited availability of archaeological or anthropological data, the next section looks at contemporary place making rituals in contemporary Kuruman about 40km north of the study area. Using the cabling method discussed in Chapter 3, the intention is to study place attachment and situations where people have needed to move from a place (sometimes due to a crisis), and outline some key findings that may help us better understand the kind of situation (existential, emotional and psychological) Wonderwerk inhabitants may have had to deal with. Furthermore we will try to gain a deeper understanding of contemporary place making rituals, rituals that facilitate the bonding and un-bonding to place that mitigate or at least lower the negative consequences of being uprooted or attached.

5.3 Place attachment and place making rituals in Kuruman

The following comprises of discussions as well as observations of place making rituals in different areas in and around Kuruman Town. The researcher has invested enormous time in conducting formal and informal dialogues with the community within the Kuruman area. Some of the dialogues were recorded and others happened spontaneously without having been recorded.

In the case of formal discussions, a variety of participants were asked to discuss their experience of home, moving from their home, and how they dealt with the change. Furthermore they were asked to discuss any rituals (if any) that assisted in coping with the change. Some of the discussions were pre-planned with specific people known by the researcher from around the Kuruman area. A number of participants were part of a 'forced' removal in the 1950s in which people were moved from the contemporary CBD to townships and villages outside the town. Other participants were approached at random by the researcher. They were engaged by prompting them individually with the following questions;

- Where do you live
- Where were you born
- Did you ever have to move
- How did it feel when you had to move
- Do you know how people cope with the change of moving
- Do you know of any rituals performed when people move from one place to another

In the case of observing and participating in a place making ritual, the researcher again was embedded and was both participant and observer in a particular ritual practice. Due to his familiarity, and connection with the context, the researcher could experience the ritual both cognitively as well as emotionally/empathically. The ritual was initiated by the researcher and other community members who wanted to address issues that have arisen and remained with the community since they were forcibly removed from another place in the 1950's.

Many of the participants continue to have strong bonds with their previous place/homes, but others recognise the problems that arise from being attached to place and the inability to let go. Due to the researcher's embeddedness in the context, being a member of the community, many of the participants either knew him personally, or knew his family or were indeed related to him somehow. This applied both in the pre-planned and informal ones.

5.3.1 Ethnographic data of place making

5.3.1.1 Discussion – Mrs VM

The following is a discussion with Mrs VM (Not her real name) who is related to the researcher through his mother, a cousin to his mother to be specific. The discussion was held at Mrs VM's home near Kuruman town. The discussion was an informal one; the researcher recorded the discussion on a hand held device and asked the following question, after which Mrs VM proceeded to answered through a series of narratives.

(Translated from Setswana to English)

Question: According to indigenous knowledge, what practices are performed when one moves from their place of residence to a new place?

Response: When we moved from our previous home, to Allendale, my mother during the move had made a ceremony, where they slaughtered a sheep in the kraal. The blood of the slaughtered animal would be taken and sprayed around the house [previous house]. When we got to Allendale, we slaughtered a sheep and blood was sprayed around… and on the other sheep, and this was to prevent the sheep in the new house from going back to the old place. This was done for the cows and other parts of the new home; they would use the same blood [of the slaughtered sheep], and would spray the blood around. I have heard other people say that when they move their sheep, they would have gathered dung from the old place, and when they get to the new place they take that dung, they mix it with blood and other parts of a slaughtered sheep, and they would spray that mixture in the new place. Their sheep will never disappear, they won't go back.

At my home, in the Kraal, there would be a male sheep and a female sheep, as well as male cows and female cows, all of which will be given a name. One would give the animal the name of an ancestor, to bring the ancestor there. For instance I would name the sheep 'Small' [after father], and I would call it; "Small, Small!", this is raising my father's name . Others would say "Witboy, Witboy!", calling 'Witboy'. We would call them out and they would recognise their names. When we herd them, we would not approach them from behind, when I found them in the bush I would call them "let's go, let's go", they recognised my voice. They would follow me; I wouldn't herd them from behind, I got them used to following me. Even when I was a herder at another place [ko ga Rratlel], I got the animals to get used to

eating from home; I used to take salt in a dish, I wouldn't give them salt from where I lived but would make them follow me, saying "Let's go, let's go home, let's go[areng, areng gae, areng]". I would walk in front of them and they would follow, until they began to realise that 'we don't eat from the kraal, our herder is not there'. When I do go to the kraal in the evening I take the salt and carry it with me again, they would be following me around again, until they got used to me and when I would get them from the bush I would shout, "come, come, where are you, where are you". If I don't see them I would climb the tree and find them…

Now, in regards to moving, some people would move casually, with no ceremonies, but others would go to their ruins [matlotla], they would make a fire, they had their medicines that they would use to thank the ancestors, they would have a ceremony (party, or celebration) [moletlo], and they would speak to the ancestors, naming them, they would then inform them that "I am now moving from here, I will no longer be living here, I'm going elsewhere". And later, once we have left, they would at occasions return to the ruins, to go and give thanks to the ancestors, some would have a ritual/ceremony [mokete], like in my case, when I came back from my training as a traditional healer [Ngaka], I was told that some ancestors had remained at our old home, and that indeed I need to go and fetch them [their spirits].

I put up a tent right by the ruins, I had other healers with me and we started dancing, and as they were busy dancing I secretly left them and went to the river, and went to fetch the spirit of two ancestors that I used to walk with at the river. When I used to live there, by the river, I would often meet a snake, it would be coiled up in my path, but I would simply go around it and go fetch water. And when I return from collecting the water the snake would leave and one would see it going up the banks of the river. I was still very young, and had no fear of the snake. I grew up with the snakes around, and sometimes when we saw them at home my mother would say "watch out for the snake", and I would say "no please don't kill it, I will speak to them". Then I would say to the snakes, "my friends, you were guarding me last night, get up and go home now, I would like to make my bead", one would be sleeping on one side, one on the other. I would then say "bye bye", as they left, and my mother would send people after them to kill them but they would find nothing.

5.3.1.2 Discussion 2 – Mr G

The next discussion is with Mr G who lives in a township called Mothibistad about 18Km east of Kuruman. Mr G was asked the following;

Question: How did people in the past (or traditionally) respond to being removed from a place under circumstances of crisis.

(Translated from Setswana to English)

Response: As far as place/settlement (tulo) is concerned, when I am the head of the family, I have to wonder where my ancestors came from, because we have a belief/respect that where your ancestors come from is where all your good fortune comes from. I sometimes go and visit the land/ruins (maruping) where my ancestors come from. To use myself as an example; as you see I have now built my home here, but originally we are from Mangiding, that is where I used to farm. That's where I lived…because that's where my father lived. Even where I live now, I value this place immensely. When I die, I will want this place to belong to my children.

The graves of my grandfather, and my great grandfather are at Ga-Mothibi, if I had money I would go and lay tomb stones for them because that is todays way of showing that they were there. This is also important because when we have to do land claims, we will be required to identify things such as grave yards, as well as landscape features like irrigated land and water holes [where they used to fetch their water] to prove that indeed one's ancestors used to live here. These will be the permanent signs that show that indeed this is my ancestral land.

With forced removals, like those in the 50s, when people want to go back, they will show that this is where my ancestors stayed, they can't stay anywhere, they will show that this is where my ancestors stayed (mo maroping a bo rraesthu). Lerope, or ruins is an important thing to indigenous people, because it is where your ancestors were and these places bring luck and good fortune, we believe strongly in good fortune. It's a sign of respect, to teach the young to respect those who came before, who we come from. The issue of good fortune is in fact to encourage people to respect their ancestors. People are promised good fortune with their crops, good fortune with their cattle, as well as good fortune in one's own health.

When you visit the site of the ancestor, you enter with reverence, because we believe that their bodies have died but their spirits (moya) are still there. You tell them; "ancestors, I am

here, I came to visit you where you used to be", because our belief as indigenous people is that their spirits are prevailing there. One announces themselves to let the ancestors know who it is that is visiting so that they can accept your presence.

When it came to moving, usually we would not move, because the place we stayed at would be connected to our ancestors and those who came before, and we would want continuity. My entire sense of being is there, unlike white people who believe, this area is no longer good, now I'm going to live elsewhere, although I have heard others say things like this is my "ou plek" (old /historic place), meaning some of them are like us. Ones ancestral land is your whole being, it is your birth right, no one is meant to move you from there. In cases where people have been forced to move [referring to forced removals], there was no one who did not feel pain, everyone felt pain.

In some reports, people, like the ones from Smiths Drift, which is a hard area [the ground is not arable or the area has harsh semi-arid climate], have been reported to have died from having been removed from there and moved here [Mothibistad Township], because this new place did not receive them well. Physiologically [using the English word], they never accepted being here, just like the children of Israel [referring to the bible], who said "how will we sing you our songs in a foreign land", showing that this is an old issue common around the world.

So the point is the people of Smiths Drift suffered because they longed to be back to their ancestral home. When you go there, it's a dry place, it's not beautiful and the land is poor, however they could not accept that they were taken away from their land. Some have gone back, but when you make a comparison, one would think that its better here than there because it's such a dry area. Even the ones who were forcibly removed from Ou Location [old settlement near Kuruman Town that was destroyed during the 1950s forced removals], they want to go back although that place had poor infrastructure and the ground was hard due to dolomitic rock, one could not even dig a hole to build a toilet.

In a situation where people are forced to move, they would need to perform a ritual. Often a person would not move alone but would move with others; therefore a ritual would be needed. You would need to burn meat (di beshu) [cook meat]. The meat is cooked differently, some cooked with herbs dug from the field. They would also have to make traditional beer, to say we are going elsewhere, the beer made from sorghum made in the traditional way. The ceremony is to say we are now going elsewhere, moving from this place.

5.3.1.3 Discussion 3 – Ms KVK

Question: Where are you living at the moment?

Response: I live in Mangiding but my ancestral home is in Kagung. I am currently renting a place in Mangiding.

Question: How was your experience of moving from your ancestral home in Kagung to Mangiding?

Response: It was difficult, I moved to Mangiding because my marriage ended, I couldn't move back home because my sisters are there and I was concerned that this would cause conflict. I was concerned they would say "you left your marriage to come and bother us", not to say I have conflict with my siblings, we have a normal relationship.

Even though it was painful to move from home, one gets used to the situation. One needs to accept the situation, for me prayer is what helps me cope and accept that I have moved. I am trying, although it's difficult, I am trying to use prayer to cope.

Some people leave home for bad reasons, other people don't even feel like going back, sometimes people have conflict in their family and feel that they no longer want to return. My own son, he sometimes spends months away from home, and I ask myself how he can cope, if I stay in Mangiding for a month without visiting home I begin to feel bad, so I make sure to visit home continuously. Even if I cannot always go home, at least meeting them in town helps me to know that they are still fine and they can also know that I am in good health.

My heart is in Kagung, my connection is not with the house but with the place, I am not interested in returning to my father's house, but I am connected to Kagung. My father's house is not where I was meant to stay. I have recently acquired a piece of land back in Kagung, I'm yet to build a house there, but soon I will be able to visit my family more often, in fact the piece of land I got is near my father's house meaning I can walk there. At the moment I have no money to build a house, I hope one day I will have the capacity to do so, I would like to build a house with six rooms, it does not have to be anything extravagant, just something simple.

Question: Do you practice any rituals during the time when you move from place to place

Response: I used to be Catholic, in which we don't practice any traditional rituals, however every year the priest comes and performs a ceremony where he blesses [cleanses] the house.

It is called ‘tshegohatso ya lelapa’ [cleansing/blessing of the house], the priest will use holy water and spray it around the house, read a verse from the bible and then pray. I’m no longer Catholic, I have joint the Zionist Christian Church (ZCC),. Even in the ZCC, one can ask a priest to perform a ‘thapedisho’ [ceremony] for one’s home, which would involve singing and dancing, and we would continue similar to what we do in church. This will sometimes involve cooking lots of food but this is not always necessary.

Although it is not a requirement, some people will perform a ‘thapedisho’ when they move to a new place. Perhaps a person wants to start living in their new home with the ceremony, but this is not a requirement.

5.3.2 Observation of place making rituals

5.3.2.1 Introduction

In order to better understand the notion of place making rituals, the researcher participated in such a ritual in contemporary times. During a previous research project in Kuruman, he identified a group of community members that were forcibly removed from their homes during the 1950s and displaced to a different environment. The researcher had previously done interviews with these community members and recognized the place attachment many of them still have with their previous home. Indeed many of them still speak of the place while others demonstrate emotional connections to the place and others remain deeply psychically hurt by the displacement.

This is of course due to the nature of the relocation; it was a forced removal or as the community called it, "go nsthiwa ka di kgoka". The township they were removed from was called Ou-location, and according to those who came from there was a mixed race community (very much a characteristic of the area, from the time of the Korana and the Tswana, today Bushman descendants making up the coloured community but remaining deeply mixed and integrated with the Tswana).

Ou-location was situated near to the Kuruman town centre and was close to the natural spring called the “Kuruman Eye”. The “Eye” is a spring, one of several natural water sources from around the area. Residents of Ou-location had already experienced previous resettlement from even closer to the spring, and describe the town centre as their ‘original home’. There is

indeed evidence of settlements hidden around the Town, ruins of old buildings that the community members claim belonged to their ancestors.

The community was again removed from Ou-location, this time to their current home in Mothibistad Township about 10km east of Ou-location (where the researcher of this study was born). What remains of Ou-location are a few ruins, graves, artefacts dotted around the landscape (including stone tools), pieces of porcelain crockery, and some trees (Blue-gumtree) that the community could identify which assisted in orientating them on site. Indeed those community members of Mothibistad who experienced the removal had undergone a trauma, and experienced the severing of self from environment without facilitation through any place making rituals. Many of the displaced took time to acclimatize to the new place, while others remained unconnected to it while others have managed to transform it into their new home.

Thus having identified this place attachment, and the manner in which it continues to constitute phenomenological place for some of the community member, and it's strong presence as a node in the psyche of the community, it seemed necessary to engage in a place making ritual, not only to reconstruct the meaning of what Ou-location was to those who come from there, but to also facilitate dissolution and assist in reconfiguring the boundaries of identity between the two places. Thus the community resolved to engage in a place making ritual.



Figure 65 An open field where the Ou-Location used to be, today virtually no signs show that this was once a buzzing township . Author (2015)

5.3.2.2 The researcher as embedded in the context

The researcher is a member of the community, although he is two generations after those who directly experienced the removal during the 1950s. Many of his relatives, friends and immediate family are directly or immediately linked to the removals. The researcher was born in Mothibistad Township, the place where those who were displaced during the 50s were relocated. Therefore the researcher was familiar with the ritual, the ritual participants and the site that the participants were removed from. Many of the researchers relatives originated from the site going back several generations, and some of them were individuals that were known personally by some of the other ritual participants. The researcher was therefore both participating as well as observing the ritual.

5.3.2.3 Pre ritual dialogues

In preparation for the place making ritual, the researcher along with another community members had been discussing place making rituals, place identity and place attachment with elders from the community. This was done in order to identify evidence of place making rituals from around the area. During these discussions, a number of community members spoke of the 1950s removals and the manner in which people did not undergo the correct ritual to deal with the change. Some of the elders indicated what processes needed to be undertaken to assist in consoling those who incurred emotional and psychological trauma, and how to assist in reconstructing a new narrative that would allow them to impart positive meanings in relation to the new place of residence. Thus it was agreed by the elders of the community along with the researcher to undertake a place making ritual. This was done through the guidance and instruction of one of the oldest community members (here referred to as Mrs Z to ensure anonymity), describing the various elements that needed to be prepared and the way the actual ritual needed to be undertaken.

5.3.2.4 Day 1

On the first day of preparation, names of the community members that we're to participate in the ritual needed to be collected. This required visiting one of the community elders who helped populate a list of individuals who were part of the 1950s forced removals. She discussed at length the various people who lived in old location and where they live today. These people were familiar to the researcher and his assistant because they were people they had, at some point, interacted with.

Once having received the list, the researcher along with the research assistant proceeded to visit different individuals from Mothibistad Township. The first individual they visited was Mrs A (not participants real name) who was excited to be invited to the event. She mentioned the way in which the ritual was long overdue and was glad that it was finally happening. She proceeded to share a memory of how many people were renting spaces at Ou-location, and how her home was partly used for rental. She told them that she was given the responsibility to collect rent. She also emphasized how others who were removed reside in other parts of the area apart from Mothibistad Township.

The researcher and research assistant then proceeded to the next individual, Mrs B. She was not certain that she would attend again because of other commitments, however she insisted on the presence of other specific individuals. Mrs C was the next individual to be visited. She agreed to join and participate in the ritual and proceeded to tell stories of how during the forced removals her son was on the roof of their house trying to unscrew the corrugated iron roof at which time a demolition truck ploughed into her wall and her son was forced to jump off the roof.

Similarly the researchers visited other members of the community inviting them to the ceremony, explaining what the event was and giving them an idea of the program. Many of them agreed to participate, only a few could not come due to prior engagements while indicating that the ceremony was very important and were thankful it was happening.

5.3.2.5 Day 2

During the second day more invitations were sent out. Again many of those who were invited were happy and excited about the event, also expressing their appreciation. One of the invitees, Mrs D, gave an account of some of the radical environmental variability experienced by her parents. She shared some oral History of Kuruman Town, and described how some of the buildings existing in the contemporary town are located over homes of the indigenous people who previously lived there. She spoke of how one of the filling stations in the contemporary town was built on a grave site, and during construction some graves were exposed. She believes these graves belonged to the indigenous community that lived in the area.

Day 2 was the last day for the invites, and the rest of the day was used to find ingredients for traditional beer that is served during the event. Mrs Z, one of the oldest members of the community gave directions of how the beer needs to be prepared. The beer was made of

sorghum and maize. Some of the ingredients had to be soaked overnight in preparation for cooking in Day 3.

5.3.2.6 Day 3

The third day consisted mainly of setting up in preparation for the ritual for the following day. This included finding and slaughtering a sheep, which was going to be prepared and cooked for the ritual participants to have after the ritual. The sheep and other foods were prepared in large cast iron pots that would be set over an open fire during the day of the ritual. Another important component was the marque which was set up in the evening. This included setting up chairs for the participants to be seated on, both elements essential as symbols of the ritual. These elements were set up the day before the ritual and members of the community were aware of the event.

5.3.2.7 Day 4 – The day of the place making ritual

The ritual was held at Mothibistad Township where all the participants live. As mentioned above, Mothibistad is where those who had been previously removed eventually settled. The choice of venue was primarily due to availability of space. One of the community members who was removed from Ou Location offered her yard as the ritual site.

On the day of the ritual (which was a Saturday morning, a day often set aside for various rituals such as funerals, tomb stone unveilings, weddings and other ceremonies within the context of this particular community) preparations started early. The *samp* had to be cooked right from the start of the day because it took some time to cook. Other foods were also being prepared in order for them to be ready by the time the ritual participants complete the ritual around 1pm. The participants began arriving at around 8am and sat to have tea while quietly chatting amongst themselves. The priest also arrived at around this time, but he did not join the ritual participants but instead sat inside the house while awaiting the arrival of other participants.

The ritual started at around 10am, at which time the priest opened with a prayer. After the prayer, the host welcomed the participants and reviewed the value and purpose of the ceremony. Once the participants were welcomed, the ceremony was handed over to the priest. He asked for a hymn from the participants at which time they stood up and began singing. After the hymn, the participants sat and the priest began preaching. His sermon focused on the need to remember, and quoted stories in the bible where people were moved from their



Figure 66 Ritual participants praying under the marque. Author (2015)

ancestral land. He then began to compare this to the way the people were forcibly removed from Ou Location. He spoke of how the government did not consult people and simply packed their belongings in the back of a truck and moved them. He also preached about having faith in difficult circumstances and that God will always protect a person no matter how chaotic circumstances may be. The sermon concluded with a prayer.

Participants then engaged in telling stories and sharing memories about Ou Location. The first story teller began by singing a hymn. The hymn was deeply moving and emotional to the researcher, a song that has been sung during the researcher's youth. After the hymn Mrs Z began recalling her experiences. She was one of the eldest of the ritual participants and had stayed in Ou Location in her young adult life. She broke into tears and seemed to be deeply moved, gave thanks for the ceremony and began her story;

"…when I think back, we were moved from here to there by the government that was oppressing us, our possessions were destroyed because of how carelessly we were moved. We were moved because we were told that we were making noise for the white people. In the past we knew where we came from, we knew who we were and we had respect for one another. Today people no longer know where they come from; this is why we are doing this

[referring to the ritual]. We used to stay in the town [now CBD of Kuruman], it was our land, and they took us out." Mrs Z continued to reminisce about her stay at Ou location, speaking of her school teachers, different preachers, and the kind of food that was eaten and so on; "That's how we lived until we were moved to this place [direct translation would be 'bad place']. We were angry about moving, they tried to convince us that the land was bad due to dolomitic rock in the earth."

