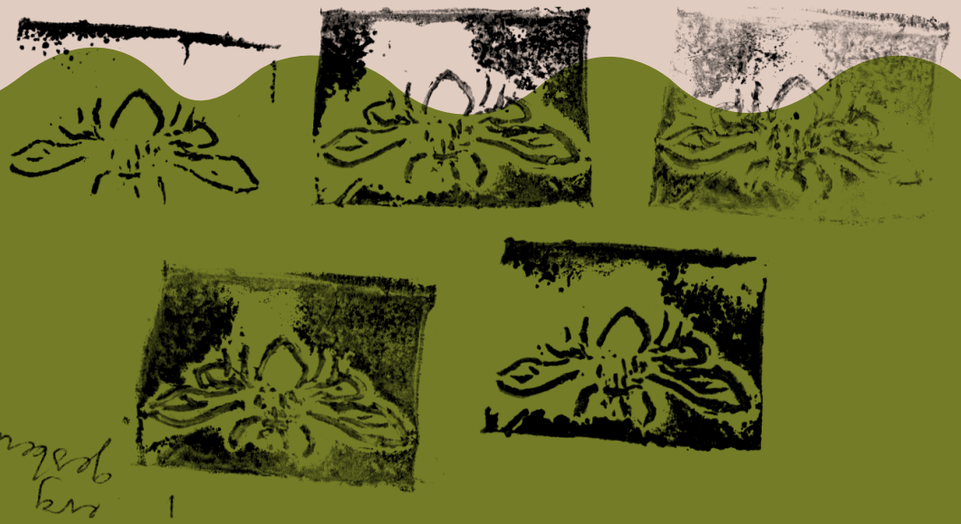
The Visitor Centre

artistic reconfigurations of multispecies relationships in an urban environment

Nicola Grobler



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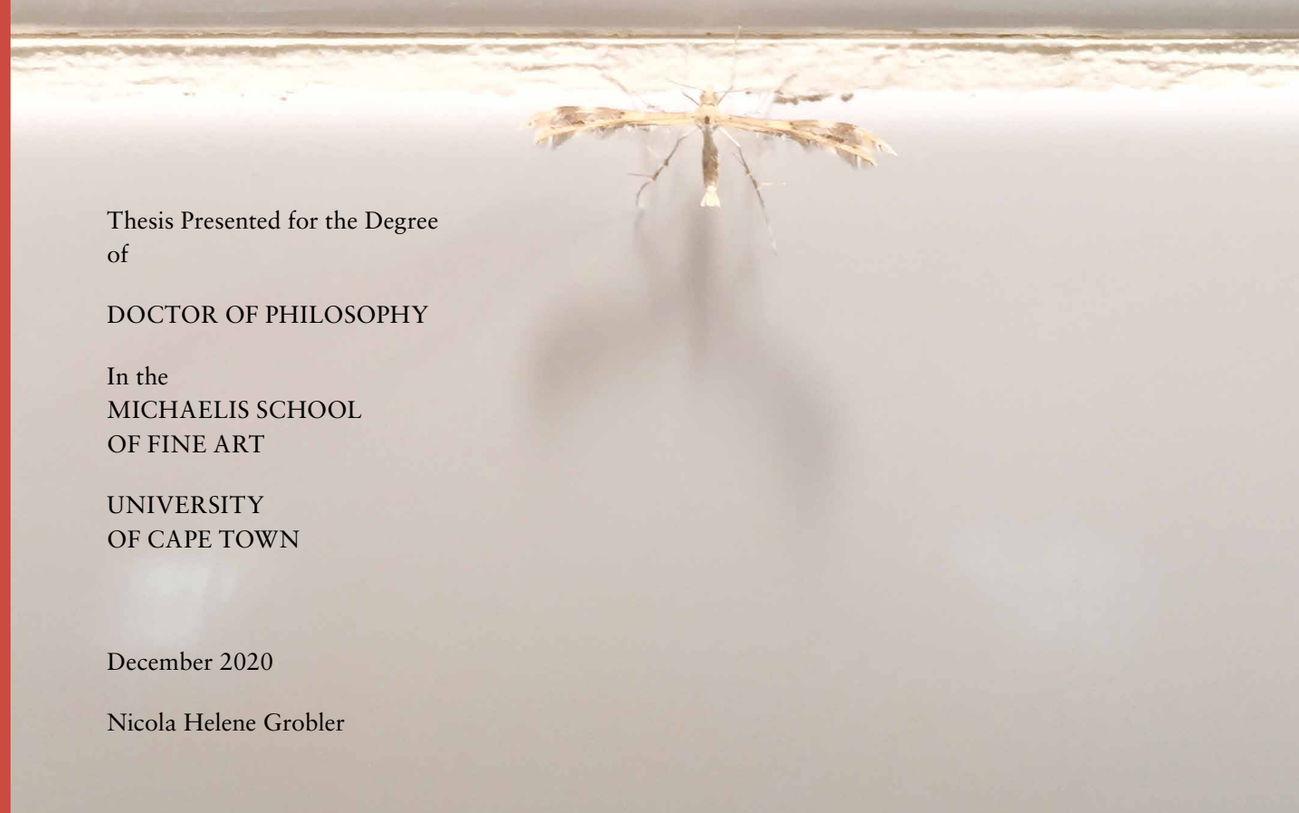

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To Roger and Dylan Ewing

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Abstract

Extinctions and biodiversity loss in the age of the Anthropocene are closely related to speciesist attitudes and a lack of care for nonhuman species. This thesis is an examination of relational art practice and conversation as tools to encourage empathy and care for nonhuman species in urban environments, here specifically performed in the City of Tshwane/Pretoria. The thesis focus is predominately on non-reciprocal multispecies relationships between humans and wild and semi-wild species that occur in urban ecosystems. Cartesian dualism has conditioned humans to objectify and "other" nonhuman species, and in identifying this problem, this study examines representations of nonhuman species in natural history museums, where the categorical separation of human and nonhuman species is maintained through a static, hierarchical taxonomic narrative. This is demonstrated in a case study of the Ditsong National Museum of Natural History in Tshwane. Whilst much scientific research has shifted towards a recognition of emerging and entangled organisms in multi-species assemblages, this study argues that the didactic method of natural history museums and other forms of public biological science deny a nuanced and horizontal relationship with nonhuman species. Through creative practice, the argument is made that an alternative mode of experience and understanding can allow for more caring and empathetic relationships with nonhuman species. *The Visitor Centre* was devised as a mobile hub with which to engage the public through the close consideration of constructed art objects that sparked conversations about urban nonhuman species. Assemblage and relational aesthetics were employed as creative methods that, through the phenomenological and dialogical workings of *The Visitor Centre*, were used to unsettle the limitations of species-specific categories by human design. By means of anthropomorphism and storytelling, the artwork brought forth considerations of nonhuman species as subjects, facilitating the emotional and empathetic responses that followed. In this research, both the impact of the conversations of the participants and the artist-researcher's multiple roles as creator, witness, listener, interlocutor and audience are made evident and are acknowledged as key strategies in the formation of this alternative space of relationship making.

Introduction

1. Introduction and rationale

Amidst the current environmental crisis, theorists in the humanities have indicated that binary separations are causal factors that distance humans from their responsibility towards and connection to nonhuman species (Agamben, 2004; Derrida, 2008; Haraway, 2008; Wolfe, 2003)[1]. This study recognises that human exceptionalism lies at the heart of the problem, as the categorical separation of human and nonhuman species discourages attitudes of care. Dualisms of mind/body, subject/object, culture/nature and human/animal perpetuate in public scientific biological communications, thereby lowering the possibility of bridging species-specific differences to institute respectful multispecies relationships.[2] Modern biological sciences and Western humanism have evolved in a way that particularly seeks to order, control and dominate its "lesser" subjects. The high value placed on objectivity in scientific research has created a problematic model of a distanced, disembodied research that disentangles both researcher and subject from their shared world.[3] The mind/body separation advocated in 1637 by natural philosopher René Descartes' (1968:53) pronunciation *je pense, donc je suis* ("I think, therefore I am") has provided a foundation for the Western epistemological tradition of distanced methodical enquiry.[4] The theory of Cartesian doubt stipulates that the only human certainty is that we may doubt – yet as doubt is a form of thought, the only truth must lie in our ability to reason. According to Descartes (1968:59), that it is possible to imagine another body makes the body's very existence uncertain, and the legacy of this thinking is evident in a Western knowledge system that strives to understand the world but "excludes or is indifferent to considerations of the subject" (Grosz, 1994:6). The elevation of consciousness, mind or soul during the era of scientific revolution that coincided with the early modern period made it possible to study the world and its life forms from a god-like, detached vantage point (Donovan, 2016:21-23).[5] Where scientific rationality is over-emphasised, emotional and intuitive responses are often devalued and excluded as significant ways of understanding – by contrast, the inclusivity of body-mind responses has steered an affective course correction in the post-humanities that argues for a shift towards a relational and embodied paradigm (Braidotti, 2013; Grosz, 1994; Haraway, 2008).

Emotion can be a persuasive tool and is utilised in advertising campaigns and art, and there has been an increased interest in its ability to address environmental issues by eliciting responses such as empathy by conservationists and environmental psychologists (Berenguar, 2010; Chan, 2012; Ramp & Bekoff, 2015; Sevillano, Aragonés & Schultz, 2007). The study

[1] Throughout this study the term "nonhuman species" is used to refer to vertebrate and invertebrate species such as mammals, reptiles, birds, fish, insects and arachnids. As they fall outside the remit of this study, plants are not included within this collective term. Although the term "nonhuman animal" could have sufficed and is often used in human-animal studies to refer broadly to vertebrates and invertebrates, it was deemed less flexible in its meaning due to the mammalian association with "animal".

[2] The term "multispecies" is used throughout to emphasise that multiple actors are involved in relationships between human and nonhuman species. Relationships between two individuals are also deemed to be multispecies, and each individual is considered to be a multispecies assemblage, following Haraway's (2008:4) observation that the molecular interactions of gut bacteria, fungi and protists, along with human genomes, constitute the individual.

[3] The notion of intellectual distance gained cultural value during the eighteenth century (Outram, 1997:262-263), when natural historians such as Georges Cuvier sought to validate the sedentary activity of the intellectual over the heroic, "whole-bodied" experiences of the field naturalist (Outram, 1997:259).

[4] Descartes (1596-1650) was a mathematician, natural philosopher and metaphysician (Hatfield, 2014).

[5] This line of thinking is continued in the hierarchical division between the natural and social sciences in both education and research (Grosz, 1994:7).

of empathy in neuroscience, ethology, conservation and art has brought to the fore its central and communicative role in enabling reciprocity, emotional attachment and care in human and nonhuman social groups (Bekoff, 2013; De Vignemont & Singer, 2006; De Waal, 2011; Esrock, 2010; Reynolds & Reason, 2012). Empathy is known to serve a "motivation function", as it can prompt an individual to take action to alleviate the distress of another, and inspire altruistic behaviours in human and nonhuman communities (Batson, Turk, Shaw & Klein, 1995; De Waal, 2011). As human neural responses indicate coherence between empathetic responses towards other humans and towards nonhuman entities, it can be confirmed that empathy is not limited to conspecifics (Franklin et al., 2013). I propose that by using art to encourage care and empathy for nonhuman species, a sense of community and mutual respect between human and nonhuman species can be established. Caring relationships are likely to develop the empathetic capabilities of the humans involved (Jenni, 2016), and, as empathy has a motivational effect, this could lead to behavioural shifts in species.

Caring relationships indicate an active involvement in the world, as care encompasses "everything that we do to maintain, continue and repair our 'world'" (Tronto, 1994:103), and relations of care suggest affection and emotional attachment. While caring is often construed as an uncomplicated, "natural" response (to care), both pleasing and pleasant, this thesis considers care as a potentially difficult and negotiated practice. Relationships between care-giver and cared-for develop within broader communities of human and nonhuman entities and are inscribed with power and vulnerability. A relational practice of multispecies care requires responsiveness to a specific situation and the negotiation of proximity or distance through attentiveness to the other. While heeding the ambivalence of care, eminent scholar in the environmental humanities Maria Puig de la Bellacasa (2017:19-20) argues that a speculative ethic of care can "operate displacements in established hierarchies of value", specifically in relations that unfold in "more than human worlds". Speculative care constitutes a relational, embodied and situated practice of doing (Puig de la Bellacasa, 2017) that proposes a different approach to the disengaged

methods of scientific rationality. Caring relationships are likely to develop the empathetic capabilities of the humans involved (Jenni, 2016), and such emotional responses could allow for more respectful and responsible engagements with nonhuman species.

This thesis argues that the typical communication modes and channels at play in natural history museums and in other forms of public biological communication are not sufficiently directed at stimulating emotional responses and empathy. In our current environmental context, such institutions are well positioned to educate the public on the limitations of an anthropocentric view through affective display design and visitor participation. As "interpreters of science in society", museums can challenge the public to respond to pressing issues such as climate change, human environmental impact and species extinctions (Carnall, Ashby & Ross, 2013:55), but the conventional displays of natural history museums have largely remained unchanged, with specimens presented behind glass that position the viewer as a distanced and disembodied observer, cast in the same mold as the objective researchers and erstwhile naturalists who uncovered facts about the natural world. During the 18th century, museums were formed to house royal collections of natural objects and those bequeathed from private donors, and the first natural history museums were initiated as part of a taxonomic project that sought to collect and identify all the living organisms of the natural world.[6] These museums developed into institutions of research, spurred on by natural historians such as Jean-Baptiste Lamarck and Georges Cuvier. Natural history museums proliferated during the nineteenth century as the impulse to name, order and display the entire variety of species was mapped to the colonial, expansionist enterprise (Secord, 1997:447) and was exported to colonised countries such as South Africa (Bennett, 1995).

As places of research and instruction, it may be that museums align to the different and changing geo-political and social realities of time and place. But while the changing notions of what and who constitutes the public and the concurrent role of museums of science in facilitating learning has shaped the format of museums, the ordering systems and objectifying

Figure 1 *Diorama, entrance hall of the Ditsong National Museum of Natural History.*

[6] The Muséum National d'Histoire Naturelle was "refounded" in 1793 to designate its transformation from the royal Jardin des Plantes into a public and national institution (Outram, 1997:257). The British Museum was founded in 1753, when Sir Hans Sloane donated his collections, including natural history specimens, to the nation (British Museum, n.d.). The natural history department later became London's Museum of Natural History and moved to separate premises in the 1880s (Natural history museum, n.d. b).

modes of modern science that underpinned the initial establishment and arrangement of natural history museums have largely remained intact. Many contemporary natural history museums are aware of this critique and have sought to overcome these challenges by adapting their modes of display and by encouraging visitor interaction (Bailey-Ross et al., 2017; Gordon-Walker, 2019), with educators and curators utilising interactive displays, discovery centres and other means to encourage embodied participation. However, this study suggests that such interventions are insufficient to rectify embedded dualisms and that museums that wish to mitigate the careless attitudes that humans demonstrate towards nonhuman species must shift their approach towards developing visitors' empathetic capacity. By means of a case study of the Ditsong National Museum of Natural History (DNMNH), this thesis argues that museums require a finer attunement to visitor participation to initiate emotional responses such as empathy and care for nonhuman animal species.

For humans to recognise and embrace their moral responsibility towards nonhuman species, belief systems based upon human exceptionalism must be dismantled. Theorists in the humanities challenge the foundation of human exceptionalism in Western knowledge systems by proposing a more inclusive paradigm that resists the reliance on a nonhuman animal "other" to negatively construct the human subject (Agamben, 2004; Braidotti, 2013; Derrida, 2008; Haraway, 2008; Wolfe, 2003), but their proposals are contentious, as they may variedly be perceived as a challenge to religious beliefs, to humanism and to human rights. Animal activists argue that certain societies' reluctance to reject human exceptionalism stems from a long-held belief that humans are the only species endowed with consciousness,[7] foundational for the capacity to reason (Cavalieri, 2006; Singer, 2002) and supported by the dominant religious doctrines,[8] which place humanity at the apex of creation (Waldau, 2006). Descartes furthered the humanist project at the start of Enlightenment science by categorising the soul and mind as existing outside of nature, while corporeality, nature or matter were devalued and defined as categorically separate from the mind. Nonhuman species and human bodies (distinct from soul/mind) were conceived as matter without consciousness

[7] This thesis focuses its critique specifically on dominant Western knowledge systems; many indigenous people's beliefs and knowledge systems are predicated upon interdependent human-nonhuman relationships (Nadasdy, 2007; Rusch, 2016).

[8] Judaism, Islam and Christianity all position humanity as the highpoint of creation, while Buddhism and Hinduism display more tolerance towards nonhuman species but still regard them as lesser beings (Waldau, 2006).

(thoughts, emotions and soul) that functioned like the mechanism of a clock (Descartes, 1968:73-76), and Descartes' further proclamation that nonhuman species were "beast-machines" denied them a path towards transcending their earthly lives.[9] Nonhuman species exist phenomenologically, as worldly beings driven by instincts, whose worldliness, according to Cartesian doctrine, defines their ontological difference from humans.[10] This differentiation freed humanity from its moral obligation towards the nonhuman species and has allowed for their callous exploitation (Cavalieri, 2006; Singer, 2002). Although the beast-machine theory is no longer accepted, the persistence of exploitative practices indicates how entrenched the dualisms in human and nonhuman species relationships have become – today the separation between "human" and "animal" remains, even as other hierarchical dualisms have been successfully challenged.[11]

Animal subordination speaks to the systemic mechanisms of power that have enacted violence upon and exercised control over humanity based on sexual, racial and gender differences. Cary Wolfe (2003:6) argues from a post-humanist position that western subjectivity was constructed upon those subjected to the power of white heteronormative masculinity and must be broken down and remade within a different ethical-political framework. The same systems that entrenched white heteronormativity can be seen in the underpinnings of the biological sciences, specifically in the separation of human/animal categories by Cartesianism and the emerging modern sciences. The institution of speciesism[12] has established a "symbolic economy" wherein the rights or freedom of one group to "transcendence" is made possible by the suffering or death of another group "by marking them as animal" (Wolfe, 2003:7). Humans and nonhuman species alike are devalued when ideological mechanisms work towards objectifying subjects or treat others as dispensable.

Despite the revision of interpersonal dualisms, there is a resistance to collapsing the definitive boundary between human/animal, as it may provide an opportunity to equate particular human demographics with animals, as has been done in the past (De Robillard & Lipschitz, 2017).

[9] Descartes (1968:75) regarded nonhuman species as machines, writing that "it is nature which acts in them according to the disposition of their organs". He claimed that humans have both mind and soul (Fudge, 2002:98), setting us apart from nonhuman species. As he believed in the existence of God and the immortality of the human soul, Descartes (1968:76) claimed that humans are the only species destined for eternal life.

[10] The term worldliness is gleaned from Haraway's (2008:3) sense of "grappling with, rather than generalising from, the ordinary", where human and nonhuman species participate in concrete interactions.

[11] The sexual, racial and gender discriminations ideologically meshed to the heteronormative white male identity that Cartesian dualisms upheld have been challenged through activism and cultural critique, and governments have reformed constitutional laws and policies to reflect inclusive and equal societies in which citizens' rights are affirmed. Although striving for equality is an ongoing project, the rights of all humans are firmly established within the South African constitution and largely so in the public mindset.

[12] Speciesism is a predisposition wherein members of a particular species promote their own interests and display an intolerance towards the interests of other species (Singer, 2002:6).

The traumatic and ongoing effects of racism illustrate the violence and oppression that can be a consequence of equating human and nonhuman animal species, so the project of unsettling the "human" and "animal" into a relational configuration requires foresight into who might be made more or less powerful as a result and a sensitivity to the impact on those who have been historically discriminated against. Rob Nixon's *Slow violence and the environmentalism of the poor* (2011) draws attention to the huge disparities within the human species and unethical practices that render those living in poverty particularly vulnerable to the dehumanising mechanisms that capitalist structures employ. The negative construction of human identity by means of the animal implies a category of animal-ed humans, where the undesirable aspect of animal being is married to the baser nature of humanity (Nixon, 2011). These mechanisms of subjugation were wrought by the Enlightenment ideals of disembodied reason and ocularcentrism, through which the constitutive role of biological functions, instincts and multisensory experiences were repudiated (Wolfe, 2003:3), but theorists caution that by distinguishing between humans and nonhuman species, the category of animality is maintained and can again be used to submit populations to the violence and inequality of racism and sexism (De Robillard & Lipschitz, 2017; Wolfe, 2003:7-8). Animalisation is a "racialising technology" that functions on the basis of difference (De Robillard & Lipschitz 2017:85); by disrupting the foundational cause of racist discourse, which is reliant upon species meanings, this technology of oppression can be overturned (De Robillard & Lipschitz, 2017:78). By breaking down categories and reconfiguring binaries in relational terms, the work of phenomenologists, feminists, post-colonialists and post-humanists is understood as part of a larger project that seeks to interrogate and loosen the dynamics of power.

Connective theories – including phenomenology, agential realism, feminist materialisms, affect theories, assemblage theory, care ethics and post-humanist and post-colonial approaches – offer a challenge to the stable basis upon which these uneven power relationships depend, collectively termed "relational ontologies" in this thesis, as these theories conceive of subject-formation as a responsive, embodied process, while relationships and categories are conceived as mobile and contingently interdependent. This study is informed by Gilles Deleuze and Felix Guattari's assemblage theory (2014), which proposes configurations of entities that can couple and decouple with other entities in infinite and continuously evolving combinations. New materialist and assemblage theories consider subjects as entangled with each other, as affective and mutually constituted through their interactions with each other (Barad, 2007; Braidotti, 2013; Deleuze & Guattari, 2014; DeLanda, 2006; Haraway, 2008). Accordingly, relationships are formed, realigned and discontinued as orientations shift within changing temporal-spatial contexts; these theories do not assume a human-determined world, but view humanity as a part of the world enacting an unfolding event. New materialist and assemblage theories thus provide a non-hierarchical, biocentric basis from which to decompose human identity and to rethink subject/object relationships.

Theories of affect propose that affects are formed through relational constitutions, and that these affects subsequently form part of and become generative within a network of relations (Anderson, 2016:10; Anderson & Tolia-Kelly, 2004; Clough, 2010; Wetherell, 2012). Proceeding from an acceptance of embodied beings and an understanding that affects permeate every aspect of existences (Anderson, 2016:6), affect studies conclusively rejects the mind-body separation of Cartesian mechanistic philosophy and proposes an ontological turn towards relational and posthuman theories (Wetherell, 2012:3). In this thesis, affects are considered within a broad remit of "heterogeneous range of phenomena" that are inclusive of "visceral responses" (Anderson, 2016:5), bodily activity, conscious and preconscious feelings and emotional expressions (Wetherell, 2012). While it may be that emotions, affects and feelings become entwined and are experienced as indistinct during encounters (Anderson, 2016:84), affects considered in relation to interacting bodies may also involve reactions that occur without emotional involvement, as "forces" or "active relations" (Wetherell, 2012:2). Therefore, this study distinguishes between affects that are linked to a body's potentiality to affect and be affected (Deleuze, 1990:218), and emotions that refer to subjective and situated experiences (Anderson, 2016:83). Though artists

employ strategies to affect audiences and may target specific emotional responses (such as empathy), emotional responses are complex and are not reducible to simple causal relationships (Tait, 2016; Wetherell, 2012). Emotions develop through subjective interactions with others and as interconnected responses to events and cannot be isolated as an "object inside the self" (Wetherell, 2012:24). Perceiving affects and emotions as emanating from embodied and lively involvements challenges anthropocentrism and the positioning of humanity as a distanced observer of the world.

These relational ontologies provide the ethical-political framework through which the western construction of the individual subject can be challenged, where objectification and the politics of difference have served to exempt those in power from their moral responsibility towards others. Moral obligation towards other entities is central to a relational approach, as the actions of one entity are inscribed upon another. Phenomenologists, new materialists, affect theorists and post-humanists consider subjects to be embodied, and the relegated realm of feelings, emotions and sensorial experiences are recognised as constitutive components of the human organism. Compelling studies in neuroscience and neurology stipulate that cognition is embodied, as emotion, feelings and biological regulation contribute to processes of reasoning (Damasio, 2005; Lakoff, 2012). From the basis that feelings are forms of thinking that can guide humans in their moral judgments (Damasio, 2005:xvii), ethics that accommodate to feelings and emotions may have more to offer than rule-based moral codes. Following a relational approach, a feminist ethic of care (Gilligan, 1982; Noddings, 1984) recognises that moral decisions evolve from a web of relationships and influences that are contextually specific, while a speculative ethic of care intermeshes situated care, in all its complexity, with every aspect of relating (Puig de la Bellacasa, 2017:98-99). This thesis is centered on the premise that situated care and empathy can (and should) form the foundation of moral decision making, and that participatory and affective practices of relating can initiate appropriate actions and behaviours for humanity.

A shift towards more caring multispecies relationships is crucial in light of the Anthropocene and the pervasive interference of humans on ecological systems (Alberti et al., 2003). Human interference has accelerated the rates of species extinction (Alberti et al., 2003:1169), but the lack of care for nonhuman species is also caused by the "extinction of experience" (Pyle, 1978): iincreasingly, people spend less time outdoors, while sedentary lifestyles are facilitated by computers and online activities (Miller, 2005:431; Soga & Gaston, 2016:94). The majority of the world's population already lives in cities, with African cities reflecting the largest growth (Pieterse, 2010), and this rapid urbanisation suggests that it is likely that human encounters with other species will increasingly occur within city limits (Anderson & Elmqvist, 2012), as urban environments provide a dynamic context in which worldly multispecies relationships can unfold (Van Horn & Aftandilian, 2015).

This study draws on urban ecology, a relatively new field that investigates the in- and of- city ecologies[13], taking into consideration aspects such as social dependency on the natural environment, fragmentation and the social use and constructions of space (Anderson & Elmqvist, 2012). Cities can be viewed as "complex, emerging phenomena" in which biophysical, ecological, social and cultural dynamics simultaneously interact and affect urban ecosystems on a micro and macro level, causing emerging patterns of behaviour (in humans, other species and in systems themselves) (Alberti et al., 2003). Although, the human dimension is not fully explored in urban ecology studies, as McIntyre et al. (2000) suggest, and collaboration between these researchers and programmes in the social sciences and humanities may explain how humans can be mobilised through means other than factual, scientific communication and educational programmes. This study inserts itself into this interdisciplinary space, contributing to the ethos of urban ecology. Biodiversity conservation in human-modified landscapes, including cities, can make a significant contribution towards maintaining existing endemic and threatened species (Ives et al., 2016) and is necessary due to the failures and insufficiency of a "fortress" approach followed by national parks and protected areas (Trimble & Van Aarde, 2014). As many nonhuman species are displaced by urban growth and their rural habitats

[13] In-city ecologies refer to studies of ecological systems within the confines of urban spaces, while research focusing on of-city ecologies engages with socio-ecological relationships and impacts that extend beyond the city limits (Anderson & Elmqvist, 2012).

are threatened by agriculture and industry, the spaces where nonhuman species can thrive become smaller and more fragmented; the need for biodiverse cities is urgent.

Theories about human-nonhuman species relationships have proliferated in recent years, informed by supportive scientific evidence, but their uptake by institutions such as natural history museums and in the public's perception of nonhuman species has been remarkably slow. In South Africa, the primacy of human exceptionalism persists in all areas where nonhuman species are entangled with humans, as highlighted in reports on agriculture, religious ceremonies, game reserves, zoos and pest control (Alfreds, 2018; Buckland & Nattrass, 2019; Kamuti, 2014; Pinnock, 2019; Qekwana et al., 2019). Where live animals are concerned, South African policies and laws consider nonhuman animals – be they pets, domesticated animals or wildlife – to be the property of the state or privately owned (Pinnock, 2018). South Africa is rich in biodiversity: the administrative capital Tshwane/Pretoria[14], where this study is based, hosts multiple conservancies and diverse species and presents a complex urban environment, but the scientifically informed conservation plans that provincial and municipal conservationists adhere to remain circumscribed by binary divisions that reinforce anthropocentric attitudes and behaviours (Gauteng Department of Agriculture and Rural Development, 2016; City of Tshwane, n.d.). The theory and practice of display prevalent in South African natural history museums can arguably be understood as consistent with the broader public's acceptance of the moral, economic and legal status of nonhuman species.

Due to the static nature of natural history museums and their adherence to earlier formulations of human/nonhuman species relations, this thesis presents an exploration of a different forum, one that can advocate for a relational understanding of speciation. This thesis contends that, while scientific research has provided evidence of entangled, relational co-existences between species, shortcomings prevail in communicating these findings to a broader public.[15] Whether through scientific publications or through institutions such as museums, a simple factual relay of information is not conducive towards fostering closer bonds between humans and nonhuman species. Contemporary natural history museums are encumbered by their historical and political functions and are subject to cultural critique; the built environment, means of display and visitor expectations condition the museum audience's responses. These do not typically encourage empathy for nonhuman species, and a new approach to communicating ideas about situated multispecies relationships is thus required, one that encourages embodied, subjective and emotional responses.

Fine art offers appropriate tools with which to challenge the mind/body binary, as art viewers' experiences involve bodily engagements with material artefacts or living forms. As a social practice, art forges connections between people, ideas and materials. Moving beyond art focused on the visual, this study hones in on experiential and participatory art. Recently, art historians and visual theorists have emphasised that a phenomenological reading of art is inclusive of cognitive-corporeal responses and that one should not be privileged above the other in a constituted binary (Esrock, 2001; Lauwrens, 2018; Sutton, 2017). Art engages the realm of the imagination, where the expectation is that both artist and audience respond with creativity during the inception and reception of the work. From such a position, art can challenge the limitations of fixed categories and develop the empathetic aptitude of its viewers. The connection between imagination and empathy has for long intrigued artists, who have sought to stimulate emotional responses through artworks. When Theodor Lipps presented a theory of empathy in 1903, it was discussed in relation to artworks and aesthetic appreciation to describe situations in which viewers were emotionally affected by an artwork (Esrock, 2010:219). As such, empathy has long been considered of import in representation, as well as in real life situations (Lopes, 2011:121). As different empathetic sensations imply different emotional responses (Lopes, 2011:121),[16] empathy itself is a complex emotional response that must be considered beyond the limited understanding of empathy as a selfless surrender to the emotional state of another (Gruen, 2015; Slote, 2007).[17] The affective dimension of empathy encompasses a range of responses, such as experiencing another person's emotions; interpersonal compassion; being moved by another person's emotions and situations (with or without emo-

Figures 2 & 3 *"Wild pigs" exhibit, main stairwell of the Ditsong National Museum of Natural History.*

[14] While the name of the municipality of the capital city of South Africa has officially changed to City of Tshwane, both "Tshwane" and "Pretoria" are still in use. Pretoria is used to refer to the city centre and to designate the capital (in news articles, for instance), as explained by government (News24, 2010). An official name change is yet to take place and in the interim one or the other is used in formal and informal communication. I have chosen to use of "Tshwane" throughout the thesis.

[15] To clarify, this study recognises the relevance, importance and impact of biological and environmental sciences research, as this thesis draws on multiple sources from the natural sciences, urban ecology, neurophysiology and evolutionary biology in its argument to substantiate its call for an end to Cartesian dualisms.

[16] Although empathy and sympathy share similarities, sympathy is a particular emotion: as an example, Slote (2007:13) explains that sympathy for someone else's sense of embarrassment does not indicate a personal experience of embarrassment.

[17] In her ethics of care, Nel Noddings initially proposed that a person risked emotional contagion, or becoming "engrossed" in the other's needs (in Slote, 2007). Noddings has since adjusted her stance and uses the term "receptive attention", as referenced in this discussion.

tional contagion); visualising being someone else; interpreting someone else's emotional responses; and a selection of these descriptors (Coplan & Goldie, 2011:4). Interpersonal empathy can be understood as "knowing the other's mind instead of their state of mind being the same as ours" (Howe, 2013:12) – empathy involves the imagination, as it is impossible to know another's frame of mind.

In more recent assessments informed by developments in the neurosciences, empathy is considered as an aspect of embodied art experiences (Esrock, 2010; Lauwrens, 2018); art viewers can be encouraged towards emotional responses such as empathy by their own embodied interactions with an artwork. This thesis takes these ideas forward into the terrain of human and nonhuman species relationships by focusing the viewer's attention upon nonhuman species as subjects. Eminent scholar in comparative literature, Josephine Donovan (2016) proposes the notion of an ecofeminist aesthetic of care applicable to art practices that magnify the lives of nonhuman others. Donovan's premise, which this study supports, is that artists' communicative skills can instill in the reader/viewer a sense of specificity that highlights the subjectivity of nonhuman species and fosters respect and care towards them.

Art communicates in ways that are personal, subjective, emotional and specific, which provides a counterpoint to the rational relay of factual information prevalent in museum displays and science writing. Artists creatively reinterpret ideas, theories and methods from other disciplines and idiosyncratically apply them towards specific, single ends (Macleod & Chaplin, 2014). As artists traverse disciplinary boundaries with impunity and creativity, art often provides an oblique alternative to normative modes of thinking and doing. In this thesis, the notion of the artist as someone who forms linkages between other disciplines and areas of life, as the non-expert defined by Steve Baker (2000:41) or as Anna Dezeuze's (2010:50) *bricoleur*, is considered more appropriate than situating the study within an interdisciplinary/transdisciplinary space.[18]

[18] This thesis acknowledges the impact of interdisciplinary/transdisciplinary trends within which art can be located and regards art, as a creative endeavor, as always interdisciplinary/transdisciplinary.

2. Research focus

Recognising art's particular aptitude for addressing these issues, many artists create works aimed at dismantling binary constructions and encouraging a reconsideration of the moral status of nonhuman species. These artists are not concerned with the longstanding tradition of symbolic representation of nonhuman species within artworks, where the nonhuman animal is used as a trope for human emotions, aspirations and characteristics. Nor do these artists use nonhuman species to "'people' situations" as Disneyfied, humanised characters completely disconnected from nonhuman species (Berger, 1991:19).[19] The works of artist duo Bryndis Snæbjörnsdóttir and Mark Wilson, Lucy Kimbell, art collaborators Adam Zaretsky and Julia Reodica, Fritha Langerman, Tomás Saraceno and Mark Dion are investigated in this study. Snæbjörnsdóttir/Wilson's, Kimbell's and Zaretsky/Reodica's relational artworks unsettle the human/nonhuman species binary, whereas Dion and Langerman consider constructions of nature/culture, often within museum contexts. Saraceno's exploration of spiders and their web technologies, as presented within a natural history museum, is discussed here as a lively intervention that invites embodied modes of attention. Seminal publications by Baker (2000), Ron Broglio (2011) and Giovanni Aloi (2012) and the journal *Antennae* attest to the importance of artistic work in the disciplinary field of human-animal studies and the wider context of the environmental humanities.[20]

Although my study can be considered within the broader remit of environmental or ecological art, these terms are often used exclusively to refer to artists who work with themes related to climate change, pollution and environmental degradation. The aforementioned artists and writers have influenced my own art practice and research through their focus on the specifics of human-nonhuman species relationships, while bio-art, with its focus on interdisciplinary collaborations with the biological sciences (often utilising genetics and microbiology), provides an ethical–aesthetical consideration of multispecies worlds. In this regard, Eben Kirksey's exhibition and publication *The multispecies salon* (2014) and projects initiated by Australian research laboratory SymbioticA (SymbioticA, 2019) are influential, and Kirksey straddles the worlds of urban ecology and art and is

[19] "Disneyfied" refers to anthropomorphised characters such as Mickey Mouse, made popular in the animated children's films of The Walt Disney Company and The Walt Disney Animation Studios.

[20] Art practices are frequently discussed and form part of the interdisciplinary field of human-animal studies. See, for example, British Animal Studies Network seminars (British animal studies network, n.d.) and H-net Animal discussions (H-animal, n.d.).

Figure 4 *Exhibition view of Tuomas Laitinen,* The powder of sympathy *(2015), HD video. Excavations, 13 June-30 August, 2015 at HIAP Gallery Augusta, Helsinki, curated by Jenni Nurmenniemi.*

part of a worldwide network of satellite projects that incorporates Anna Tsing's and Donna Haraway's seminal ideas. Together, these artists and authors support my contention that art can provide the means with which to move beyond the limitations of public scientific biological communication.

While contemporary South African art practices are often eclipsed by identity politics and socio-political commentary, many local artists address environmental concerns in their work. The field of environmental or ecological art is gaining recognition, but artworks that seek to reframe human-animal relationships in terms that are less prescribed are less prominent. Established artists such as Santu Mofukeng, Willem Boshoff, Andrew Putter, Lien Botha and Thomas Mulcaire share environmental concerns with a younger generation of artists and art collectives, such as Hannelie Coetzee, Ubuhle Bobuntu, Site_specific, Tamsin Relly and Kai Lossgott.[21] Local exhibitions such as Threshold: climate change and environmental concern (MacKenny, 2011), Don't/Panic (Ngcobo, 2011), Aperture (Dreyer, 2011), If you let yourself love a wild thing (Salon Ninety One, 2012), Letters from the sky (Lossgott, n.d.) and Global nomadic art project (Site Specific, n.d.); international shows such as Earth matters: land as material and metaphor in the arts of Africa (2014) (Smithsonian national museum of African art, n.d.), Radical nature (2009) (Barbican, n.d.), RETHINK: contemporary art and climate change (2009) (Alexandra Institute, n.d.), Earth: art of a changing world (2009) (Cumming, 2009), Excavations (2015) (Nurmenniemi, 2015), ArtCOP21 (2015) (ArtCOP21, n.d.) and Arcadia Earth (2019) (Arcadia Earth, n.d.); and platforms for art activism (Cape Farewell, n.d.) and enquiry (Nurmenniemi, 2018) reflect the growing response to the environmental crisis. Increasingly, global platforms such as the Venice Biennale and Documenta have presented artworks that hone in on environmental issues (Laure Prouvost, *Deep see blue surrounding you* (2019) (Siegal, 2019) in the French pavilion) and human-nonhuman species relationships (Kristina Buch, *The lover* (2012) at Documenta 13 (Kristina Buch, n.d.); Tue Greenfort's *Worldly house* (2012) (König Gallery, n.d.) and Tomás Saraceno (2019) (Angelopoulou, 2019) in Venice), demonstrating that artists are engaging with these matters to challenge public perceptions. Exhibitions with a specific human-nonhuman species focus, such as Animals & us (2018) (Turner Contemporary, n.d.) and Coexistence (2019-2020) (Kiasma, n.d.) show the importance of questioning pervasive attitudes towards nonhuman species.

Locally, South African artist Nandipha Mntambo's use of animal skins as sculptural material with rich cultural associations is framed within human-animal studies' considerations of taxidermy (Aloi, 2019b; Lipschitz, 2012), while Elizabeth Gunter, Wilma Cruise and Ann-Marie Tully explore human-animal relations through representations in drawing, sculpture and painting. Mntambo's work invites considerations of the undoing of heteronormative and speciesist categories and can be regarded as a means through which power relationships can be destabilised (Lipschitz, 2012; Sanger, 2013), but these artists all address human and nonhuman species relationships by presenting static work in gallery environments. This study seeks to explore collaborative art strategies as a means through which to disturb boundaries and encourage empathy, and its contribution addresses the identified lack of interdisciplinary, creative public projects that seek audience participation and reflection on the issue of human and nonhuman species relationships within the specifics of a South African naturalcultural urban context.[22]

Figure 5 *Nandipha Mntambo,* Indlovukati *(2007), cowhide, resin, polyester mesh, waxed cord.*

While creative practice that reflects on or intervenes in the museum is widely established, this thesis focuses on providing an alternative to the static, generalised narrative of natural history museums. By presenting a case study of the Ditsong National Museum of Natural History (DNMNH), the study identifies the lack of critical investigation within this particular museum, which has not adopted any artistic museum interventions and has neglected contemporary research into its modes of display. Internationally, artists' critiques of the museum have focused more prominently on art and cultural history museums. Since the 60s and 70s, artists such as Marcel Broodthaers, Merle Laderman Ukeles, Daniel Buren, Adrian Piper, Guerilla Girls and Judy Chicago have interrogated the embedded hierarchies, racial and gender-based exclusions, systems

[21] Ubuhle Bobuntu is an arts collective based in Soweto and is comprised of Lehlohonolo Mkhasibe, Sinalithemba Ntuli, Mzie Gojo, Thulani Zondo, , Virginia Ramovha, Thabo Molapo and Mightar Makgotla (Ubuhle Bobuntu, 2016).

[22] The term natureculture signifies an intertwined and inseparable relationship between what is normatively perceived as a dichotomy: human culture and nature as its opposite. This study follows Haraway's (2007; 2008) use of natureculture to designate processual and changing configurations between biophysical, social and material phenomena.

Figure 6 *Marina Abramović,* The artist is present *(2010), performance, Museum of Modern Art (MOMA), New York, 9 March-31 May 2010.*

of patronage and the legacy of colonialist ideologies in art museums (Kwon, 2000:39-43; Shaked, 2010; Tickner, 2012). The 1990s saw a proliferation of museum studies appraisals directed at the edifice of the museum and the complicity of museums in othering non-Western, indigenous cultures, the female and queer gender constructions, amongst others (Bennett, 1995; Hooper-Greenhill, 1992; MacDonald, 1998). Fred Wilson's seminal museum intervention, *Mining the museum* (1992), lay bare the manner in which discriminations and exclusions had become normalised through complacency with the status quo (in Kwon, 2000:52). Natural history museums have not escaped the level of scrutiny directed at cultural and science museums, but the focus has largely been on addressing racial stereotyping and other discriminatory display practices that have positioned indigenous cultures and non-Western societies as primitive (Bennett, 1995; Davison, 1990; Haraway, 1984-1985). More recently, the critical focus has widened as art interventions evaluate the cultured status of nonhuman species and the implicit role played by display practices in natural history museums – as in works by Mark Dion, Tomás Saraceno, Snaebjörnsdottír/Wilson and Abbas Akhavan.[23] Locally, Fritha Langerman's solo exhibition *R-A-T: an associative ordering* (2012-2013) at Iziko South African Museum, Rat Western's Dead media (2010) at the Albany Museum and Object ecologies, a group exhibition curated by Langerman, Pippa Skotnes, Nina Liebenberg and students from the UCT curatorship programme (2019) have contributed to the discourse on speciation and naturalcultural histories by interrogating museum practices of collection and display. This study differs from these interventions in that it centralises a need for mobility and adaptability in its response to natural history museums.

Relational art is not bound to gallery structures and so ensures that the artist can meet audiences in a range of locations. This thesis extends the idea of a deinstitutionalised art practice to natural history museums in an approach that has not yet been sufficiently explored in South Africa. Since the 60s and 70s, artists' critiques of the museum have been accompanied by the search for an expanded art practice and an interest in merging art and life, as seen in the

[23] The works referred to here are Mark Dion's permanent installation *Neukom vivarium* (2006), Tomás Saraceno's work in Spinnen at the Senckenberg Natural History Museum (2016, discussed elsewhere in this thesis), Snaebjörnsdottír/Wilson's *Nanoq: flat out and bluesome* at Spike Island, Bristol (2006) and Abbas Akhavan's *Fatigues* in Making nature (2016-2017), an exhibition held at the Wellcome Collection, London (Aloi, 2019a).

work of Marina Abramović, Joseph Beuys, Fluxus artists and art happenings (Dezeuze, 2010). The development of art as social practice through installations, happenings, participation and performance can be broadly understood as an effort to democratise art practice from the elitist workings of art galleries and art museums. Though not without its conflicts and complications, this understanding of deinstitutionalised art practice has informed my artistic trajectory as presented in the relational artwork *Small victories* (2007-9) and the artist's book *Tracking the western leopard toad* (2009). Contemporary artworks that reflect an exploration of social activation through mobility and performativity include Annabel Other's *Bristol art library* (1998-present) (Saul & Other, 2012), Nils Norman's *Geocruiser* (2001-2004) (Demos, 2012:197), Meriç Algün Ringborg's *The library of unborrowed books* (2010-2013) (Ringborg, 2014; Art in General, 2014), Snæbjörnsdóttir/Wilson's radio station for *Uncertainty in the city* (2008-2010) (Snæbjörnsdóttir/Wilson n.d. b) and local artist Alison Kearney's portable *The portable hawker's museum* (2003-) (Sassen, 2005). Kearney's *The portable hawker's museum* responds to the elitist workings of museums and the value judgements that differentiate artefacts from ordinary objects. Marcel Duchamp's compact mini-museum *Boîtes-en-valise* (1935-40) can be regarded as a precursor to these contemporary renditions of portable art. Through the employment of mobility, adaptability and audience participation in its response to natural history museums and the legacy of Cartesian binaries, my creative work explores an innovative solution towards improving human and nonhuman species relationships.

Figure 7 *Alison Kearney,* The portable hawker's museum *(2003-), public intervention.*

3. Research question and method

This thesis examines how a relational artwork, here performed in the City of Tshwane/Pretoria, can encourage empathy and care for nonhuman species in urban environments. Through creative practice, the argument is made that an alternative mode of experience and understanding can allow for more caring and empathetic relationships with nonhuman species. *The Visitor Centre* was devised as a mobile hub to engage the public through the close consideration of constructed art objects that sparked conversations about urban species. In its relational form, the artwork can be

understood as an unfolding, connective practice that embodies its own premise. The entangled, contingent and emerging character of multispecies relationships is communicated and performed through material objects, social interactions and artistic processes. Assemblage and relational aesthetics are employed as creative methods that, through the phenomenological and dialogical workings of *The Visitor Centre* and its appeal to anthropomorphism and storytelling, are intended to unsettle the limitations of species-specific categories by human design. Telling stories can establish linkages between narrators and listeners, and in *The Visitor Centre*, stories bring relationships with nonhuman species to attention.[24] In this study, both the impact of the conversations of the participants and the artist-researcher's multiple roles as creator, witness, listener, interlocutor and audience are made evident and are acknowledged as key strategies in the formation of this alternative space of relationship making.

Accordingly, the primary research question asks how empathetic multispecies relationships can be advocated through a mobile artwork that intervenes in public spaces in the City of Tshwane.

The following sub-questions are addressed in this thesis:

a. How can the connective strategies of assemblage, relational aesthetics and storytelling be used in artistic practice to draw attention to contingency and entanglement in multispecies relationships?
b. How can the assemblage of fragmented parts be employed as a strategy to encourage a reconfiguration of multispecies relationships?
c. How can a mobile artwork, conceived of as a visitor centre, creatively respond to the limitations of natural history museums to address anthropocentrism and binary divisions?
d. How can an artwork negotiate between a subject-orientated and biocentric position to encourage empathy towards nonhuman species? Following from that, what methods can assist the artist to produce a recognition of nonhuman species subjectivities?
e. How is the work activated through the artist's and audience's performative roles?

[24] A detailed account of storytelling practices as a subjectifying and connective strategy is provided in section 2.5.

My research has been articulated as a theoretical and creative enquiry that comprises a thesis and visual art production, which are considered as "interrelated objects of thinking" (Macleod & Holdridge, 2005:197). In the University of Cape Town's Fine Art PhD, the theoretical and creative components are inextricably linked, and creative production is a fundamental component of this thesis and argument. Artistic representations can convey imaginative and intertextual interpretations, presenting layered meanings that can be accessed sensorially, intuitively and analytically. As such, this qualitative study is generative, hybrid, interdisciplinary and characterised by explorative questions. It is my contention that this creative project and thesis can contribute to bodies of multispecies relationships through the distinctive communicative role of art, and to that end, alternative modes of knowing and understanding through an art practice that is focused on the embodied, experiential, subjective, imaginative, poetic, narrative and specific are brought to the fore in this thesis.

A significant portion of my time was dedicated to studio practice to conceptualise and visualise the artworks, which were further processed in their making. The "labyrinthine nature of artistic research" expresses the serendipity and uncertainty that accompanies creative work (Macleod & Chapman, 2014:139-140), and accordingly, the conceptual framework of a visitor centre and preliminary ideas on format, presentation and artistic methods do not necessarily imply a set course. The artworks were not determined at the outset; rather, they were shaped through the process of thinking through the research (Macleod & Holdridge, 2006:4) – an embodied and situated process of making, reflecting and remaking that is characteristic of artistic research (Macleod & Holdridge, 2005:206). Theoretical research may also be considered as creative and relational in its processes of making linkages between disparate ideas or in pursuing familiar ideas into unfamiliar terrain, and this in this study theory and practice are understood as reciprocal. This creative process relied on tacit knowledge, underlining its subjective and relational nature.

Observations about process and reflections on significant revelations formed part of the double-inquiry loop of planning, making, observing,

reflecting and acting, borrowed from participatory-action research. As a relational practice, the artwork was continuously informed by my semi-structured interviews with contributors, who included museum staff, artists, zoologists, taxonomists, wildlife managers, nature conservationists, urban ecologists, wildlife caregivers, cultural and visual theorists and the general public. The creative process developed concurrently with the theoretical investigation and formed part of an enquiry cycle wherein feedback from supervisors, audiences, interviewees and self-reflexive practice looped back into the research process. This research methodology mirrored the method of production as a relational undertaking that followed the embodied modes of assemblage and care aesthetics.

This enquiry cycle extended into the formulation of a series of visitor centres. Following the design-research method of prototyping, each visitor centre artwork was conceived of in response to its predecessor. The project presents the two prototypes of *The Visitor Centre – I* and *II* – as process-orientated and evolving hubs in which the ethos of continuity, as emphasised by Tim Ingold (2012) and Haraway (2016), is embedded within the artworks themselves, as the different prototypes performed as aggregates of process rather than peaks of progress. A third prototype, *The Visitor Centre III*, is revealed in the conclusion as a proposal for the dispersal and extension of this collaborative project.