Other participants spent time telling various stories. Once the story telling was concluded, the ritual participants were transported to the site about 12km away from the township and on arrival they reached the site they alighted the vehicle and stood around one of the ruins. The participants sang a song and then prayed. After the prayer Mrs Z began speaking towards the ruins [but in actual fact speaking to the ancestors] saying;

"we are here to visit you, we brought some food for you, and here is your 'pap', we know you want them because you visit us when we are sleeping saying that you want them, saying you are hungry, now we are giving it to you, so that you may give us good fortune. Good fortune so that when we come again there will be more of us, and we will be able to spill blood here."



Figure 67 Ritual participants on site, Mrs Z pouring traditional beer on one of the ruins of Ou-Location while speaking to the ancestors. Author (2015)

Mrs Z then poured a mixture of sorghum, maize and coffee over the ruins saying “here is your food”. She then took some of the traditional beer that had been brewed for the ritual, sipped some and sprayed it out of her mouth onto the ruins. She then poured the rest of the beer over the ruins saying “they come to us in our dreams saying we want beer, so I am giving them beer”.

Once this process was concluded, the ritual participants began walking around the sites, some alone some in groups quietly discussing the ruins and trying to identify them. This happened for some time until finally the participants returned to Mothibistad. On arriving at Mothibistad was ready. The preacher went to sit in the house and was served his food separately and ate alone. The rest of the ritual participants began eating and drinking the traditional beer. They sat under the marquee for the rest of the ceremonial eating, drinking, singing and sharing stories of the Ou Location.

5.4 Findings and discussion

5.4.1 Findings from ethnographic data

In the interview with Mrs VM we are told of the kinds of practices that should accompany a situation where people have to move from one place to another. According to Mrs VM, when she had to move from her home, there was a celebration, and an animal (sheep) was slaughtered and its blood sprayed in the previous home, and the same process was repeated in the new home. She also mentions another mixture of animal dung, blood and other animal parts being mixed and applied to the surfaces of the new home. Mrs VM also mentions that when they named their animals at their new home they would name them after their ancestors so they can “raise” their ancestors.

Mrs VM also mentions how, when people move, they had to go to their ancestors ruins [Marope] to inform them that one is moving, and that one would ‘speak’ to the ruins and explain that one is moving. In one instance she was required to go back to her previous home to go and fetch spirits that were left there. This particular ritual required dancing and singing into the night. Furthermore, Mrs VM would address the ancestors as if they were living human beings; “ ‘I am now moving from here, I will no longer be living here, I’m going elsewhere’.”

In Mr G’s discussion, we get a sense of how people create bonds to places. For him ruins are an important element of place bonding, and they are where the spirits of the ancestors reside.

He emphasises the role of these ruins as a means of fostering and maintaining continuity (existential). What is most dramatic about Mr G's account is the trauma people encounter when they are moved from the place where they reside; in one instance saying he has heard of reports of a person dying from longing to be back to their ancestral home. Furthermore he demonstrates the "irrational" nature of the bond people have to places, and demonstrates this by the manner in which, the residents of Smiths Drift, even when they were offered a better piece of land with more arable value and better infrastructure, they refused to move. Mr G himself makes a dramatic statement saying "one's ancestral land is ones whole being, it is your birth right, no one is meant to move you from there". This indicates the deep bond people have to place and how sometimes, as discussed in Chapter 2, this can transform to a potentially a potentially destructive attachment which can undermine adaptation and resilience.

Finally the discussion with Ms KVK demonstrates two important points; firstly that she saw the building of a house in Kagung (her ancestral home) as a way of reconnecting with her ancestral land. She demonstrated her discontent with impermanence by discussing her sons ability to be 'out there in the world' and not rooted at home, and then expresses her deep desire to have a home. Secondly she mentions two different Christian denominations who practice rituals that are performed for purposes of "cleansing" a home (although these will be argued to be place making rituals), one of the two being specifically discussed in instances where people move to a new place. This is important to note because like in so many other instances in Kuruman, traditional or indigenous practices have been assimilated into Christian beliefs, particularly with in the ZCC church.

5.4.2 Findings from place making ritual data

Place making ritual was encountered by the researcher through both its organisation as well as its execution. Furthermore the researcher was a participant at the most fundamental level being both a resident of Kuruman and also being a descendant of those who were forcibly removed from Ou Location. The researcher therefore experienced the full spectrum of the ritual through a radical embeddedness.

What was particularly clear from day 1 was the excitement and joy people displayed when they were invited to the event, some of them clearly expressing how overdue the ritual was

and the extent to which it was needed. The few participants who were invited immediately began to connect with Ou Location and began recalling some of the events there.

The excitement went on until the morning of the event which started with a song and a prayer. The tent and the white chairs were already set up, all objects that are usually associated with funeral gatherings. This was evident when the ritual participants arrived displaying posture and mannerisms resembling those of people attending a funeral, thus one could argued that the physical infrastructure as makers of place in their own right, had already started the emotional priming process for the ritual.

This was shorty followed by the arrival of the priest who sat away from the rest of the participants, again a symbolic and embodied gesture that imbues the priest with ritual power and perhaps potency. Once everyone had arrived, the participants were prompted by the priest, who had now joined them under the marquee, to open with a song. One could say that the song was again part of the contingency of tools of dissolution, creating an emotional bond with that particular moment but more importantly dissolving boundaries between "self" and "other" in order to allow for liminal states to manifest. The priest first prayed and then began preaching; towards the end of his sermon, he mentions God several times (the ultimate experience of liminal state), and ends by connecting his sermon to the experiences of the participants.

The participants then told stories of the Ou Location, with one participant specifically beginning her story telling with "a moving" hymn (as experienced by the researcher). Again one senses the pattern and the role of the song as a mind-state threshold and transition tool bridging between two moments. After the story telling the participants drove to the site of the Ou Location. They arrive to an open field which hardly displays any immediate evidence of prior occupation. The participants then do a smaller rite of giving offering to the ancestors and talking to them.

The most dramatic finding related to the site visit is how people arrive to an open field. There is hardly anything on site that indicated that the place was once a home to a people; it is virtually flattened and yet people remained attached to it. This particular case is extreme, and the change in place is jarring. Within one's lifetime, a place that had been previously experienced is no longer there in reality. The ruins are mere flat slabs on the ground and are hardly visible due the over-growth of bush and grass over them (see Figure 62-64).

The ritual participants moved silently looking for their homes amongst the ruins and the bush. This was certainly the most moving moment of the ritual, some participants clearly emotionally distressed by being unable to find their home. This moment was indicative of the manner in which participants remained attached to the place in spite of the fact that it had been over 50 years since it was demolished. This serves as a clear indication of what we mean when we refer to place attachment, and also a clear indication of why it is that place making rituals evolved.

The ritual ended in a celebration which is perhaps as a way of creating a new somatic marker, embracing the new home and letting go of the old, or at least the beginning of such a process. The ritual was indeed more than a mere cognitive reframing, but instead required an entire embodied and holistic experience to try and persuade participants to reframe the emotionally determined meaning and self-identity they had with the 'lost' place. Although it is not possible to determine if this indeed was the case, the ritual certainly presented deep insights on what place making rituals are and how they deal with change, or extreme change in this case.

Something to note is that the ritual had elements of Christian religion; this may seem inconsistent because the people participating in the ritual are indigenous members of the community and would be expected to perform what appear to be indigenous practices. If looked at deeply, one will notice that the meaning and signification of the ritual is inherently indigenous because although the symbols are Christian, the ritual is addressing issues within an indigenous existential framework which before the arrival of Christianity would have likely been expressed through local symbols as demonstrated in examples presented in the following chapter (i.e. the sacred snake).

5.4.3 People are emotionally attached to places – "no one is meant to move you from there"

Based on what has been presented above, it is clear that contemporary indigenous people in Kuruman harbour deep emotional connections to places. These connections seem to go beyond utilitarian needs for shelter and seem to be far more influenced by a psychic need for existential orientation.

For the purposes of this study, an important piece of data is what Mr G tells us about the residents of Smiths Drift and their refusal to move from their ancestral home. He

demonstrates to us that in spite of the poor quality of land (as objectively valued), residents wanted to continue living there. This is evidence that a people's connection to places are not merely based on enlightenment 'rationality', but rather that people become emotionally rooted to places. According to Mr G, the Smiths Drift residents, similar to the 'Ou Location' residents continued longing for their home once they were moved out, even though their new places of residence had better quality of earth and better facilities. This is highlighted by Mr G's comment; "In some reports, people, like the ones from Smiths Drift, which is a hard area, have been reported to have died from having been removed from there and moved here".

Although the research did not peruse data on people dying from longing to return to their ancestral home, the statement demonstrates the deep emotional crisis people encounter when they are taken away from their homes unwillingly. What this presents is the notion that a people's phenomenological maps of places are not determined by cognitive memory, but instead people seem to know places through embodiment and emotions. This is important to note because it gives us a clue on why it is that a place should not be considered merely as an objective reality but rather an intersubjective and phenomenological part of one's being. It is therefore something that is rather fluid than static, although its fluidity is systematically underpinned by tools and instruments that can persuade the "self" to re-configure its phenomenological map. The ex-residents of Ou Location may not be there physically, but "the place" is still embodiedly with/in them and for them, unlike for people who did not share the collective memory of the place and the trauma of the removals. Many people drive past the open piece of land oblivious to the hidden memories of the place, however based on the place making ritual, it is clear that others are still haunted by its *absent* presence.

5.4.4 Rituals and emotions are mediators between self and place

The place making rituals discussed above rely on psycho-somatic tools to carry one's self, which is constructed by a series of somatic attachments, to another place using meaningful symbols, anthropomorphisms and animism. The physical place becomes endowed with such familial status that it is even sensed as one and the same as an individual's family or kin. Therefore moving would mean leaving your family behind, thus people devised ways of "carrying" their "full-family" from one place to another. This was not merely through rationally-accessed cognitive discursive persuasion. As we have seen in Csordas (1983) and Freeman (2003), in order for a self to be detached and reattached, it requires physiological practices which would act on the brain to loosen one's connection to one thing and create a

bond with another or the new. It is clear that in this manner ancestors become the object of affection and not merely the physical place, or perhaps the physical place is made into a pseudo persons to whom affection can now be 'reasonably' directed to.

Mrs VM mentions that "some spirits were left behind"; this is a clear indication of the ongoing dialogue people have with place (in this case a literal dialogue), and the continuous efforts that are made to "re-conceptualise" place (using the words of Hall (2000)). The moving of the ancestors required more than just a mild discussion but a whole embodied practice most likely involving family and friends to both support and imbue potency in the ceremony. When Mrs Z cried in the place making ritual, it engendered emotional potency amongst others (or at least within the researcher and some others with whom he discussed the ritual with subsequently).

One can thus see how the presence of others during the ritual both supports as well as enhances the potency along with tools of dissolution such as singing and dancing. Indeed one can see how this would be necessary if we accept the argument that a liminal state would need to be induced, an in-between, between one place and another where the ritual participants are drawn into the state of suggestibility at which time new meaning can be imparted and be subconsciously embraced. Through ancestral beliefs, this new meaning is imparted in the most eloquent and sophisticated way. The ancestors anthropomorphise symbolic and cognitive elements of the ritual, thus making it easier and more real for one to perceive the moving when it is merely my grandmother going from one place to another, although this still requires the right priming agencies and a particular open-mindedness in order to take on this new meaning.

The ritual also creates a spatio-temporal somatic marker, both being a fixed 'virtual' place in one's memory, perhaps superseding or overshadowing memories of the previous place, and thus also become an emotional marker in space. One need only think about one's own experiences of memorable places or places that are currently important and one immediately senses that these are often places that have emotional salience to a person. These rituals seem to take advantage of this quality of the brain/body/place interactions, to remember things even if you don't cognitively remember them.

5.4.5 Coping with impermanence and uncertainty

Physical objects, people and ideas are all not impervious to the corrosive effects of time. One can see this in an old building that has contracted and expanded over years, as well as having been exposed to weathering and atmospheric chemicals. Time and change seem to be synonymous and it is difficult to imagine a world that did not have these two properties working side by side; corrosion and time. Similarly people die, people move, neighbourhoods change, ideologies change and so on, leaving people having to deal with whatever losses and resultant memories or psychic trauma they may confront within such existential fluidity. It is clear from the study of indigenous inhabitants of Kuruman that time and change has a deep impact on a species that constructs meaning through emotionally facilitated attachment. The very dramatic change of the Ou Location (with minimal prior warning or priming), being flattened to the ground with only a few artefacts, slab foundations and surviving people demonstrates this real situation of change, and the effects it has on a people's psyche and social wellbeing.

It is difficult to imagine a non-variable environment, when all else is in constant flux due to climate, social forces and other factors corroding away at all scales of phenomena from the rust on a piece of metal to an entire neighbourhood. What we see in the data presented above is that this has indeed been a long standing human condition that may have found manifestation in different ways at different intensities. Indeed uncertainties due to change may have been more prevalent in cases where people were more embedded into the fluxes of nature, and thus needed to cope with the emergent uncertainties, while at the same time trying to establish and hold onto some kind of continuity.

Seeking continuity founded on somatic strategies to hold on to things eventually leads and perhaps allows a 'self' to becoming attached and extended beyond the edge of its skin. The data above gives us a clear indication of how it is that people try to cope, using the same proclivities of potential attachment and somatic construction of meaning to navigate the inevitable flux. This indeed begins to shed light on how it is that people who are deeply in dialogue with place are constructed and shaped socially and existentially through and by such places, while they in turn shape those places.

5.5 Conclusion – Wonderwerk place making rituals

Based on the findings above, it is clear that people have a neuro-propensity to be attached to places and that this attachment is primarily a tool of addressing an existential need for self-

orientation and continuity. We have seen that places do not merely serve people in their utilitarian capacity as shelter, but perhaps more importantly help people develop and maintain a sense of meaning, purpose and ultimately, identity. It is no surprise, therefore, that people established bonds with places, sometimes spanning multiple generations. Rituals of maintaining the bond between people and place were often mediated by ancestral ties to the place, and as we have seen in some cases, observing rituals that imply that the spirits of those ancestors still reside there. These place bonding rituals concurs with the theoretical framework of cultural-neurophenomenology, and demonstrates the use of emotions and hence neurotransmitters, as a way of constructing self/place identity. This is congruent with the findings from Hall (2000) and his demonstration of place bonding facilitated through burial rites in mid Holocene hunter-gatherer communities.

The data also demonstrates the trauma that people experience when they need to move from a place, and indeed how rituals have been used to mitigate such trauma. The ethnographic data from Kuruman is also congruent with Hall (2000) in that it demonstrates the way people need to construct new meaning in place in order to deal with change, and based on what we have seen above, the trauma that accompanies change. In the place making rituals from Kuruman, people went through elaborate embodied practices to 'move the spirit of their ancestors' from one place to another. From a cultural neurophenomenological perspective, it makes sense that for one to both physically and psychologically move from one place to another, one would need to find mechanisms of facilitating un-bonding with the old and re-bonding with the new. As the data clearly demonstrates, this is not merely a cognitive act, but instead required embodied practice that allowed for the right conditions for new meaning to emerge as in the example of 'moving the spirit of the ancestor'.

The ethnographic findings along with archaeological findings regarding Holocene hunter-gatherers from the Wonderwerk Cave area begin to give us a better sense of how ritual played a role in increasing resilience of people who faced environmental variability. One begins to sense the kind of existential challenge articulated in Chapter 2 by Brislin (2012, p. 9) arguing that emotional trauma due to change in place is; "symbolic of a deep desire to find the balance between anomie and rootedness in the flux of change…", and how past people may have confronted such issues and developed ways of dealing with them and thus embedding their resolution of existential dilemma.

Therefore we can argue that similar to their contemporary Kuruman descendants, Wonderwerk Cave inhabitants would have needed to mitigate place attachment that could increase their risk of maladaptation, and that possibly rituals such as the ones we have encountered in the ethnographic and archaeological data (Hall, 2000), embodied rituals acting on the emotions as a way to induce new meaning, were the methods through which such mediation/ mitigation was practiced.

However one must consider one additional factor. If embodied rituals induce liminal states, and if we see that physiologically embodied practices can build the self's capacity to deal with change, what does this mean for a community of people known to practice these rituals daily (i.e. Wonderwerk Cave inhabitants). In the following chapter we will be exploring rituals in contemporary Kuruman using phenomenological methods to gain a deeper understanding of ritual practice, liminality and construction of new meaning. This will be done through a study of rituals, ritual space and ritual artefacts from contemporary Kuruman, and we will see what discuss the evidence of the nature of liminality and how we could begin to sense what daily liminal practice may result to for a people engaged with such practices.

Chapter 6: Rituals of dissolution and the construction and identity - synthesis of Wonderwerk Cave archaeology and a phenomenology of rituals in contemporary Kuruman

6.1 Introduction

The previous chapter investigated Bushman territoriality and contemporary place attachment in Kuruman. From this chapter we begin to better understand the role of ritual in dealing with the fluxes and changes of the environment both natural and socio-cultural. From Chapter 5 it is evident that achieving liminal mental states helps us confront change and facilitate transition from one phenomenological place to another, one moment of time to another or one person to an-other. Chapter 5 gave us a general impression of how it is that Wonderwerk Cave inhabitants (whom we saw from Chapter 4 are likely to have been Bushman and their predecessors, and participated in pan San cultural practices such as the trance dance) used ritual to cope with impermanence, uncertainty and change. This was presented as a broad response to the research question.

This chapter addresses the more specific aspects of the research question. Again the researcher remains as a significant tool of the research through embeddedness in a similar approach as in the previous chapter. The chapter will therefore be relying on three strands of data to construct the argument. The first strand will be theoretical framings from previous publications presented in Chapter 2 i.e. (Turner, 1969; Csordas, 1983; Damasio, 1996; Freeman, 2003; Ingold, 2000; Varela, 1996; Vartanian, et al., 2013). The second strand will be archaeological publications discussing ritual practice and liminality in Bushman society, as well as those linked to ritual practice at Wonderwerk Cave i.e. (Thackeray, 2013; Guenther, 1999; Lewis-Williams, 2004; Lange, 2006; Humphreys & Thackeray, 1983). The final strand will be phenomenological encounters in which the researcher observes and experiences the reported phenomena. Through the phenomenological method, the chapter looks closer at tools of dissolution; elements of ritual that induce liminality such as ritual spaces, embodied ritual practices such as sound, smell, haptics and other sensory stimulations, as well as an exploration of ritual artefacts and art and their potency in inducing liminal states. This exploration helps to provide insights into the ritual practices that were

practiced at the Wonderwerk Cave, and indeed how these could have helped the inhabitants synchronously adapt to change and thus enhance resilience.

The first section re-introduces findings from Chapter 4 in relation to Wonderwerk Cave data with the intention to demonstrate how these are evidence of tools of dissolution which will be further explored in subsequent sections. The second section explores ritual spaces in order to help us to better understand the role of Wonderwerk Cave itself as a spatial tool for inducing liminality. This is followed by a discussion on ritual practice and the way in which the indigenous practitioner relies on the sensual channels to help deconstruct and re-construct meaning and self. Finally the chapter explores ritual artefact and how they induce liminality. The chapter then ends with a synthesises of phenomenological findings with previous archaeological findings and ultimately relating them to Wonderwerk Cave climate variability adaptation around the Wonderwerk Cave.

6.2 Ritual and tools of dissolution at the Wonderwerk cave – a recap

In Chapter 2 we presented a discussion on liminality related to Bushman hunter-gatherers and their social constructs (or lack thereof) (Guenther, 1999). The chapter argued how Guenther (1999) links Bushman society to their religion and anti-structure. Chapter 2 also argued that Bushman social constructs as determined by their ritual framework also impacted their spatial constructs. Chapter 4 presented evidence of ritual practice at Wonderwerk Cave going back at least to the mid Holocene. These were discussed in relation to findings by Chazan & Horwitz (2009), Lange (2006) and Thackeray (2013) who have all discussed Wonderwerk Cave artefacts in relation to ritual, particularly trance, and demonstrated how the art was part of the embodied practices that induced liminal states.

These findings are fundamental to the development of the argument presented in this study. It is therefore necessary to understand better how ritual facilitates attainment of states of liminality, which we will argue allows for the kind of fluid social structure mentioned by Guenther (1999), and indeed within the same social structure, allows for socio-environmental openness and fluidity.

6.3 The role of ritual, space and myth in meaning making and the construction of the self

6.3.1 Introduction

The contemporary town of Kuruman has a variety of ritual spaces, some in the urban centre, others in village/rural contexts and others embedded within natural landscape contexts. These are currently active ritual spaces used for purposes of initiation rites and other religious events and two such sites were visited by the researcher. The first presented here is the Ga-Mohana Cave in the Kuruman Hills and the second one is the Legobate Cave.

The sites have not been systematically described by anthropologists or archaeologists except for brief descriptions of Ga-Mohana Cave by David Morris in (Beaumont & Morris, 1990, p. 135) where Morris describes the space as a shelter and not a 'cave' however for the purposes of this study we shall refer to the space as a cave following on the manner it is understood by the indigenous people of the area. Morris also briefly mentions finger painted designs at the cave as well as mentioning the cave as a cluster of sites where rock engravings are found. Morris has also video-recorded boys initiation ceremonies at the site in which ritual participants were facing the wall "howling" and singing loudly "unintelligible" sounds (even to the researcher who speaks the local language as his mother tongue). According to Morris via personal telephonic discussions, the recordings which are perhaps one of a kind have subsequently been lost. The criteria for choice of sites were the fact that the community sees them as sacred spaces.