The artwork was intensively documented, with the work process, use of materials and evolution of the work captured in photography, video, drawings and journal self-reporting. The insulating aspect of self-reporting was countered by the dissemination of ideas in the public domain through two major public interventions (2016 and 2018), smaller group exhibitions (2014, 2015, 2016) and three international conference presentations (2015, 2016 and 2018). The audio and video recordings of these interventions were transcribed into handwritten notes, and these recorded responses substantiate the analysis of audience participation in this thesis. I noted details of each event and compiled a descriptive and reflective document based on my observations. Reviews of exhibitions in the media, informal conversations and semi-structured interviews with participants and contributors also fed into the creative process and synthesis of research.

As events were documented through video, audio and photographs, ethical clearance forms were distributed to event participants in adherence with research ethics. Throughout the study, participants were not identified by name; when groups of minors were involved as participants, the organisations involved (Ditsong Museums of South Africa, GDARD and the City of Tshwane) obtained permissions. Informal interviews conducted throughout the study were recorded or noted, and interviewees were provided with a summary of their contribution and given the option of anonymity when their statements were referenced in this text.

The innovation of this study is its adoption of mobility, adaptability and participation into the existent framework of a visitor centre in order to interrogate the limitations of natural history museum displays. Visitor or welcome centres are usually permanent structures that serve as informative and educational hubs, fulfilling a similar function to museums but on a smaller scale. They are usually located near sites of geographical, historical, anthropological or environmental significance. *The Visitor Centre* maintained its role as a centre: the work was a mobile hub that entangled the artist, artwork and audience in a web of relations, but it was not bound to a particular site. Although many museums make use of mobile units to assist their educational aims (e.g. Iziko South African Museum's Mobile Museum Outreach Programme), such units are usually vehicles fitted out to the museum's requirements (Iziko Museums of South Africa, n.d.). As such, they are attached to a parent institution, an authority that the roving artwork seeks to circumvent. *The Visitor Centre* assumed the form of a backpack; a lightweight mini-museum that was easy to take into homes and to remote locations reachable on foot. These benefits extended beyond the reach of a vehicular museum unit and afforded a sense of accessibility and informality that promoted proximity and engagement, substantiated by public responses to my relational artwork *Small victories*, where a tea trolley became the hub for interactions at public sites in Cape Town. The most appropriate format for the desired engagement

Figure 8 *A presentation by the Iziko Mobile Museum Outreach at Parkdene Primary School, George.*

was crafted from my experience eliciting responses from a public that is often indifferent to art (Grobler, 2014). The proposal for a mobile, accessible and participatory museum gave the artwork a wider reach and addressed the limitations of traditional, static natural history museums. *The Visitor Centre* also addresses the lack of South African art interventions that engage the public on issues of relational understandings of speciation, specifically in the capital city, Tshwane.

Drawing on the renditions of performative, mobile art creations mentioned previously, this artwork takes a different slant in its combination of a convivial, relational focus with its application of assemblage as a formal and conceptual device. Deleuzo-Guattarian assemblages, informed by relational ontologies, provide a framework through which to consider participatory art practices.[25] In art, the sculptural method of assemblage is predicated on the form of collage; both formal and conceptual assemblages combine disparate parts to form new meanings, often as a provisional, messy solution that can accommodate future change. *The Visitor Centre* employed fragmentation and assemblage as aesthetic strategies to communicate the contingency and entanglement of multispecies relationships, while the works housed within communicated an unraveling of fixed frames of reference through the assemblage of incongruent fragments into new configurations. In the practice of assemblage, relationships are held in tension, entities with previous uses and histories being harnessed together to stimulate new analogies and expressions. The visitor's hub functioned as an emerging assemblage, where binary pairs were reconfigured by intermeshing the worlds of science, conservation, museums and ecology with nonhuman species worlds through relational aesthetics.

These worlds are accessed by me as the artist, in my engagement with scientists, conservationists, artists, citizen scientists, animal rescuers and museum practitioners in the artwork's preliminary stages and during its lifespan, as conversations informed and inspired the different art objects. The mobile hub drew in different publics, depending on the various sites of interaction (museums, conservancies, inner-city, suburban, etc.), where their exchanges brought the connective aims of the artwork to the fore.

The results of my collaborations with scientists and different publics were presented through the lens of art, attending to aesthetics, materiality and relational effects. Furthermore, artworks, as singular objects, presented private multispecies relations in a public realm and, as such, the project drew attention to specific encounters between humans and smaller wildlife species, which are rarely publicised, to encourage empathy towards such species.[26] A visitor's centre suggests pedagogic aims, but as an artwork the centre presented a setting in which the historical legacy of taxonomical ordering was unsettled.

The Visitor Centre was informed by works and themes explored earlier in my artistic practice. In the ameliorative, participatory relational artwork *Small victories* (2007-9), I addressed notions of respect and memory, engaging with the wider public in a site-specific intervention and gaining extensive experience in eliciting audience interactions through the different articulations of the project. I first explored ecological content in a series of drawings of burnt-out tyre debris, *Accidental species* (2006-2008), which initiated my response to car culture in South Africa and was presented in the solo exhibition *4 auto-stroke* (2006). In the sound artwork *Reverse cuckoo,* I predicted an urban setting in which nature and culture had merged, honing in on triggers that reveal shifts in the culture/nature binary. *Tracking the western leopard toad* (2009) and *Impossible neighbours* (2010-2012) formed a starting point for this study, depicting the parallel existence of nonhuman species in urban environments to re-evaluate existing hierarchies within species categories. The artist's book *Tracking the western leopard toad* provided both formal documentation and a loose interpretation of scientists searching for western leopard toads (*Amietophrynus pantherinus)*. The illustrated notebook intermeshed anecdotal, scientific and biographical evidence in a sketchy narrative, leaving the reader/viewer to interpret and sift through the fragmented data. Relational and dialogical methods were employed to gather evidence, processes further explored in *The Visitor Centre*. The artworks from the series *Impossible neighbours* acted as cues to draw the (human) viewer's gaze downward to acknowledge and respect the parallel universes and lives of nonhuman species. At times illustrative and perhaps conservative, the series was an attempt to reconnect head, eye and

[25] Conceptual assemblages are described in detail in section 1.2, while section 2.4 compares both sculptural and conceptual assemblages with the workings of relational aesthetics.

[26] This study focused on mammals, birds, reptiles, insects and arachnids in the Tshwane municipal region.

hand, and the process of making and crafting was an important durational aspect of the work. The drawings *Dear Mr Adams i-xx,* initiated my exploration of anthropomorphism when I drew correlations between the deadening effects of mundane office work upon humans and the death of a gecko. While anthropomorphism might be effective against the reconfiguration of the categories of human/animal, it may also provide familiar territory for the viewer to connect with the work and with nonhuman species, an assertion explored further in this thesis. Both *The enigma machine* (2004) and *Ich komme nicht von hier* (2006) are poetic, suggestive bodies of work that resist easy interpretation. They align with my current proposal, in which factual information is artistically interpreted and obscured. In these works, and in those presented in *4 auto-stroke*, I made use of assemblage techniques to create ambiguous objects that invite embodied, uncertain responses.

Figure 9 *"Misfits" from* Tracking the western leopard toad *(2009), artist book. AtWork collection.*

4. Layout of the thesis and documentation of work

This thesis comprises five chapters: two introductory chapters; a case study (Chapter Three) of a local natural history museum; and two chapters that present the arguments made through the artistic process (Chapter Four) and public art interventions (Chapter Five). Throughout this study, photographs and maps provide visual references and context for the discussion of artworks, exhibitions, interventions and museum displays. Chapter Five offers a detailed catalogue of *The Visitor Centre I* and *II* and the constructed artworks housed within. The video documentation of the interventions is available online, along with the video artwork *The Visitor Centre* (2016). A catalogue of the audio and video recordings made during the events and of unpublished conference papers and exhibitions where the preliminary artworks were exhibited are listed in the appendix. Ethical clearance forms and additional visual materials in the form of preliminary artworks and processes (discussed in Chapter Four) are part of the addenda.

The first chapter presents the pervasive effects of disembodied cognition and ocularcentrism as integral to the construction of nonhuman species as categorically other to being human. The lack of care that humans demonstrate towards nonhuman species can be considered part of the narrative of dominance in which humans wield power over nonhuman species. The chapter delves into the legacy of Cartesian dualism as a foundational factor in establishing these power relationships, which are maintained in taxonomies and classification, natural history museum displays and real-world multispecies interactions. These hierarchical relationships can be countered by direct and embodied experiences within the world, as described by relational and connective theories. This chapter is necessarily long to establish the complex context for my argument, as I draw on an interdisciplinary theoretical framework from the fields of human-animal studies, museum studies, cultural and gender theory, philosophy, ethics, aesthetics, animal activism, urban ecology, conservation sciences, ethology, biosystematics, evolutionary biology and neuroscience to present an overview of the relevant literature and a philosophical position that offer insights into the problem and to discuss alternative approaches capable of alleviating the human/nonhuman species binary.

Figure 10 Dear Mr Adams xx *(2011), ink on paper.*

In its analysis of a selection of artworks, including my own, the second chapter brings these arguments into the realm of art. This chapter identifies specific artistic strategies employed to counter the narrative of human exceptionalism and the legacy of binary thinking in response to the research sub-question that asks how the connective strategies of assemblage thinking, relational art and storytelling can be used in artistic practice to draw attention to contingency and entanglement in multispecies relationships (sub-question a). These strategies are intertwined with care aesthetics and collaboration to investigate the processes involved in creating relational artworks intended to elicit care and empathy from their audiences. This chapter investigates methods that artists use to provoke a recognition of nonhuman species subjectivities, and it proposes that artworks can negotiate between subject-orientated and biocentric positions to encourage empathy towards nonhuman species (sub-question d). Through these case studies, arguments are made to substantiate this thesis' claim that artists use particular methods to disrupt categories and evoke subjective, emotional responses. Chapter Three presents a case study of the DNMNH, located in Tshwane, to investigate how the museum presents its collections to the public. This primary research seeks to understand

whether current exhibitions at the museum have incorporated contemporary ideas from museum studies that acknowledge the causal and pervasive influence of binary thinking on hierarchical representations of nonhuman nature. The chapter considers whether the DNMNH is constrained in its ability to address anthropocentrism and binary divisions through its means of display (sub-question c). Attention is paid to the visitor's spatial and learning experience; to labelling, interactive components and presentation techniques; and to the embedded ideologies that can be determined through analysis. In a discussion of artistic interventions within museums, the point is made that the strategies available to artists can serve the requirements of contemporary natural history museums by reframing permanent exhibitions and initiating a dialogue between historical displays and current conceptions of species. As such, the connective strategies of assemblage, relational aesthetics and storytelling are framed within a museum context (sub-question a), and a curatorial strategy to encourage visitors to view multispecies relationships differently is also presented here (sub-question b). This investigation of the DNMNH evaluates whether its existing methods of display can be directed towards an ethic of nonhuman-species care and is informed by an interview and email exchange with the DNMNH's education officer, Bongi Legwase. The case study provides local impetus for *The Visitor Centre* as an artwork that can harness aesthetic strategies to foster empathy and care for nonhuman species in ways not familiar to museums.

The fourth chapter considers my artistic practice as an assemblage and as a means through which to proceed beyond stable entities towards a relational reading of the process and resultant artworks. The connective strategies of assemblage, conversation and relational aesthetics are considered as part of the early stages of the creative process, and it is argued that these aspects reveal entangled multispecies relationships (sub-question a). The chapter expands on art as a meandering social practice that forges connections between artist, materials, participants and subject matter and maps an artistic process of attunement, observation, collection, conversation and interpretation through making that may tentatively lead to a caring and empathetic disposition towards nonhuman species. The value

Figure 11 Quadrastichus *specimens from the South African National Collection of Hymenoptera, Agricultural Research Council (ARC) Biosystematics, Roodeplaat.*

of uncertainty as a productive component of arts research is highlighted throughout, and the arguments are fleshed out in a discussion of a selection of preliminary works, processes and features of *The Visitor Centre*.

Chapter Five presents *The Visitor Centre* as a mobile hub that seeks to reconfigure human and nonhuman species relationships by advocating for empathy and care. The chapter addresses the primary research question, which asks how empathetic multispecies relationships can be advocated through a mobile artwork that intervenes in public spaces in the City of Tshwane. *The Visitor Centre* responds to the speciesist displays of natural history museums by providing an alternative means through which connections with nonhuman species can be forged (sub-question c). The chapter investigates how the connective strategies of assemblage, relational aesthetics and storytelling can be used in artistic practice to draw attention to contingency and entanglement in multispecies relationships (sub-question a). Furthermore, the assemblage of fragmented parts is deliberated as a strategy to encourage a reconfiguration of multispecies relationships (sub-question b). The artwork's negotiation of a subject-orientated and biocentric position is evaluated in relation to its aim of encouraging empathy towards nonhuman species, and methods (such as anthropomorphism) that can assist the artist to produce a recognition of nonhuman species subjectivities are considered (sub-question d). Two prototypes, *The Visitor Centre I* (2016) and *The Visitor Centre II* (2018), were performed at various sites in Tshwane/Pretoria and are discussed at length to evaluate the workings of the aesthetic strategies employed by the works and to reflect on the audiences' participation and responses. Accordingly, the chapter reveals how the artwork is activated through the artist's and audience's performative roles (sub-question e).

In the conclusion, the findings and contribution of this thesis are articulated within the broader context of artistic research, museums and urban environments. *The Visitor Centre III* is proposed as a model for future prototypes, one which can be taken up pragmatically and imaginatively by urban inhabitants.

Chapter One

Human and nonhuman species: from binary categories to entangled beings

Figure 12 *Orangutan (genus* Pongo*) display, polar bear* (Ursus maritimus) *and the author. Senckenberg Natural History Museum, Frankfurt, November 2016.*

Nonhuman species are designated to particular categories and functions within a human-dominated world. Their specified functions as pests, pets, workers, research subjects, wildlife and food are construed on an asymmetrical relationship of power, a legacy of Cartesian dualisms.[27] The pet category is unusual, as household pets are individuated and enjoy an elevated status as members of human families, whereas farm animals are deemed killable and are treated as products even before they die (Haraway, 2008:80). Each category designates particular responses within particular cultures. These groupings serve us well, as they provide a culturally determined code of conduct towards particular species that can be applied objectively, without undue moral deliberation or emotional investment. However, these categories are also prescriptive reductions that simplify what a nonhuman species is or can be. Rats, for example, may be simultaneously appreciated as pets, cause revulsion as pests and entertain on screen as cute characters. In his development of a phenomenology for nonhuman species through the consideration of artworks that reinscribe human-nonhuman encounters, Ron Broglio (2011)

[27] Cartesian dualism can be considered as a position in line with Judeo-Christian hierarchies, culturally encoded traditions and most religious practices, in which nonhuman species are regarded as lesser beings (Singer, 2002).

describes the tentative accord that these categories uphold. According to Broglio (2011:79), "Amid these differences in discourse and their material and policy implications, the world of the animal *fractures* as much as it draws together the human world". Human attempts to make sense of nonhuman species inadvertently "make" the human world, as they contribute to human knowledge, and the perceived world of nonhuman species fragments because conflicting positions cannot be accommodated at the same time. Humans are prepared to live with the fragmented animal in a bid to maintain human exceptionalism, which allows contradictory perceptions of nonhuman species to co-exist.

In this chapter I investigate the effect of binary categories and their hierarchical structures on human and nonhuman species relationships. The notion of dichotomous entities is contrasted with a developing interest in relational ontologies that reconfigure the world as entangled, contingent and emerging.[28] Relational ontologies are presented as theoretical perspectives that consider mobility, affective states and responsiveness (towards the environment, humans and nonhuman others) as central to subject formation. I have privileged certain theories over others as particular responses to contemporary scientific models of speciation[29] that are characterised by uncertainty, fluidity and evolutionary change (Gee, 2013), in combination with, or contrasted to, theories of embodied perception and emotional attachment. This overview of literature draws on Spinozist monism (Deleuze, 1990), assemblage theory (DeLanda, 2006; Deleuze & Guattari, 2004), affect theory (Anderson, 2016; Tolia-Kelly, 2006; Wetherell, 2012), phenomenology (Merleau-Ponty, 1974), feminist materialisms (Bennett, 2010; Grosz, 1994) and agential realism (Barad, 2007), Haraway's (2008, 2016) concepts of companion species and making kin, and perspectives on care and empathy (Coplan & Goldie, 2011; Gruen, 2015; Noddings, 2010; Puig de la Bellacasa, 2017; Slote, 2007).

Through connective and embodied approaches, the essentialist categories initiated by the separation of body and mind can be dissolved and reassembled to allow for a reconfiguration of human and nonhuman subjectivities. Furthermore, emotional attachment and an ethic of care and empathy can mitigate the disconnection between human and nonhuman species that objectification and separation have exacerbated. I argue that public scientific communication in natural history museums remains bound to a legacy of Cartesianism and long-established conventions of display that uphold hierarchical categorisations and an implied permanence of these groupings. As human-devised categories fragment and decontextualise nonhuman species' lives from their worlds, this chapter concludes with attentive and emplaced phenomenological experiences in the field that offer a route towards reconnection through empathy and care.

[28] In this study, the term "emerging" indicates that being, space and time are continuously constituted and reconfigured through dynamic processes.

[29] Speciation is the process whereby "an ancestral species splits into two or more new species" (Quammen, 1996:414). Quammen (1996:133-134) explains that when an ancestral species formed two distinct species of zebra, Burchell's (*Equus burchelli*) and Grey's (*Equus grevyi*), that mutation might have been the trigger, and geographic isolation might have been the condition for reproductive isolation of these two groups to be established. Geographic isolation is termed allopatric (when species emerge in different geographical regions) or sympatric (when the ranges of different species overlap) (Quammen, 1996).

1.1 The legacy of Cartesian dualism

The philosophical separation of mind and body has had a profound and lasting influence on the Western epistemological tradition, the philosophy of the subject and ethics. Although the notion of a disembodied mind follows a long tradition established in Ancient Greece and supported by monotheism, it is generally understood that Descartes' methods and ideas enabled a further separation through his institution of dualism, which considers mind and body as "two distinct, mutually exclusive and mutually exhaustive substances" (Grosz, 1994:5-6). Cartesian dualism is the foundation of modern science and is the paradigm through which the hierarchical positioning of humans above nonhuman species is considered a "natural" and permanent occurrence.

In Descartes' theory, the mind is separated from "body and nature" as two incompatible categories. In Ancient Greece, Plato conceived of the body as interfering with rational thought, and Western philosophy was thus already predicated upon a disembodied mind (Grosz, 1994:5). Aristotle may have continued this line of thought in his views on maternity, in which women were considered as defined by and locked within their circumspect bodies and were regarded as providing the vessel but not the substance for the unborn child (Grosz, 1994:5). However, in the early Christian era, the souls of the living were still regarded as part of the body and of nature that departed from the body upon death (Grosz, 1994:5). The intermingling of the divine and the mundane was evidenced by nonhuman species being subjected to human laws (Evans, 1906), but this

belief was steadily eroded through the humanism that developed during the European Renaissance, with philosophers seeking ways to understand the world beyond divinity (Singer, 2002:196).[30] During the era of the Enlightenment, when modern science emerged, scientists sought to find substantive and objective proof for a variety of phenomena. Philosopher and leading scholar in material feminism Elizabeth Grosz (1994:6) suggests that Descartes' contribution was to separate the soul (*res cogitans,* or the thinking substance) from the body and nature (*res extensa,* or the extended substance), as Greek philosophy had already differentiated the mind from the body. In her development of a corporeal feminist theory, Grosz (1994) argues that the neglect of the body in Western philosophy enabled the subjugation of a "lesser" subject and the establishment of male heteronormative power. The body was thus conceived of as part of nature, an entity that could be objectively known, whereas human subjectivity was understood to be determined by the mind and soul, which later became known as consciousness (an alignment acceptable to the secular sciences) (Grosz, 1994:6). In the articulation of two separate categories, the possibility of "bilateral communication" became difficult to formulate, as the terms of the mind-entity excluded body/nature (Grosz, 1994:6).[31] Descartes (1968:54) categorised the mind/soul as an entity that existed beyond the bodily dimension, "of a nature entirely independent of the body … it is immortal". In this way a hierarchy was established, with the thinking substance deemed superior to the extended substance,[32] and the body and nature were believed to operate according to mechanistic principles that could be revealed by the empiricism of modern science (Descartes, 1968:68,73). By granting primacy to disembodied, rational thought, hierarchical binaries such as mind/body, male/female, culture/nature and human/animal were established, and these principles form the foundation of the Western epistemological tradition.

Privileging vision as the superior sense-organ, Descartes formulated a theory predicated on the difference between the world and its reflection in the human mind. Influential historian Martin Jay (1994:69-70) argues that Descartes' "visual" philosophy considered the eye as a disembodied sense organ with which to record images in the mind, and that the mind acted as a camera obscura capable of duplicating the world as perceived through the eye. "Conscious seeing" is produced by the brain, which not only reproduces images, but interprets signs to produce mental images (Jay, 1994:76) – representations that are not identical to the observed world but are mediated by pre-established mental concepts. Descartes believed that the world is known through inherent concepts established in the mind prior to a sensorial, corporeal interaction with the world (Jay, 1994:73), wherein mental vision or "conscious seeing" is inextricably bound to reason, and the observed world is interpreted through a culturally determined visual ordering system into a representation. This Cartesian perspectivalism can be considered a prevailing scopic regime of modernity (Jay, 1994:69-71)[33] and was furthered by the perspectival tradition in painting. These interlinked visual orders were complicit in contributing to perceptions of a codified world arranged for a distanced spectator (Jay, 1994:54-55).[34] Jay (1994) draws attention to the centrality of vision in Western thought and how scopic regimes and their discontents have shaped modernity. The effect of rational ocularcentrism is evident in the establishment of the empirical method in science and in the analytical philosophical tradition, while Descartes is broadly credited with establishing the "modern visual paradigm" predicated upon "seeing ideas in the mind" (Jay, 1994:70). As Grosz (1994:6) observes, Western epistemology is founded upon a mind/body split that causes a dissociation between the world ("reality") and what is known through mental processes of "reduction, inference and projection". Accordingly, the world can be perceived as a picture laid out for a beholder positioned outside of the frame (Heidegger in Jay, 1994:272) to observe, measure and attain knowledge from.

The rational order ushered in by the Enlightenment and modern science was positively conceived as a means by which to dispel myth and superstition from the world. Modern science succeeded in eroding the authority of religion and, in an increasingly secular society, assumed some of the roles previously performed by religion. The world could still be experienced as enchanted, prior to the mechanising effects of the Western epistemological tradition, but the penetrative gaze of modernity,[35] which stripped the world of its mystery and richness, resulted in a "dis-

[30] Edward Evans' *The criminal prosecution and capital punishment of animals* (1906) describes cases in which nonhuman species were tried in medieval courts (and into the eighteenth century) for criminal acts, like their human counterparts. One case describes the trial of three sows who were executed for killing the swinekeeper's son. Two herds of pigs were arrested as accomplices and would have suffered the same fate had the owner not intervened and pleaded on their behalf (Evans, 1906:145). Such cases were often linked to witchcraft or demonism and provide insight into how religious authority, exercised through medieval law, sought to maintain a divine order (Beirnes, 1994:39). Piers Beirnes (1994) frames his discussion of Evans' work as a contribution to the animal rights movement.

[31] Bilateral communication would signify reciprocity between mind and body, with one affecting the other (Grosz, 1994:7), but this leads to reductionism, as binary terms render it impossible to use the term "mind" to explain "body" (and vice versa).

[32] The extended substance included animate and inanimate matter such as nature, human bodies and nonhuman species.

[33] Jay (1994) expands the meaning of the term "scopic regime" to refer to dominant modes and practices of seeing and representation as culturally determined paradigms that are often tacitly endorsed.

[34] The visual world (what is seen) is interpreted and replaced to form a visual field (the representation of the world). Perspective affords the viewer a central vantage point, as if viewing the world through a window (Jay, 1994:54-55). This mode of perception is followed through in abstract thinking and renders the world as "a norm or a model" (Bolt, 2004:19).

[35] In this thesis, modernity refers to the period encompassing the scientific revolution in Europe during the sixteenth century, continuing throughout the seventeenth and eighteenth centuries, and its establishment as a prevalent "'world' culture" during the nineteenth century (Smith, 2003).

enchanted" world (Braidotti, 2013). This disenchantment references a loss of myth, religion and mystery in human considerations of nature, and while the Enlightenment provided a "powerful descriptive tool", it rendered a reduced and abstracted view of a complex, entangled world (Latour, 2004:232, 237). As the world was appraised as an "eternal container for objective processes", the cognitive method of early modern science dispelled narratives and spatial specificity, and environments were converted into "an ordered, uniform system of abstract linear coordinates" (Jay, 1994:51-53). That the "world has a deep, unchanging structure" and that this structure should be discernible to human cognition may be mistaken propositions (Bennett & Connolly, 2002:148), but they were useful in establishing a tradition of objective judgement. Judeo-Christian thought has for long presented the world as stable and hierarchically ordered, but it was through the technologies of modern science that the world lost its mythic influence. The mechanising effects of the Western epistemological tradition are evident in the continuing devaluation of nonhuman nature: between "reading the world as an intelligible text (the 'book of nature')" and "looking at it as an observable but meaningless object" (Jay, 1994:51).