The researcher relied on architectural and phenomenological methods of encountering and appraising the sites, especially his own embeddedness as a member of the community. This included photographs, journal entries and first person experience. The researcher also relied on the experiences of his research assistants through recordings of discussions about their experiences of the sites.

6.3.2 Ga-Mohana ritual site as tool of dissolution

6.3.2.1 Introduction to Ga-Mohana

The researcher is an indigenous inhabitant of Kuruman and he grew up in the social and mythological context of the place. During his upbringing he was told several stories about Ga-Mohana Hills, particularly stories related to a sacred snake that lives at the cave at Ga-Mohana. It was not until later when undertaking another study that the researcher visited the site; before then he had not accessed the site and had not interacted with anyone else who had done so. The site was always visible from most locations, and was sometimes discussed but very few people had made the effort to visit.

6.3.2.2 Description of the site

The Kuruman Hills are located west of Kuruman town centre stretching north-south and include the Wonderwerk cave about 40km south of the town. They are a prominent landscape feature and are visible from most locations. As discussed above, the hills are part of the mythic landscape of the area and are known for being the home of a mythic snake.

From preliminary dialogues with the community, very little is known about Ga-Mohana, and many community members are open about their fear of the place as well as the mythic snake that resides there. However, older members of the community know the place as `a spiritual place', and often refer to rituals held at the 'cave' or 'logaga'. This suggests there could be considerable secrecy regarding the site and its socio-cultural significance.



Figure 70 Ga-Mohana hills as the twin-hills on the far right showing their prominence from a vantage point in Kuruman town. Author (2015)

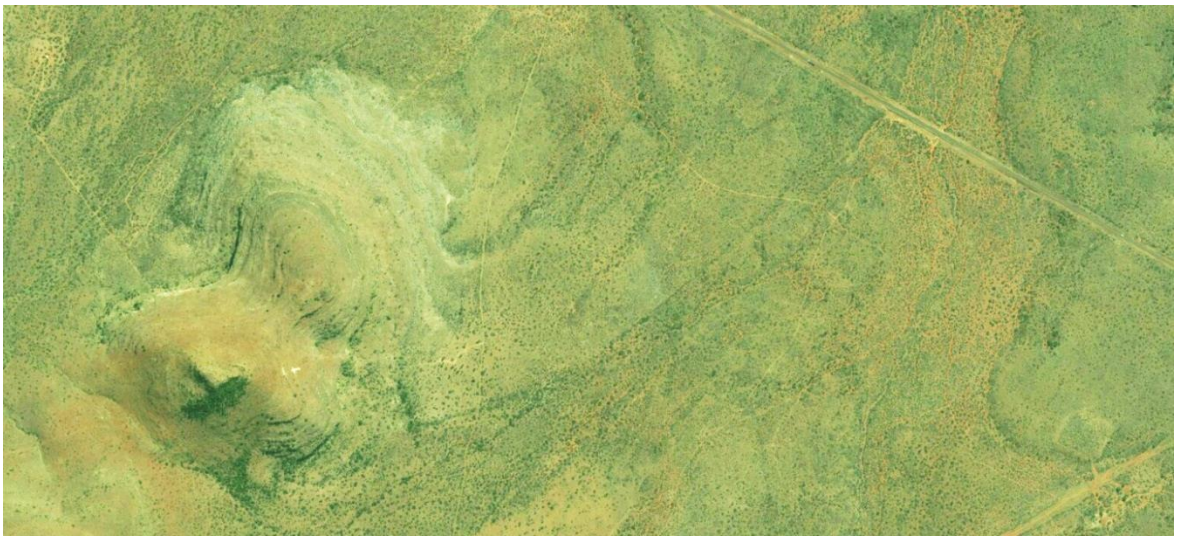


Figure 71 Areal view of Ga-Mohana Hills. Google Earth

For the purposes of this study, this resulted to incredible difficulties when trying to locate the actual ritual site. During the previous research project, the researcher hiked up Ga-Mohana hills to locate the cave and was not successful in finding it. The first time he located the cave was on the 25th of December 2013 and the following description is an account of the manner in which the researcher first encountered the ritual space. The researcher visited the site with two research assistants; they were all taking residence in the town of Kuruman, and they used a car up to a stop-area near the site. On the morning of the visit to the site, two of the researchers woke up recounting having had a dream in which they saw a large white snake (to be discussed further later).

The site is accessed just off the R31 road (Kimberley road, the same road that the Wonderwerk Cave is accessed from) heading in a north easterly direction. One enters the site through a small unmarked and inconspicuous gate on to a dirt road surrounded by Kalahari bushveld. The dense bush and narrow dirt road limits vehicular access to within about 0.5km of the actual ritual site (although at the time of this particular visit the researchers merely stopped because they could not go any further by car); the remainder of the journey was accessed by hiking for about 30 minutes.

The researchers approached the hill from a northerly direction heading south in the hope that they might see some signs that would indicate to them the location of the cave. During this particular visit, the researchers arrived on site at midday while the summer sun was at its hottest. The heat was accompanied by the sound of cicada's constant buzz which is often a sound experienced in the summer seasons. The walk was difficult and taxing on the body, the



Figure 72 Front view of cave at Ga-Mohana. Author (2015)

ground was uneven and rocky, often leading to painful irregular steps. The researchers needed to take breaks under shade and have a drink of water. This was exacerbated by not knowing precisely where one was going.

As the researchers moved further into the site and at this stage ascending up the hill, they came across two men dressed in Zionist Christian Church (ZCC) attire. The researchers stopped to ask for directions to the cave; however the two men were highly reluctant to share the location of the ritual site but eventually obliged by pointing them into a general direction.

Following the direction the researchers continued to ascend up the difficult and in some places very treacherous hill. Due to his previous exposure to the myth of the snake that resides at Ga-Mohana, the researcher often felt fearful and anxious during the hike. In subsequent visits when he came to the site with other members of the community. They would report how frightened or anxious they felt being at the place, and even others who were invited to join him in visiting the site refused.

After some walking and climbing since being directed by the two ZCC gentlemen, the researchers finally stumbled upon the first signs of the ritual space. Indeed this was met with excitement and intrigue, although at this stage none of the researchers knew precisely how



Figure 73 Niches with stark blue used candle placed in niche seen here in closer detail. Author (2015)

these signs made part of the entire ritual space. Along the wall of the hill face were deep niches and recesses in which candles of stark colour were placed. The candles were melted indicating that they had been lit and used sometime in the past (Figure 70). In addition the niches had coins placed in them; this was the case in several of the niches. The wall face had deep dark holes and recesses that were in stark contrast to the now vertical brownish red wall face of the hill.

Although having not noticed at the time, the researchers had walked south and ascended to about half way up Ga-Mohana hill. They were at this stage walking along an area of the hill that morphologically began to become more vertical to create a kind of wall. As the researchers walked further along this wall, more indications of human activity became apparent including visible evidence of fires, water bottles and other modern artefacts. The ground began to level out and become more horizontal and even, therefore becoming a kind of ‘floor’ to which on its left (as the researchers were moving south) was the vertical wall. The wall face had a number of stalagmites and stalactites with a number of apertures, holes and niches that had formed in them, the forms of which seemed enigmatic and sculptural to the researcher (Appendix E). Again these spaces showed evidence of human activity. As the researchers walked further, the hill face began to arch creating a large canopy overhead (what



Figure 74 Researchers sensing the diffirent areas of Ga-Mohana cave. Author (2015)

Morris refers to as ‘shelter’). The wall undulated in a curvilinear fashion creating a series of spaces or areas as one walks into the ever increasing height of the overhead canopy. One of the walls in these spaces was marked with writing in green paint. The writing is mostly in Setswana and seems to be a list of names of people although this was hard to make out, the first line is written “Bethel Emanuel 2011-01-10…” and the rest names and surnames (Appendix E).

Past this area, the space opens up into a large chamber about 25-30 meters in height and about 40 meters wide tapering down on either side to smaller niches. The main chamber is facing east and is made up of several areas that seem to have been recently active with remains of a freshly made fire. In this large space more candles could be seen some mounted on rocks, others in holes on the floor of the space, others between rocks that were placed to create a small shelter or oven like structure (two walls and a roof). The surface of the wall has several markings, some in red that look like strokes (similar to finger painting), some of which have been scratched over.

At this stage the researchers concluded to themselves that this main chamber was indeed the ritual space that they had heard of from the community of Kuruman. The researchers took a short break which was needed after the difficult and hot hike up the hill. The ‘mouth’ of the

chamber was wide and presented a large view of the landscape, the sky and adjacent hills, although when sitting at its deepest point one can only really see the sky and very little of the rest of the landscape.

The space felt vast and was only broken up by large piled rocks particularly at the edge of the large chamber space. During this particular visit a group of swifts had been nesting on the top edge of the cave mouth. The birds added to the sound scape to create a harmony with the already present sound of the cicada. The swifts kept flying in and out of the space and created a type of 'veil' at the edge of the cave mouth, this was the last time the researcher visited the site while the swifts were present.

Once the researchers had rested, they proceeded to explore the rest of the space. Walking further south, the chamber begins to taper down and the ground level begins to slowly rise in effect reducing the height of the space. As one moves out of the main chamber what happened in the previous section of the space prior to entering the main chamber was repeated, there was evidence of smaller niches also with red blue and white candles. The entire site had a kind of symmetry, the main chamber being the main space in which group activities could have occurred, and on either side smaller more intimate niches that could be spaces for more intimate or perhaps individual activities.

In Figure 71, the photograph shows the main chamber at Ga-Mohana Cave. In the background is the cave wall extending up vertically. The wall has nearly a 90 degree vertical angle. It is brownish reddish in colour, and in this particular photograph one can see natural vertical forms along the face of the wall. At about 1.7 meters from the ground level the wall has spots of reddish colour, on closer inspection this reddish colour is the finger painting mentioned earlier (Beaumont & Morris, 1990). The finger paintings are concentrated in some areas of the wall, in this photo particularly on the far left end and towards the centre and the far right end.

There are also letters that have been scratched into the surface of the wall, most visible is a 'bv' and less visible is what looks like an 'H' towards the right side of the photograph. Closer to the floor are black markings that seem like the result of fires or smoke that has coloured the cave wall. On the floor level close to the cave wall are piles of rock stacked one on top of another. The rocks also have the black colour similar to that on the wall. Also in this area are red and blue candles. Although only two of these candles are visible in this particular photo,

several of these candles seemed to have been consciously placed in various spots along the foot of the cave wall.

In the middle ground of the photo, evidence of fire is again observable. Several areas have remains of fire, in particular white/grey ash and blackened soil. This occurs throughout the main chamber space and about six of these traces of fire are visible in this particular photo. The middle ground of the photo also captures several used candles mounted on a rock. This particularly dramatic incident has several candles of different colours in one space, many of them melted to such an extent that they cover most of the surface of the rock. Two stark blue candles remain standing.



Figure 75 Main chamber space at Ga-Mohana with cave wall in the backgound, melted candles in the middle ground and a white dove in the foreground. Author (2015)

In the foreground of the photograph is a white dove. The dove simply flew and landed in the space during the time the researchers visited the site. The dove walked around the space for as long as the researchers were there and did not seem bothered by their presence. The presence of this white bird created a dramatic environment in the cave and all the researchers sat to observe the creature as it moved around the space pecking the earth. This particular photograph captured the mood and feeling of being in the space best, and demonstrates the sense of quietude and serenity that the researchers all agreed was apparent in the main chamber space.

6.3.2.3 Findings

Firstly one needs to mention the manner in which the site is situated away from the urban centre. Whereas this could be seen as merely circumstantial; however something could be said about this particular site being situated away from day to day life, and access to the site being virtually unmapped or connected by paths. One has seen from discussions in Chapter 2 the critical role of isolation in inducing states of liminality. Ritual participants are often taken away from 'normal' situations and drawn into places outside of their habitual existence. This also includes seclusion and isolation for duration of time (this will be discussed in more detail below). Therefore we can identify the distancing of the site from the main settlement as possibly our first tool of dissolution.

The site is accessed by hiking, which can be argued again to be circumstantial. However this could be seen as another ritualised act where one is forced to abandon ones car when accessing the site, perhaps the same way people take off their shoes when they enter a sacred space. One could argue that leaving the car is symbolic of leaving secular life behind and thus marks a start to observance and some kind of reverence. Furthermore, accessing the site by walking means that one is forced to engage the body and the landscape, in a way being forced to engage the senses and the body; from our discussion in Chapter 2, this process would be crucial when creating the right kind of neural state for dissolution. Therefore access to the site could be seen as the second tool of dissolution we can identify.

Based on the data presented so far, we can now understand the role of secrecy and myth in creating potency in the mythological context of Kuruman and how this is crucial for the potency of the actual sacred sites. Site is not only a physical space but a psychically/emotionally significant place for inhabitants of Kuruman. Although the researcher had never been to the site before, the previous priming through the myth of the

snake significantly influences the way the cave is experienced. This is indeed an inter-subjective experience that is shared by those who have also been socialised within the Kuruman indigenous community. However, even the other researchers who are not residents of Kuruman, having spent enough time in the place and having heard about the snake, became primed to the extent that they had a dream about the mythic snake. Furthermore secrecy in relation to Ga-Mohana is again seen when the researchers are looking for the site and their meeting two ZCC men (who were most likely returning from up there for ritual purposes), who initially refused to give them directions to the site. This indeed added to the mystery of the site and for the researcher, added to already uneasy feelings. This could be identified as a third tool of dissolution that added to the potency of the site.

As the researchers came closer to finding the space, they encountered different coloured candles in niches along the side of the hill. Seeing human artefacts after having experienced a relatively homogenous natural environment can be a jarring experience. Similar to the experience of the rock paintings at Wonderwerk Cave, the experience makes one have a sense of presence. However the candles in the holes also emphasise a sense of mysteriousness and enigma, particularly because of the association of candles and church (associations made by the researcher). The candles certainly created a mood as one came closer to the main space. One needs to note that the candles were not experienced by the researchers while they were lit, not to mention lit at night. This indeed would have had a markedly different impact on one experience of the space.

The niches could be interpreted as having afforded intimate contemplative uses, perhaps for the use of one or two supplicants quietly praying together; however this is speculative given that no rituals were in progress during the time the researchers visited the site. These niches are comparable to a shrine, in form and in scale. It would appear as if people co-opt (Ingold, 2000) the natural features of the site and embody new meaning in them by placing ritual artefacts (in this case candles). However one can also argue that the niches "offered" themselves to such a purpose, being located on the face of the hill at a human scale, big enough to fit candles and embedded within other enigmatic forms. Again from a cultural phenomenological framework, this can be argued to demonstrate the way the form of the space is in dialogue with the body, the body's form, and the height of an average body when it is standing. Again, the form of the physical space lends itself to a particular bodily posture and position in relation to other, that is to say the spaces being slightly spaced apart as well as being of a certain size lend themselves to an intimate posture. Some of these niches and holes

are embedded in the ground, again when considered with physical posture alluding to intimacy and quietude.

In contrast, the main chamber of the ritual space at Ga-Mohana has a large volume, a dramatic space that relates differently to the scale of body in relation to the space. This was the first thing the researchers noticed when they entered the space. The chamber height was further dramatized by natural horizontal formations in the cave wall. The space could be comparative to the double volumes of a Cathedral or temple. The main space of the cave also had evidence of ritual practice in the form of candles; however, instead of these being in niches in the cave wall, the candles here were placed on rocks (or altars/shrines). During the time of the visit one particular alter had several used candles placed on it. One could only imagine what this main space may be like during a ritual where several of these altar candles are lit.

In addition, one could see that several fires had been made in the space, and although one cannot prove empirically that these may have been made by ritual participants as opposed to herders for example, it is highly likely that ritual participants would have lit fires. Again we can only 'empathetically re-experience' the effect of fire on the wall surface of the cave during a ritual practice. The space is indeed large enough to accommodate a number of people and therefore one may assume that the space is most likely used for large group activities. The morphology of this particular area lends itself to this function thus, becoming a kind of collective ritual space. Whereas one can only speculate as to the actual effects of the space during a ritual, based on the researcher's experience of the space, one can certainly say that the form of this particular space engages the body, its senses and emotions to the extent of inducing a sense of awe and reverence.

On the particular day the researchers visited, a white dove entered the space. Indeed due to previous conditioning and exposure to Christian beliefs, the presence of the dove again created a sense of awe that the researchers later expressed. The experience gave them a sense of what the full impact/influence would be like for ritual participants who are experiencing the full spectrum of ritual tools, the mythological priming, and sensory stimulation from candles, fires, singing and dancing and the physical form of the cave.

The Ga-Mohana Cave is certainly a ritual site, and its location, natural features and the myths connected to it are all part of the contingency of tools used to enhance potency towards facilitating liminality. It cannot be mere coincidence that the space continues to be a ritual

site (as reported by David Morris and the local community) such as initiations and other spiritual rituals. The evidence of fire and other ritual tools demonstrate the continued use of the space as a ritual tool, and indicate that the quality of a place, both physical and mythological, plays a crucial role in inducing liminal states. Although the space was not encountered under ritual performance in progress, we can argue that its physical qualities led themselves to be harnessed to act on the senses and induce certain phenomenological experiences on the human body.

6.3.3 Logobate Cave ritual site as a tool of dissolution

6.3.3.1 Introduction and previous visits to Logobate Cave

Logobate Cave is another example of a space considered by the community to be a sacred place. As we have seen above, Logobate Cave is part of the mythological landscape of Kuruman, and similar to Ga-Mohana, is the place where the mythic snake resides. The following section is a description of Logobate Cave as experienced by the researchers. It is an account of an experience of the place at a particular moment in time and thus not merely an objective account, but rather a description of a unique experiential account in a particular moment in time. It is important to note that visiting the site at a different time could have produced other types of data not encountered during this particular visit, for example the



Figure 76 aerial view of Logobate Cave. Google Earth

season and time of year could have yielded a different experience compared to the particular time the researchers visited the site and yet such seasonal variation could have totally different ritual significance.

In previous visits to the site other researchers (there are yet to be any academic publications from this research, and this information was acquired purely from discussions with past researchers) report to have observed girls initiation rituals being performed there. These initiation rituals were partly held in the village and other parts of the ritual were performed at Logobate Cave. Figure 76 and 77 are photograph taken by previous researchers (Mr Kgopolelo Makoke) who visited the site during an initiation ceremony showing female ritual participants. For the purposes of this study, there are several things to note in this Figure 74. Firstly the girls are performing a dance and possibly singing lyrics of one of the initiation songs (dancing and vocalisation). Secondly the ritual participants are partly undressed and exposed. In Figure 77 ritual participants are also partly exposed and in the process of a ritual dance the Logobate ritual site is visible in the background. In both photographs ritual participants are dressed in cow leather and as visible in Figure 77 participants also wearing ankle rattles.



Figure 77 Initiates performing dance in Logobate village**.** Source, Mr Kgopolelo Makoke



Figure 78 Ritual participants dancing at with Logobate ritual site in the background. Source, Mr Kgopolelo Makoke



Figure 79 Inside Logobate Cave. Source, Mr Kgopolelo Makoke

Figure 77 presents the inside of Logobate Cave. In this particular photograph a single candle is lit in what seems to be a dark intimate space. This is indeed a contrast to the previous experience at the Ga-Mohana site discussed above. Although the photograph could be representing an incident that occurred specifically at the time it was taken, and could thus perhaps have been different had the photograph been taken at another time, it nonetheless demonstrates the use of space that is more intimate and isolated. Due to cultural protocols instructed by the Chief of Logobate who controls access to the site, the researcher was prohibited to climb the hill and entre Logobate Cave. Therefore the following account is based on a single visit to Logobate.

6.3.3.2 Description of Logobate Cave

Logobate is about 30km north of Kuruman CBD and the researchers travelled by car to site. The drive required the researchers to head north on a tar road and then proceed through a gravel road for about the other half of the journey. Due to the unfamiliarity of the place, the researchers had asked a community member from Kuruman town who knew the place to assist them by joining the trip and directing them to the site. Some sections of the road leading into Logobate were very poorly maintained and in some instances were completely inconspicuous with hardly any signage. Logobate itself is a predominantly rural village surrounded by wide open landscapes and very little contemporary. At the time of the visit, the earth was parched and dusty white. The village seemed remote from the main Kuruman town, perhaps because of the stark contrast of geomorphology and flora in the area compared to that of Kuruman. The remoteness could also have been created by the absence of infrastructure and human settlement between Kuruman town and Logobate village.