The imposition of rational order upon the world through modern science replaced a conception of the world as interconnected. Medieval bestiaries reflected the manner that the material, ethical and mystical were equally considered in species taxonomy, and "embraced an array of classifications by habitat, physical appearance, usefulness, size, and good and evil natures" (Crane, 2012:72, 74). By interpreting these bestiaries as taxonomies, it can be argued that they refuted systematic and hierarchical order, by accommodating multiple means of classification and revealing relationships between different species (Crane, 2012:75, 86). In a continuation of the medieval bestiaries, Renaissance thinkers intermingled myth and the observational, the divine and the mundane in their layered lists of characteristics. While medieval European thought was bound to a stable hierarchical order determined by God, nonhuman species could participate in areas that have since become strictly human, such as the secular courts where they were tried for "crimes" that they had reportedly committed (Beirnes 1994:29). According to medieval jurisprudence, humans and nonhuman species could be prosecuted under the same laws (Evans, 1906). The influential philosopher and historian Michel Foucault outlines the marked differences in modes of thinking from different epochs as epistemic shifts in *The order of things* ([1966], 2002).

> When one is tasked with writing an animal's history, it is useless and impossible to choose between the profession of naturalist and that of compiler: one has to collect together into one and the same form of knowledge all that has been seen and heard, all that has been recounted, either by nature or by men, by the language of the world, by tradition, or by the poets. (Foucault, 2002:44)

The divinely ordered universe of the Middle Ages and Renaissance allowed for a wider realm wherein relationships between human and nonhuman species could be attributed. The histories written of nonhuman species encompassed the living organism itself, "within the whole semantic network that connected it to the world" (Foucault, 2002:140). For Foucault (2002:141), the change that modern science enacted was to relocate the network of signs, once considered an aspect of nonhuman species, into a discreet and abstract realm of representation. Thus, relationships that were once made up of infinite affiliations were narrowed down into units of measurements and arrangements, from simple to more complex forms (Foucault, 2002:59). For the most part, the natural history of the Enlightenment era presented only clinical evidence based on careful observation. In its disregard of the broader cultural interpretations of nonhuman species, the living "appear as if stripped naked" (Foucault, 2002:141).

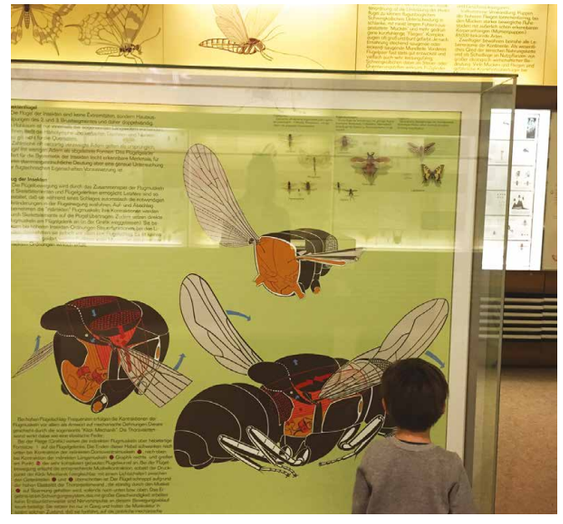


Figure 13 *Hymenoptera display at the Senckenberg Natural History Museum.*

The difference between epistemic orders is accounted for by Foucault (2002:60-61) as a perspectival shift from understanding the universe as "a total system of correspondence" to a method of discrimi-

nation. The Cartesian method required processes of differentiation and the establishment of identities to quantify and abstract (Foucault 2002:60-61): the universe was conceived of as measurable and finite, with the understanding that a numeric value could be assigned to each and every node of difference to gain complete and certain knowledge of the world (Foucault, 2002:147). Descartes' "critique of resemblances" and shift towards the representational realm of Cartesian perspectivalism can be understood as pre-empting the dominance of language and textual knowledge of contemporary epistemologies (Foucault, 2002:58; Jay, 1994:80), and Jay (1994:51) explains that the "denarrativisation of the ocular" gradually released visuals "from their storytelling function", as images were subjected to a visual standard of perspectivalism, and as the Renaissance art invention of illusionary perspective became more widely established.[36] In the same way that visual representations communicated preconceived concepts of the world, so too the objects of scientific study were predetermined by their function and place within the rational order. Modern scientific methods functioned as a decontextualised and depersonalising practice, where observer/scientist acted upon an object of study. John Berger (1980:16) draws attention to the gradual marginalisation of nonhuman species and reflects that they became "objects of our ever-extending knowledge". Organisms from the exterior world were brought into clinical laboratories to be prodded and pushed until answers could be determined.

Cartesian mechanistic philosophy, as applied to bodies, nature and nonhuman species, further eroded the bond between human and nonhuman species (Berger, 1991:11).[37] When Descartes revealed his mechanistic, hierarchical view of mammals as clockwork mechanisms, he extended an inherited idea of speciesism entrenched in western intellectual and religious traditions. Descartes, influenced by metaphysics and the new mechanistic view, regarded bodily functions as a clockwork mechanism with pump actions, valves and hinges controlled by the brain (Fudge, 2002:100). In the Cartesian formulation, the body is deemed passive to the workings of the mind, an attitude that prevails in considerations of the body as "possession" and in social constructivism, wherein bodies can

[36] Denarrativisation here refers to both the isolation of vision as a superior sense organ unaffected by other sensorial inputs and also to how an ocularcentric regime conditioned how visuals are created and received.

[37] Singer (2002) traces the hierarchical relation between humans and nonhuman species from pre-Christian thought to the Christian-Judeo tradition, through the Renaissance to the Enlightenment and the current era. A more empathetic relationship might have emanated in Ancient Greece from the philosophies of Pythagoras and Empedocles, who valued nonhuman species' lives and believed in an original bond among all living beings. Instead, Aristotle's expansionists and rationalist views guided Western tradition (Cavalieri, 2006).

be objectified as "'lower-order' natural or animal phenomena", as evidenced in medical and veterinary practices (Grosz, 1994:8-9).

When objectification accompanies a search for knowledge, it may produce a practice devoid of care.[38] Peter Singer (2002) argues that the exceptionalism accorded to humanity is based on monotheistic scripture in which humans are the only creatures made in God's image and granted immortal souls, leaving nonhuman species in a precarious position: without mind and soul, they were declared automatons (Descartes, 1968:75). And viewing nonhuman species as "mere" extended matter without volition provided a moral justification for humans to assume control over nonhuman species (and nature) (Singer, 2002:10), an outlook that accorded with that of the dominant Christian patriarchy, which enshrined male humans as the crown of God's creation. Descartes went a step further, proposing that nonhuman species were incapable of sensation and were thus unable to feel pain, thereby negating any need for the prohibition of cruelty against animals (Singer, 2002:200). Nonhuman species, as Cartesian beast-machines, functioned like a clock, their pain responses and communicative skills deemed instinctual reflexes disconnected from a feeling, thinking subject (Fudge, 2002:98-99).

This conception of nonhuman species as beast-machines suited the scientific community, as the experimental method and practice of vivisection was widespread at the time (Singer, 2002:201).[39] Often presented for public viewing without the aid of anaesthetics for its subjects, the writhing pain of nonhuman species caused concern in many audiences, and scientists, often prominent members of society, were in need of a moral reasoning to support the practice (Cavalieri, 2006:59). Singer (2002:11) emphasises that Descartes' philosophical position was illogical, as empirical findings from Descartes' time[40] specifically showed physiological similarities between humans and other mammals. Although Descartes himself did not fully believe that nonhuman species were incapable of feeling, his doctrine fulfilled a social need that allowed vivisection to continue without acknowledging its moral obligation to the suffering of its subjects and allowed for the escalation of human abuse of nonhuman species (Cavalieri,

[38] Practices of care, such as nursing, are not afforded the same status as medical doctors/veterinary surgeons. Patient care is left to those who specialise in it, and clinical professionals are not required to administer care.

[39] In vivisection, live nonhuman species are experimented on to study their physiological processes, causing excruciating pain to the object of study (Cavalieri, 2006:59).

[40] Descartes found confirmation that nonhuman species are "reflex-driven" beast-machines, through his own vivisection experiments (Allen, 2016).

2006:58-59). Philosopher and animal rights theorist Paola Cavalieri (2001) argues that Descartes' speciesist theory established illogical categorical boundaries that continue to undermine efforts to extend human rights to nonhuman species to this day. While it is now understood that nonhuman species can and do experience pain, the legacy of Descartes' beast-machine theory is maintained in current industrial-technological workings such as factory farms and slaughterhouses (Cavalieri, 2006; Singer, 2002).

Perceptions of a disembodied mind persist in modern cognitive sciences that present the brain as the sole organ responsible for thought and reason, extending the idea that thought, ethical reasoning and the anguish caused by pain and emotional turmoil exist separate from bodily functions (Damasio, 2005:250-251). Descartes' mechanistic philosophy did not reject human emotions and feelings but denigrated them and the body to a secondary status, and the dual quests to attain knowledge and expand the project of civilisation were prioritised above imperatives to care in the era of Enlightenment and colonisation. The separation of emotional aspects from what was once a relational world and the distancing effect of separating mind from body were absolute requirements for the rationalising and expansionist practices that formed the history of colonisation and the making of a globalised world.

1.2 Relational ontologies, entangled beings

The neglect of the body in Western epistemologies led to an acceptance of the world as a represented schema or abstraction and fuelled the disconnection between humans, nonhuman species and the natural world. Overcoming the dominance and pervasive influence of Cartesian binaries through connective and embodied theories requires a disintegration of essentialist categories; for the subject to be reconfigured, the perception of a mind/body dualism must be replaced, as must essentialist categories such as culture/nature and human/animal. Relational ontologies, including specific cosmologies of indigenous cultures, conceive of the world as an unfolding event in which interactions between entities are not necessarily predetermined nor hierarchical, following the open-ended method of assemblages. A selection of theoretical responses to the disembodied subject and hierarchical structures of Cartesian dualism are offered here to provide evidence of pathways of thinking in Western philosophy that have opposed human exceptionalism and the uptake of these responses in current considerations of subject reconfigurations and human-nonhuman species relationships. These theoretical perspectives are interwoven with theories of affect, which proceed from an understanding that entities are situated within relational networks and that affects are the mediated "expressions, reflections, and enactments" of contacts and disruptions within these structures (Anderson, 2016:10, 13). The following concepts briefly outline the reconfiguration of the subject: Spinozist monism, Deleuze and Guattari's assemblage theory, affect theories (Anderson, 2016; Wetherell, 2012; Tolia-Kelly, 2006), Merleau-Ponty's phenomenology and Karen Barad's agential realism, while the concept of multispecies assemblages, considered within the fields of environmental sciences and the environmental humanities, reconstitute culture/nature binaries.

The remaking of mind-body, subject-object and culture-nature binaries into cooperative relationships offers a route to countering human exceptionalism and reconnecting humans with nonhuman species and their worlds, but it is also of import to attend to the texture and detail of multispecies relations. Haraway's (2007, 2008, 2016) concepts of companion species and making kin and Puig de la Bellacasa's (2017) speculative ethic of care emphasise the interdependency and contextual specificity of embodied relationships through which entities are subsequently and mutually altered. Therefore, pragmatic involvements are significant to overcoming the distancing between humans and nonhuman species, while a moral imperative to care and form emotional attachments is crucial to figuring responsive and ethical multispecies relationships. Lastly, the implication of embodied, performative and affective approaches to knowing and knowledge practices are broadly considered as vital to addressing relations of power.

The decentralised subject presents an alternative to the essentialist categories of Cartesian dualisms by proposing that human and nonhuman beings are entangled in webbed existences. Relational ontologies

such as Spinozist monism and many ecological theories (such as deep and dark ecology) and indigenous cosmologies offer holistic perspectives that are predicated upon a flattening of subject-object relationships into non-hierarchical configurations.[41] For the seventeenth century philosopher Baruch Spinoza (2003:24, 29), everything is presented as part of the same fabric, which is conceived of as God, or nature. In his monist theory published in 1677, mind and body are presented as two attributes of a single infinite substance (Spinoza, 2003), whereas Cartesian categories such as mind/body exclude each other. Spinoza refuted the existence of an anthropomorphised God and instead proposed an infinite, "indivisible" substance through which everything else is brought into existence, the "natured Nature" world (Nadler, 2020). Human beings, nonhuman species, all objects and life forms are considered finite things, substances that arise and are part of this single, extended substance (Spinoza, 2003). In his treatise on Spinoza, Deleuze (1990:167) remarks that monism considers all beings as equivalent and necessary, forming a "community" of being, as opposed to Descartes' formulation of "the superiority of certain forms of beings over others".

Spinoza's ideas are fundamental to Deleuze's own work and to his seminal collaborative work with psychoanalyst and activist Guattari on rhizomatic theory, *A thousand plateaus: capitalism and schizophrenia* (2014), in which assemblages are proposed as a means of thinking through the dissolution of binary oppositions.[42] By posing the provocative question, *What can bodies do?* Spinoza directed his enquiry towards the material encounters between organisms, and his metaphysics and ethics remain influential in the formulation of embodied, affective and relational theories (Anderson, 2016; Bennett, 2010; Despret, 2016).

In Spinoza's theory, the development of subjectivity is presented as a continuous activity of self-making (self-constitution), where organisms are constituted through internal and external interactive processes (Deleuze, 1990:217). A body, described as a mode, contains many different components that can affect other parts and modes, and each mode responds differently to another's affect (Deleuze, 1990:217; Spinoza, 2003:90). For Spinoza, each body is defined by its relations, and its aptitude correlates to "the nature and limits of its capacity to be affected" (Deleuze, 1990:218); the subject is never static and is always moving from one state to another, changing according to variations in internal processes and external contexts. Deleuze (1990:321, 334-335) evaluates Spinoza's theory of expression as a means to overcoming dualistic thinking, as, according to the three forms of "being, knowing, and acting", expression unsettles linear correlations (cause and effect) and Cartesian perspectivalism. The affective capacities of modes, which are inclusive of unexpected consequences of interactions and are committed to mobility as relationships are enacted, disrupts the stable orientation of hierarchical categories.

The forming of subjectivity is theorised as a process of "becoming", a way of optimising and combining affective capabilities between different assemblages. For Deleuze and Guattari (2014) all aspects of the world, whether environmental, living or dead, are active forces and intensities that can exert influence on other entities. As philosopher in new materialism and realism Manuel DeLanda (2017) explains, assemblages can be defined by relationships with exteriority or alliances between heterogeneous elements.[43] A body is an assemblage, and groupings between human and nonhuman species and inanimate objects can also be considered as assemblages when different parts are bonded or meshed together into a whole, and the different components of an assemblage can often still function as separate entities (DeLanda 2017). Though assemblages reveal and develop their characteristics over time, these can change as continuous interactions and their affects produce new relationships or destroy existing relations (Deleuze & Guattari, 2014:300). In this thesis, the use of the term "emerging" designates the simultaneity and interaction of originating, developing, declining, appearing and disappearing properties. Due to the interactions between different parts, assemblages can display emerging properties contingent on the co-operation between components within the assemblage; these emerging properties make assemblages generative.

[41] Deep ecology, a philosophy introduced by Norwegian philosopher Arne Naess (1989), posits the inherent worth of all living beings and calls for society to adopt an ecocentric value system. Dark ecology proposes an interconnected environmental approach that allows for negativity, irony and horror and discards the concept of nature (Morton, 2012b:16-17, 135); dark ecology merges hyperobjects and organisms.

[42] Rhizomatic theory proposes a non-hierarchical format that can form connections at any point, mobile and expanding from the centre (Deleuze & Guattari, 2014:21-22).

[43] This study's application of assemblage theory was informed by DeLanda's description and adaptation of Deleuzo-Guattarian theory in *A new philosophy of society* (2006).

"Becoming" involves a "substantial remaking of the subject" that involves risk (Grosz, 1994:174) and forms more than a bridge between different binary categories, such as human and nonhuman; through the activity of "becoming-animal", the human is irrevocably reconfigured. A multiplicity, or a becoming, is regarded as a "heterogeneous term in symbiosis" that incessantly reconfigures into other multiplicities and involves a breaking down of entities into molecules, flows and micro-processes and symbiotic cohesions with other entities (Deleuze & Guattari, 2014:291). These perpetual, invisible and ongoing interactions make the process volatile, and the resulting transformations of human and nonhuman species are ultimately unpredictable. The process of becoming-animal is thus linked to the slow process of evolution with emerging, entangled and contingent properties. However, as a world-making philosophy, assemblage theory and the various becomings (becoming-animal, becoming-woman, becoming-imperceptible being but a few) expose the limitations of the constructed boundaries that divide and impose ranked order in the more visible permutations of nature-culture and societal arrangements.

Following Deleuzo-Guattarian assemblage theory and Spinoza's theory of expression, cultural-political geographer Ben Anderson (2016:13, 166) proposes that affects are never things in themselves, as they are determined in a specific moment of encounter and are dependent upon the capacities of specific bodies in a relational configuration. In *Encountering affect: capacities, apparatuses, conditions* (2016), Anderson confirms that the dynamic distribution of affects with other entities, including the human and nonhuman, living and inert, through which subjects are collectively reconstituted, poses a challenge to humanist conceptions of individual subjects.

While affects (as entangled with emotions, feelings and sensorial responses arising from interactions and rooted in the recognition of embodied, corporeal existences) are perceived positively in this thesis as integral to connecting humans with nonhuman species, affects are equally significant in relations of power. The capacity of entities to register and distribute affects can be targeted and manipulated (Anderson, 2016:19, 25). As such, this study supports the call of theorists of affect, post-humanists, post-colonialists and followers of an ethic of care to adopt an ethical-political and contextually sensitive approach to counter the reinstatement of relationships along established hierarchical divides and to avoid the homogenisation of affective engagements (Anderson, 2016; Haraway, 2008, 2016; Puig de la Bellacasa, 2017; Tolia-Kelly, 2006; Wetherell, 2012).

A perspective informed by the textured specifics of subjective experiences offers an opportunity to unsettle universalising approaches in theories of flows and influences. In a phenomenological understanding, the world is experienced through the senses and forms part of a particular body-experience. According to Maurice Merleau-Ponty's (1974:303-304) influential philosophy of phenomenology, a body affords the perspective and limitations that determine our subjective experience of the world. His phenomenological approach resonates with Haraway's concept of companion species articulated as affective and affectionate multispecies relationships.

Rather than the decentralised subject of Spinozist monism, Merleau-Ponty formulated an idea of connected subjectivities, whereby knowledge of the body is formed through lived experiences that are situated and particular to each individual entity.[44] The mind is never disconnected from the world or the body, and instead mind and body merge into a united and incarnated being that responds to sensorial triggers and produces meaning from and through interactions with the world. The boundaries that dualism presents are complicated by phenomenological interpretations, and Merleau-Ponty (1974:315) writes that a person can be both subject and object, both seer and seen, both the entity that touches and the one that is touched, using the example of the double sensation that occurs when touching one's own hand. The senses can be a "single thing folded back upon itself", meaning that subject and object "interpenetrate and mingle" (Grosz, 1994:95-96). In contrast to the distanced reflection of the Cartesian subject, an embodied subject is immersed within the world and engages directly with it (both "form-giving" and "sense-bestowing") (Merleau-Ponty, 1974:121).

[44] A situated perspective is informed by the physical specificity of a particular place, which may shape and determine lived experiences (Donovan, 2016:92-93). These ideas about bodily experiences have informed relational aesthetics and notions of affect in art and are explored in Chapter Two.

Theorist in feminist studies and quantum physics Karen Barad (2006:392) proposes that embodied, entangled entities are obliged to act responsibly and that "being in one's skin" determines an ethical commitment towards others. Barad presents a metaphysics of entanglement in *Meeting the universe halfway* (2007), in which her theory of agential realism is founded upon a reconsideration of subject-object relations and human individual agency. While Barad's notion of intra-actions that create dynamic emergences constitutes a process philosophy that shares several characteristics with Deleuzo-Guattarian assemblages, she proposes that accountability is inherent in relational intra-actions. Entities are responsible for the kinds of materialisations that proceed from their intra-actions and for the exclusions that are enacted within relationships (Barad, 2017:182).

Barad's agential realist ontology proposes that the world is configured and reconfigured through enacted agency, defined as intra-agency, and that objects and beings come into existence through their relationships. Entities exist in phenomena in indeterminate states until relationships are enacted, which enables processes of materialisation when entities become distinct (Barad, 2006:139-140). For Barad, meaning and matter are intertwined in material-discursive practices that are conceived of as apparatuses with the ability to determine interiority and exteriority, define attributes and constitute significance (Barad, 2007:148). Apparatuses perform concepts and practices that produce "agential cuts" through which entities (including the human and nonhuman) are constituted, but as apparatuses are also phenomena, a position of absolute exteriority (a requisite for Cartesian representationalism) is not possible (Barad, 2007:148, 176). Barad (2007:33) stipulates that "agencies are only distinct in relation to their mutual entanglement; they don't exist as individual elements", and an entity is not considered whole and complete at any particular stage. As intra-actions occur beyond the limitations of bounded individuals, they occur from within the entities involved and are co-constitutive, in that responses materialise and emerge through intra-actions (Barad, 2007:ix, 197). As entities are part of the world and part of its performative becoming, their relationships enable a particular figuration out of multiple possibilities, including which aspects gain significance

(Barad, 2007:394). Barad's theory has informed theories of affect, with apparatuses and intra-actions connoting the arbitrating processes through which affects emerge (Anderson, 2016).

Barad (2007:178) reconceives of agency as "a matter of intra-acting: it is an enactment, not something that someone or something has". Agency, as an enactment or activity, is detached from its usual association with "human intentionalism or subjectivity" (Barad, 2007:177), and mechanistic cause-and-effect theories are consequently remade into relational intra-active enactments, where entities enact their relationships in continuous, co-constitutive and ethical ways. Barad's process philosophy poses a challenge to ideas of static substances that underpin the Western epistemological tradition (Seibt, 2017), and, as events unfold simultaneously, Barad's theory also challenges the dominance of linear time.

The concept of multispecies assemblages developed from these perceptions of emergence and multispecies connectivity to denote the dynamic and entangled character of multiple species co-existing in overlapping spatial zones (Kirksey, 2015a; Tsing, 2015). The term assemblage is used variably in different fields. In urban ecology, urban assemblages imply communities assembled according to ecological rules (Aronson et al., 2016). Although this study spans art and ecology, Tsing's and Kirksey's meaning is followed throughout. Multispecies assemblages adhere to concepts that are established in ecology, such as resilience, the impact of external effects and emergence. Alberti et al. (2003:1170) state that "ecosystems have multi-equilibria, are open, unpredictable and are prone to frequent disturbances". Multispecies encounters are messy and unpredictable, as species contend with a shifting environment of human-induced pollutants and habitat-changing activities while vying for food and shelter. In *Emergent ecologies*, Kirksey (2015a) investigates case studies of multispecies assemblages that challenge dominant narratives of invasive species, extinctions and environmental management. Haraway (2016:33) describes these assemblages as a sympoiesis, where many different actors become-with each other. This is not an idealised non-competitive process, however, as multispecies interactions can have lethal impacts, and

in a biocentric conception of species' life worlds, each species' experience of their perceptual world or *umwelt* is unique (Von Uexküll, 2010).[45] Multispecies worlds follow Von Uexküll's stipulation that nonhuman species' life worlds are parallel but not peripheral to human worlds, while multispecies assemblages extend Von Uexküll's ideas and propose a biocentric approach inclusive of the different rhythms of living entities' ways of being, making them polyphonic (Tsing, 2015:23). Polyphonic assemblages are at times discordant, at other times harmonious, depending on how different expressions, pauses and speeds find each other at particular moments in time (Tsing, 2015:23).

However, entanglements can generate situations with grave outcomes, as the pervasive interference of humans can be recognised as naturalcultural involvements with lasting and destructive repercussions.[46] Accordingly, Bruno Latour (2010), philosopher and scholar in science and technology studies, sees the immense scientific and technological progress made over the last century as evidence of an "ever-greater involvement" in nature, rather than distancing humans from nature. By its treatment of human and nonhuman species as resources, capitalist production disentangles entities from their environments, to be transported to other markets or be relocated elsewhere, leaving ruined places behind (Tsing, 2015:5). In *The mushroom at the end of the world (*2015), multispecies anthropologist Anna Tsing critiques the notion of progress as a capitalist ideal that privileges particular markets and livelihoods above others while entrenching environmental destruction through its modes of production. Narratives of progress serve human interest and prevent us from appreciating and understanding nonhuman worlds and alternative ways of living (Tsing, 2015:155, 22). These "multinatural compositions" (Latour, 2010) of human involvement describe the entanglement of natural and cultural processes evident in the age of the Anthropocene, so-called due to the direct bearing of these actions on meteorological and geological changes (Morton, 2012a:125). These anthropogenic effects are the result of a stance of human exceptionalism and domination that are misaligned to the posthuman, co-constitutive ethos of relational ontologies.[47]

[45] Living organisms are enmeshed in their own spheres of existences and experience their "worlds" differently to other species due to variated sensory, semiotic and operative practices. Von Uexküll (2010) describes these perceptual environments as *umwelts* that are marked by diverse temporal and spatial experiences and experiential knowledge.

[46] Humans have influenced speciation through farming practices of selection and breeding, agricultural pesticides, the release of synthetic compounds, antibiotic use to selectively affect particular bacteria and so on (Palumbi in Alberti et al., 2003:1169). As a result, "humans are changing the ecological stage on which the evolutionary play is performed" (Hutchinson paraphrased in Alberti et al., 2003).

[47] Through his definition of matters of concern, Latour (2004:244, 246) proposes that human-designed objects are "gatherings", or assembled things, that offer critique of the divergence of nature, allowing for some aspects of nature to be abstracted into scientific objects and for the remainder to be disregarded. As such, matters of concern follow the format of assemblages, as interconnected becomings and relational objects, and by drawing attention to their vulnerability, Latour (2004:246, 232) brings these considerations into the realm of care.

The notion of fostering relationships and emotional attachment between humans and nonhuman nature is necessary to overcome the distancing that occurs not only when viewing nature as a resource but as an idealisation. Environmental historian William Cronon (1996:88) argues that the idea of "wilderness" encourages an idealisation grounded in Romantic conceptions of nature. He encourages the inclusion of the non-wild, for instance the planted tree in the garden, to reject the distancing that the rhetoric of wilderness inspires. Ecologist and conservation biologist Lowell Adams (2005) suggests that interactions between human and nonhuman species are shaped by the specifics of urban environments, and these contact zones are valuable as places in which respect for nonhuman nature can be fostered. This tendency to distinguish nature as a pure and undisturbed enclave, as is the case with national parks, creates a distancing that is steeped in a colonial-era rhetoric of a "prehistorical 'wilderness'" (Lorimer, 2015:5). Theorists and conservationists dismiss the principle of non-interference in the light of ubiquitous human influence on nonhuman species' existences and to encourage passionate and caring engagements with the world (Haraway, 2008, 2016; Lorimer, 2015; Tsing, 2015).

A sense of moral obligation underpins the relational ontologies of agential realism, Haraway's notion of companion species and kinship, theories of affect and care ethics. Assemblage thinking offers a means by which to dissolve categories and fixed identities but tends to depersonalise the subject and to de-emphasise subjectivity and emotional bonds. Haraway draws on these theories in her formulation of human-nonhuman species relationships in her influential *When species meet* (2008). While her scholarly contributions are wide-ranging and encompass the fields of feminist theory, science and technology studies, Haraway's texts (2007, 2008, 2016) detailing concepts of embodied multispecies relationships, companion species and kinship are of particular value to this study.

In her more recent formulation of multispecies relationships, *Staying with the trouble: making kin in the Chthulucene* (2016), Haraway's invitation to become involved differs from conservation practices in which

vulnerable species are artificially kept alive by human intervention.[48] Because of the reality of the mass species extinctions that parallel human population growth, Haraway's call to "make kin" is also a call to curb human reproduction (Haraway, 2016:103). By establishing closer ties with nonhuman species, it is hoped that these multispecies emotional attachments will stand in for the caring relationships that human parents wish to establish with their own offspring, or that nonhuman species can become surrogate "children", where dedicated human care assists the survival of vulnerable species (Haraway, 2016:140).

As an established biological kinship between humans and nonhuman species can motivate humans to care, Haraway (2008:4) accentuates this kinship by reminding us that only a small part of us is "pure" human: "tiny messmates" that are "genomes of bacteria, fungi, protists, and such" occur with human genomes in a 9:1 ratio in the human body. Geneticists have confirmed that humans are over 99% ape, which proves a shared evolutionary history and affiliation with primates on the molecular level and has assisted mediation of the separation between human and nonhuman species.[49]

Haraway's phenomenology of companion species extends an understanding of biological kinship to a practice of enacted relationships that shares characteristics of Deleuze and Guattari's theory of becoming-animal, in which both entities in a relationship are affected and changed through their interactions. Her question "Who and what do I touch when I touch my dog" proceeds from her own relationship with her dog, Cayenne Pepper, an agility competitor and Australian shepherd. Haraway (2008:35-36) suggests that attachment began when she first touched her dog, initiating a relationship of care and accountability. In accentuating touch above vision, she presents a close relationship that is not founded upon an objectifying visual appraisal but on embodied shared experiences, a relationship built on mutual respect, trust and an emotional attachment. By contrast, Deleuze and Guattari's becoming-animal conjures mythic or imagined collaborations with wolves and wild nonhuman species (Haraway, 2008:28-29). In Haraway's estimation, theories about nonhuman species often fail to introduce liveliness and singularity in preference of a more general philosophy. Haraway (2008:15) describes her relationship with Cayenne Pepper as one that "colonises all [her] cells", which speaks of bodily capacities that enable materialisations and provides an alternative to the typical owner/pet dichotomy as a mutually constitutive embodied relationship in which multispecies boundaries are traversed. Haraway (2008:5) proposes that an understanding of "companion species" can be taken beyond the term's association with domesticated species such as horses, dogs and other pets to include feral and non-reciprocal species that are entangled with human beings.

Situating care and embodied involvements as foundational practices for forming multispecies relationships constitutes a radical proposition, as an emotional attachment to and moral obligation towards wild and semi-wild nonhuman species can be construed as anthropocentric interference. Yet when care is considered an essential aspect of life, in that everything requires care at some point in life to flourish, then it can be suggested that relations without care are likely to dissipate (Puig de la Bellacasa, 2017: 98-100). The work of care brings the interdependency of entities and their interconnected existences to attention (Puig de la Bellacasa, 2017:8-10), even though caring is often invisible, as it is "difficult to value, reduce to a schedule or enclose in fixed tasks" (López Gil in Puig de la Bellacasa, 2017:78-79). Feminists scholars have described the neglected activity of care and the concurrent marginalisation of those whose work is to care for others (Gruen, 2014; Tronto, 1994), so an ethic of care can be deemed political in its endeavour to challenge the power dynamics that present care as "naturalised", gender-specific and economically devalued. In her expansion of an interpersonal feminist ethic of care towards nonhuman entities in *Matters of care: speculative ethics in more than human worlds*, Puig de la Bellacasa (2017:11-13) emphasises that considerations of labour, affect, ethics and politics are intertwined with care. Both Haraway's and Barad's contributions towards understanding the formation of the world through affective, mutually constitutive relationships inclusive of knowledge practices provide a basis for Puig de la Bellacasa's speculative ethic of care. Care is posited as an "ethico-political obligation" that

[48] Haraway (2015:159) proclaims herself to be a "compost-ist" rather than a post-humanist, allying herself with all matter that decomposes into fragments, that nurtures and releases energy; there are no hierarchies in compost. As a metaphor for co-existences, composting brings forth the shaping and co-shaping aspect of becoming with nonhuman species.

[49] Humans share 99.6% of their DNA with bonobos (*Pan paniscus*) and chimpanzees (*Pan troglodytes*) (Gibbons, 2012).

can bring neglected matters to attention, and, as a pragmatic practice, relations of care can actively support thriving multispecies existences (Puig de la Bellacasa, 2017:93-94).

Caring relationships are specific and vary within different relationships and contexts, and caring can thus be considered as an enactment of collaborative relationships in relational webs of care. Feminist care ethics as proposed by psychologist Carol Gilligan (1982) and by philosopher and educator Nel Noddings (1984) recognise that moral decisions evolve from a web of relationships and influences.[50] In *Caring: a feminine approach to ethics and moral education*, Noddings (1984) argues for a moral behaviour determined by attitudes of care in compassionate relationships, explaining that a person would be "prepared to care" after attuning to the needs of another (Noddings, 2010:11). A practice of care starts with attentiveness and an openness towards the feelings and subjective experiences of others, and "receptive attention" is considered a "fundamental characteristic of caring" (Noddings, 2010:8) different from self-orientated attention. Such "receptive attention" and proximity can generate situated knowledge that leads to caring and empathetic attitudes and behaviours (Donovan, 2016:92-93) and alleviates preconceptions and generalisations. As an affective, involved process determined through interactions with others, an ethic of care differs from normative rule-based ethical formations. While some supporters of an ethic of care argue that it can become a model of central deontological ethics that replaces other ethical formations, such as moral justice (Gruen, 2015; Slote, 2007), Puig de la Bellacasa (2017:61-62, 91-92) cautions that the proposition "to care" should not be applied indiscriminately.[51] A moralising stance of care as (always) "good" or an idealisation of care without a grounded view will act to reduce a sense of ethical-political responsibility and may inadvertently promote binary divisions. It is necessary to ask "how to care" in each situation, as a speculative ethic of care engages the concrete in ways that are not prescriptive; it is a participatory and co-constituting ethic (Puig de la Bellacasa, 2017:96-97).

[50] Gilligan's (1982) and Noddings' (1984) formulations were presented at a time when gender binaries prevented their theories from gaining wider purchase as a moral philosophy. At the time, care ethics were associated with a female perspective, as caring and empathy were seen to be feminine characteristics. Principle-based ethics were associated with male character traits – for example, to socialise according to "hierarchical and rule-based roles" (Gruen, 2015:32). As perceptions of these "negative" and "positive" gendered delineations have adapted in a more gender-equal society, care ethics have been reassessed as connective and relational moral principles.

[51] A deontological ethics evaluates the morality of actions and is different from consequentialism, which considers the consequences of these actions, and virtue ethics, which assesses and provides guidance to encourage good character traits (Alexander & Moore, 2016).

Care and empathy in the Anthropocene call for a commitment to human and nonhuman living entities, where the activities to "maintain, continue and repair" (Tronto, 1994:103) the world are accompanied by a sensitivity to inclusions and exclusions, as focused attention on one entity can mean that other entities are neglected. Habits of care can disrupt established methods of attaining knowledge by showing the benefits of an affective engagement with nonhuman entities, and by focusing on disregarded entities and probing their devalued status, researchers can offer a richer perspective of nonhuman nature (Puig de la Bellacasa, 2017:89-90,83-84). The transformative ethos of speculative care and empathy is dependent upon actively participating in multispecies relationships and exploring the possibilities of enacted care and empathy as a co-inhabitant immersed in a naturalcultural world. These ideas of enacted compassion are put to work in the last section of this chapter, which considers a real-world application of empathy and care.

As these phenomenological and relational theories become more widely established, a space has opened up for a reconsideration of other less dominant epistemologies and ontologies. As mentioned earlier, forms of knowing that are textual and linguistically formulated arise from the need to translate mental representations (Jay, 1994). A problem with ocularcentrism is its assumption of a homogeneous vision, which phenomenology counteracts through its insistence on subjective perspectives that imply a multiplicity of views (held by various subjects). Bodily interactions and a re-evaluation of all the senses, including vision, present opportunities for nonverbal, visual and tangible communication and knowledge formation; such opportunities have long been explored by artists and are discussed in Chapter Two. For Merleau-Ponty (1974), experience shapes the formation of knowledge and requires closer attention to understand its generative capabilities, while the constitutive role of each entity in a relational network is considered in Barad's critique of the representationalism on which Western epistemologies are founded. Studying objects of research and conducting experiments can be understood as connective practices in which an observer-researcher is always implicated, as distinctions between the agencies of observation and the observed, nature

and culture are co-constituted and enacted (Barad, 2007:19-20, 141). As fixed categories are upended through intra-activities as processes of differentiation, Barad's (2007:171) theory posits that object-subject relations are mutually made and reversible. Relational ontologies present a means of remaking the world as an unfolding and unpredictable event, challenging settled categories and singular perspectives.

1.3 Species: contingent categories

Indicative of the human endeavour to group things together and to find alliances or disjuncture, the classification of living organisms can be considered a clinical and cultured process of differentiation. Taxonomies of species reveal concepts that pertain to the history and culture of ordering systems and are varied interpretations of an assumed governing structure (O'Hara, 1991:272). Descartes' philosophy is detectable in visual regimes, in the disembodied practices of science and in representations of nonhuman nature that produce bounded categories. In devising these abstract systems, humans are constrained by a paradox of "being sunk in nature and culture", making it impossible to hold a vantage point from which the subject of study can be observed (Bennett & Connolly, 2002:149). To challenge assumptions regarding the hierarchical and permanent arrangement of species, in this section I consider the tension between subjectivity and objectivity in the development of a species taxonomy. Comparisons are drawn between Carl Linnaeus' taxonomical system of the Enlightenment era, earlier forms of folk taxonomy, the Natural System and contemporary phylogenetic systematics to propose that established concerns within the natural science domains of systematics, ecology and evolutionary biology are closely intertwined with cultural constructions

Figure 14 *Lepidoptera specimens behind glass, Senckenberg Natural History Museum.*

of species categories. It is not difficult to see how stable species concepts became established in natural history museums in an era when evolutionary concepts were not broadly established, but their pervasiveness, despite the acceptance of evolutionary biology in the sciences, warrants closer attention. The discrepancy between considerations of species as emerging entities versus stable groups is investigated in this section to show how visual discernment, human preferences and limitations can contribute to a pervasive belief in the fixity of species, which has ramifications for scientific communication in contemporary natural history museums.

The construction of species categories is largely predicated on the primacy of establishing human relationships to the world. Grouping objects or ideas into categories can be considered a human tendency, where the world is ordered according to a mental image and then expressed in language (Raven, Berlin & Breedlove, 1971:1210). Humans observe the natural world and identify "patterns of repetition" that can be grouped into categories, such as dogs and worms (Hey, 2001:327). Ordering species according to observable resemblances found in folk taxonomies and early Christian taxonomies[52] culminated in the Linnaean model and the Natural System devised in the eighteenth and nineteenth century (Mishler, 2009:62).[53] Although the number of species classified in folk taxonomy was limited due to their function in oral cultures (and in relation to human memory), many similarities are shared with Linnaean taxonomy, such as the division of different species into ranked classes (Raven, Berlin & Breedlove, 1971:1210-1211).[54] In folk taxonomy, the level of detail within each class (classifying numerous generics) usually corresponds with the species' significance to the human cultural group, and this tendency to create hierarchical arrangements based on a particular culture's needs is also found in the Linnaean model (Raven, Berlin & Breedlove, 1971:1211).[55] The Greeks initiated a taxonomy predicated on logic that differentiated species according to their essential traits as "natural kinds", and this system of observable essential traits was maintained throughout the Christian era, as it supported belief in a divine and predetermined, stable world (Mishler, 2009:61-62).

[52] The folk taxonomies of the Tzeltal-speaking Mayans (Mexico), the Hanunóo (Philippines), the Cantonese speakers of Hong Kong, the Guaraní (Argentina) and the Navajo (USA) have been studied in depth, and early transcribed folk taxonomies share principles with these existing folk taxonomies (Raven, Berlin & Breedlove, 1971:1210).

[53] The Natural System is a concept of "order in living diversity" (O'Hara, 1991:255) in which taxa are classified according to specific resemblances to different traits (considered according to biological significance) (Mishler, 2009:62). These groupings stemmed from a belief in a divine order, which shifted after Darwin to adapt to evolutionary terms (in language only, not in structure) (Mishler, 2009:62). O'Hara (1991) describes how elements such as affinity, analogy, continuity, directedness, symmetry and predictivity were incorporated into ninenteenth century visual representations of the Natural System to explain ornithological speciation.

[54] In folk taxonomies studied in existing cultural groups, the taxa are usually grouped into ethnobiological categories often limited to: unique beginner; life form; generic; specific; varietal (Raven, Berlin & Breedlove, 1971:1210).

[55] Raven, Berlin & Breedlove (1971:1211) describe how certain plant families with significant cultural uses were described with many genera, while those with few cultural uses were not. Many of these classifications stemmed from a recognition by the Ancient Greeks or Romans as to the plants' importance to humans.

The worldview of certainty and difference espoused in the neoclassical era was conducive to the promotion of species classification as a permanent and fixed endeavour (Foucault, 2002:164; Zimmer, 2008). The construction of categories can be understood as a human attempt to make sense of the world: by imposing structure and motivating for hierarchical arrangements, humans can develop stable concepts that create a sense of order, progression and even predetermination. Carl Linnaeus' taxonomy, first set out in *Systema naturae* (1735), relied on type specimens and could be considered a continuation of essentialist thought in which individual specimens were regarded as representatives of "fixed and unchanging species and genera" (Reid, 2009:23, 25). Linnaeus' system of binomial nomenclature, still used today, employs genus and species to classify population groups and provides a singular name for each, with nested hierarchies or ranks of class and order. This neoclassical episteme predates the concept of biology, the study of life, when the arrangement of species was a practice of visual discernment (Foucault, 2002:138-139). Foucault (2002:139) proclaims taxonomy from the Enlightenment era as the "order of lifeforms before understanding life itself", as these systems had not yet been affected by evolution and theories in which interior functions create alliances with other groups. Foucault (2002:73-74) regards the ultimate aim of taxonomy as to function as a language that can stand in for living beings, with the name of the species effectively fulfilling the role of a sign that seeks to represent the individual animal as the signified. However, this language was eloquently stripped of all the poetic, literary and mythic qualities that might overflow from visual characteristics. Although Linnaeus' taxonomy retained aspects of Renaissance mysticism, with classifications of mythical hydras along with real species, it provided a transition between folk taxonomy and the ordered, rational Natural System. According to Reid (2009:23), Linnaeus followed a "modified creationist doctrine" inscribed in the development of natural history as a moral pursuit, in which the beauty and order of the world revealed its intelligent, divine design (Yanni, 1999). Influenced by Cartesian mechanistic philosophy and Lutheran theology, "Linnaeus nonetheless had the foresight of grouping humans with simians as he could not detect any differences" (Reid, 2009:27). The correlation between fixity of species and an observable permanence to the world, primarily revealed through the ocular, can be linked to creationist doctrine in which human relationships to nature are preordained as dominant and controlling. The creationist basis could be modified in a secular society to afford the scientist a privileged position over nature, and taxonomy prior to evolutionary concepts articulates a world made meaningful by human endeavour, where species are bounded entities within a stable framework, thus delivering the conditions for human dominance.[56]

Figure 15 *Taxidermied ornithological specimens, Ditsong National Museum of Natural History (DNMNH).*

Darwin's theory of evolution provided the impetus for a challenge to the perception of the fixed, stable notion of species and speciation.[57] The Darwinian revolution proposed that species evolve from ancestral lineages, and this has affected how species are identified and classified in the field of systematics (Mishler, 2009:62). The unresolved "species problem" in the natural sciences underlines the inherent ambiguity of what constitutes a species and the processes of categorisation as a human endeavour (Hey et al., 2003).[58] Despite these issues, most theories of speciation are in agreement that species are descendants or groups of organisms that emerge over time (Hey et al., 2003). In contemporary evolutionary biology, concepts such as phyletic evolution, co-evolution (pollinators and predator-prey relationships) and mutations underline the emerging, entangled and contingent character of species' existences.[59] In evolutionary terms, natural selection does not create particular patterns or predictable results: the evolutionary process is an "entangled bank", not a predestined progression (Darwin, 1979; Gee, 2013:39). The Natural System adapted to accommo-

[56] Species classification is intricately bound to racist ideologies and the domination of cultures based on differences (De Robbillard & Lipschitz, 2017; Wolfe, 2003).

[57] This is not to suggest that the uptake of Darwin's and Alfred Russell Wallace's ideas were immediate. Darwin published his ideas on evolution in *On the origin of species* in 1859 but found very little support from his peers due to their firm belief in predetermined divine creation (Reid, 2009).

[58] According to Ernst Mayr's 1940 definition (in Quammen, 1996:133), species are "groups of actually or potentially interbreeding natural populations who are reproductively isolated from other such groups". Due to the vast differences between groups of living organisms (microbes, fungi, vertebrates), however, biologists have devised distinctive criteria for specific groups to be applied within their relevant professions (zoologists, palaeontologists, mycologists, botanists) (Hull, 1997; Hey, 2001; Quammen, 1996).

[59] Phyletic evolution is the process whereby one species changes over time to look or act differently. This process happens over long periods of time (out of human history).

date evolutionary instead of creationist terms, although the ranked system remained intact (Mishler, 2009:62). It was only in the 1960s, 70s and 80s that the organising structure of taxonomy shifted to accommodate lineages of descent, in which species are organised in nested clades (in what is termed phylogenetic systematics), and taxonomy reflected the full impact of the Darwinian revolution (Mishler, 2009:62). With evolutionary biology's focus on interior functions and entangled histories, the focus shifted from visual discernment and the "ordering eye" to an exploration of functionality and genetic material. Darwin noted that species that look similar do not necessarily share the same ancestor, and he demonstrated the value of looking beyond the surface level to explore relationships.[60]

Contemporary evolutionary biologists and taxonomists understand that the categorisation of species into various classes is an ongoing process of identification and name assignment, with the tacit understanding that new knowledge may cause shifts in how the relationships between different species are configured. The contingency inherent in determining species categorisations is predicated on a number of variables, such as the different speciation concepts in circulation, the impact of current processes on existing categories and the subjectivity of the investigator (Hey, 2001).[61] Evolutionary biologist Jody Hey (2001:329) reminds us that when evolutionary groups are defined by certain categories, some groups will be overlooked and others will be misidentified, rendering some species invisible (unknown to humans) (Kirksey, 2015b); those species considered more valuable to humans are likely to be studied in more detail (Raven et al., 1971). Human aptitude may also play a role, as each investigator's observational skills and sense-abilities determine their ability to recognise "patterns of similarity" in population groups (Hey, 2001:329). Current species and speciation concepts within the realm of evolutionary biology accommodate change and contingency, and human preferences and dispositions also play a role in the identification and categorisation of species.

Non-specialists in evolutionary biology or the environmental sciences are often of the understanding that the various divisions into groups of living organisms are somehow settled. The notion of "natural kinds" that share essential traits underscores systems of classification based on resemblances, such as Linnaean taxonomy, and prevails in a perception of species as stable groups. Hey (2001:328) observes that our tendency to categorise is established at an early age, as children learn language through recognition, identification and grouping. Accordingly, observed categories assume a correspondence with the natural world, where vision provides the primary means of establishing a relationship with the environment. This learned language can be likened to folk taxonomy, where "natural kinds" of organisms are separated into taxa (Hey, 2001:328) in a commonsensical taxonomy, which may occur even before children learn of evolution. This demonstrates other ways in which species are grouped together that may solidify a belief in the fixity of species within the minds of the broader public. Importantly, the fuzzy edges of contemporary species concepts and categorisation escape those who are not familiar with discourses in science, and this lack of understanding is exacerbated when public scientific communication is simplified for a broader audience.

Human-devised categories fragment and detach nonhuman species from the lively world of relationships. Although taxonomists may understand their schemas as webs or networks of relationships, their subsequent presentations withhold the kinds of information that might disrupt the sense of order that taxonomy implies.[62] Scientific methods of reduction distil rich lives into schema, diagrams and data, flattening and simplifying the specifics of lived experiences in any subsequent public communication. In the quest towards objective data, the specifics of individuals are swept up in a larger formation of knowledge that is easily generalised. In scientific communication, the presentation of data can also in itself limit their interpretation by the broader public, as evident in contemporary natural history museums. Although systems of species classification have adapted to incorporate emergence and contingency as organising principles, it is argued in the following section that the representation of these systems in natural history museums by means of specimens portrays a stable, permanent taxonomy.[63]

[60] Different species sometimes look alike, and individuals from one species may resemble those of another species but cannot interbreed.

[61] Evolutionary biologists confirm that evolutionary groups are able to change and be acted upon (Hey, 2001:328), so contingency and emergent adaptations complicate the search for clear markers of speciation. The matter is further complicated by phyletic evolution – after speciation inaugurates new species, phyletic evolution leads to increased distinction between different species, which may be due to temporal, spatial or genetic adjustments (Quammen, 1996:134). Furthermore, evolutionary groups continue to be acted upon in the present, as phyletic evolution proceeds unabatedly in the present (albeit at a slow pace).

[62] These webbed relationships were explained to me during informal discussions with taxonomists Robin Lyle, Ansie Dippenaar-Schoeman, Connal Eardley and Cornel du Toit.

[63] Although a phylogenetic classification system was adopted, those that stem from a "pre-Darwinian creationist mindset" were retained, and Mishler (2009:63-65) argues that these should be abandoned in favour of a non-hierarchical system to reflect the dynamics of evolutionary processes.