Upon arrival, the researchers proceeded to ask around for directions to the ‘cave’. The particular site the researchers were asking to be guided to does not have a local name but for the purposes of this study the name Logobate Cave or ritual site has been adopted. The community does not have a specific name for the site other than ‘the cave’ (in the local language). The researchers were led to a particular area where again they asked for more specific directions to the site; they asked a young man the whereabouts of the cave and he explained that he knew of one close to where he lives and could go there and take the researchers there. As they walked to the site the young man told them how there have been many reports of the snake that resides in the river close to the cave, and that there is a large snake and a smaller snake. This, similar to the case of Ga-Mohana, began creating a sense of

fear and anxiety among the researchers as well as the community member who accompanied them, and they would often discuss their concern. They spoke softly amongst themselves and negotiated whether or not they should proceed.

The hike required them to walk past a dry river bed through relatively thick vegetation. They climbed down the one side of the dry, dusty and parched river bed and up the other side. At this stage the researchers began debating the trust worthiness of the young man who was guiding them, and whether or not he is perhaps not leading them to the snake. They discussed his appearance; he was short and thin, wearing a heavy long black coat and a pair of jeans. The researchers wondered how it is he could wear a black coat in the heat, and whether he was not perhaps the snake. Whereas these discussions were part in jest; there was a level of wariness amongst the researchers.

The young guide then said they are nearing the site; there was a strong pungent smell that suddenly filled the atmosphere. It was an unpleasant rot type of smell similar to the smell of a decomposing animal. The smell was strong and highly discomforting, particularly because of the manner in which it could have been intensified by the hot air. As they walked on the smell became more pungent and the researchers began to ask what it was. The young guide



Figure 80 The first cave, a dead goat in the foreground

walking ahead of them then stopped and said “we are here”. As the researchers caught up, they came to a rock outcrop in which a small recessed space with a canopy type structure stood (Figure 77). The guide told them that this is the cave and it is where people come to perform rituals. Inside the space was a carcase of a goat and the source of the stench. The carcase was lying at the entrance of the space and was exposed; as a result none of the researchers wanted to enter. The space looked like a small shallow cave or outcrop with several niches and levels, and a particularly deep niche right at the back (visible in figure 79).

There were no signs of human activity within the space and due to the smell; the space was hostile and unnerving. The researchers agreed to leave the site. The young guide asked if they would like to walk further down to see another site. The researchers opted to not go and agreed to go and find the ‘big cave’(Logobate Cave) where the community member accompanying them had previously been, and could confirm that this was not the site. Everyone expressed their discomfort with the place and that they indeed felt eagerness to leave in haste.

Before they left they asked the young guide for directions to the large cave; he then told them that they would need permission from the chief and that not anyone may access the site without following the appropriate protocols. After a short while the researchers arrived at the chiefs’ household and were granted permission and assigned a female guide. The researchers were directed to the guide’s house and after fetching her, proceeded to the location of the cave. On their way to the site, the guide told a story that seems to be the origin myth of Logobate. The myth was entangled with what seemed to be historic fact and mythological phenomena such as once again, a mythic serpent. She also discussed how the cave was the place where the ancestors reside.

Having reached the area, the guide requested us to alight from some distance from the cave and that the rest of the journey would be on foot. After walking about a hundred meters the guide asked the researchers to stop. Adjacent to them was the river bank, and beyond the river was a hill. The guide explained that it was prohibited to go near the river, and began telling a story about the twin toddlers that were abducted by the snake that lives in the river. She explained that since she was a little girl she was told never to go near the river or even the cave, and that she would be taken by the snake if she did so. She spoke of various similar events that happened along various points on the river, and described them elaborately and in

a detailed narrative form. She also expressed her deep fear of the place and that she in fact will never cross the river or enter the cave.

In addition the guide told the researchers that initiation ceremonies are held at the site; however it was not clear in her explanation how the actual proceedings of the ritual went, and if indeed initiates enter the cave at all. She did however mention that only a few elders in the village are allowed to enter the cave and communicate with the ancestors. The guide pointed to a path along the face of the hill leading to the cave entrance. She described that during a ceremony, the elders would walk up the path in intervals, praying to the ancestors while they pause and proceed in this manner until they reach the cave. About fifty meters south of the river bank was a vegetable garden that was managed by the community. The guide explained that she participates in tending to the garden, and explained how conscious villagers are of their food, where it comes from and what they consume. For example, she mentioned that people in the village quarry salt locally and that they will only ingest salt from the area.



Figure 81 researchers discussing Logobate cave, the mouth of the small cave can be seen on the top right side of the hill. Auther (2014)

The feeling at this site was highly influenced by what the researchers had just experienced earlier (the space with the rotten carcase). There remained a sense of wariness and a continuity of a mood of anxiety expressed by the researchers and the community member who accompanied them. Finally, before leaving the site, the guide explained how there have been white farmers who ride their quad bikes up the hill and use the place as an entertainment area and expressed that this was deeply disrespectful to the ancestors.

6.3.3.3 Findings

Similar to Ga-Mohana Cave, Logobate ritual site was difficult to find, and although not as bound in secrecy as Ga-Mohana, it however did require a degree of searching. In fact this resulted in the researchers being directed to the wrong end of Logobate River were they met the young guide. Whereas meeting the young guide and going to the first ritual site was not planned, it did demonstrate the mysteriousness of these spaces and once again highlighted the element of secrecy still prevailing over such sites and places even for the local communities.

Once again Logobate relies on the myth of the snake to mythologise the landscape, thus giving it emotional potency. One can only imagine how Logobate is phenomenologically constructed by people that are deeply embedded in the place and it's myths, building invisible somatic walls and walkways around the landscape. We thus recognise that place is perhaps more emotionally constructed than merely physically understood. This was indeed experienced to a degree when the researchers were being led to the first site. Crossing the river caused one to feel anxious, this was because the young guide had already begun priming the already primed researchers, telling them that the 'big snake' lived in there. This was the mood the researchers carried with them until they confronted the rotting smell of the carcass.

The smell immediately draws ones attention to the present moment and the current situation. The senses are awakened and the entire body feels discomforted and disturbed. When the researchers reached the space, it was as if the smell was creating an olfactory wall on us not to go any further. The body refused to enter the space, and the researchers all expressed their discomfort and desire to leave. Although the space could not be proven to be a ritual space except for what the guide had told the researchers, it certainly was sensed like it could serve as one. Combined with the mythologizing of the landscape through somatic markers, the dead goat and pungent smell certainly give one an indication of the potential the space has to be a ritual space.

The researchers left the young guide feeling anxious and discomforted. Continuing on their search for Logobate Cave they needed to follow protocol and require permission from the chief. Indeed this is indicative of the relationship between power and ritual. Having to follow protocols certainly gave the space additional potency, not to mention giving a sense of power to the chief. Indeed this gave the impression that the chief exercise control over ritual spaces which must be an important part of his power structure (for more on ritual and power refer to Dornan (2004)).

The guide who finally took the researchers to the cave certainly deepened the researcher's already primed state of mind. Her stories of the toddlers being taken by the snake added to the experiences they had accumulated thus far. The myths and experiences began to re-inforce each other and made it easier for the researchers to inhabit the emotional, mythological and phenomenological (or intersubjective) landscape of the people of Kuruman. By the time they alighted the car, the researchers had been thoroughly primed. They were required to get out of the car some distance from the site and had to walk the rest of the distance, again similar to leaving ones shoes at the threshold of a temple (a willingness to de-normalise one's mind-state).

After the guide's stories, the researchers would hardly stand near the river's edge and stood relatively some distance away as they discussed the ritual space. One could sense the body resisting moving any further towards the ritual space, perhaps due to the social protocols but arguably equally because of the manner in which the space has been given spatio-somatic signification. Again, similar to the previous space, it was as if an invisible wall had been built to block the researchers from entering the space. Furthermore it was the guide's sincere fear of the place, exclaiming that she will 'never' enter the cave at Logobate. Since she had been instructed of the snakes at the cave through her entire life, her phenomenological perception of the space is indeed very different to that of the researchers.

Although again the researchers did not witness a ritual at the time they visited the cave, one recognises the role of the mythologizing of the space in inducing liminal states. As we saw in Chapter 2, in order to induce dissolution, ritual leaders depend on inducing deep emotional states of fear or love or both. The ritual participants in the photographs above (as accessed from a secondary source) are engaged in the kind of tools/practices of disillusion we have previously discussed, dancing, music, rhythmic chanting, and the use of emotional states and so on. What is most important in this case is the use of mythologised space as a tool of

dissolution. The girls are told about toddlers being taken by the snake from an early age (perhaps right from their infancy which is probable due to the fact that this was the case for the researcher). They are continuously warned about the snake and told that it lives by the cave and the river. This priming continues until the girls finally have to undergo their initiation and of course this happens to be executed at a place they fear the most. Thus we see the role of the mythologizing of space and the previous long term priming to induce and mobilise the required somatic states needed for inducing liminal states. This is indeed a sophisticated and layered process which, in a teleological manner, turns into a self-fulfilling practice between a people and a 'place'.

The last point to make regarding Logobate is that the guide tells the researcher of how some white farmers use the hill for quad biking. This reveals the different emotional relationship people have to the landscape, perhaps both of them equally valid, but demonstrating the way people inhabit different phenomenological worlds. Indeed the farmers might not realise that the place is seen as sacred, and one could argue that this may risk making the community of Logobate loose reverence for the place and thus weaken the use of the space as an agent for human psychological maturation; however such a discussion falls beyond the scope of this study, but certainly calls for urgent research.

Arguably, the most important finding from Logobate cave is that landscapes are imbued with meaning for particular reasons, in the case of Logobate cave, one of its key purposes is to facilitate the inducing of particular emotional states. Places are thus a combination of physical space and the emotions that their inhabitants associate with them. The place is made by people and in return the place makes the people through a reciprocal dialogue. Once again, we see how physical space can be used as a tool of dissolution through the inducing of liminal states.

6.4 Phenomenology of indigenous practitioners, liminality and tools of dissolution

6.4.1 Visiting an indigenous healer – experiencing dissolution

6.4.1.1 Introduction

The following section explores the manner in which ritual practices of indigenous healers and spiritual practitioners induce dissolution in contemporary Kuruman. This will be through a phenomenological account of ritual, ritual spaces and ritual objects as experienced by the researcher. In this part of the study, the researcher was embedded in the research context as a participant and used his experiences to generate primary data. The following account is of the researcher's visit to a traditional healer or indigenous spiritual practitioner. Through a phenomenological approach the researcher assesses the use of tools of dissolution acting on the senses to induce liminality.

6.4.1.2 The role of indigenous ritual practice in inducing dissolution and the construction of the self

During one of his field work trips to Kuruman, the researcher met two traditional healers; a husband and wife who he arranged to visit for a consultation. The researcher had only visited a traditional healer once before for personal reasons; therefore his experience of traditional healing rituals was relatively limited. The researcher met one of the traditional healers in Kuruman town. She was wearing traditional beads and arm bangles which had vivid colours and geometric patterns. The researcher enquired whether she is a traditional healer and she confirmed this to be the case. They had a short discussion about her recent return from her training and that at that stage she was an apprentice healer. The researcher arranged to visit her for a consultation. She explained that she lives in Batlharos Village about 15km north of Kuruman town. They arranged for an appointment the following week.

The following week the researcher called to arrange to meet the traditional healer, this time speaking to the husband of the female healer. The meeting was arranged to be at the healer's house in Batlharos village. This is a village the researcher is familiar with and a place he had often visited relatives during his youth and has often visited in subsequent years. Both healers lived in a relatively new area of the village, a government housing project commonly known as RDP (Reconstruction and Development Programme).

Access into the RDP development in Batlharos is through a gravel road just off the main vehicular road, again an inconspicuous road with no obvious markings or signage. Between the main vehicular road and the housing development is the Kuruman River; therefor one has to cross the dry river bed to get to the healers' house. The gravel road dips down into the river bed and then becomes an incline back up, at which point the RDP housing would, for the first time become visible. Once in the settlement, the researcher was met by the son of the healer along one of the main roads who escorted him to the house of the healers. The house was unassuming and identical to the other houses on the street. At this stage the researcher was feeling un-easy; Indigenous practitioners or 'sangomas', who are modern shamans in the indigenous community of Kuruman are feared by a large number of community members. Through urban myths and storytelling, they have gained the negative reputations of witchcraft and other supernatural powers.

The researcher was invariably carrying an emotion of anxiety as he knocked and entered the healer's house. After introductions, the researcher was invited to enter into the consultation room. This was an extension of the one and only bedroom in the house. The sleeping area in the bedroom and the consultation space were separated by a timber board and a wardrobe. The space was small, about 2.5m x 2.0m with just enough space for 1 chair in which the researcher sat. The healer and his wife sat and knelt facing an area that resembles a shrine. This area drew the most attention; a brightly coloured mat was laid on the ground level on top



Figure 82 A map of the RDP housing settlement showing the access road in green. Google Earth.

of which were a number of items which included a number of plastic bottle containers of different sizes, dried plant matter perhaps roots stems or leaves, folded colourful and patterned clothes and fabrics, match boxes, bottles, beads and a wooden ladle within which divination objects are placed (Figure 82).

The healer's wife had been preparing the space, and she was already waiting dressed in brightly coloured traditional attire. The researcher was asked to sit. Before the consultation began he was required to put money (a payment for the consultation as per custom) into a small plastic plate after which the healer began his practice. The healer lit what looked like a dried plant that resembled bunched up grass. The plant gave off an odour and released some smoke. The healer began making various enigmatic sounds while preparing his space. Shortly after preparing the space he began praying to his ancestors as well as Jesus Christ (Jeso Kreste), speaking as if to someone in the room. He did this for some time, calling out various names and answering back as though he was being spoken to. He continued to make whistling sounds with his mouth or blow on a metal whistle which he wore around his neck.

This went on for some time, and as time went on the healer began raising his voice and speaking in an emotive way, sometimes responding to what seems to be distressful reports from those he was consulting. Eventually the healer began to lower his voice and the intensity of his actions began to quieten down. When he stopped he looked up at the researcher who had been quietly watching the ritual, and began to speak.



Figure 83 Consultation room and shrine area with the healer sitting to the left. Author (2015)



Figure 84 Divination objects on the mat, some of which are shells and dominos. Author (2015)

He explained to the researcher that the ancestors are concerned for the life of the researcher, and that they have reported that there are people planning to kill the researcher in a car accident (through witchcraft). He explained that these people are acting out of jealousy and that the researcher should pray.

After the healer completed relaying the message he recieved, the researcher asked the healer to 'throw' his divination objects (throw being a well-known term in Southern Africa referring to an action in which diviners and traditional healers throw divination objects as part of their practice objects). Divination objects are often found collectables like marbles, shells and stones which are thrown on a mat as part of the divination ritual. The healer explained that this could not merely be done for show and that he needed to follow the right protocols. He then began praying again, and soon requested his wife to administer the ritual. She took the ladle that carried the objects and poured them out. The healer and his wife looked at the objects that now lay scattered on the mat; after some time they began making sounds that indicated surprise and wonder. They did this for some time, laughing and talking between themselves shaking their heads as they continued to seemingly marvel at what they saw.

Eventually after they settled down, the healer showed the researcher one of the objects. He explained to him that the object is a water symbol, and that a water symbol has great

significance in healing. He said to the researcher that according to his interpretation of the objects, the researcher is called to be a traditional priest. He explained that this is not the same as a traditional healer, but is rather someone who has prophetic abilities and can minister to people through words. The healer and his wife were both very excited by what they saw and told the researcher that he has been running from his calling and that he should give in to it.

After the ritual, the researcher said his goodbyes and went back to his accommodation in Kuruman town. The following day, in the early hours of the morning, the researcher woke up from a vivid dream in which he was in the room where the ritual had taken place the previous day. In the dream the researcher was looking up from the healer's shrine into the consultation room as though he was one of the objects placed in the shrine area looking into the space. The healer woke up feeling disturbed and frightened from this dream and discussed it with a number of people from the community, some of whom believed that his soul or spirit (moya) was called to that place or had 'travelled' back there. This was seen as a serious concern to the extent that the researcher was required to consult a Christian preacher who also administered a ritual in which she requested the researcher to break 'spiritual bonds' with various phenomena including the moon and rivers. This was done through emotive and loud chanting for some time.

6.4.1.3 Findings

The researcher's experience at the indigenous healer's home revealed several insights; firstly it demonstrated the manner in which the researcher was becoming increasingly re-assimilated into the intersubjective and mythic conceptual framework of the place. The researcher's background and upbringing, including his recent experiences at Ga-Mohana, Legobate and indeed the Wonderwerk Cave, as well as a number of other experiences in Kuruman that have not been presented in this study, had created the right psychological conditions to allow the researcher to be susceptible to the indigenous practices in Kuruman. In combination with the researcher's own embodiment, this meant that his self was susceptible to be acted on.

This assimilation is seen for instance in the feelings he had when crossing the river as he approached the healers' home. Crossing the river in this instance was purely circumstantial but reveals a salient issue, previous priming developed an emotional response (uneasiness) not only to specific water bodies, rivers and water holes, assumed to be linked to the water snake; as such all rivers and water holes became mythologized, therefore the river that was

crossed this time gained significance for the researcher, and perhaps is the same phenomenological experience of shared intersubjectivity by Kuruman inhabitants who have been similarly socialised.

The second key finding is the role of sensory stimulation in inducing liminal states. The healers home, his attire, his demeanour all become part of a subtle contingency of priming strategies such that by the time the researcher stepped into the house the priming had already begun. The sitting room appeared full of colour and patterns; this was done through layering brightly coloured fabrics on surfaces. He also adorned his body in colourful accessories like brightly coloured arm bands and necklaces. Therefore one's self is already being acted upon even before the 'actual' ritual 'starts'.

The healer's actual ritual space was entered with an attitude of reverence and respect as the mood/tone was already set by the kind of body postures and behaviour the healers were displaying. This use of their own body makes sense when one considers the notion of mirror neurons discussed in Chapter 2; which allows the healers bodily practice (relying on empathy) to act on the researcher through embodied experiences which are cognitively unbeknown to the researcher. Furthermore the healer's wife had spent some time 'preparing' the space such that her absence and time spent in the ritual space further primed the researcher.

By the time the researcher entered the ritual space he was already embedded in the required psychological space for what Freeman calls 'suggestibility' or Csordas calls 'persuasion' (Csordas, 1983; Freeman, 2003). The actual ritual relied on bombarding all the senses with stimulation including olfactory, visual (bright colours and 'strange' objects placed in the room) and aural. This is not to mention body postures as an additional tool of dissolution; in this case, the two healers, bowed down with their bodies tightly closed in, similar to postures practiced in prayerful positions. Furthermore the researcher was required to sit on a chair away from the shrine area, in other words away from the ancestors, but sitting up almost as if he were on stage and thus the object of attention.

The indigenous healer then proceeded to light a herb and called upon his ancestors while making strange enigmatic sounds. This went on for some time and indeed caused the researcher to feel extremely discomforted and afraid. Ultimately when the healer came out of his slight trance type state, he reported to the researcher that the researcher would be killed; this indeed becomes a highly salient point, and demonstrates the role of existentialism or

consciousness of mortality as yet again another tool/strategy of dissolution. Soon after this the researcher was told to pray which was perhaps intended to serve as an antidote to the experience of nihilism now confronting the researcher.

Finally the researcher asked for the divination objects to be thrown. The objects were objects that otherwise would not be found together, particularly in their natural context. For instance there were shells, dominoes, stones (one of them was a quartz crystal). The healer alluded to the meaning the symbols had, linking the water symbol to shamanism (very likely to have originated from San cosmology and the link between healers and water). However from a cultural neurophenomenological perspective, the artefacts also acted on the researcher's conceptual frameworks of the objects, things that acquire a contradictory meaning when placed together due to them being from different context. One could argue that this is similar to the role of the trickster, undermining conventional conceptual constructs by placing disparate objects in the same context. Indeed this resulted in adding to the researcher's already discomforted feeling of waning groundedness.

However, instead of leaving the patient (researcher) floating in liminal space, the healer, precisely as Freeman (2003) describes, uses this state of suggestibility to impart new meaning into the researcher, telling him that he is destined to be a traditional priest. This experience impacted the researcher to such an extent that in his sleep that night he dreamt of the ritual space. We could argue that the dream is indicative of the way in which the experience has unintentionally created a spatio-temporal emotional bond with the place and possibly recalling shaman accounts of being in a different camp during trance states induced through dissolution practices.

These findings give us a better appreciation of the role of ritual in inducing liminal states, and indeed how these states can be deeply problematic and frightening to the extent where sometimes they can be interpreted as psychological pathologies. We see now how the senses can serve as the gateway to liminal states. Based on these findings we see why the trance dance was indeed acting on the senses of both dancers and observers. The following section looks closer at divination objects and their related practices as tools of dissolution.

6.5 Reciprocity - The role of the making and use of divination objects as tools of dissolution in the collective construction of self and meaning

6.5.1 Introduction

After having visited the healer and the various ritual spaces, the researcher engaged in the making of ritual artefacts, more specifically what is described here as divination objects. This was done through intuitive processes; especially in that the objects were not consciously modelled on anything the researcher had seen or on any representations. He was assisted by local makers from the Kuruman area whom he had found in the local government data base. The objects were made in a period of about 4 days; the following is a description of the researcher's experience of making the objects and the subsequent responses from the community of Kuruman when they encountered with the objects.