Figure 16 *Black-backed jackal* (Canis mesomelas) *skins, DNMNH.*

1.4 Natural history museums

The ideologies and epistemologies of the Enlightenment era and the emergence of modern science are inscribed in the history and traditions of natural history museums. The scientific methods practiced in these museums were predicated on Cartesian dualisms that gave primacy to a disembodied logic (Outram, 1997:262-263), and collections and their modes of display are still largely inscribed by the directives that brought these museums into existence, preventing the contemporary reality of these institutions from significantly transforming the visitor's interpretive experience. As discussed, empirical studies of modern science rely on visual proof and emotional detachment from the object of study. Thus, living organisms are treated as indifferently as inert matter, and once the living, breathing subject is killed and gathered from its surroundings, it is transformed into an object of study, a specimen treated as a fragment that can be studied independent of its relational world. "Specimen" denotes the relationship of the fragment to its taxonomical group in a way that the term "object" does not (Carnall, Ashby & Ross, 2013:57). From the age of discovery and throughout the Victorian era (1837-1901), these fragments were dutifully assimilated into vast collections in natural history museums.[64] Encasing specimens behind glass and stripping the once living skins of taxidermied mammals of their history and individuality creates an unsympathetic distance between the viewer and the species on display. Visitors regard survey specimens as repositories of knowledge, where a single specimen on display acts as an index for the entire population of its species. Presented as scientific data, with new discoveries and interesting facts, the displayed subjects themselves are rendered mute. Nonhuman life is absent, with vital statistics presented without context and divorced from the factors that brought such bodies into the museum. A power relationship is set up between the active human subject as hunter, collector, researcher and viewer and the passive, objectified specimen, whose value is determined by its rank, rarity and comparison to an ideal type.

Usually associated with imposing, neoclassical architecture, the archetypal image of natural history museums as stable, eternal repositories of knowledge was cemented during the Victorian era, when many museums were first established. Since then, natural history museums have hardly shifted their methods of display and interpretative strategies (Carnall, Ashby & Ross, 2013:56), despite being scientific institutions generally perceived as spaces for public education or the enhancement of knowledge of the natural world. Visitors can expect to find "written labels, icons and objects behind glass, supported with images and some interactives", the established conventions of display (Carnall, Ashby & Ross, 2013:56). Objects on display are usually organic specimens that form part of a larger collection of nonhuman species' skins, taxidermied mounts, invertebrates, geological artefacts, hominoid skeletons and fossil remains, some of which are in storage and some on display. Curator Mark Carnall, museum manager Jack Ashby and scholar in digital humanities Claire Ross (2013) propose that different modes of presentation are required to provoke visitor engagement and stimulate active interpretation. Many contemporary natural history museums remain bound to visitors' expectations that they are "houses of facts" that connect specimens with biological facts and have been slow to adapt to a new role as advocates for social-environmental responsibility (Carnall, Ashby & Ross, 2013:59).[65] Through consideration of the purpose of natural history museums, their modes of display and the experience of visitors, I contend that the particular construction of nature within these museums prevents visitors from reframing human and nonhuman species relationships. These arguments are picked up again in Chapter Three, where the Ditsong Museum of Natural History (DNMNH) is presented as a South African case study that allows for a very specific formulation of these concerns.

The didactics of natural history museums' displays tend to present nature as being composed of a rational order that has been revealed by modern science. "Natural history" has signified different ideas about nature, from the religious underpinnings of natural philosophy to the empirical practices

[64] To date, the London Natural History Museum collection contains 34 million entomological specimens and 29 million zoological specimens (Natural History Museum, n.d. a).

[65] Some natural history museums have introduced displays that present "endangered species, environmentalism and biodiversity" in a shift towards displaying interconnectivity (Henning 2006a:145). The Hall of Biodiversity at the American Museum of Natural History presented a display of butterflies that can be understood as a visual representation of biological concepts (Henning 2006a:146).

of modern scientists, and these various ideas have impacted the development of these museums of nature (Jardine et al., 1997).[66] As precursors to natural history museums, early Renaissance cabinets of curiosities displayed rarities, objects of extraordinary proportion and beauty, to entice a sense of wonder and awe in the viewer.[67] The cabinets of curiosity were cultic and secretive, often with hidden compartments only accessible to their owner (Hooper-Greenhill, 1992). These cabinets drew together relationships between different objects and living beings discernible through careful observation, juxtaposition and comparison, but as knowledge and collections increased during the Enlightenment, specimens formed part of a larger taxonomical narrative and were arranged within a particular order. Early natural history museums presented an encyclopaedic view of nature, with manifold objects on display for visitors to interpret through close observation (Henning, 2006a).

This expansive mode of display gradually became more focused and intent on a clear transfer of knowledge. In the nineteenth century, when natural history museums were established as museums of science, communication was simplified into a more generic taxonomic narrative as a representation of a rationalised world that offered the viewer a limited scope of interpretation. A sort of tokenism became embedded within natural history museum displays, where the viewer is expected to link a specimen with its appropriate taxonomic category, and where each specimen acts as a referent for a larger collective (Carnall, Ashby & Ross, 2013:57).[68] The narrow interpretive function inherent in such displays is reflective of the educational role of museums and their moral purpose in the nineteenth century.[69] For the rationalists, the relationship between the object and its meaning was simply a matter of revealing a singular truth, determined by its function within an ordered universe.

Michelle Henning (2006a:105) reports that as museums in the early to mid-twentieth century became more democratised, new technologies, such as narrative cinema, influenced the public's "ways of seeing" museums through distinct everyday experiences, and museums started to consider new strategies through which to focus their audience's attention. The defining influence of mass culture supplanted the "contemplative gaze" with the glance, which turned participatory audiences into passive observers (Henning 2006a:105-106). Audiences were now treated as consumers of information who gleaned pedagogic value from a linear, didactic museum. Stable narratives and systematic order became entrenched in natural history museum displays, and has remained so, despite insights from evolutionary biologists and quantum physicists that have challenged concepts of stability, equilibrium and predictability.

When science museums introduced interactive and hands-on exhibitions in the early twentieth century, these engaging components were widely regarded as a means to produce active citizens (Henning, 2006a). As modes of display can exceed their function as means of knowledge transfer, Henning (2006a) considers museums as a form of media and suggests that museum objects and exhibition strategies can provide the impetus for affective, transformative visitor experiences. These ideas circulate in contemporary natural history museums, which are tasked with engaging visitors and incorporating new pedagogies (Pedretti, 2002), but visitor engagement through sensorial engagements and bodily motion may not be enough to shift the overall experience of disembodied species narratives (discussed further in Chapter Three).

Figure 17 *Taxidermied Philippine tarsier* (Carlito syrichta), *Senckenberg Natural History Museum.*

Museum narratives are facilitated by the physical movement of visitors' bodies through exhibition spaces, often imparted as an experience of walking through time (Henning, 2006a:100). In *The birth of the museum* (1995), Tony Bennett, a sociologist and scholar in cultural studies, argues that public museums have a regulating function with regards to the

[66] Natural philosophy is considered a precursor of modern science. During the nineteenth century, natural history museums were engaged in producing natural knowledge, which gradually became established as natural history. Between 1780 and 1830, "natural history" diversified into separate fields of enquiry, such as physiology and palaeontology, and gradually became absorbed into the secular sciences (Outram, 1997:249). Natural history, as practiced in museums, was instrumental in instituting the natural sciences (then "natural history") as a research profession and disciplinary field (Yanni, 1999).

[67] The cabinets of curiosities that proliferated from the sixteenth century presented a nature interwoven with myth, where the collected specimens and natural objects were governed by secret relationships to the totality of creation (Bennett, 1995:40-41).

[68] For example, a taxidermied vervet monkey will serve to signify all primates or all mammals in a particular display.

[69] In the nineteenth century, nation states saw their role as providing education to the public through schools and other institutions (Hein, 1998). Museums were optimistically regarded as public spaces where the lower social classes could be improved through learning and by mingling with the upper classes (Bennett, 1995).

social rituals and performances that occur in these institutions. Bennett (1995:66-67) conceives of the embodied spectatorship of nineteenth century museums as a way of impressing an ideology upon visitors and as a means of producing a particular civil subject. The sequence in which objects are encountered guides visitors' understanding of an object's place within an overarching narrative. Proscriptive rules in museum spaces about what may be touched, routes to follow and rights of access determine visitors' conduct and shape their experiences and interpretations (Henning, 2006a:11). It may thus be argued that museums have always addressed the visitor's body, albeit in ways that have explicitly supported a dualistic and gendered understanding of mental acuity[70] (Henning, 2006a:106); visitors were (and may still be) regarded as "minds on legs" in the manner that their mental and locomotive faculties are merged (Bennett, 1995:6). In presenting displays that objectify and create a distance between visitor and specimen, natural history museums reinforce power relationships of human dominance. While the paradigm shift of embodied pedagogies has challenged museums to include the viewer as an involved participant in the museum experience, the activity of walking through a taxonomic narrative may still serve to reinforce dualistic understandings of nonhuman nature.

[70] Henning (2006a:106) argues that the stereotypes of museum visitors as the "indifferent stroller" or "intoxicated gawper" that have appeared in museum discourse since the nineteenth century are gendered. Those resistant to overwhelming stimuli, with an "armoured consciousness", are frequently identified as male, while visitors who succumb to the overpowering effects of sensory stimulation are often deemed to be acting in a feminine way.

Figure 18 *Diorama with grey wolves* (Canis lupus), *Senckenberg Natural History Museum.*

As taxonomic narratives are predominantly experienced as a sequence of progressive stages, the notion of species as fixed objective entities persists in scientific communication from natural history museums. Bennett (1995:190-193) explains that natural history museums of the nineteenth century presented the narrative of evolution in ways that conserved apex views and retained the notion of intelligent design, and museum representations displayed evolutionary processes in the same way that Cartesian rationalism ordered entities from simplest to most complex. The fixed architecture of museums reminiscent of cathedrals was designed with this purpose in mind, with each stage mapped chronologically so that the visitor literally walks through the exhibition from the earliest stages of life to the most complex forms of life.[71] Darwin and Wallace challenged the primacy of the hierarchical understanding of species, but evolutionary processes and a perceived ascent towards increasing complexity became mapped to an ethos of progress (Bennett, 1995:192). Nature's progress, though slow, was assumed to indicate that species evolved towards an ideal state, and, as the evolutionary displays culminated in human civilisation, it was thought that Homo sapiens had accomplished this ideal. In contemporary natural history museums, which are still largely housed within this historic architecture, the sense of walking through time or a systematic reveal of taxonomic order remains part of the visitor experience (Asma, 2001; Langerman, 2013).[72] Stephen Asma (2001) and Fritha Langerman (2013) both provide an analysis of the narrative of evolution in two contemporary natural history museums, the American Museum of Natural History (AMNH) and the Muséum National d'histoire Naturelle in Paris.[73] If the visitor's route has a planned trajectory from beginning to end, as in the AMNH, a sense of progress is most likely part of the experience and is supported by the design of the built environment. As specimens are still generally regarded as simple nodes within a larger taxonomic narrative, a lack of understanding about the contingency and unpredictability of evolutionary processes and speciation is highly probable, even within a contemporary museum setting.

Natural history displays allow for a particular reading of cultured nature that invites objectification and enforces dualisms, and taxidermied specimens particularly complicate a reframing of human and nonhuman relationships. Typically, these methods of display are dependent on a fantasy and suspension of disbelief by the visitor that enables the dioramas and taxonomic narratives to convincingly fulfil their role. The original intent of taxidermy was to construct dramatic representations of wild nature or to provide an index for an entire species. The taxidermied specimens so closely associated with natural history museums are offered

[71] See Langerman's (2013) discussion of how parallels are drawn between cathedrals, Christianity and natural history museums, and how these comparisons are affected by the visitors' movement through an exhibition.

[72] Langerman's (2013) interest in the display of evolution within contemporary natural history museums is focused on finding more appropriate visualisation methods with which to replace arboreal representations of speciation.

[73] Both museums completed extensive renovations in the 1990s, which allowed each to update their displays to reflect more current scientific views on nature.

as substitutes for living nonhuman species, and their realism relies on an illusion: as skins are stripped from the once-living to become disembodied casings, they are domesticated from the wild and become cultural objects. The transition from living entity to cultural object remains incomplete, however, as the skin simultaneously connotes the specimen's erstwhile embodied existence, a material reminder of a life once lived (Patchett, 2010:32). As "both a human-made *representation* of a species and a *presentation* of a particular animal's skin", taxidermy occupies an ambiguous terrain (Poliquin, 2008:127), and this productive confusion has compelled artists to recast taxidermy in a role that references its original function (Aloi, 2019b; Baker, 2000).[74] Writer and curator Rachel Poliquin (2008:126-7) describes taxidermied specimens as alluring, "excessive entities" that exert a visual, visceral power. As objects that can be read simultaneously in different registers, taxidermy invites visitors to contemplate human and nonhuman species relationships, depending on the manner in which such an invitation is framed.

Taxidermy is also regarded as a practice and product steeped in violence. In her influential study into the relationship between nineteenth century museums and Christianity, Carla Yanni (1999) suggests that the power dynamics at play in natural history museums are reflective of constructions of nature accepted during the nineteenth century, where science largely followed a Christian perspective that viewed nature as God's second book. Studying nature was considered a moral pursuit, and while still perceived of as mysterious, an emphasis on nature as a resource gained ground as human scientific enquiry appeared to unravel nature's secrets. Even the exploitation of nature appeared morally justified, as natural resources were viewed as God's gift to humanity or, more pertinently, to the British empire (Yanni, 1999).[75] As these "cathedrals of science" emerged in Britain, Europe and the colonies, an increasing pressure came to bear to procure specimens for their collections.[76] Huge herds of antelope had already been wiped out, and it was widely understood that nature was being destroyed (Witz, 2015:671).[77] Even so, "naturalists" were convinced that large-scale hunting in the colonies to collect specimens for research purposes was a just cause (Witz, 2015:676). In the conflicting narratives of the "naturalists" who applied this moral

[74] Alberti (2011:8) states that the "intentions and audiences involved" in artistic uses of taxidermy differ markedly in significance and produce variable "afterlives" to those in museums.

[75] Most South African natural history museums were established during the British colonial rule of the nineteenth century, and the influence of British museums at the time is significant.

[76] Non-exploitative practices such as the conservation of natural resources would have been deemed immoral and even unpatriotic to the moralising Victorians; these exploitative practices have persisted and been consolidated in neoliberal society (Yanni, 1999).

[77] Natural history museums in Britain and the United States, such as the Natural History section of the British Museum (now the London Museum of Natural History) or the AMNH, often worked through local museums to set up expeditions in southern Africa (Witz, 2015:671). Naturalists/hunters unaffiliated to museums supplied specimens to local and international institutions, sometimes answering calls for specific specimens (Brain, 1998:25). The extinctions of the quagga (*Equus quagga quagga*, extinct in the wild by 1878) and the bluebuck (*Hippotragus leucophaeus*, extinct by 1800) were caused by Dutch farmers in the Cape, who hunted them because they competed for grazing with their livestock (Foster, Lorimer & Patchett, n.d.). Mass springbok (*Antidorcas marsupialis*) migrations ceased after 1896-1897 due to mass hunting and farm fencing (Roche, 2008:10). Animal populations were "drastically reduced", and large-scale imperial hunting had mostly ceased by the start of the twentieth century (Witz, 2015:674).

reasoning in support of their hunting/killing practices, nonhuman species could be indiscriminately hunted in the name of science, colonial expansion, nation-states or leisure, as humanity, self-ordained as sovereign, acted within its rights (Witz, 2015).[78] Many of these hunting expeditions were funded by museums that were instruments of the sovereign or the state (Grobler, 1994:102-104; Witz, 2015). The morality of killing practices was not questioned, as the scientific pursuit of knowledge was idealised as a moral good; order was imposed on chaos by science's progression from error to truth (Bennett 1995:2). The drive to discover more about the world, its people and nonhuman species in the pursuit of science was assimilated with a hunger for power and control. Colonial expansion and scientific endeavours were mapped onto each other, with similar aims and sometimes indistinguishable practices (Witz, 2004:150).[79] Nature as a vast and unruly wilderness was slowly and surely domesticated by practices of collection and classification (Berger, 1991) as humans attained power over nonhuman nature. Natural history museums, like the zoos that Berger (1980:21) describes in his seminal essay *Why look at animals?*, were sites where this power relationship and increasing separation were on display, part of colonial projects of rationalisation and conquest that "capture the history of nature, not natural history" (Yanni, 1999:164).[80] Their collections tell a story of power: of colonising practices, contested land ownership, indiscriminate hunting and killing, scientific exploration and exploitation.

Figure 19 *View towards the gorilla* (Gorilla gorilla) *display, Senckenberg Natural History Museum.*

[78] Typically, hunters set out to attain the biggest and best "specimens" in the name of science, without considering the impact of their actions on the species' gene pool or social dynamics.

[79] Witz relates the history of Guy Shortridge, director at the Kaffrarian museum in King William's Town (renamed the Amathole Museum) between 1921 and 1949. Shortridge completed numerous expeditions to southern and central Africa with Nicholas Arends, a "companion, assistant, trapper and taxidermist" who was also employed at the museum (Witz, 2015:680). George Manual (in Witz, 2015:680) remembers how Shortridge and Arends "trapped, measured, labelled and stuffed more than 36,000 specimens, of which about 15,000 are in the British Museum and about 3,000 in the New York Museum. The rest are in King William's Town." Shortridge and Arends self-identified as "naturalists" who made significant contributions to scientific knowledge, and both had species named after them.

[80] The modern European colonial project gained ground in the sixteenth century, with policies of territorial expansion, population settlement and political domination. The era of formal colonisation ceded by the mid-twentieth century, as former colonies gained their independence (Hussin, 2011).

The accumulation of specimens from the colonies served to demonstrate mechanisms of power and ownership, and many museums are now apprehensive about displaying these relics of the past (Patchett, 2010:12).[81] As colonial-era museums commissioned, funded and participated in the hunting expeditions that supplied specimens, they are fully implicated in the excessive scale of destruction pursued in the name of science. Recognising nonhuman species as conscious and sentient, and with mass species extinctions underway, the ethical implications of presenting nonhuman species' remains have become a contentious issue for many international museums, causing these institutions to reconsider their displays (Henning, 2006b:144). Since the twentieth century, some museums have destroyed taxidermied specimens in their collections, compelled by the sense that taxidermy has served its purpose, along with other pragmatic, bureaucratic and ethical reasons (Duffy, 2017:44; Poliquin, 2008:123-124).[82] Other museums have opted to store their collections, where the specimens are vulnerable to decay.

In line with these ethical-political considerations, contemporary taxidermy is often presented as a "cautionary reading" that warns of extinction, loss and the fragility of life, or is presented with a biographical chronology of the object's cultural, geographical and political affiliations (Poliquin, 2008:129). By providing object biographies for noteworthy individual specimens, attention can be drawn to the cultural and political practices and conditions that allowed for nonhuman species to be collected. A local example of this is Huberta the wandering hippopotamus (*Hippopotamus amphibius*), who entered her afterlife when the then Kaffrarian Museum in King William's Town acquired her skin and skull after her demise in 1931 on the banks of the Keiskamma River (Amathole Museum, n.d. c; Witz, 2004).[83] Leslie Witz (1994:142-156) considers how narratives of Huberta's transition to specimen, and her continuing presence as a visitor attraction at the Amathole Museum, reveal the paradox of "people who both kill and rescue". The museum staff who "rescued" Huberta's skin and skull in the name of science and "for prosperity" were the same hunters/killers/trappers whos expeditions

[81] Taxidermy dioramas are complicit in narratives of power and patriarchy, racist fantasies, unequal gender representation and the presentation of overdetermined gender roles (Haraway, 1984-85; Machin, 2008).

[82] The cost and space implications of storing and maintaining collections, and a shift to teaching and researching in museum laboratories (some attached to universities) has facilitated these decisions (Duffy, 2017; Poliquin, 2008:123-124), while the destruction of the Jenks Museum of Natural History's collections, attached to the Biology Department of Brown University, USA, can be attributed to a shift towards bureaucratic management at natural history museums (Duffy, 2017).

[83] Witz writes that Huberta purportedly travelled 650 kilometres from her home on the north coast of KwaZulu Natal to the Keiskamma River in the Eastern Cape, where she was shot and killed by farmers. Her home was reported to be at either the Mhlathuze Lagoon in Richards Bay or Lake St Lucia (Amathole Museum, n.d. c; Witz, 2004). Huberta's journey, noted for the first time in 1928 in a local newspaper, garnered considerable public interest, and during her life she gained the dubious status of "national pet" (Amathole Museum, n.d. c).

furnished local and international zoos and museums with living and dead nonhuman species (Witz, 2004:155).[84]

In object biographies, a process of reverse subjectification resuscitates the nameless specimen through a narrative and, often, through a personal name (Alberti, 2011). Museums may also choose to display critical texts alongside their historical dioramas, texts that acknowledge the current state of the environment or that distance the museum from past practices, breaking the illusionism of the displays (Poliquin, 2008:126). Samuel Alberti (2011:3, 6) argues that the "afterlife" of a museum specimen can be considered as a material-immaterial state initiated by the biological death of the nonhuman individual, whereupon the specimen created from the living entity serves as a historical document that can be reconfigured through human intervention. Subsequently, Witz's analysis demonstrates how a specimen can be resurrected in ways that allow humans to lay claim to racist fantasies, moral superiority and, ultimately, power, and taxidermy, with or without object biographies or explanatory texts, reflects this circulation of power.[85]

In conceiving of taxidermied specimens as "excessive entities", Poliquin (2008:130) suggests the possibility of a moving encounter with a specimen, as an embodied experience can stir an emotional connection with the once-living entity. The realism of taxidermied mounts provides an immediate experience for the viewer, and for some it is an experience akin to encountering a living, breathing animal, as artist Mark Dion describes:

> ...not a picture of the thing, not a video of the thing or a computer representation, but the thing itself. Even if that thing might be a kind of representation itself, it still exists in time and space with me and gives me a sense of scale that nothing else can. (In Marsh, 2009)

An encounter with these taxidermied specimens may elicit admiration for a wild animal affixed in a particular stance, but the realism of taxidermied mounts also serves as an appeal and a condemnation, as the specimens' deaths are always framed by their display. In the accompanying text to Snaebjörnsdottír/Wilson's *Nanoq: flat-out and bluesome* (2006), a critical survey of taxidermied polar bears in the UK, Henning (2006b:138) writes

Figure 20 *Growling leopard* (Panthera pardus), *DNMNH.*

[84] Many of the 40 000 specimens of mammal currently in the Amathole Museum collection were collected by Shortridge and Arends (Witz, 2015; Amathole Museum, n.d. b).

[85] Witz (2004:156) shows that Huberta's historical narrative, which persists into the present, disguises the museum's implication in destructive practices, and Huberta is still revered as a national symbol today. Books published in 1931 scripted a narrative in which Huberta became an emblem not only for the newly conceived national parks, but also for the "native" reserves pursued by the government of the time (Witz, 2004:157-164).

that taxidermied mounts behave differently to the fibreglass casts of prehistoric life, as they drag their corpses with them. Henning (2006b:140) views the staged dioramas of taxidermied mammals, reptiles and birds as a means to distract the viewer from recognising the "acts of violence" that transformed living animals into specimens for display. Dioramas are designed to show these specimens in their "natural" habitats and to imaginatively transport the viewer to exotic locations where they can be in close proximity with fierce and magnificent creatures, but as Henning (2006b:140) argues, dioramas using realist taxidermy present both the encyclopaedic impulse of an ordered and documented world and a romantic view of nature as visually seductive. In both these representational modes, where nature is either abstracted or idealised, the violent domination of nature is communicated through taxidermied specimens (Henning 2006b:140), but the visual power of taxidermy can also act as a constant reminder of the death of the nonhuman entity, signifying that the specimen as cultured object remains locked within a particular narrative.

Biographical details, cautionary readings and embodied visitor experiences do not offer a way out of the quandary of taxidermy. Museums may choose to draw attention to the problematic constructions of nature that these taxidermied displays communicate and to promote a historical understanding of the factors that brought these specimens into their "afterlives", and it may be that object biographies, by subjectifying the specimen, can encourage emotional responses that enable visitors to contemplate the intricacies of human and nonhuman species relationships. When specimens are given personal names, their deaths are more likely to invite scrutiny by the public, and visitors are more likely to request detailed information on the circumstances that brought them into the museum (Alberti, 2011). However, personal names also suggest to the viewer that nonhuman species should be anthropomorphised or perceived as pets, and Poliquin (2008:129) points out that the personalised specimen that serves as material evidence for human activities often furnishes a story that could as easily be told by any other object. As such, object biographies can serve to strengthen the perception of a human-centred, objectified world.

As represented in natural history museums, the distilled lives of nonhuman species can stifle the development of attitudes of care or empathy (Henning 2006b), although this is not a universal experience for all visitors (Poliquin, 2008; Bates, 2018). The presentation of static, generalised narratives is bound to further solidify for visitors that nonhuman species belong in fixed categories constrained by species-defined definitions. Scientific displays are often perceived as neutral renditions of an objective "truth", somehow free from subjective interpretation or curatorial intent (Davison 1990; MacDonald, 1998), allowing their particular constructions of nature or ideologies of power to remain unchallenged. Museums of science tend to valorise objective knowledge, and objects of display are often received as irrevocable evidence of a particular narrative, such that displays in natural history museums represent a mental image of nonhuman species as categories or types.

It is difficult to envision museums invigorating their representations to accommodate a participatory view of human and nonhuman species as active collaborators in multispecies assemblages while they remain constrained by historical conventions and politics of display and the built environment. Until the format is reimagined through more informal and provisional approaches, natural history museums are destined to represent nonhuman species as separate and marginalised. These museums require critique and reassessment by smaller, less official counter-practices – familiar terrain for artists.

1.5 Care and empathy in the field

An instantaneous jolt, from cogitating on mental images to being immediately present in the moment, as a vervet monkey (Chlorocebus pygerythrus) dropped out of a tree onto a ledge close to my studio window. Perched at my eye level, he appraised me as though I was of interest; we stared at each other. I was seated behind my computer, on the other side of a window. Moments before I had been contemplating the erratic behaviour of a group of zebra I had encountered in the Pilanesberg area. Then … a remarkable visitor to my suburban home. I felt recognised in a moment of multispecies commune before he nimbly scaled the tree and

Figure 21 *Sighting of a vervet monkey, Tshwane, 4 August 2017.*

travelled on via the treetops. During that short exchange, I was attuned to every aspect of this monkey, fully focused and eager to translate his communication. Perhaps too eager, for he scuttled away at great speed, leaving me wondering where-from and where-to. I felt joined to this monkey through our momentary exchange.

This unsubstantiated account of my exchange with a monkey and the following substantiated accounts of multispecies reciprocity describe how subjects are made through embodied empathy and care. Informed by relational ontologies and the reconfiguration of the subject, in this section the centrality of the body is outlined as significant to the performances required from multispecies participants in particular settings. Care and empathy are described as a contextualised practice that provides the means to overcoming the disconnect between human and nonhuman species.

The environment in which multispecies relationships are staged is considered a shaping component in multispecies worlds that affects living entities; as a spatial attribute of multispecies assemblages, it changes dynamically over time. "The field" is the phenomenological world that shapes relationships contextually and productively, and it is the naturalcultural, lively world that humans and nonhuman species inhabit. The field is conceived of as a spatial experience of the body within the world, as "being is synonymous with being situated" (Merleau-Ponty, 1974:252), and intersubjective exchanges such as empathy take place as part of a situated and emplaced experience. The field can be an external rural, urban or wilderness setting or a built environment such as an urban home, but it is not an objective stage for living organisms. Imperfect environments and threatened existences are likely to be the contexts within which human and nonhuman species relationships unfold in the Anthropocene.[86] Being emplaced and directly entangled with the world is different from mediated interaction with a world interceded by preconceived mental concepts, as in a Cartesian perspectivalist mode.

Embodied empathy and care constitute a form of learning from the world that requires a shift from detached observation to immersion and attunement, devalued by the dominance of Cartesian perspectivalism as

[86] Tsing (2015) discusses strategies for multispecies existences in degraded environments, an established research node at the University of California at Santa Cruz, while Kirksey (2015a) and others have conducted similar research in human-dominated and damaged environments.

a less reliable means of understanding. Empathy and care are intertwined processes of moral attention and embodied perception. In her persuasive approach to animal ethics, Lori Gruen (2015:3) defines "entangled empathy" as a form of moral attention that emerges from an "experiential process involving a blend of emotion and cognition". Embodied perception involves the "receptive attention" described by Noddings (2010:8) as central to attitudes of care, and, in conjunction with empathetic responses, constitutes a form of learning from the world. While not "exclusively" bodily (learning from the world incorporates cognitive processes and abstract ideas), as processes that focus on the specifics of each situation, embodied perception and empathy can alleviate the objectification of nonhuman species. Rich experiences provide direct experiential understandings of what a particular animal's "emotional and cognitive" abilities are (Jenni, 2016:43), and Puig de la Bellacasa (2017:93-94,70-71) notes that situated knowledge can alter established conceptions of the world, by "add[ing] layers to reality". Learning from the world requires an openness to what it offers in all its complexities, to become attuned to the world without holding on to preconceived ideas. In her formulation of an aesthetic of care, Josephine Donovan (2016:84) suggests that this form of observation, which is embodied and responsive to the specifics of different nonhuman species, is regularly achieved by artists and writers. Donovan (2016:84) describes a mode of attention in which "The knowledge of these subjects' ways of being requires experiential attentiveness to their unique shapes, expressions, and patterns as well as to their contextual habitats. It requires listening to their diverse voices".

The embodied perception that Donovan refers to has been practiced by a number of scientists who rejected the impartiality that modern science prescribed, and whose practice show evidence of an ethic of care. Primatologists Diane Fossey and Jane Goodall are known for their skills of observation and attunement, and Goodall explicitly notes that "closeness, empathy, respect, and love" informed her studies of chimpanzees (in Dwyer, 2007:85).[87] Such an approach is termed "attentive love" by Donovan, as it encompasses embodied attunement and emotional attachment. For Tsing (2010), a passionate immersion is required to overcome

[87] Goodall was chosen for her work with chimpanzees because she had not yet been indoctrinated by scientific studies of chimps in captivity and had no set ideas or theory to prove (*Jane*, 2017).

the objectifying facets of scientific study, and Dwyer (2007) argues that an emotional attachment to research subjects makes for better scientists, as it brings forth a dimension of care in the relationship between researcher and subject. By practicing embodied perception, researchers draw on their phenomenological experience of the world while informed by scientific understanding. Impartial accounts of the world are inadequate in their presentation of a disembodied world (Despret, 2004:131), so stepping outside of the mind and into the world is necessary if we are to recuperate the bond that has become disconnected.

Embodied perception presents a means of communication, through the body, that can connect human and nonhuman species. Harking back to Haraway's (2008) description of worldly encounters with her dog, Cayenne Pepper, a phenomenological approach presents the opportunity to become sensorially attuned to nonhuman species, even to wild animals that are not to be touched. In non-reciprocal multispecies relationships, the emotional connection between human and nonhuman species is negotiated through proximity and distance, care *and* caution. (Dwyer, 2007; Puig de la Bellacasa, 2017:92-93). Philosopher and prominent scholar in animal studies Vinciane Despret proposes that politeness can be useful both as a moral commitment and as a measure of respect. Politeness requires an attunement to what is permissible and acceptable for another species and implies that a respectful distance is key to forming relationships (Despret, 2013b:68), particularly as humans must tread carefully to avoid domesticating the wild animals they study or care for and to avoid potential harm. The body is central not only to the inscription of encounters situationally and experientially but also to communication (Despret, 2016:16); primatologist Barbara Smuts' attempt to be invisible to the baboons she was studying was met with puzzlement by the baboons, as if her behaviour was not acceptable (Haraway, 2008:24), and she had to learn to act like a baboon through her body posture, the way she walked, through her eyes and through her voice. Smuts' experience suggests that to deny corporeality is to close off a means of communication with nonhuman species and that to allow multispecies linkages we must enable this performance. Through a process of sensitive attunement and behavioural adjustments, Smuts was able to adopt the baboons' subtle social etiquette and was accommodated and accepted by them (Haraway, 2008:25). The centrality of cognition is reinscribed by embodied perception, especially when the body is performing its most basic functions. Primatologist Shirley Strum urinated in front of a troop of baboons (Despret, 2016:17-18), demonstrating that she too had a body, and thereafter the baboons seemed more accepting of her, as if they had just needed the reassurance of relatability. Despret (2016:71) describes empathy as more than a reciprocal response, a form of moral perception that allows for embodied communication and, particularly in non-reciprocal multispecies relationships, performances to establish sociability are responsive to the dynamics of each encounter.

The adaptations in behaviour that arise from attunement to another species suggest a process of remaking, or becoming-with, where those involved are reconfigured through the process. As primatologists emulate a baboon troop's behaviour, so too does the troop adapt to make room for human presence. Despret and Michel Meuret (2016) describe how some domesticated sheep assisted humans to relearn ways of being with nonhumans, with urbanites in the south of France rekindling past pastoral practices otherwise extinct in contemporary life, and the sheep learning what it means to be part of a flock, what to eat and how to "compose with" shepherds and sheepdogs. As the shepherd and flock share common goals, such as finding fresh pastures and seeking protection against the elements, the separate entities metamorphose into a collective, and the subject/object relationships between shepherds and their flocks are reconfigured. Despret and Meuret (2016:31) comment that the shepherds use "I" and "we" when talking about the preferences of a particular sheep, which is reminiscent of Deleuze and Guattari's becoming-animal, as the shepherds become attuned to the flock's habits and preferences, and the shepherds, flock and sheepdogs are all transformed by the process. From a human perspective, such a process requires embodied perception and trust in personal intuition through shared experiences and learning from the world.[88]

[88] These alternative forms of knowing are intrinsic to indigenous knowledge that have been displaced by Western knowledge systems.

As a subject's body provides both viewpoint and limitation, it connects the subject to the world, and the limitations of the body can be useful in drawing attention to our inability to fully comprehend the subjective experiences of nonhuman species (Nagel, 1974). In his influential study on nonhuman perception, biophilosopher Jakob von Uexküll (2010) reminds us that our significance is human-centred: an "insignificant" mosquito may regard humans simply as a food source, and as such human importance is relative to the compound eye of the beholder, though the mosquito remains bound by its bodily capabilities. Similarly, human experiences are peculiarly human, limited by what our bodies can accomplish, as philosopher Thomas Nagel writes in his seminal essay "What is it like to be a bat?" (1974), in which he outlines the challenge of drawing conclusions about nonhuman species' consciousness. When seeking to understand another species' subjective experiences it is difficult to imagine their experiences, as we cannot base them on our own (Nagel, 1974:439), yet their existence is not refuted by this realisation, and Nagel (1974:441) makes the point that certain realities "embody a particular point of view" not attainable by humans.

In empathetic projections, inclusive of situations where humans struggle to bond with nonhuman species and instances where nonhuman species display uncanny "human" characteristics, it is always possible to anthropomorphise instead of attending to a particular individual's emotional and cognitive abilities (Gruen, 2015:24). Anthropomorphism is the assignation of mental ability and intention to nonhuman species or to fictionalised nonhuman characters (in the mode of Disney, for example) (Urquiza-Haas & Kotrschal, 2015) . Literature, children's stories, myths, folklore, fairy tales, art and stage performances are saturated with anthropomorphic animals, and it is generally accepted that their place, as symbols for human qualities and creatures of the imagination, belongs firmly within these narratives. Becoming "friends" with wild species or dressing pets in human clothes underlines a conviction that "animals are essentially like humans" and is considered a naïve and morally skewed assumption (Daston & Mitman, 2015:2). The recognition of difference is important yet difficult, as humans "tend to understand through affinity" (Dwyer, 2007:86), and Dwyer cautions that it is important to acknowledge the otherness of nonhuman species to avoid the over-identification of anthropomorphism, where humans project their own character traits onto nonhuman species. People want nonhuman species to respond equally, with attention and care, but wild species are not likely to unless they are domesticated as pets (Dwyer, 2007). Dwyer (2007:73) discusses the "pain of anthropomorphism" in non-reciprocal multispecies relations, where humans struggle to accept the one-sided nature of relationships with non-companion species. In such relationships, humans are required to act in nonhuman species' interests with the politeness and respect advocated by Despret (2013b) and without forcing their emotional needs upon the other.

While Gruen (2015:72) notes that it is not possible to critically reflect on another's experience if that experience is vastly different from our own, the one-sided nature of relationships with non-reciprocal species can be alleviated by attending to their contextual habits and lives more carefully and remaining sensitive to the consequences of empathetic projections and care. Once humans can sense the positive impacts of their involvement with nonhuman species, the pain of anthropomorphism is likely to subside (Dwyer, 2007). In non-reciprocal multispecies relations, anthropomorphism leads to over-identification and, often, to misconstrued care, where the carer may inadvertently harm the cared-for, or vice versa. However, detached observation is not conducive to forming multispecies relationships, as care and passion can be considered as the circumstance of learning from the world (Despret, 2004:131). Despret (2004:131) stipulates that care hinges on the willingness to become involved and to "immerse oneself in the multitude of problems" presented by a particular species, and that the reconstitution of subjects (both human and nonhuman) can sometimes commence from an impulse to anthropomorphise.

As the Cartesian legacies of objectivity and rationality are the keystones of modern science, it follows that a method associated with symbolism (and one that is an established tool in the arts) will not be considered scientifically appropriate or useful, but the scientific community has

expressed an increasing interest in anthropomorphism and its creative uses. Eminent scholar in ethology and comparative psychology Gordon Burghardt (1985) proposes that critical anthropomorphism involves a combination of inference, intuition, observation and established knowledge from various disciplinary fields, and that it can kindle new hypotheses for further scientific study. Ethologists argue that scientists have avoided comparisons between human and nonhuman species' behaviours, cognitive skills and emotions and have erred on the side of caution, thereby limiting and reducing our understanding of nonhuman species' capabilities (Despret, 2016; de Waal, 2017). Primatologist and ethologist Frans de Waal (2017) cautions against this anthropodenialism, in which scientists avoid reasonable parallels between human and nonhuman species, even concocting complicated counter-arguments at the expense of logical deductions. The concept of evolutionary continuity specifies that humans share mental states, emotions and behavioural traits with nonhuman species due to similarities in their evolved characteristics, such as neurophysiological features (Bekoff, 2009:83). Studies into nonhuman emotional responses such as empathy have established the grounds for improving multispecies relationships (Bekoff & Pierce, 2009; De Waal, 2011; Franklin et al., 2013), and there is growing support for the idea that anthropomorphism can mitigate human-defined limitations on nonhuman species. Critical anthropomorphism offers a speculative approach, as researchers are tasked to conjure what the subjective experience of another species may be like (Burghardt, 1985, 2007), and as a contextualised practice, it shares similarities with embodied empathy.

In conservation sciences, calls for a more empathetic approach to wildlife management have been accompanied by a reconsideration of anthropomorphism. Some conservation scientists regard anthropomorphism as a useful conservation tool for the promotion of empathy for specific species that share cognitive characteristics with humans (Bekoff, 2013; Chan, 2012), as highlighting the characteristics of individual animals can be effective in garnering public support (Mitman, 2005). Compassionate conservation practices apply animal welfare ethics to wildlife management to mitigate the killing practices that conventional methods uphold,

reversing a tendency to ignore the intrinsic value of individuals to conserve a species as a whole (Ramp & Bekoff, 2015).

The connections between anthropomorphism and empathy are clarified in a neurophysiological study by cognitive biologist Esmerelda Urquiza-Haas and professor in behavioural biology Kurt Kotrschal (2015). Anthropomorphism (defined by them as the activity of ascribing human mental states to nonhuman species) is shown to be a function of the human social brain and behavioural substrates, and as feelings of empathy activate the same social network, anthropomorphism and empathy are considered to be related processes (Urquiza-Haas & Kotrschal, 2015: 168-169, 171). Urquiza-Haas and Kotrschal (2015:168-169) found that anthropomorphism is usually initiated by involuntary neurophysiological processes and is activated along the same pathways that process same-species (interpersonal) social information. Humans predict behaviours through the involuntary process of inferring mental states and intent to nonhuman species, which may have contributed to *Homo sapiens'* success (Urquiza-Haas & Kotrschal, 2015). Anthropomorphism can therefore be understood as a social process and may function to assist the initiation and preservation of social relations beyond same-species relationships (Urquiza-Haas & Kotrschal, 2015:168). It is further thought that these processes are not specific to humans, as anthropomorphism is engrained in the social network and physiological attributes shared with other vertebrates (Urquiza-Haas & Kotrschal, 2015). While it may be controversial to suggest that anthropomorphism plays a significant role in human and nonhuman species relationships, it is clear that it serves a function in the sociability of humans and nonhuman species. This is not to say that anthropomorphism should be regarded uncritically, rather that its role as a means of fostering connections between humans and nonhuman species deserves more attention.

Multispecies empathy requires perspective-taking that goes beyond the human dimension, and here artists can assist to imaginatively infer nonhuman species' experiences. Embodied empathy and care for nonhuman species is precarious in that it is based on a partial understanding of

what life may be like for another species, but this gap in comprehension affords humans a vulnerability and humility that offers an alternative to certainty and broad assumptions. Gruen (2015:66-67) acknowledges that empathising with nonhuman species is imperfect, and it is therefore necessary to shift between an individual's personal perspective and an understanding of another's perspective to achieve a more nuanced, sensitive appreciation of the other's position. The perspective-taking that occurs during empathetic responses may produce a more enduring effect than recognition of another's need (Batson et al., 1995) and could encourage a deeper appreciation of a nonhuman animal's welfare, i.e. recognition of the intrinsic qualities of the other person or nonhuman species.

The limitations of the mammalian body may reflect the limits of empathy in the same way that Gruen (2015:70) reserves entangled empathy for sentient beings defined as "mammals, fish and birds" but not for insects, reptiles, amphibians and other species. A broader understanding of sentience and consciousness is required, one that aligns with recent studies on insect consciousness and sociability (Tiffin, 2016). Insects have largely been overlooked in studies of neurobiological function and states of consciousness, but philosopher Colin Klein and neurobiologist Andrew Barron (2016) advance a theory that insects possess the capability for subjective experience as a result of cohesive neural pathways in the midbrain.[89] Nagel's (1974:436) more inclusive approach provides a useful definition, according to which "an organism has conscious mental states if and only if there is something that it is *like* to be that organism – something it is like *for* that organism". It is also critical to encourage human connections with uncharismatic but ecologically important species such as amphibians and snakes (Tarrant, Kruger & Du Preez, 2016), as public attitudes often determine the success of conservation efforts. Frogs, for example, are not highly regarded in South Africa, due in particular to widespread negative cultural associations, and so are in need of care and attention (Tarrant, Kruger & Du Preez, 2016). Paying close attention to organisms whose phenomenological worlds are vastly different to humans' and valuing their unique experiences will expand an understanding of a nonhuman consciousness that extends beyond the realm of human experience, and this research proposes that anthropomorphism can be a valuable artistic strategy to initiate multispecies affinity.

[89] Klein and Barron (2016) suggest that, as insects have midbrain and basal ganglia structures that allow for "a unique, unified perspective on the world", they may have a "basic capacity" for subjective experience.

In urban homes and neighbourhoods in Tshwane, multispecies assemblages are made and unmade, and mammals, reptiles, amphibians, birds, fishes, insects, arachnids and plants are just some of the groups that engage in multi-layered interactions. Following Gruen's (2015:72) suggestion to investigate alternative methods that can provide directives for multispecies relationships with small species, this thesis presents artistic strategies that encourage more empathetic attitudes towards nonhuman species. Embodied empathy speaks to the multiplicity and intra-activity of multispecies relationships, but it is not always applicable in situations where engagements are not attuned to subjects. The tension between subject-making empathy and multispecies assemblage's focus on emergence and intra-agency will be maintained throughout this thesis as a productive difference. In art practice, these tensions play out against a variety of ethical persuasions.

Chapter Two

Art as a means to encourage empathy and care in multispecies relationships

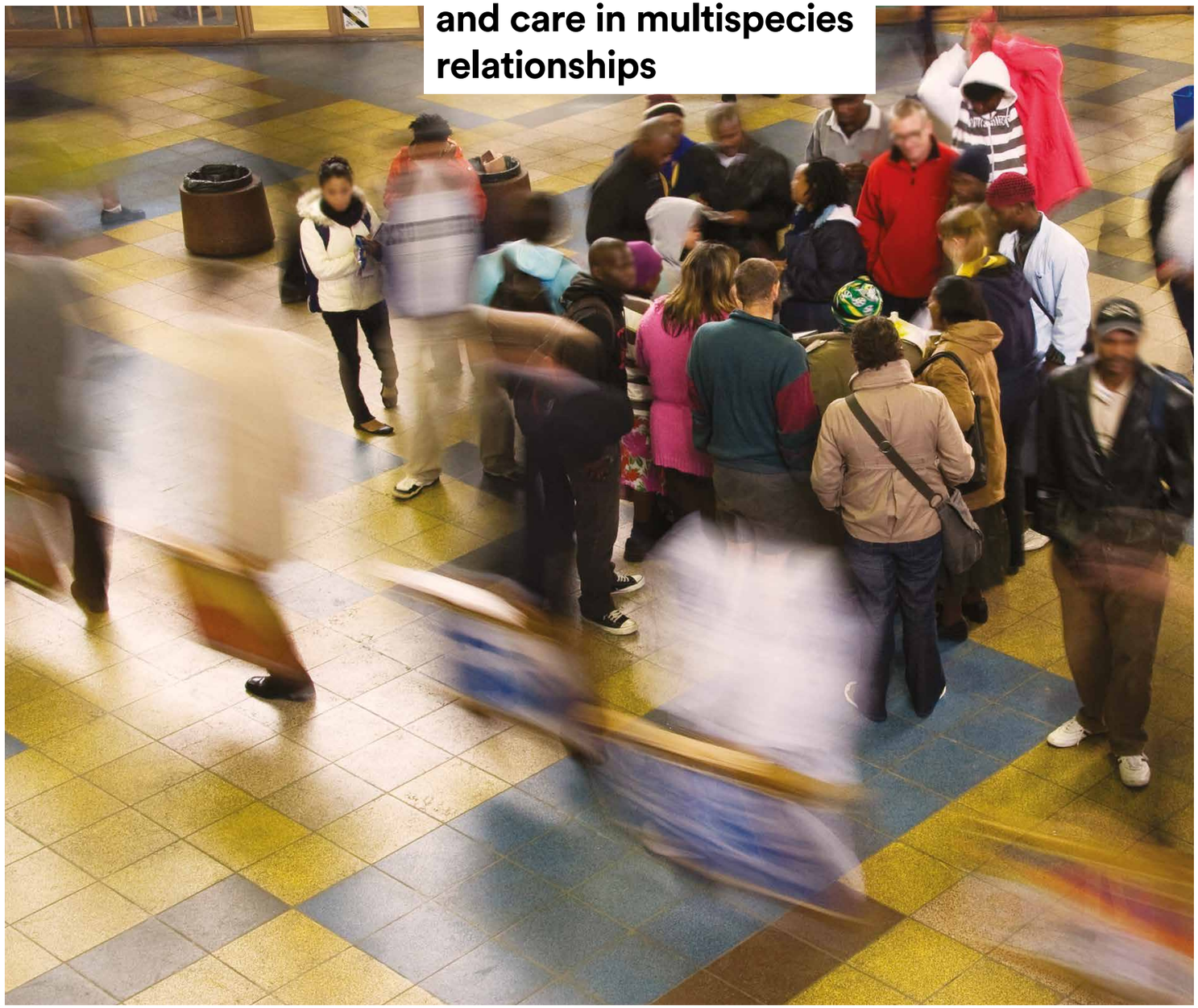


Figure 22 Small victories *(2009) at Cape09: Convergence, with Mechac Gaba's* Ambulant *in the foreground.*

Art provides a space in which the power dynamics between human and nonhuman species can be challenged and potentially reconfigured. In many aspects, art practices and aesthetics are reflective of the relational, materialist approach that theorists have outlined in their challenges to binary thinking (Barad, 2007; Deleuze & Guattari, 2004; Grosz; 1994, Haraway, 2008), as the reconfiguration of the subject is evident in perspectives where identity is considered as performative instead of fixed and where subjectivity is continuously moulded (Butler, 1999; Kester, 2004:76-77). As Cartesian dualism is dependent upon stable, bounded entities, a subject that is constantly made and remade through embodied interactions poses a challenge to oppositional thinking (Deleuze, 1990:155). The ideas drawn from Spinoza's monism, rhizomatic theories and new materialism provide for change and mobility, as subjects are responsive to events, objects, organisms and environments in a relational unfolding of time and space (Barad, 2007; Deleuze, 1990; Deleuze & Guattari, 2004). In these process philosophies, subject formation is conceived of as a dynamic process of becoming, and subjects are

perpetually in motion (as described in Chapter One). This perspective is generally underscored by a phenomenological understanding of embodied perception through which a lived body-experience constitutes a subjective, sensorial entanglement with the world (Merleau-Ponty, 1974). Relational and phenomenological theories have for long found resonance in multiple art practices and have influenced positions within the field.

This chapter proposes that relational artworks can challenge dichotomous perceptions of humans and nonhuman species. Relational art is first discussed as a result of the reorientation of aesthetics from a focus on the art object to an interest in the diverse experiences of art's viewers and their varied subjective interpretations of the artwork. In contemporary aesthetics, consideration is given to the audience as a heterogeneous group of people whose differing perspectives are shaped by historical, contextual, social and biological influences. Audiences are considered as participants actively engaged in the interpretation of the work of art, evident in practices where the artwork is constituted as a collaborative encounter. In what has been termed relational, dialogical or participatory aesthetics, the viewer's social experience is valued as the work of art (Bishop, 2012; Bourriaud, 2002; Brown, 2014; Kester, 2004). I draw comparisons between assemblage thinking and relational practices, with both being considered as a means to form connections and to disrupt normative views, specifically those relating to nonhuman species.