6.5.2 The makers context

The maker lives about 80km North of Kuruman town in a village called Loopeng. The researcher arranged to visit the maker in Loopeng to explain what he required and what the purpose of the work was. Loopeng can only be accessed by a long white gravel road from Kuruman.



Figure 87 Makers house, an earth house with thatch roof. Author (2015)

The researcher met the maker along one of the main roads in Loopeng which was a dusty and sandy road. The maker directed the researcher to his house. He was a very unassuming man wearing overalls and a cap. He had a gentle manner and was full of respect often referring to the researcher as ‘rre’ roughly translated to ‘sir’. After a short drive they arrived at the maker’s home. There were several houses on the property, some resembling a more contemporary vernacular with one resembling a more traditional type of dwelling. The latter was the maker’s house; it was of bright orange earth tone in colour with a grass thatch roof. The house had a floor slab that extended out to make part of a veranda, the veranda was held up by thin poles.

The maker described how he is the house builder in the area, and that he builds all the houses using his hands. He explained that he built his own house and that it was comfortable and warm unlike the modern houses people are building using corrugated iron or ‘senk’. The maker also explained that he grows food and took the researcher to the back of his house where he was growing grapes. He spoke of how proud he is of his grapes and that even though he finds it difficult to grow them because of the poor water supply and drought in the area he continues to pursue his passion.



Figure 88 Indigenous makers art works. Author (2015)

The maker then showed the researcher his outdoor cooking area or ‘skerm’ and explained that that too was made by him. He explained that he found the material to make the fence of the skerm from around the area, and that the sticks that he uses are strong and durable. He then invited the researcher to entre his house where he kept his craft work. The house was filled with all sorts of objects such as small wooden houses, hand crafted wooden maps, helmets, wire sculptures, stick lattes structures to name a few (Figure 85). These were not organised in any particular way and were placed much like one would expect to see similar items kept in a store room. The maker discussed some of the projects, why they were done and why he hasn’t sold some of them. He referred to the work as ‘art’ and repeatedly mentioned his love for ‘art’.

The maker then took the researcher to one of the houses he was in the processes of building. He explained that the house belonged to a young lady, who wanted a place of her own, and that she had been living elsewhere previously and returned to Loopeng and needed to build a house of her own. The young lady was employed in local government development project. After a short drive they found her along one of the gravel roads clearing plants and grass. The maker explained who the researcher was and she agreed to show him her house. They drove a short distance and arrived at a fenced property. The house was earth brown in colour and stood alone in the yard. The roof was corrugated sheet metal and the windows were of steel.

The young lady explained how she was building up the walls, and that the maker helped her build the timber structure and the window and door frames. She described how she would mix the dung with soil and water, and then slowly apply it onto the frame. She explained that she was on her second layer, and that she was left with one more layer. She also explained that she got the dung from nearby municipal taps were the donkeys usually gather. She would walk from tap to tap collecting the dung which she would bring to site and mix with soil and continue building her house (Figure 88).

The maker explained that in the old day's people could not merely build or make things, and that many protocols had to be observed. He explained that even when making a clay pot one needs to follow certain protocols or 'maila', for instance, a person would have to remain celibate for several weeks before making a clay pot. He explained that if one did not follow the correct protocols when making an artefact, one would run the risk of the structure collapsing, and that in many instances he has had to remake clay pots because he was too 'hot' when he touched the clay.



Figure 89 Finger indents from the process of making. Author (2015)

6.5.3 Making the objects

The creation of the divination objects started with sketches the researcher did to visualise how the objects could turn out. The sketches are based on drawings the researcher had been doing for some time although they are not based on any specific phenomena or representation, they are purely from the researcher's imagination. Perhaps if any, the main influence and criterion for the form, scale and materiality of the objects was the researcher's experience of other divination objects in the past. Although what is commonly thought of as

divination objects in this particular context are found objects like dice, bullets, marbles, shells, beads, dominos and bones, the researcher instead of using found objects opted to make

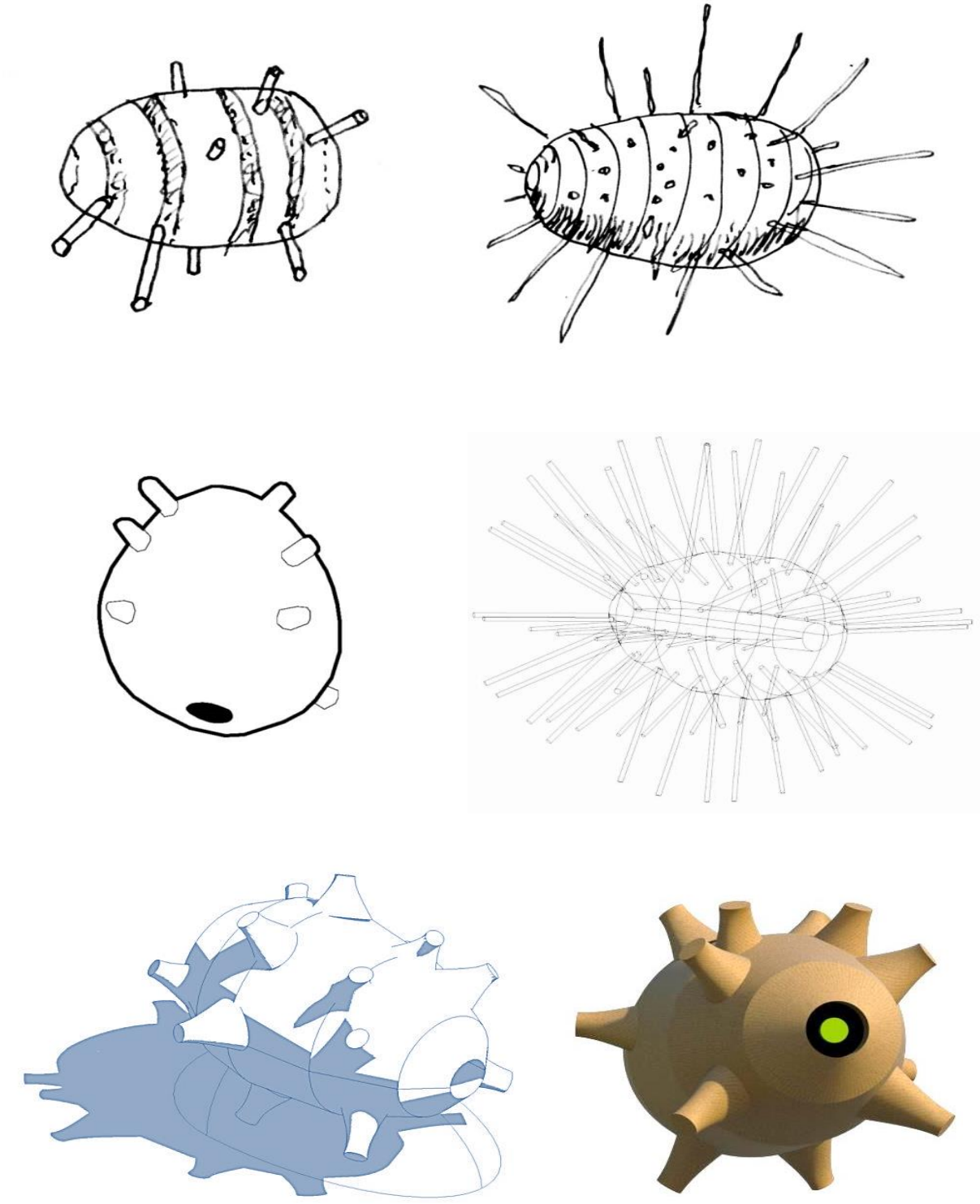


Figure 90 Designs of one of the divination objects, top row are pen sketches, the two bottom rows are computer generated designs of the object. . Author (2015)

objects through a processes in which he sculpted a material into a desired form. This again was not done for any particular rationale and was an intuitive decision.

The researcher returned to Loopeng several days later to collect the maker and the material they were planning to use to make the artefacts. The researcher had already had a discussion with the maker regarding the type of material to be used for the objects and the maker had suggested that they use timber. Together with the maker's brother who came along to assist, they drove out to a nearby bush to look for a tree called 'Mokgalo', which as the maker explained, had spiritual significance according to indigenous cultural beliefs.

The area had white sandy earth with sparsely dotted bush and hardly any grass.The maker was knowledgeable of the quality of the tree he needed for the best results, and began searching for a specific tree as well as looking out to avoid one that was too wet. After testing several trees he eventually found one that had fallen over and dried. He peeled off the bark to expose a beige smooth surface and tested it by cutting into it with a knife. Satisfied with the material, he began cutting the timber into smaller pieces. Once done, the maker and the researcher collected some tools and drove to Kuruman town where a temporary workshop was set up in a garage. The space contained two large metal tables, and some chairs. There was a variety of wood work tools including files, saws, drills, craft knifes, measuring instruments and different adhesives and paints.

The making the artefacts took several days. The first day, when the researcher and makers arrived at the workshop, a large amount of the work consisted of cutting the log into slices (Figure 88). This was a time consuming and labour intensive task, and even between the three of them it demanded a lot from the body. This required the body to bend in a particular way as to exert the maximum amount of force for cutting the timber. It also required gripping the saw when cutting, and holding the timber steady which was often a physically painful process. Cutting the pieces was an intensive physical exercise and went on late into the night.

After a relatively short night the makers woke up early to continue working. The process of transferring the designs done by the researcher was by mapping the designs onto the material (Figure 88). This was indeed not as physically intensive although it required deep concentration often resulting in silence and quietude. The researcher would then hand the piece of timber with the design to the maker who would begin to cut the profile out of the block. Again this was a labour intensive process requiring high levels of energy and physical activity. Once all the designs were mapped onto the timber, the researcher joined the maker



Figure 91 Slices of timber with images mapped on to them to later be cut out by the makers. Author (2015)

in carving out the shapes from the blocks of timber. This processes took the whole day, requiring both the researcher and the maker to work well into the night often with periods of intense quiet and other times having jovial chats and some occasional humour.

The following day also started early. By this time the makers were beginning to feel exhausted thus consumed a considerable amount of coffee to keep going. The next stage of the processes required a sculpting of the cut outs into forms that closely resembled the designs. Again the process was labour intensive and required extended ours of sitting in arched positions which caused strain on various muscles especially lower back. The scale of the artefacts meant that a particular body posture was required, particularly the manner in which the hands gripped the artefact and the way one often had to hold the artefact close to the body, cupped in the hand or hunching over when the object is placed on a surface. Furthermore the scale of the artefacts created constant potential for injury to the hands and in several occasions the maker and the researcher sustained injuries such as deep cuts in the fingers (Figure 89). The experience of making the artefacts at this stage was generally strenuous, with physical strain to the body and a fatigued mind.



Figure 92 The researchers hands applying a finish to the artefacts, note the bandage on two of his fingers. Author (2015)

Forming the artefacts to resemble the design was highly time consuming, and required many hours of filing and sanding. The next morning the makers continued forming the artefacts. By this stage the researcher began to apply the finish to the artefacts that had already been completed. The finish was done by applying small quantities of paint on the artefacts as well as varnishing the surface; all but one had a varnish finish. The artefacts were completed in a total of about 3 days, not including the time it took to design them. The process was highly labour intensive and completion was celebrated by the makers.

6.5.4 Embedding the artefacts in the Kuruman context

Once completed the researcher took the artefacts into the Kuruman context interacting with a number of community members namely, three indigenous practitioners and several ordinary community members. The researcher purchased a leather pouch to carry the artefacts, one resembling what indigenous practitioners would carry. In the instance where the researcher took the artefacts to the indigenous healing practitioners, one practitioner reacted in an unhappy was saying to the researcher that he needs to guard his artefacts and keep them more secretive and should not show them to anyone and or treat them casually. In another instance the indigenous practitioner took the artefacts into his hands and threw them on a flat surface.



Figure 93 Complete artefacts in leather pouch. Author (2015)

He explained that the objects don't have enough 'role' and that they were too clumsy and chunky to role elegantly when 'thrown'. The third practitioner took the artefacts and kept them over night. The following day she explained that she kept the artefacts in her ritual hut so that the artefacts can be introduced to the ancestors (this particular practitioner is related to the researcher so ancestors in this case would be referring to ancestors of the researcher as well). When the researcher showed the objects to ordinary members of the community the general reaction was of rejection and unease. In most cases people did not want to touch the artefacts, some enforcing physical distance for themselves and the artefacts. Other people used words like creepy or 'boloi' meaning witchcraft when referring to the artefacts. Generally ordinary people felt discomforted by the objects.

6.5.6 Findings

Perhaps, the choice of making the artefacts instead of collecting existing objects was because the researcher wanted to simulate the making of ritual artefacts such as rock engraving (although the rock is of course not 'made') and rock paintings made by a shaman. The primary concept of the form was to make something that did not resemble anything in 'nature' such as to be inferred as representational. This again was to imbue the artefacts with potency by making them not resemble anything familiar. These were assumptions emerging from the researcher's prior insights and understanding.

The most significant finding from this "experiment" is that the researcher failed to consider a pattern that is common in the examples discussed above, including in the case of Wonderwerk Cave artefacts. The divination objects presented previously, similar to the ritual space, are a combination of familiar objects and 'natural' objects. As we saw in the previous section, the disparate nature of the artefacts gives them their potency, whereas the ones made by the researcher were contextually homogenous. Although the forms of the researcher's artefacts were unfamiliar, the material was the same and the artefact was worked so much that it did not express its original context. In fact the artefacts were an expression of two things, the researchers body (the human body) and the process of making. That is to say the final form of the artefacts was determined by availability of tools, labour and work space. Furthermore the researcher's body including the dexterity of his hands and fingers, meant that the artefacts were fundamentally a reflection of his embodied dialogue with/through the process of making.

This is not to say that this is exactly the same case in rock engravings or rock art; on the contrary the rock art is fundamentally an expression of the body, however rock paintings like contemporary divination objects are a combination of the human made objects and the naturally made ones (the rock surface painted on and the actual painting). The researcher's object eliminated the evidence of 'nature' by overworking the artefacts almost to a level seemingly of artificial objects. The combination of 'human' and 'nature' could be seen as the merging of two seemingly disparate contexts, the latter being a context that is linked to greater cosmological unknowns, and the former being the context of the known such that once combined , ultimately pose an existential truth about the enigma of human origins.

One could thus argue that the researcher's artefacts failed to harness the conceptual power of the contexts of the artefacts as being a potent way of inducing dissolution. The researcher and the maker both approached the artefacts as 'art', although the function of the artefacts was to induce liminal states. Although the maker is from the Kuruman context, he seems to have conceptually re-framed art in a Western paradigm as 'beautiful object' rather than being something imbued with cosmological potency. The maker and the researcher seem to both be accustomed to fabricating materials (one can observe the makers artefacts) to the degree that the original material becomes un-intelligible to the body (not integratively sensed). One could argue that this may have been the cause of the oversight.

Having said the above, the artefacts did provoke various emotions in people where, in the majority of cases involved the kind of reactions that the researcher would expect from the inhabitants of Kuruman confronting divination objects. This may be because of the way the objects were packaged as well as the scale of the objects. The pouch the artefacts were carried in was precisely the kind of pouch usual divination objects would be carried in, and the scale of the artefacts was the same as that of usual divination objects. Therefore one could argue that due to prior priming and being embedded in the mythological landscape of Kuruman, people who encountered the maker's artefacts associated them with 'authentic' ones.

Finally the comment made by one of the indigenous practitioners to hide the artefacts and not handle them casually recalls Lewis-William's discussion of secrecy and potency in Bushman rock art (Lewis-Williams, 2005). Similar to the protocols that need to be observed at ritual spaces, and the secrecy surrounding them, what the indigenous practitioner seems to have

been implying is that the researcher build and maintain potency through creating more mystery (de-familiarisation) around the artefacts.

6.6 Overall findings and conclusion

In Chapter 4 we briefly discussed the way in which physical spaces like caves may be part of the contingency of tools of dissolution used to induce liminality. The data presented above demonstrates the way in which the location of places along with the myths associated to those places are part of ways of priming individuals, and using specific somatic conditions for the purposes of inducing liminality. Though being embedded in the context, the researcher could experience/sense the effects of long term priming when he visited certain areas.

A key priming agency is secrecy as well as mystery, and there are tools we see being applied repeatedly in the different ritual contexts within Kuruman. According to Lewis-Williams (1989) this is evident in Bushman ethnography, and he argues it is one of the ways by which Bushman shamans enhanced potency. Along with location, secrecy and emotional priming, the ritual spaces are rendered physically iconic, either small and intimate such as in the case of the niches at Ga-Mohana or the Legobate Cave, or large and voluminous like the main chamber at Ga-Mohana. The spaces are also accentuated with instruments that further act on the body through intense multi-sensory inputs such as candle light and smoke (smell). We see that space can be used as a tool of dissolution, ultimately imbuing landscapes with embodied meaning to such an extent that one can physically sense (or somatically "feel") invisible thresholds.

Whereas rituals rely on the senses to induce liminality, in many instances ritual participants were already exposed to priming agents before even becoming consciously aware on where the ritual starts. Ritual facilitators use sensory stimulants such as whistling, groaning, shaking and other enigmatic behaviour to dislodge the ritual participant from ordinary experience thus bringing them into liminal states. Existential consciousness is also used as an instrument to induce dissolution; the ritual supplicant is made aware of issues of mortality and is again dislodged from the known and familiar. Divination objects play a similar role by presenting the ritual participant with objects from disparate context, often 'natural' contexts and 'human' contexts. Once again, this relies on existential uncertainties to render the participant dislodged from 'normal' experience at which point the ritual facilitator introduces an idea or concept that becomes more easily assimilated into the participants self and thus constructing a new self.

One thus recognises that the inducing liminality and dissolution as the key objective of all the various ritual activities presented above. This is indeed congruent with what Guenther (1999) argues, and thus reveals a salient point. If Holocene Wonderwerk Cave inhabitants practiced the trance dance daily and thus engaging a variety of tools of dissolution to induce liminality, it would make sense such communities would display social behavior closely aligned to anti-structure, communitas and egalitarianism. Indeed as demonstrated in Chapter 5, social constructs manifest into specific spatial strategies among Bushman communities, ideally displaying attitudes of open-endedness, fluidity and access. Indeed these attitudes were functional as they mitigated collapse that may arise from solipsistic attitudes when facing a major change such as climate variability.

Finally as we have seen in Chapter 2, confronting the numinous can be experienced with deep fear or deep ecstasy. Perhaps this may be an indication of an evolutionary adaptation that rewards the brain (in cases of ecstatic emotions) when it is engaged in practices that induce liminality. Perhaps this is an incentive created by evolution to encourage people to practice altruistic attitudes and egalitarianism due to the social and ecological benefits of such behaviour; indeed based on a cultural neurophenomenological framework, this assertion may not be too farfetched.

Chapter 7: Place making and rituals of dissolution

– towards climate variability adaptation and resilience

7.1 Introduction

In the previous chapter we have seen the role place making rituals play in increasing the resilience of Holocene Wonderwerk Cave inhabitants. By using the cabling method (with the researcher empathetically immersed in the research), we could synthesise what are otherwise seemingly disparate/disassociated strands of evidence to demonstrate one possible way in which past people could have coped with environmental variability like climate change. This final chapter of the study address the last section of the research question. Given what we have learnt from past indigenous inhabitants of Wonderwerk Cave, we now begin to explore what this might mean for contemporary society given our own climate change and our need to adapt.

The chapter begins with a consolidation of what we have drawn from the previous chapters, particularly in relation to the building of resilience. Following this is a section on contemporary lock-in and the inability of contemporary society to change. This will be followed by a section discussing the way climate change and sustainability is framed and how this framing is part of why we are experiencing lock-ins. This is then followed by a section discussing the contemporary fear of existential uncertainty followed by a section discussing climate change as an existential issue. This leads to a discussion about implications of the findings of the study in relation to architecture. This is then followed by a conclusion and a section on recommendations.

7.2 Overview of the role of ritual as an adaptive human measure when faced with climate variability

Based on the findings from the previous chapters, it is argued here that the trance dance performed by Holocene Wonderwerk Cave inhabitants is among other things, a direct response to environmental variability such as climate change. Based on previous publications such as (Barnard, 1986; Lee, 1972; Yellen, 1977; Guenther, 1999), we see that there is a strong correlation between Bushman spatio-social constructs and their variable environments. This is not to say that all Bushman societies were perfectly reflecting the liminality of the

environment and thus developing their fluid demeanour; on the contrary, one could argue that this be viewed as a reflection of an ideal Bushman society.

As we have seen, some Bushman groups do not display attitudes of openness and inclusivity for example, and similarly to us, they also have the potential to display solipsistic attitudes and attachments (Deacon, 1988; Cashdan, 1983; Hall, 2000). To this effect, one could argue that the Bushman are human just like the rest of us across all ages. Therefore in a non-environmentally deterministic way, the Bushman can be expected to display proclivities across the scale from synchronically fluid to intensively rigid.

However, the Bushman practice the trance dance and they do so regularly. The insights emerging from the previous chapter on the effects of embodied ritual practices and their ability to induce liminality, we thus begin to see a potential loop between Bushman fluidity (which as we have seen manifests into their relationship with each other and the environment) and external variability.

The relationship between ritual and subsequent socio-environmental consequences was partly touched on by Guenther (1999) in relation to the Bushman, and discussed in other contexts by Turner (1969), Freeman (2003) and other authors. However it is not until now that we have a better understanding of the way in which ritual induces liminality and thus fluidity. Practicing a ritual such as the trance dance would thus result in a society that immerses itself into perpetual liminality. It would thus make sense for evolution to embed liminality within the species. It is argued here that this is done through what is often described as feelings of bliss and ecstasy; in other words an encounter with God, the numinous or a divine encounter which would in turn be expected to act on the reward centres of the brain. d'Aquili & Newberg (1998) describe an encounter with the numinous as the following;

> A mystical experience is a state of mind, achieved through some sort of self-cultivation, of which the following are usually or often the salient, but not always necessarily the only, features; feeling oneness or unity, variously defined…an extraordinarily strong affective tone, again of various kinds (e.g. sublime joy, utter serenity, great fear, incomparable pleasure etc. – often an unusual combination of such as these)… (d'Aquili & Newberg, 1998, pp. 193-194)

Notice the emotional experience encountered, particularly feelings of ‘pleasure’ and ‘sublime joy’. This is an experience reported by many ritual participants, including in San culture

(Lewis-Williams, 2004). The researcher and author of this study has encountered these feelings during ritual participation, and experienced both spectrums of sublime joy and crippling fear. Based on his experiences and those drawn from secondary sources reported in in Chapter 2, one can see why these experiences would induce such polarity in emotions, not to mention a combination of these poles. The state of liminality is phenomenologically experienced as not perceiving fragmentation, separation, solidity, differentiation, contradiction, or absolutes. Indeed, in situations when one experiences this within a positive context it is experienced as absolute bliss and a deep sense of 'knowing the truth', which subsequently results in the loss of fear, particularly fear of death (d'Aquili & Newberg, 1998).

When experienced in a negative environment, where there is no guidance or support, the experience can be encountered as a dreadful psychosis or as Varela put it, a pitfall of nihilism. Indeed both of these are common occurrences in Bushman society, particularly in relation to the trance dance. In its positive manifestation, guided by wisdom and social support, this experience is blissful and perhaps becomes one of the greatest generators of joy inducing hormones. Feelings of oneness with others, the landscape and the cosmos later generate existential wholeness where the individual no longer senses separation and thus resolves the deepest generator of existential angst, death (d'Aquili & Newberg, 1998); the side effects of this of course being social bonding, and as we have mentioned earlier, an egalitarian attitude.

Therefore, what we see is a reciprocal situation in which the inducing of liminal states resolves existential dilemmas that arise from impermanence and variability. The brain is thus synchronised with its ever changing environment and is thus rewarded by encountering a sense of wholeness and non-duality. In an environment where people cannot afford to be attached to places or resources, and need to foster openness and fluidity due to the fluxes of the environment, it would make sense that evolution would embed a reward for adaptive fluidity and flexibility. Thus one may say that the experiences of trance, although infinitely nuanced, layered and complex, may have been sustained by the reward of a blissful experience, while they function as mediators between invariance-seeking self and its perpetually variable environment.

7.3 The techno-scientific rhetoric of climate change and sustainability and our inability to respond

Based on our findings in previous chapters, we begin to appreciate what it takes to induce the reconstitution of a self. Liminal states, and perhaps even the awareness of the infinite and groundless nature of reality is fundamental for the persuasion of the self to let go of its old form and take on a new identity. In the previous chapters, it is evident that some people in Kuruman are deeply attached to place to the extent of experiencing place as an extension of self. Furthermore we realise that changing people's relationship to a place requires embodied persuasion, and not merely engaging them through a cognitive rationalist-guided dialogue.

Due to climate change, we are now sensing the need for people to let go of the old in order to usher in a new paradigm and way of being in our world. However, we have assumed that this will only take convincing enough climate data and the adoption of new technologies in order for us to "reasonably" respond. However after many years of climate data and warnings, people have failed to respond, usually only responding when the crisis is felt. This is a crucial point, and indicates the flaw in our approach thus far. Firstly it reveals how deeply the Cartesian model of the human being still persists in our societies. We assume that by merely telling people to change, and giving them good enough reason they will do so.

However based on findings from our previous chapters we realise that people depend on attachment to enjoy existential groundedness and security. Psychological continuity is more fundamental to people than practical needs as we saw in the example of the community of Smiths Drift who refused to move from a dry barren land in spite of the promise of better land and thus opting to stay because of their emotional and thus existential bond with the place. Similarly today people seem to be in denial of the climate crises, and arguably because they would rather continue with the existential security of a known world rather than face the formless and groundless nature of reality that will have to be acknowledged because to give up a way of life would imply that such a way of life is not at all absolute as previously assumed.

In our previous discussions, we begin to appreciate the tentative and slow persuasion needed to dislodge the self from one place/time-period or era to another. As we have seen, this requires more than a cognitive dialogue but instead calls on a combination with embodied practices, or rituals, to loosen the attachment from one thing to another, while safely crossing the liminal space.

Secondly we see that so far climate change has been primarily framed through techno-scientific objectivism almost to a total disregard of its embodied/existential significance. This is problematic because it fails to reveal the underlying existential implications of the phenomenon. If indeed our contemporary way of life has reached its limits, and we cannot continue this way anymore, we must then admit the groundless nature of reality and return to a liminal state, or being in the unknown. In other words, what we thought was true and sustainable for our existential certainty, continuity and a sense of groundedness has thus become fundamentally questioned and subjected to doubt, meaning that humanity, ultimately becomes plunged into a state of uncertainty and the unknown. This is a blow to our myth of progress and globalisation, and renders our species existentially lost without anything to hold on to, except perhaps revisiting concepts such as faith.

7.4 Is liminality creativity

The findings thus far lead us to ask the question; is humanity heading for a nihilistic future, or are we moving towards reframing the unknown and uncertainty as being similar to the way the Bushman devised ways of dealing with ongoing uncertainty and flux. Aspects of Bushman art that may give us a clue on a positive outlook of liminality are representations of therianthropes. According to Lewis-Williams (2004), therianthropes are representations of what the shaman sees and experiences himself primarily when in a trance state. This experience is normally depicted as a conflation of the human body and the body of an animal.

Based on neuroscientific studies such as that of Vartanian, et al. (2013), we know that creativity is usually a rupture of convention where existing phenomenon are reconstituted into new forms. Based on the neuroscience of ritual Freeman (2000), and the notion of liminality, one begins to see the correlation of creativity and liminality. If indeed trance states are phenomenologically experienced as the dissolving of boundaries, it is no surprise that previously disparate categories would, in a liminal state, be fused. This is a crucial insight because one needs to only contemplate the nature of creating something new that one immediately confronts the issue of how something new can emerge from what is conventionally/normally known.

Knowledge is usually guided and restricted by rules and institutions which protect its boundaries. This is often manifest by psycho somatic feelings of wrong and right, thus defining the knowledge realm. However, protection of the integrity of knowledge is equally

the limiting factor of that knowledge, thus restricting new insights, or at least limiting their frequency of emerging. For example new academic insights or approaches are frequently met with resentment, in spite of claims or goals to expand the knowledge field. This could also be arguably the need to maintain existential stability and a sense of continuity, which is not in any way dissimilar to the types of attachments discussed in Chapter 5. Going beyond the known requires one to encounter and immerse a self into liminality and in the process admit the falsity of absolute knowledge.

It is thus no surprise that new forms would appear in rock paintings, particularly those of phenomena that would not usually be in such a form in 'normal' consciousness. Therefore one sees the reciprocal nature of liminality, trance and art, circularly re-inforcing the dissolution of fixed and rigid structures. Indeed one recognises the importance of fracturing conventional structures to introduce new concepts, but again as we have seen in the previous chapter, as well as in the practices of the Bushman, this requires self-induced trauma such as through trance dance to put the self in a state of liminality, which in itself is yet again prone to psychological risks, especially in the form of nihilistic meltdown and the attendant consequences.

However one sees the absolute necessity of creating new combinations, which is perhaps the cornerstone of human survival. Seeing the potential of a stone being a tool to butcher an animal, or an egg as a water container is perhaps a result of the fracturing of old meanings such that without such capacity, our species may have never survived thus far. Adaptation to different environments is now understood to be reciprocatively underpinned by neuro-plasticity which in turn is underpinned by the ability to induce/ enter liminal states.

Therefore, perhaps ongoing liminality is exactly what the doctor ordered for our current lock-in. Perhaps through better practices of liminality, humanity will begin to see new ways of living that would mitigate our current trajectory towards socio-political and environmental crises. However we will not be able to escape a crisis of a different sort, unless like the Bushman, we can develop ways of dealing with the collective psychological pitfalls of potential nihilism.

7.8 Implications for architecture

What does this mean for architecture? Based on the findings of this study architecture is affected in three way. Firstly, the role of the architect needs to be revisited. Instead of being a

technician, the architect needs to re-assume the original role of a shaman, understanding the way in which the body is embedded and meaningfully situated in a world and coupled through the senses. Architectural philosophers are beginning to appreciate the need to re-establish a phenomenological approach in architecture, an architecture that responds to a people and their sensorial coupling (Pallasmaa, 2007).

Linked to this point is the role of architecture as a tool of dissolution. As we have seen in previous chapters, caves and other natural places have in the past and to a lesser degree in the present been co-opted to be part of the contingency of tools that induce dissolution. Thus the architect would need to recognise his role in inducing liminality by using architectural elements such as scale, position, materiality, light and other design elements along with myth and other somatic instruments. This is indeed a skill that only the architect can possess and not the developer, project manager, project engineer or client.

Lastly, but perhaps most importantly is that an architecture that can readily deal with issues of climate change and sustainability has to be an architecture of impermanence. This could be seen as counter intuitive because architecture is usually conceived as having to be solid and impervious to time and change, particularly environmental change. However, an architecture of resilience is an architecture that embraces change and flux, one that is not ridged and fixed in a petrified state, stuck somewhere in a time past. Architecture needs to be nomadic in the figurative sense, buildings need to be able to move and transform as rapidly as our environment instead of trying to create a separation and eschew flux.

Architecture for resilience would also deal with the inevitable existential issues that arise from perpetual liminality, and like what we have seen in examples of place making rituals, device ways to construct new somatically salient meanings of change and impermanence. Thus architecture of resilience is in this way an architecture of flux.

7.9 Conclusion

It is clear from the variety of literature that has been written on past indigenous place making that two schools of thought exists. On the one hand, anthropologists and archaeologists such as Lee (1972), Yellen (1977), Cashdan (1983) and Barnard (1986) have written about Bushman spatiality from an ecological perspective and on the other hand, Deacon (1988), Lewis-Williams (2004) and Smith in Dowson & Lewis-Williams (2001) have written about the socio-cultural meanings people embody in place. Furthermore, a large volume of work

has been published on ritual in Bushman socio-cultural systems, particularly in relation to rock art, engravings and other forms of material culture found by archaeologists (Lewis-Williams, 2004; Guenther, 1999; Thackeray, 2013).

What has however become clear from the body of writing on Bushman spatiality is the duality between the 'ecological' approach and the 'cultural' approach. Very little has been written to bridge this gap (Lewis-Williams, 2004, pp. 93-94) so as to allow a framework that straddles the boundaries of these seemingly disparate epistemologies to emerge/manifest. The aim and task of this study was to do just that, and through a non-dualistic approach, we have developed some ideas that demonstrate the role of so called socio-cultural phenomena in relation to the ecological resilience of past indigenous communities. The data presented and appraised in this study has shown how, through ritual and ritual practices such as the trance dance, underpinned by what we have called tools of dissolution, people in the past had ways of neurobiologically mediating relationships to people, places and things such that the perpetual risks of rigid attachment or the more traumatic one of psychological nihilism are resiliently mitigated.

Using the case of the Wonderwerk Cave, we were able to firstly demonstrate variability in the environment during the Holocene in the area. Analysis of secondary archaeological data demonstrated the occupation of the area during this time. This data showed a large contingency of material culture during the Holocene, and more importantly that the occupation of the space demonstrates that the inhabitants of the area were of Bushman kind. Given the evidence of Bushman occupation of the area, and on the other hand the absence of bushman spatial occupation in the case area, analysis of the area to demonstrate a possible paleo-spatial interpretation was presented in which findings from (Lee, 1972), (Yellen, 1977), (Cashdan, 1983) and (Barnard, 1986), especially a diagram of n/oresi depicting the conceptual space of !Kung 'settlement' was used to formulate an argument on the spatial use of the area by past inhabitants. In spite of the possible misrepresentation of how the space could have been used in the past, the diagram was used to initiate a discussion of the manner in which spatial boundaries could have been conceived, and what the role of ritual could have been in such this conception.

Based on readings focusing on the anthropology of Bushman societies, it was apparent that individualistic (solipsistic) attitudes towards resources would have been risky, and that altruism and egalitarianism were key strategies towards ensuring resilience. This was argued

to be visible in the spatial construction of Bushman communities, demonstrated in the 'overlapping' spatial conceptions of the n/oresi. By participating in rituals of dissolution such as the trance dance, individuals developed methods of socially overlapping boundaries of self to allow bonding and thus the capacity to access resources collectively. These rituals required a harnessing of 'potency', which depended on the intensity of sensory stimulation that in turn acts on the brain to induce dissolution of the self and the reconfiguration of social boundaries.

Given that little had been written and explored regarding the phenomenological experience of dissolution, this study engaged in a variety of experiments to better understand rituals of dissolution and the manner in which they assist in the reconstitution of the boundaries of a self. The case area also revealed evidence of artefacts argued to be evidence of ritual (trance dance) (Lange, 2006) (Lewis-Williams, 2004) (Humphreys & Thackeray, 1983) (Beaumont & Morris, 1990). This was primarily drawn from evidence of images that have been argued to be depicting entoptic phenomena, evident both on engraved stones and on ostrich eggshells. This data helped develop the argument that the Bushmen who occupied the case area were likely to have been participating in trance related activities that induced dissolution of boundaries. This assertion, along with Guenther (1999) and his notion of Bushman anti-structure, created a plausible argument of how inhabitants of the area may have enhanced resilience when faced with a variable environmental.

Over and above the secondary data drawn from archaeology, anthropology and palaeontology, the researcher also drew on primary data to better understand rituals of dissolution, tools of dissolution and place making rituals. The data showed that spaces and places were also part of the large contingency of instruments used to induce dissolution and enhance ritual potency. The making of sacred of places by isolating them from the everyday, the form of place, scale, texture and other features, and the meanings that are embedded into place due to a continuous and ever evolving mythologizing of that place, secrecy and storytelling all acted on ritual participants to help them dissolve boundaries of identity and be subsumed into the narrative of the collective. Indeed the dissolution of the self becomes part of what anthropologists perceive as a larger religious structural system; however we have seen that these rituals are also very much part of a neurobiological system acted on by a variety of physiological processes that induce particular psychological states. Along with places as part of the contingency of tools of dissolution, art, music and other instruments acting on the senses induced feelings of collectivism or holism, feelings of being part of a

greater system. Indeed this is familiar to us when one considers the instruments still used today in modern religious systems that facilitate social bonding such as emotional practices of worship, prayer and dancing.

The study has also demonstrated the role of ritual in managing a people's bond to places. Not only do rituals mediate social bonding, they also mediate people's sense of ownership, identity and meaning. We have demonstrated both from primary data sources as well as literature on place attachment that people have a tendency to be attached to places and things. It was thus posited that indeed past indigenous communities must have had the potential to feel a sense of ownership and attachment to things such as waterholes and other resources. However, secondary sources from literature have demonstrated that past societies such as the Bushman had the capacity to give access to their territories and the resources available on them (Cashdan, 1983), (Dowson & Lewis-Williams, 2001). Drawing on the work of Guenther (1999) and Lewis-Williams (2004), we have seen that these communities developed a system of egalitarianism and altruism. Indeed, according to Guenther (1999), this system was deeply rooted in Bushman religion, and that through trance and other ritual activities, Bushman communities developed anti-structure, a concept Guenther draws from Turner (1969) in which a society dissolves social boundaries and related tendencies individuation.

When combined with the work of Freeman (2000) on the neurobiological role of ritual in bonding and dissolution, and work done by environmental psychologists studying the concept of place attachment, we begin to see that attachment of self/individual to places or things would have been deeply disadvantageous to a people living in a variable environment or co-existing with other groups similarly faced with cyclical variations of scarcity and abundance. Secondary sources demonstrate how past indigenous groups needed to be perpetually on the move in order to gain access to resources. Indeed this would have favoured people a reliable capacity to detach from the places that they have resided in, in order to gain access to resources located elsewhere.

Given our potential to be attached to place, place making rituals would have been necessary to reconstitute the connection between a self and place, make new meanings and mitigate the potential of people staying in a place that no longer serves their needs. Equally, as they move they would encounter others similarly pursuing the same resources and thus posing the risk of conflict. In primary data drawn from observation of modern place making rituals in the area, as well as interviews, it became apparent that place making rituals were regularly practiced

by modern indigenous people in the area. This was no surprise because of the apparent mobility and multiple residences contemporary indigenous people in the area display. The observation of the place making ritual, a ritual performed when people moved willingly or out of necessity, demonstrated an additional role of ritual in dealing with climate variability that has not been observable in secondary data sources on Bushman practices.

Finally the study has demonstrated the manner in which dissolution was vital for creativity. Apart from continuously negotiating boundaries of a self in relation to people, places and things, the research demonstrates that it would have been crucial for people to continuously fracture concepts and ideas as a way of fostering in new and innovative ways of dealing with uncertainty and a variable environment. The bushman's trance dance is embodied, highly emotive and produces diverse mental hybridities often represented in rock art (Lewis-Williams, 2004). These hybridities are ruptures of spatial and temporal continuities which have been argued in this study to be the mechanism of deconstruction, reconstruction and emergence of new forms and relational frameworks (Vartanian, et al., 2013). New forms that are not bound by previous structures become the readying/preparedness necessary for the emergence of new futures as changes in both socio-cultural environments unfold (Fuster, 2013, p. 146). Innovation happens when the brain's previous intentional structures are challenged and then broken down to allow for what was previously seemingly contradictory to be held as possible (Freeman, 2000). This opens the door for ambivalence as the precursor for the new relational framework upon which innovation emerges. However, the commonly known parallel between this creativity pathways and psychological/mental breakdown demands that such processes be engaged under reliable guidance by those who have experience to mitigate the risk.

The study has thus argued that the embodied activities of the bushman's trance dance and subsequent illustrations in rock art, often depicting contradictory or conflated images into a scene demonstrates the neurobiological processes associated with creativity. The deconstruction and reconstruction of intelligible wholes into reconstituted parts to eventuate a new whole is an indication of the disassembling of systemic parts to create novel systems. This would inevitably be accomplished by a somatic trauma as per Freeman's (2000) model of dissolution, to make possible the uptake of contradictory components, perhaps an animal's head on a man's body (therianthropes). In essence what we see here is a form of experiential of meaning making, and from the experiential experiments done by the researcher in the making of various artefacts, we have seen the reciprocal processes of meaning making

through doing as opposed to a cognitive hylomorphic approach (Ingold, 2000). For example, infusing natural objects with new meaning, an ostrich egg becoming a water container, what Ingold refers to as co-opting (ibid).

As creative individuals know too well from the ritual of making, a maker continuously has to endure dissolution perpetually. For the creative person, it is hardly useful to inhabit a world of 'stability' which would inevitably stifle creative potential. Being attached to ideas, systems, styles or even ideologies, becomes prohibiting, and does attract the emergence of new structures and new forms.

What was a strong recurring theme in all the findings drawn from this study is a philosophical stance that presents a position of the self in relation to the environment. Given that our environment (socio-cultural or natural) will never be a stable and invariable phenomena, and that even the variability cycle/pattern itself varies over time, it is thus fundamental for a self to continuously synchronise with this variability as it unfolds. Given the potential for the self to delineate solid/false boundaries of identity, including one's perception of themselves as connected to a place, idea, thing or person; the inevitable variability of all these phenomena as they change in time, requires a fluid and changeable self. Worldwide practices that weaken this capacity to change renders self to a state of inflexibility and thus put the self at risk when the environment requires one to change. Our understanding now is that the brain (and its body), as a physiological phenomenon requires more than just a cognitive discourse to induce change, and that instead such change should be pursued through physiological practices that target change in the brain and body so as to facilitate a cognitive reframing for a changed mind-set .

This process is what we have come to call ritual in the anthropological field, and given the vast amounts of ritual practices observable around the world, it is clear that such practices emerged and evolved for very good reasons. As the world unfolds before us, and we get continuously confronted by new situations, the brain has to develop a way of detaching from the past and confront a different present and future as well. Our proclivity to be attached to things may have demanded that we evolve mechanisms to usher in a continuously unfolding world, including social changes that are even more demanding with regard to detachment to aspects of self. Rituals are both the biological and cultural (or bio-cultural) mechanism of coping with change, a bridge into the future without which we would be perpetually at danger of remaining locked in to practices that no longer sustain life's demands.

Through a combination of data from previously disparate knowledge fields with the researcher's own phenomenological, subjective experiences, the study resolved the research question through demonstrating the role of ritual in enhancing resilience and adaptability when human beings are faced with variability such as climate change which now confronts the species.

The study has added to the body of knowledge in the field of architecture, place making and sustainability. Prior to this study, no extensive research had been done on bushman place making and existential responses to environmental variability. Hardly any studies looked at the role of ritual in climate change adaptation in relation to the Bushman or humanity in general. In addition the study has given new insights regarding the role of tools of dissolution in inducing liminality, and how architecture can be used as such a tool. The study also proposes a way of confronting climate change by harnessing dissolution, particularly dislodging society from its current attachment in turn exacerbate the crisis. Finally the study has made a contribution in the form of phenomenological embeddedness as a methodological approach. This includes the researcher's unique voice as a member of the indigenous community of Kuruman.

7.10 Recommendations

Given that studies on the relationship between ritual and environmental variability remain extremely limited, studies focusing on additional contexts would reveal more insights towards consolidating our understanding as well as refinement process of related phenomenological/inter-subjective methodologies applied in this study. The researcher is a local inhabitant of the study context, and is perhaps the only local from the area to do this type of study. An important recommendation would be to pursue similar studies done by other local inhabitants from the area in order to begin widening the inter-subjective data. Other local inhabitants could perform, engage in and observe various rituals and thus record and study these data to develop additional insights and compare with those drawn from this study.

Unfortunately due to economic and social circumstances, many of the local inhabitants from the area have limited opportunities to engage in such a study. There is certainly interest from the local community, and from preliminary observations and discussions other locals can corroborate the findings in this study based on personal experiences. Such future studies

would require a local to be "trained" in phenomenological research methods, with either formal higher education or not, and compare the findings with the findings from this study.

In addition, similar research could be done by a researcher who is equivalent to the researcher in this study, but this time coming from a different context (another part of South Africa, Africa or other parts of the world). The researcher would be required to be a local indigenous member of the community, perhaps in some instances being female. Again this research would be compared to the results from this study.

In this way, we will begin to gain more nuanced and widespread sample of data and findings regarding place making ritual and the inducing of liminal states through tools of dissolution which would in turn serve as a more valid platform towards an architecture for resilience.

Furthermore, a study of ritual and ritual artefacts such as divination objects from a cultural neurophenomenological framework would be necessary to better understand the mechanisms by which artefacts induce liminal states. In addition, neuroscientific studies of indigenous ritual practices in South Africa, particularly those of Bushman communities may give deeper insights into neurophysiological mechanisms of how rituals such as the trance dance induce liminal states. This could be viewed as substantiating and deepening Freeman's hypothesis on dissolution and its neuro and embodied mechanisms.

Over and above such studies, it is the field of architecture and its related research which would be most impacted by the insights of this study. In particular, the findings seem to suggest that architecture has allowed itself into a 'false' trajectory of pseudo-objectivism and utilitarian goals while forsaking its original mandate of aesthetically engaging the human experience. The re-embedding of this mandate through approaches such as phenomenology has been systematically argued by the architect-scholar Juhani Pallasmaa. The findings of this study constitute yet another reminder to architects and architecture to reclaim its mandate and ethos in order to re-venture on the path to an architecture for resilience and thus an extended future for the species. Architectural research focusing on fluidity and flux in the context of environmental variability and its effect on human collective psyche's would give us a better understanding on how people may deal with architecture that embraces impermanence.

The final recommendation would be calling for collaborative studies between fields of architecture, neuroscience and archaeology to expand on the work done in this study, particularly through harnessing more skills from academics and practitioners from the various knowledge fields.

References

Afloroaei, Ş., 2010. Descartes and the “metaphysical dualism”:Excesses in interpreting a classic. *META*, 2(1), pp. 105- 138.

Alsop, S., 2005. *Beyond Cartesian dualism.* The Netherlands: Springer.

Avery, A., 1981. Holocene micromammalian faunas from Northern Cape Provence, South Africa. *Sout African Journal of Science,* Volume 73, pp. 265-273.

Barnard, A., 1986. Rethinking Bushman settlement patterns and territoriality. *Sprache und Geschichte in Afrika,* Volume 7, pp. 41-60.

Beaumont, P. & Morris, D., 1990. *Guid to archaeological sites in the Northern Cape.* Kimberly: McGregor Museum.

Bernstein, L., Bosch, P. & Canziani, O., 2007. *IPCC climate forcing REPORT 4.* s.l.:s.n.

Bohm, D., 1980. *Wholeness and the implicate order.*. London: Routledge and Paul.

Bradfield, J., Thackeray, J. & Morris, D., 2014. An experimental investigation into the origin of incised lines on a 4000-year-old engraving from wonderwerk cave, northern cape province. *South African Archaeological Bulletin,* 69(199), p. 72–79.

Brislin, P., 2012. Identity, place and human experience. *Architectural Design,* 82(6), pp. 8-13.

Brook, G., Scott, L., Railsback, L. & Goddard, E., 2010. A 35 ka pollen and isotope record of environmental change along the southern margin of the Kalahari from a stalagmite and animal dung deposits in Wonderwerk Cave, South Africa. *Journal of Arid Environments,* Volume 74, p. 870–884.

Brooks, N., 2006. Cultural responses to aridity in the Middle Holocene. *Quaternary International,* p. 29–49.

Carter, C. et al., 2006. *Attachment and bonding: A New Synthesis.* s.l.:MIT Press.

Cashdan, E., 1983. territoriality amoung the human foragers: Ecological models and an application to four Bushman groups. *Current Anthropology,* Volume 24, pp. 47-66.

Chalquist, C., 2007. *Terrapsychology: Re-engaging the soul of place.* New Orleans: Spring Journal.

Chazan, M. & Horwitz, L., 2009. Milestones in the development of symbolic behaviour: A case study from Wonderwerk Cave, South Africa. *Debates in World Archaeology,* 41(4), p. 521–539.

Chazan, M; Ron, H; Matmon, A; Porat, N; Goldberg, P; Yates, R; Avery, M; Sumner, A; Horwitz, L,K., 2008. Radiometric dating of the Earlier Stone Age sequence in Excavation I at Wonderwerk Cave, South Africa: preliminary results. *Science Direct,* Issue 55, pp. 1-11.

census2011. *census2011.* 2011. https://census2011.adrianfrith.com/place/361021 (accessed 11 17, 2016).

Coates, G. & Seamon, D., 1984. Toward a Phenomenology of Place and Place-Making: Interpreting Landscape, Lifeworld and Aesthetics. *Oz,* Volume 6-9.

Csordas, T., 1983. The rhetoric of transformation in ritual healing. *Culture, medicine and psychiatry,* Issue 7, pp. 333-375.

Csordas, T., 1994. *Embodiment and experience: The existential ground of culture and self.* New York: Cambridge university press.

Damasio, A., 1996. The somatic marker hypothesis and the possible functions of the prefrontal cortex. *Phil Trans,* Volume 351, pp. 1413-1420.

Damasio, A. & Bechara, A., 2005. The somatic marker hypothesis: A neural theory of economic decision. *Games and Economic Behavior,* Volume 52, p. 336–372.

Damasio, A. & Immordino-Yang, M., 2011. We feel, therefore we learn: the relevance of affective and social neuroscience to education. *Learning Landscapes,* 5(1), pp. 115-131.

d'Aquili, E. & Newberg, A., 1998. The neuropsychological basis of religions, or why God won't go away. *Zygon,* 33(2), pp. 187-201.

Deacon, H. & Deacon, J., 1999. *Human beginnings in South Africa: Uncovering the secrets of the stone age.* Claremont: David Philip Publishers.

Deacon, J., 1986. "My place is the Bitterpits": The home territory of Bleek and Lloyd's /XAM. *African Studies,* 45(2), pp. 135-155.

Deacon, J., 1988. The Power of a Place in Understanding Southern San Rock Engravings. *World Archaeology,* 20(1), pp. 129-140.

Deacon, J., 1997. 'My heart stands in the hill': rock engravings in the Northern Cape. *Kronos,* Volume 24, pp. 18-29.

Decety, J. & Ickes, W., 2011. *The social neuroscience of empathy.* Mssachusetts: MIT Press.

deMenocal, P., 2001. Cultural responses to climate change during the late Holocene. *Science,* pp. 667-673.

Dornan, J., 2004. Beyond belief: religious experience, ritual, and cultural neurophenomenology in the interpretation of past religious systems. *Cambridge Archaeological Journal,* 1(14), p. 25–36.

Dowson, T. & Lewis-Williams, D., 2001. *Contested Images.* Johannesburg: Witwatersrand university press.

Dryefus, H. & Wrathhall, M., 2006. *A companion to phenomenology and existentialsm.* Malden: Blackwell Publishing LTD.

Edelman, G., 1993. Neural Darwinism: Selection and reentrant signaling in higher brain functioning. *Neuron,* Volume 10, pp. 115-125.

Edelman, G., 2003. Naturalizing consciousness. *Proceedings of the National Academy of Sciences of the United States of America,* 100(9), pp. 5520-5524.

Freeman, W., 2000. *How brains make up their mind.* New York: Columbia university press.

Freeman, W., 2003. Neurodynamic models of brain psychiatry. *Neuropsychopharmacology,* Volume 28, pp. s54-s63.

Fried, M., 2000. Continuities and discontinuities of place. *Journal of Environmental Psychology,* Volume 20, pp. 193-205.

Fuster, J., 2013. *The neuroscience of freedom and creativity: Our Predictive Brain.* New York: University Printing House.

Gowan, J., 1975. Trance, art and creativity. *The Journal of Creative Behavior,* 9(1), pp. 1-11.

Gray, P., 2009. Play as a foundation for hunter-gatherer social existence. *American Journal of Play,* pp. 473-522.

Guenther, M., 1999. *Tricksters and trancers.* Indiana: Indiana University Press.

Hall, S., 2000. Burial and sequence in the Later Stone Age of the Eastern Cape Province, South Africa. *The South African Archaeological Bulletin,* 55(172), pp. 137-146.

Hamilton, S. et al., 2006. Phenomenology in practice: towards a p methodology for a `subjective' approach. *European Journal of Archaeology,* 9(1), pp. 31-71 .

Hauge, A., 2007. Identity and place: a critical comparison of three identity theories. *Architectural Science Review,* 50(1), pp. 44-51.

Hayden, B., 2003. *Shamans, sorcerers, and saints: the prehistory of religion.* Washington, DC: Smithsonian Institution Press.

Heidegger, M., 1996. *Being and time.* New York: State University.

Hume, L., 2007. *Portals:Opening doorways to other realities through the senses.* Oxford: Berg.

Humphreys, A. & Thackeray, A., 1983. *Ghaap and Gariep: Later Stone Age studies in the Northern Cape.* Cape Town: South African Archaeological Society .

Ingold, T., 2000. *The perception of the environment; essays in livelihood, dwelling and skill.* New York: Routledge.

Ingold, T., 2013. *Making; antrhopology,archaeology, art and architecture.* London: Routledge.

Jacobs, N., 2003. *Environment, power and injustice: A South African history.* New York: Cambridge University Press.

Johnson, M., 2007. *The meaning of the body.* Chicago: University of Chicargo Press.

Joy, R., 2012. Identity throught the grounding of experience in place. *Architectural Design,* 82(6), pp. 40-45.

Kammayer, H., 2010. *Reciprocity in the evolution of self through the making of homes-as-artefacts: a phenomenological study of the basotho female in her vernacular architecture, A university of* Pretoria unpublished PHD dissertation.

Keeney, B. *The Bushman way of tracking God.* New York: Atria Books, 2010.

Keeping, J., 2006. How does the bird build its nest? Instincts as embodied meaning. *Phenomenology and the cognitive sciences,* Volume 5, pp. 171-198.

Lakoff, G., 2008. *The political brain.* s.l.:Penguin publishers.

Lakoff, G. & Johnson, M., 1999. *Philosophy in the flesh.* New York: Basic Books.

Lange, M., 2006. Tracking decorated ostrich eggshells in the Kalahari. *Visual Anthropology,* 19(3-4), pp. 371-388.

Larice, M. & Macdonald, E., 2007. *The urban design reader.* Abingdon: Routledge.

Lee, R., 1972. !Kung spaitial organization:An ecological and historical perspectivel. *Human Ecology,* 1(2), pp. 125-147.

Levi-Strauss, C., 1978. *Myth and meaning.* UK: Routledge and Kegan Paul.

Lewis-Williams, D., 1982. The economic and social context of southern san rock art. *Current Anthropology,* 23(4), pp. 429-449.

Lewis-Williams, D., 1998. The mind in the cave — the cave in the mind: Altered Consciousness in the Upper Paleolithic. *Anthropology of consciousness,* 9(1), pp. 13-21.

Lewis-Williams, J., 2002. *The mind in the cave : consciousness and the origins.* London: Thames and Hudson.

Lewis-Williams, J., 2004. *San spirituality: Roots, expressions and social consequences.* Cape Town: Double storey.

Lewis-Williams, J., 2005. Southern African San rock painting as social intervention: A Study of rain-control images. *African Archaeological Review,* 21(4), pp. 199-228 .

Lewis-Williams, J. D. & Dowson, T., 1989. *Images of power: Understanding Bushman rock art.* Cape Town: National Book Printers.

Mallgrave, H., 2010. *The architects brain.* oxford: John Wiley and sons.

Mallgrave, H., 2013. *Architecture and embodiment.* Abington: Routledge.

Marshall, J. & Ritchie, C., 1984. *Where are the Ju/wasi of Nyae Nyae?.* 9 ed. Cape Town: University of Cape Town centre for African Studies Communications.

Merluae-Pontey, M., 2008. *Phenomenology of perception.* London: Routledge Classics.

Moyes, H., 2012. *Sacred Darkness: A global perspective on the ritual use of caves.* Colorado: University Press of Colorado.

Neisser, J., 2003. The swaying form: Imagination, metaphor and embodiment. *Phenomenology and the cognitive sciences,* Volume 2, pp. 27-53.

Nold, C., 2009. *Emotional cartography: technologies of the self.* s.l.:Creative Commons.

Norberg-Schulz, C., 1979. *Genius loci: Towards a phenomenology of architecture.* New York: Rizzoli.

Nunez, R., Edwards, L. & Matos, J., 1999. Embodied cognition as grounding for situatedness and context in mathematics education. *Educational Studies in Mathematics,* Volume 39, p. 45–65.

Nunez, R. & Freeman, W., 1999. *Reclaiming cognition; The primacy of action and emotion.* Bowling Green: Imprint Academic.

Pallasmaa, J., 2007 . Embodied experience and sensory thought. *Educational Philosophy and Theory,* 39(7), p. 769–772.

Pallasmaa, J., 2009. *The thinking hand.* United Kingdom: John Wiley and Sons.

Peters, L., 1989. Shamanism: Phenomenology of a spiritual discipline. *The Journal of Transpersonal Psychology,* 21(2), pp. 115-137.

Petitot, J., Varela, F., Pachoud, B. & Roy, J., 1999. *Naturalising phenomenology.* Standford: Standford University Press.

Proshnsky, H., Fabian, A. K. & Kaminoff, R., 1983. Place-identity:physical world socialization of the self. *Journal of Environmental Psychology,* Volume 3, pp. 57-83.

Relph, E., 1976. *Place and placelessness,* London: Pion limited.

Robertson, I., 2012. *The winner effect.* s.l.:s.n.

Robinson, S. & Pallasmaa, J., 2015. *Mind in architecture.* Cambridge, Massachusetts: MIT Press.

Rudner, J., 1979. The use of Stone Artefacts and pottery among the Khoisan peoples in historic and protohistoric times. *South African Archaeological Society,* 34(129), pp. 3-17.

Runder, J. & Rudner, I., 1968. Rock art of the Thirstland areas. *South African archaeological bulletin,* Volume 23, pp. 75-89.

Sealy, J., 2006. Diet, mobility, and settlement pattern among Holocene Hunter-Gatherers in southernmost Africa. *Current Anthropology* , 47(4), pp. 569-595.

Seamon, D. & Mugerauer, R., 1985. *Dwelling, place and environment: towards a phenomenology of person and world.* s.l.:Martinus Nijhoff Publishers.

Shillington, K., 2011. *Luka Jantjie.* London: Aldridge Press.

Siegel, D., 2010. *Mindsight.* New York: Bantam Books.

Smith, J., 2005. *Climate change and agrpastoral sustainability in the shashe\limpopo river basin from AD 900.* Johannesburg: University of the Witwatersrand.

Sweetman, B., 1999. *The Failure of modernism: The cartesian legacy and contemporary pluralism.* Washington: American Maritian Sociaty.

Thackeray, A., Thackeray, J., Beaumont, P. & Vogel, J., 1981. Dated rock engravings from Wonderwerk Cave, South Africa. *Science,* 214(4516), pp. 64-67.

Thackeray, F., 2005. The wounded roan: a contribution to the relation of hunting and trance in southern African rock art. *ANTIQUITY,* Volume 79, pp. 5-18.

Thackeray, J., 1987. Late quatenary environmental changes inferred from small mammalian fauna in South Africa. *Climate change,* pp. 285-305.

Thackeray, J., 2013. The principle of ‘sympathetic hunting magic’ inthe context of hunting, trance and southern African rock art. *The Digging Stick,* Volume 30, p. 1–4.

Thackeray, J. F., 1984. *Man, animals and extinctions: the analysis of Holocene faunal remains from the Wonderwerk cave, South Africa.* s.l.:Yale University.

Thompson, E., 2004. Life and mind: From autopoiesis to neurophenomenology. A tribute to Francisco Varela. *Phenomenology and the Cognitive Sciences,* Volume 3, p. 381–398.

Tilley, C., 1994. *A phenomenology of Landscape.* Providence: Berg Publishers.

Tilley, C., 2004. Mind and body in landscape research. *Cambridge Archaeological Journal,* 14(1), pp. 77-80.

Tuan, Y.-F., 1974. *Topophilia.* New Jersey: Prentice Hall.

Turner, V., 1967. *The forest of symbols: aspects of ndembu ritual.* New York: Cornell University Press.

Turner, V., 1969. *The ritual process.* New York: Routledge and Kegan Paul.

Turner, V., 1973. Symbols in african ritual. *Science,* Volume 179, pp. 1100-1105.

Turner, V., 1974. *Dramas,feilds and metaphors.* New York: Cornell University Press.

Turner, V., 1982. *From ritual to theatre.* New York: PAJ Publications.

Van Vreeden, B. F., 1961. *Die oorsprong en geskiedenis van plekname in Noord-Kaapland en die aangrensende gebiede.* Johannesburg: Unpublished Ph.D thesis University of the Witwatersrand.

Van Zineren Bakker, E., 1982. Pollen analytical study of the Wonderwerk Cave, South Africa. *Pollen et Spores,* Volume 24, pp. 235-250.

Varela, F,J. - *What we do and what we see is not separate.* 2011. [Film] s.l.: Sticky Rice Workshop Edit.

Varela, F., 1996. Neurophenomenology:A methodological remedy for the hard problem. *Journal of Consciousness Studies,* pp. 330-49.

Vartanian, O., Bristol, A. & Kaufman, J., 2013. *Neuroscience of creativity.* Cambridge: MIT Press.

Velmans, M., 2012. Reflexive monism; Phycophysical relations amoung mind,matter and conciousness. *Journal of consciousness studies,* 9-10(19), pp. 143-65.

Vogel, J., 1984. *Later Cainozoic palaeoclimates of the Southern Hemisphere.* Rotterdam: Balkema.

Wapner, S., Demick, J., Yamamoto, T. & Minami, H., 2000. *Theoretical perspectives in environment-behavior research.* New York: Kluwer Academic/Plenum Publishers.

Wilson, J., 1966. *Urban renewal:The record and the controversy.* Massachusetts: MIT Press.

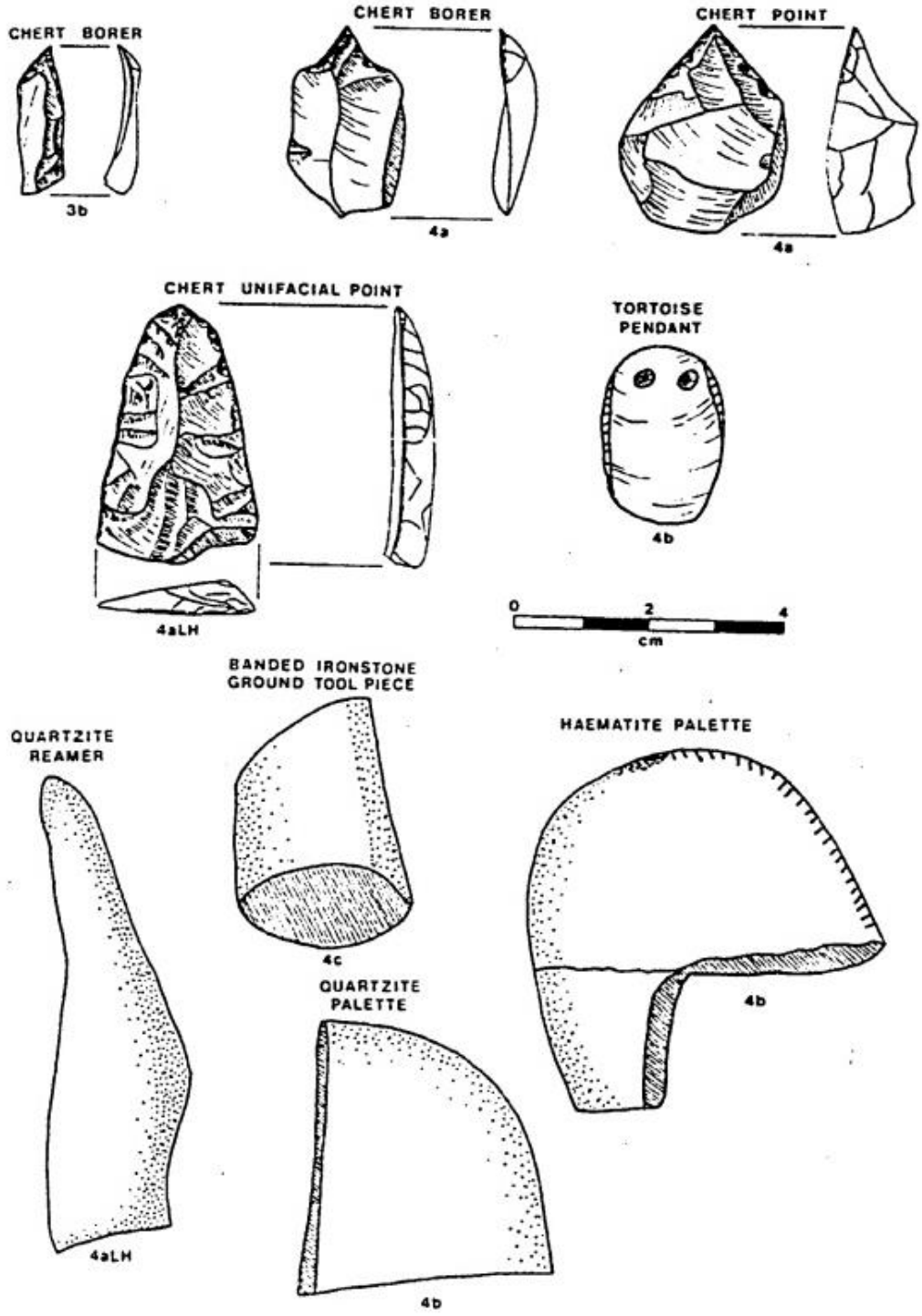
Wylie, A., 1989. Archaeological cables and tacking: the implications of practice for bernstein's 'options beyond objectivism and relativism'. *Philosophy of the Social Sciences,* Volume 19, pp. 1-18.

Yellen, J., 1977. Long term hunter-gatherer adaptation to desert environments: a biogeographical perspective. *World Archaeology,* 8(3), pp. 262-274.

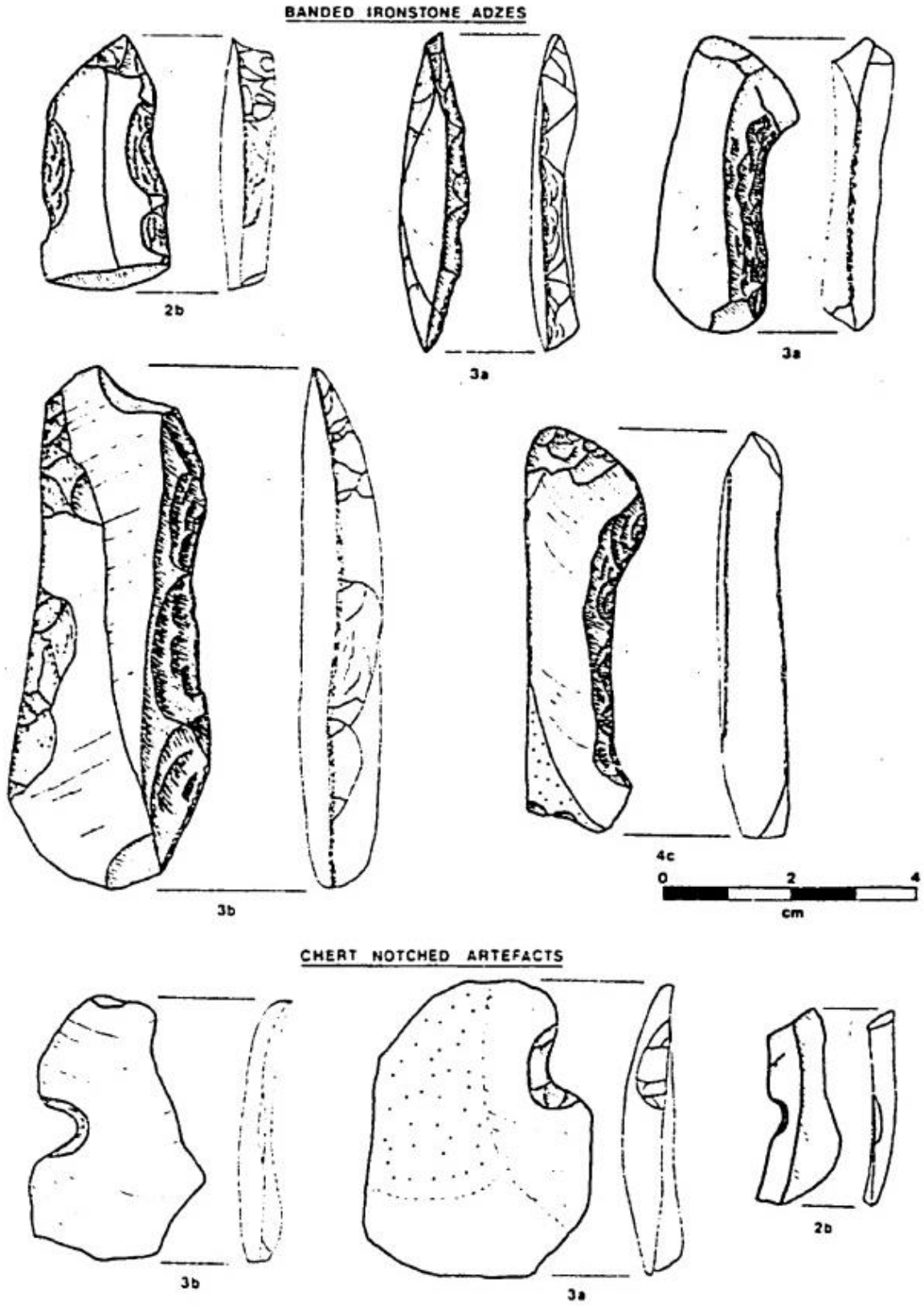
Yellen, J. & Harpending, H., 1972. Hunter-gatherer populations and archaeological inference. *World Archaeology,* 4(2), pp. 244-253.

Appendices

Appendix A - Wonderwerk Cave artefacts



Miscellaneous artefacts. Source**:** (Humphreys & Thackeray, 1983, p. 85)



Banded ironstone adzes and chert notched artefacts. Source (Humphreys & Thackeray, 1983, p. 82)

Appendix B – Wonderwerk Cave artefacts directly experienced by researcher



Grindstone



Various grindstones



Decorated ostrich eggshell



Decorated ostrich eggshells

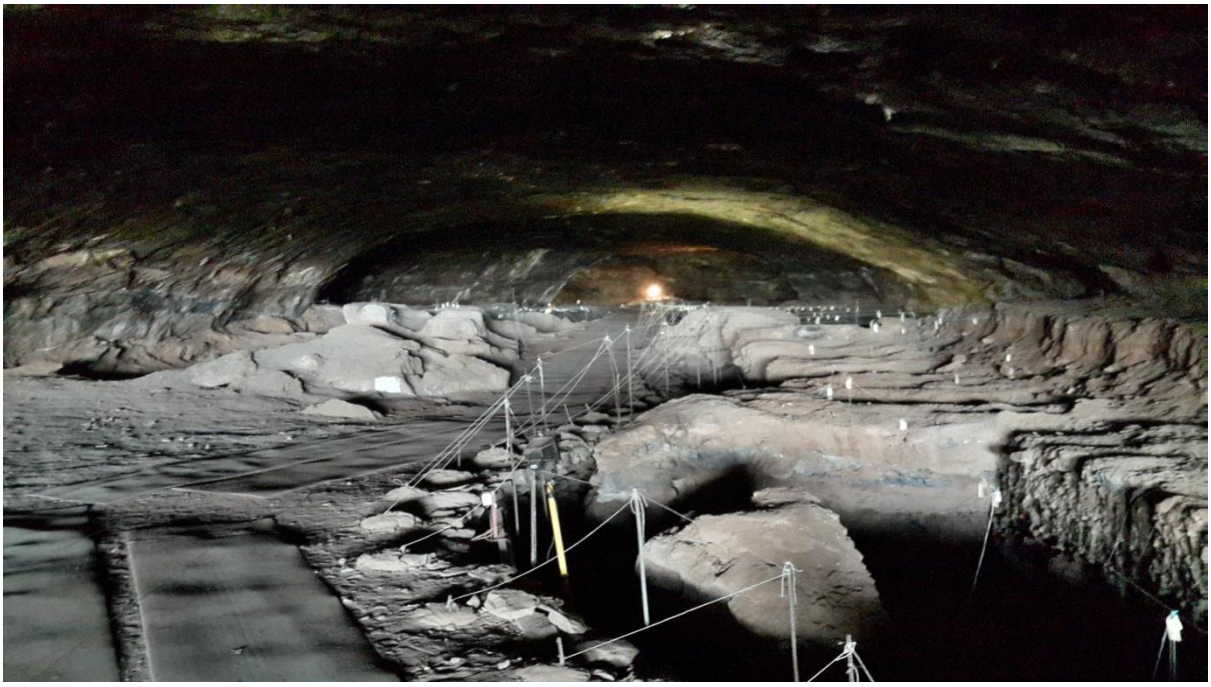


Bone working

Appendix C – Wonderwerk Cave internal photographs



Wonderwerk Cave west wall



Wonderwerk Cave internal walkway

Appendix D – Photographs of place making ritual



Marque set up for place making ritual



Preparing traditional beer

Appendix E – Photographs of Ga-Mohana Cave



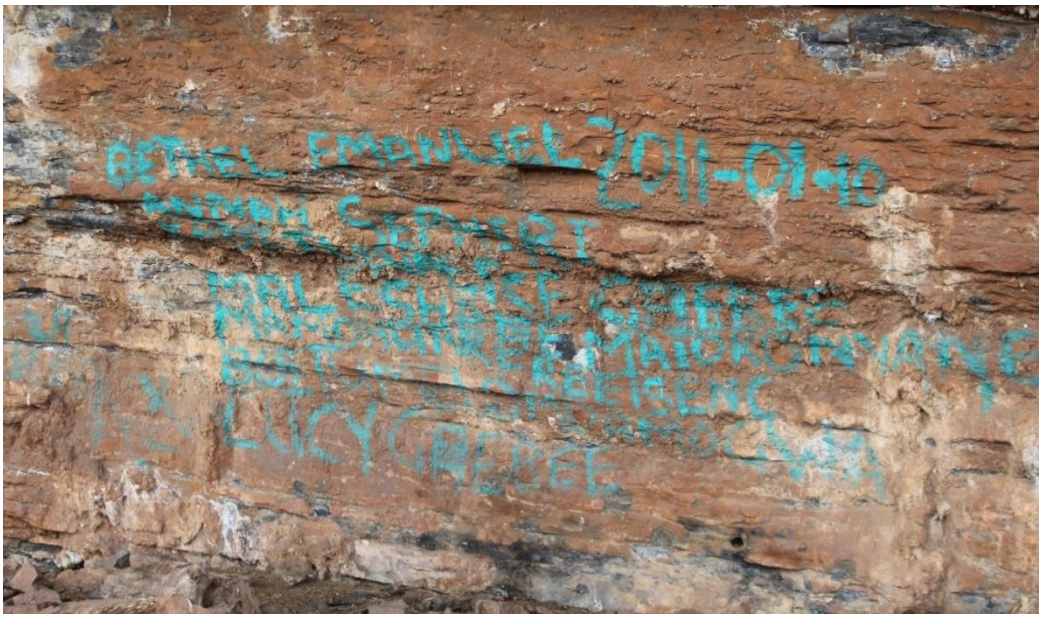
Red candle in niche at Ga-Mohana Cave



Rock paintings at Ga-Mohana Cave

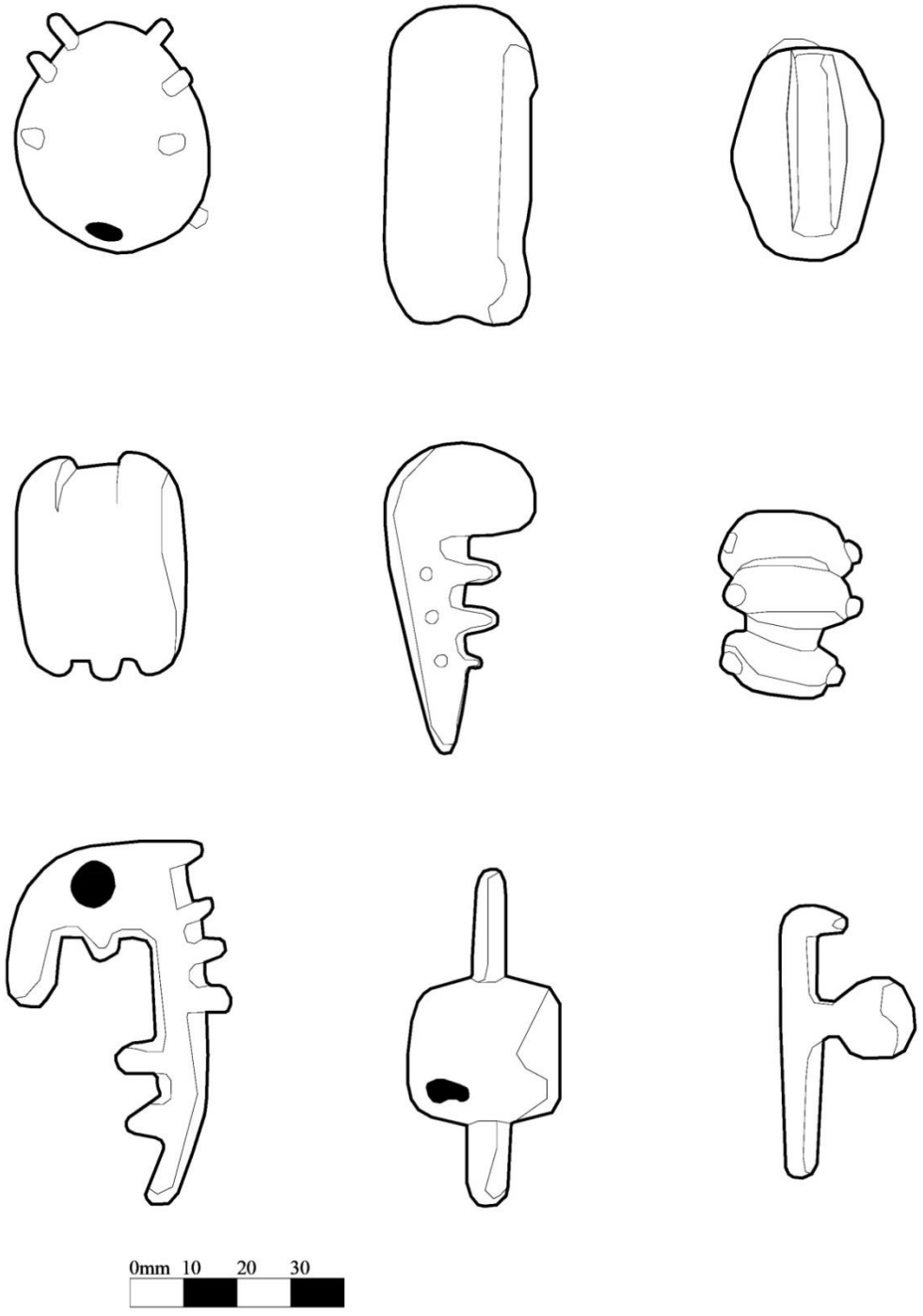


Scratched rock paintings at Ga-Mohana



Green painted writing on Ga-Mohana Cave wall

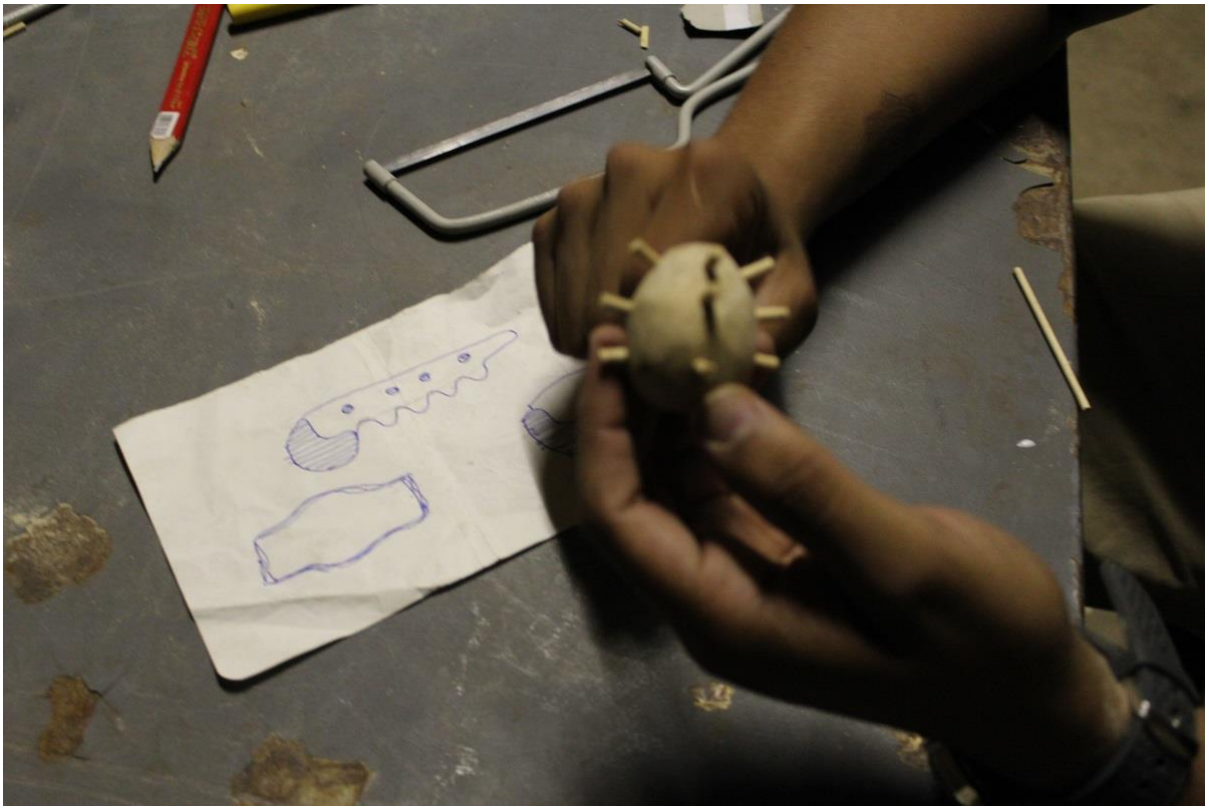
Appendix F – Ritual artefacts made by researcher and local maker



Computer drawn representation of artefacts



Extracting profiles of artefacts from material



The researcher forming the artefacts



Some of the complete artefacts



Researcher holding the artefacts

Appendix G – Ethics clearance certificate

Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 Maape

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: H15/08/24**
PROJECT TITLE	Place sight in Architecture for resilience: Dialogues with place in the indigenous communities of Kuruman during the Holocene period
INVESTIGATOR(S)	Mr S Maape
SCHOOL/DEPARTMENT	Architecture and Planning/
DATE CONSIDERED	21 August 2015
DECISION OF THE COMMITTEE	Approved unconditionally
EXPIRY DATE	15 September 2018

DATE 16 September 2015 **CHAIRPERSON** _____
(Professor J Knight)

cc: Supervisor : Professor D Irurah

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10005, 10th Floor, Senate House, University.

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to completion of a yearly progress report.**

_____ _____/_____/_____
Signature **Date**

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

Appendix H – list of discussions

Participant	Location	Date
Mrs VM	Kuruman	30/10/2015 13/03/2016
Mr G	Kuruman	27/04/2015
Ms KVK	Kuruman	28/04/2015
Indigenous Healer	Kuruman	27/02/2016
Indigenous maker	Kuruman	30/02/2016