However, disruptive modes are not sufficient to address the lack of care that humans demonstrate towards nonhuman species, and emotional responses such as empathy and care are needed to transform the relationships between human and nonhuman (Gruen, 2015). As empathy is prompted by a bodily response initiated when a subject is confronted with another entity (De Waal, 2011), so art that elicits bodily responses may help develop a person's empathetic capacity towards nonhuman species. Following from this, aesthetic experience is discussed as a participatory process that involves intertwined neurological, physiological and psychological activations and responses. By drawing on studies in phenomenology and neurosciences, an explanation is provided on how empathetic

responses can be activated through the viewers'/participants' embodied experiences with artworks. Care aesthetics regard the subjectification of nonhuman species as an integral strategy to surface the connections and existing relationships between human viewer/reader and nonhuman animal subject (Donovan, 2016), and subjectification is made possible by the artist/writer's corporeal encounters with nonhuman species and the manner in which those experiences are translated through art and literature. I propose that artworks that subjectify nonhuman species are deemed more likely to encourage empathetic responses, and this position is supported by an aesthetic of care. The characteristics of relational and care aesthetics, while distinct, can present simultaneously in an artwork.[90]

A selection of artworks, including my own, are discussed in this chapter to show how attentiveness, care and empathy can be incorporated with a participatory approach. The strategies that artists employ to draw attention to the realm of human and nonhuman species relationships are employed as sideways actions resistant to quantification and measurable results. While art is not easily harnessed to explicit outcomes, artists, art theorists and historians agree that the strength of art lies in its experiential qualities and evocative workings (Baker, 2000; Broglio, 2011; Sutton, 2017).

2.1 Aesthetic experiences

Relational aesthetics presented a radical position in art when first introduced by curator and critic Nicolas Bourriaud, who reflected upon a group of artists from the 1990s whose works disrupted the spectator's position by locating meaning in the artworks' social dimension and the temporary formation of communities through collaborative interactions in real time.[91] These artworks cast doubt on the messianic method (in which the artist reveals the world to an uninformed audience), and instead these relational artists provided "ways of living" and modest "models of action" as methods towards enacting social change (Bourriaud, 2002:13).[92] When artist Rirkrit Tiravanija cooks Thai food in a gallery setting, he creates a welcoming situation in which viewers/participants can enjoy a meal together, and the gathering of gallery visitors forms an instantaneous community. Relational art is similar to performance art and happenings in that

[90] Care aesthetics and relational aesthetics are not always compatible, and their differences are navigated throughout this study.

[91] In *Relational Aesthetics* (2002), Bourriaud encapsulated key ideas as relational art practices became more widely established, but his particular view on relational art is insufficient in its scope of practices, as argued by Bishop (2004), Kester (2011:29-36) and Brown (2014:3-7). This thesis retains the term relational aesthetics for ease of use, but with adjustments to its meaning to fit the purpose of the study.

[92] Bourriaud (2002:17) reflects upon the sense of alienation that characterises contemporary urban life as opportunities for informal social interactions are reduced by the gradual mechanisation of labour and the ordering of time.

[93] It is difficult to trace and assess the intangible affects and effects of relational art: the immediacy of the live event and its relational aspects are difficult to capture through documentation, as all the embodying aspects of the work, including the interpersonal interactions crucial to its reception, are excluded. Thus, documentation of the audience's responses may assist insight into the work's aesthetics and impact.

[94] By contrast, the formalist aesthetics of Modernism emphasised the skills and creativity of the artist and the autonomy of the work of art (Miller, 2013:387). Modernist aesthetics were understood as being concerned with beauty and followed interpretations of philosopher Immanuel Kant's aesthetic theory. Beauty, as an inherent quality within a work, was accessible only to discerning viewers who were attuned to developments in high art.

[95] Some of the influential factors that destabilised the hold of Greenbergian abstraction on the art world were feminism, the happenings of the 1960s, institutional critiques of art museums and post-modernism.

it relies on the presence of the viewer and is focused on an event; participants in the event are afterwards positioned as witnesses to reflect on the work's aesthetic value.[93] The relational artwork that creates "moments of sociability" or presents "objects producing sociability" is entirely experiential (Bourriaud, 2002:33).

Aesthetics that focus on the spectators' experiences are concerned with how the artwork disposes the viewers (Costello, 2006:56) or, stated differently, how artists make particular experiences available to their audiences (Lacy, 1995:174). Relational aesthetics is reflective of a shift towards understanding art spectatorship as experiential.[94]

Figure 23 *Rirkrit Tiravanija*, Untitled 1990 (pad-see-ew) *(1990/2002), public intervention.*

After Modernism,[95] the "rightful object of aesthetics" became a source of confusion due to the plurality of art practices and the "dematerialisation of art" (Halsall, Jansen & O'Connor, 2006:123).[96] The authority of a singular canon of art collapsed, allowing for a multiplicity of artistic expressions, and varied formulations of aesthetic theories are currently in use.[97] Importantly, as the fallacy of mind/body dualisms have been exposed by neuroscience, embodied theory has recognised the phenomenological workings of art (Damasio, 1994; Merleau-Ponty, 1974). From a phenomenological perspective, perception is understood to be multimodal and not limited to the ocularcentric mode.[98] Perceptual experiences are subject-specific, time-bound and context-related, so each person's interpretation of an artwork is subjectively construed. As such, the properties of a relational artwork can be situationally reconfigured, for instance when audiences influence an artwork's appearance or outcome (Brown, 2014:5).[99]

Figure 24 *Rirkrit Tiravanija*, Untitled (free) *(2002), public intervention, David Zwirner Gallery.*

Participation in art is broadly understood as a form of engagement whereby the viewer takes part in an activity of the artist's design, but it can also refer to active interpretation, with the viewer/participant considered the producer of meaning. As art historian Kathryn Brown (2014:4) asserts, in participatory art practices, the viewer's engagement with the artwork is crucial to the work's meaning and completion; the work remains unfinished until the audience has interacted with the work, for example by eating pad thai cooked by Tiravanija. Relational artworks are often indistinguishable from real-world situations, and life and art merge seamlessly in many of these forms.[100] The hierarchy between artist and audience, and the notion of high and low art[101], is undermined when audiences become authors of the artwork's meaning, and this productive confusion is heightened when relational artworks are presented in public spaces, outside of the frame of galleries or art museums, often enhancing the artwork's potential to effect change (Grobler, 2014:58). Because it seeks out its audiences and produces new relationships, relational art is often presented as socially responsive.

[96] The latter phrase was put forward by Lucy Lippard in *Six years on: the dematerialization of the art object from 1966-1972* (1973) and suggests the various ways in which art diverged from conventional practices. Lippard describes the relocation of art from the gallery into public art practices, land art, environmental art and so forth. The autonomous art object expanded to become ephemeral, made from non-hierarchical materials (as presented in feminist art), or invisible, as in conceptual art practices.

[97] Of particular interest are environmental aesthetics (Berleant, 2014), the aesthetics of ordinary objects (Highmore, 2011) and ecological aesthetics (Miles, 2004, 2005). Due to the scope of the field, aestheticists and artists may have divergent views on the relevance of aesthetics to art.

[98] In multimodal sense perception, sensorial awareness is understood as intermingled.

[99] In other instances, the task of audiences is clear-cut and predetermined by the artist, allowing less room for creative improvisation (Dezeuze, 2010:8-15).

[100] For example, in Austrian art collective WochenKlauser's work Intervention to aid drug-addicted women (1994, 1995), conversations took place on a boat on Lake Zürich and a functional boardinghouse was created for drug-addicted sex workers (Kester, 2004:2-3).

[101] With its focus on cognitive judgements, aesthetics were associated with connoisseurship and exclusivity. The culmination of the era of formalist aesthetics, known as high Modernism, was largely predicated on the writings of Clement Greenberg, who advocated for art's autonomy as a "site for the preservation of cultural values", stressing the purity and hierarchy of traditional media such as painting over mass culture ("Modernism", 2014). The Greenbergian notion of high art considered art appreciation as somehow dependent on previous access to specialist knowledge about art and art history, and the dominant aesthetics of the twentieth century rejected emotional responses, empathy and "noncognitive corporeal response" (Freedberg & Gallese, 2007b:199).

Relational aesthetics, as formulated by Bourriaud (2002), is a way of understanding the broader tendencies within art that invite audience participation, allowing for interpretative open-endedness and challenging the hierarchy between audience and artist. Works of this nature were initiated by Fluxus artists, art happenings, performances and "kinetically orientated art" of the 1960s and 70s, Minimalist sculpture and the post-Minimalists (Dezeuze, 2010:4). Umberto Eco describes the open-endedness of artworks of the twentieth century as a means of challenging conventional understandings of the world by opening up new experiences for the viewer (Eco, 1989). In The open work (1989), Eco outlines the potential of artworks that have the interpretative scope to contest conventional meanings and world views.[102] Alison Knowles of the Fluxus group reframed the artwork as an everyday activity (Dezeuze, 2010:60) by preparing a giant salad to share with the audience in her performances of *Proposition #2 Make a salad* (1963). The artwork and its title remind us that the audience are free to prepare a salad outside of the confines of the gallery environment, and to make it however they want. Joseph Beuys, who was associated with the Fluxus group, claimed that art comprised the "entire process of living" (Jordan, 2013) and that anyone could be an artist (Beuys & Harlan, 2004), recognising the latent power of the individual to reconfigure the sociopolitical, ecological and economical spheres of which they are a part. Relational aesthetics draw on these precursors, along with theatrical performances and installation art, to present the artwork as a set of intangible relationships.

[102] Eco cites a musical example in which the performer can complete the work, drafted on 16 sheets of paper, in any order and discusses formalist Modernist works (high art) as unconventional and ambiguous and inviting multiple interpretations. In Eco's view, Modernist art is political in how it rearranges the various components involved in its creation.

The term relational aesthetics, as employed in this thesis, acknowledges the varied formulations of relational art practices and proposes an adaptation derived from these positions.[103] As this study focuses on the manner in which conversations elicited through relational art are significant to the artwork's meaning, there are strong affinities between the artworks discussed here and Grant Kester's (2004) dialogical aesthetics. Kester (2004:69) is an art historian and commentator on relational art who emphasises art's emancipatory workings, in that artists can act as catalysts to produce shifts in perspectives through conversations with their audience. Dialogue is regarded as central to participation: through conversation, artworks emerge, and art provides a relatively open space in which "aesthetic knowledge can be mobilised" (Kester, 2004:69). In both Bourriaud's (2002:26) and Kester's understanding of relational art, every artwork can be considered a "relational object", one that originates from and stimulates conversation. Kester (2004:65-66) takes the transformative power of art seriously and describes how artists have enhanced understandings of particular concerns. Where Bourriaud's relational artists often seek to model utopian conditions,[104] Kester's (2004:12) approach to relational art is not overly concerned with form and strives for effects that endure beyond an exhibition.

[103] In parallel with Kester (2004), Bourriaud (2002) and Bishop (2012), Dezeuze (2010:3-8) distinguishes between participation, interaction and collaboration to formulate a distinctive realm of "do-it-yourself" artworks informed by Fluxus and the art practices of the 60s and 70s.

[104] In this mode, participatory artworks are often considered harmonious spaces in which diverse participants can contribute equally, and the artist's role becomes one of facilitation or mediation (Bourriaud, 2002).

Art historian and critic Claire Bishop (2004) challenges Bourriaud's position on the social impact of relational aesthetics, arguing that Bourriaud describes the practices of a group of artists whose works are not sufficiently evaluative of the social relationships produced by audience participation, and that a more critical reflection of the communities involved, or potentially excluded, in the process is needed (Bishop, 2004). Bishop argues that the social connections produced through Tiravanija's work are not, as Bourriaud contends, inherently democratic, because the art dealers and viewers who eat the pad thai curries are an established group with shared interests (Bishop, 2004:68). Moreover, the presumed democracy of relational aesthetics and the artists' and curators' claims of producing an agreeable community can mask the power relations and conflicts inherent in the public sphere, when the artworks make provision for specific relations and spectators over others (Bishop, 2004:65-68, 73, 79).

In response to Kester's dialogical aesthetics, Bishop (2012:23, 26-27) is equally cautious, as collaborative art is too often evaluated according to "a generalised set of ethical precepts" that overlooks the realm of aesthetics and the productive tension between art's autonomy and social change. Bishop's (2012:25) concerns are valid, as ethical frameworks can lead to a form of censorship and already propose a set of binaries between shared and single authorship and between active participant and passive viewer, which theories of embodied spectatorship contest. Art historians propose that each relational artwork should be evaluated according to the specifics

and parameters within which it operates and the responses it elicits, rather than reverting to an independent set of moral values (Bishop, 2012:26; Brown, 2014:3). In this study, the connective and collaborative aesthetics of relational art are explored through processes of facilitation and interpersonal conversation to encourage audiences to reconsider their relationships with nonhuman species.

An aesthetic of care seeks to bind art practice to a moral position of caring. Josephine Donovan's aesthetic of care (2016) seeks innovation in how nonhuman species are represented through art as individual subjects with their own sense of being and place in the world.[105] According to relational ontologies and care ethics (described in Chapter One), attentiveness and physical closeness assist humans to form particularised, experiential knowledge of nonhuman species. Care aesthetics begin with this process of embodied perception and immersion within a particular animal's life world, described by Donovan (2016:103) as "attentive love", and then, in what she terms "mimetic comportment", the artist may seek to convey the specifics of that animal's subjective life through the artwork, reconfiguring the subject/object binary into a subject-subject relationship (Donovan, 2016:113). When writers and artists focus on these situated perspectives informed by actual encounters, their written and visual narratives can convey the particularities of nonhuman species' lives often absent in anthropocentric and generalised narratives. Works of literature and artworks often represent nonhuman species as objectified or as abstracted by human desires, characteristics and ideas, such as when nonhuman animals are used as metaphors or symbols for human attributes (Donovan, 2016:57-60). Donovan proposes an approach in which nonhuman animals are recognised for their own intrinsic qualities. By presenting nonhuman species as individual subjects, writers and artists provide an alternative to the narrative of domination that underscores human exceptionalism.

An aesthetic of care is concerned with the active emotional and intellectual interpretation of both artist and viewer. The aim of care aesthetics is to promote an emotional response in the viewer for the artwork's subject and, through this, to diminish the established hierarchies between human and nonhuman species. Artworks following an aesthetic of care can be considered what I term "relational objects", as they are created in response to a multispecies relationship in which the expectation falls on the viewer to respond, as the artist does, to the nonhuman subject *through* artistic representation. The artwork mediates the artist's personal multispecies involvement, which is made available to the viewer as an aesthetic experience. In this regard, care aesthetics rely on the artwork to elicit affect and encourage an ethical response of care in the viewer, critical to overcoming the disconnection between human and nonhuman species in the Anthropocene. As with relational aesthetics, an aesthetic of care is predicated upon fostering connectivity, but with a broader, multispecies sociability in mind.[106]

However clear an artistic intention may be, the extent to which art can engage viewers to respond collectively and predictably remains uncertain. Art that is bound too closely to the artist's intention becomes inductive and disregards the viewer's own subjective interpretative skill, and a hierarchy between artist and audience is established when an artist presents their work to enlighten an audience oblivious to its own entrapment within consumer culture (Kester, 2004:153; Miles, 2010a). Artists who expect audiences to participate must be prepared to take risks and be open to a variety of responses (Grobler, 2014). Writing about audience responsiveness to art, philosopher Jacques Rancière (2009) states in his aesthetic theory that an "aesthetic cut" occurs when the viewer/participant interprets the artwork according to their individual or collective persuasions. Successful artworks provide interpretative scope, as the viewer/participant is not assumed to be a passive agent or blind consumer of cultural messages (Rancière, 2009). An audience's indifference to a work of art is not an indication of a less refined cultural attunement but suggests that the work does not resonate with an individual's subjective and corporeal positioning. The various interactions between the artist, the nonhuman species as subject, the artwork and the audience require a careful evaluation of the limits within which participation and openness are mediated.

[105] In *The aesthetics of care* (2016), Donovan focuses on works of literature, with reference to selected artists and art theory. Plants and environments are discussed along with nonhuman mammals, birds and insects. For the purpose of this thesis, the aesthetic of care is adopted for visual art practice and relational aesthetics and excludes plants and environments.

[106] In the work *Open air studio spacetime* (2011-present), artist Hope Sandrow presents the daily lives of a brood of rare Paduan chickens as a permanent art installation streamed live via webcam from the artist's home (Hope Sandrow, n.d.). Through the work, Sandrow highlights relationships: from the multispecies social interactions between her, the chickens and local wildlife to historical and climatic impacts. Care is central to the project, as Sandrow caters to the brood's needs and reflects upon their well-being.

2.2 Experiencing art: corporeal encounters and empathetic responses

Viewing art can be understood as a participatory experience, a corporeal and lived experience characterised by sensorial activations and responses prompted by the artwork. While participants' corporeal experiences are not always described as components of relational artworks, art viewers/participants are generally understood to be thinking, feeling and embodied subjects. The phenomenologist Edmund Husserl saw the world as determined by "active driving participation" of the subject, who derives meaning from the world through intersubjective relationships (Petit, 1999:220). Accordingly, the lived body provides the means through which the world is interpreted, and all sensory perception is affected by memories of past experiences, from events, objects or beings that hold meaning to desires and instincts (Merleau-Ponty, 1974; Petit, 1999). As perception is always tethered to the viewing subject through their own "framing, cognitive architecture" (Stafford, 2009:278), viewers of art experience the work subjectively. The relationship between viewer and world is not static, however, as the cognitive system is a vibrant interplay of "brain, nervous system, body and environment" (Stafford, 2009:284), and these factors imply that the sensory impressions and interpretation prompted by artworks do not necessarily unfold sequentially. In this section, a speculative argument on kinaesthetic sensations, aesthetic experiences and empathy is fleshed out by synthesising theoretical and empirical studies from the distinct fields of neurophysiology, the arts and phenomenology.

Embodied perception includes motion sense and positionality, as kinaesthetic sensations form part of the human sensorium (Reynolds & Reason, 2012). Husserl's and Merleau-Ponty's considerations of kinaesthesia as a means of overcoming the limitations of the body have been supported by neuroscientific and psychological research into the neural correlates of bodily movement (Grosbras, Beaton & Eickhoff, 2012), for without the ability to seek out and form connections beyond one's own body schema and experiences, phenomenology would be reduced to a solipsism (Petit, 1999:230). Kinaesthetic sensations, which indicate the body's orientation and movement in space, are now recognised as significant sensorial modalities that elevate muscles to the "rank of fully-fledged sense organs, the seat of both kinaesthetic reception and the emission of sensorimotor messages directed towards the brain by way of the afferent nervous system" (Petit, 1999:235).

Sense perception is now understood as an active process in which temporal changes of corporeal positionality and motion affect how sense-data is processed and meaning is made, substantiating Husserl's claim that movement is significant and constitutive in subject-formation (in Petit, 1999). In particular, "kinesis is central to aesthetic experiences", as all sensory perception is connected to a motor function (Petit, 1999; Stafford, 2009). A subject's interior states connect with the exterior world through kinaesthetic sensations, which inform and are informed by the visual, aural, tactile and olfactory sense modalities (Reynolds & Reason, 2012:18). Artworks can facilitate these connective experiences by engaging the viewer's kinaesthetic sensations and other sense modalities (Esrock, 2001; Reynolds & Reason, 2012; Stafford, 2009). These studies in the neurosciences and creative arts confirm a relational understanding of the experiential, co-constitutive and bodily processes through which living entities are connected to the exterior world and through which they form their understandings of the world, and they confirm that aesthetic experiences, as embodied and participatory events, can assist in forming attachments.

Neurophysiological studies involving sensory perception explain that the senses are interlinked and that the activation of a particular sense modality happens in unison with the other senses (Petit, 1999:235; Gallace & Spence, 2011). Tactile experiences involve "composite" sensory modes composed of input from a variety of modes, such as "cutaneous, kinaesthetic and haptic" (Gallace & Spence, 2011:572). As sense-perception is an active process, the notion of static viewing is subverted, vision being understood as situational and composite (Stafford, 2009), both embodied and emplaced. In a multimodal understanding, vision and other modes of sensory perception explore and form connections with the exterior world, correlating to care aesthetics and artists' empathetic engagements in the world. These neurophysiological studies of embodied vision dislocate sight as a superior and independent sense-organ;[107] when vision is understood as

[107] While this thesis is critical of disembodied vision as presented by modern science and of the visual's privileged status in art, it recognises that vision should not be simply dismissed, as it informs and is part of embodied perception.

embodied, the doubling effect of an abstracted reality is foreclosed, as the world is directly experienced through kinaesthetic sensations.

Scholar in visual art and literature Ellen Esrock (2001:236) explains that art viewers/participants experience the "external object of vision" as connected to their inner states when they experience an intimacy with an artwork. By appealing to the viewer's body-states, artists can elicit transformative and connective responses, and vision and touch often work interchangeably in aesthetic experiences. In the relational artworks of Tiravanija, the audiences' olfactory and taste sensations are revitalised by the aromatic food offering. Such multimodal sense perceptions may enhance participants' sense of community and contribute to a congenial atmosphere. Esrock's (2001:236) investigation of aesthetic experiences draws attention to the function of the somatosensory system to enable momentary shifts in object/subject relationships that carry "the palpability of the object seen into the subjective, bodily boundaries of the subject". Artworks that anticipate and activate multimodal experiences can encourage deep engagements, as these experiences link to mental associations, personal memories and interlinked emotions (Lauwrens, 2019:88, 103). Sensorial experiences, especially those that combine with haptic perception, may unsettle the boundaries between subject and object and allow for empathetic responses.[108]

[108] For instance, tactile sense perception can be considered more intimate and suggests a more dynamic kinaesthetic experience than vision. Tactile sensations are the first to develop in the womb, perhaps indicating that mental associations through specific touch sensations can be connected to the subject's earliest sense-experiences (Gallace & Spence, 2011).

Empathy can be considered a "particular form of embodied [art] spectatorship" (Esrock, 2010:221), an emotional response that can be stimulated through multimodal sense experiences and regarded as the basis for "altruistic behaviour and cooperation" (De Vignemont & Singer, 2006:440). The experience of empathy is often described as a state of merging, extending from one's own bodily states (Esrock, 2001:234) or attending to "gut feelings" that connect one to an exterior entity (Lauwrens, 2018:84). A sense of movement is implied when empathy is conceived of as emotional affect (a moving experience, moved to tears) or as an activity of joining another (placing oneself in another's shoes, reaching out). The latter signifies an imaginative step towards another, as empathy involves not only a range of emotions but also imaginative capabilities. The notion of *einfühling* was introduced in psychological aesthetics by Theodor Lipps (1903) as "the phenomenon of active participation through our kinaesthesia in the movements and actions of others" (in Petit, 1999:230). The direct translation of *einfühling,* "feeling into", describes how a viewer of a work of art "projects" onto the artwork to derive meaning from it and release emotional responses (Coplan & Goldie, 2011:xii; Noddings, 2010:6), and this sense is maintained by contemporary theorists discussing empathy as a form of embodied perception (Esrock, 2001, 2010). These descriptions of empathy are supported by neurophysiologists' explanations of sensory perception as active and intermingled (Petit, 1999; Gallace & Spence, 2011) and by phenomenological accounts of entangled bodily and mental responses that are responsive to worldly encounters, as shown by the scientists who performed embodied forms of communication (Chapter One).

Husserl sought to bridge the divide between affect and action by declaring affect to be "provisional action" or a call to action (in Petit, 1999:221). The differences between a desiring impulse (including instinctual responses), a resolve to act and the consequent action are thereby levelled and are only differentiated by movement when internal will proceeds into action (Petit, 1999:221). Husserl's considerations correctly stipulate a similarity between provisional action and the actualisation of action that occurs not only subjectively, but also in intersubjective exchanges. As such, the emotional mirroring and perspective-taking that form part of the empathetic process can be considered a provisional action with a motivational dimension (De Vignemont & Singer, 2006:440). The relationship between provisional action and actualisation is noted in embodied art experiences, because "art can, by expressing feeling, move viewers in the future by changing their ideas, emotions and beliefs" (Jones, 2012:11-12).

These intuitive aesthetic and phenomenological propositions by artists and philosophers have been determinately demonstrated by mirror-neuron research, which has challenged the cognitive bias of disembodied aesthetic experiences. Neuroscientists have provided evidence of mirroring responses that occur in the pre-motor and posterior parietal cortices when

certain actions are observed (Rizzolatti & Arbib, 1998:188). Following tests on macaque monkeys in 1992, neurophysiologist Giacomo Rizzolatti and his team found that the same neural pathways activated when a monkey enacts a purposeful activity are stimulated when a monkey observes that activity. By extending these and subsequent findings on the human mirror neuron system (MNS) to the realm of art viewing, art historian David Freedberg and neuroscientist Vittorio Gallese (2007b) reported that emotional and empathetic responses to artworks are mapped to neural pathways that simulate the activity, emotion and feelings depicted *or implied* by the work. Observing depictions of emotional states, actions and feelings in an artwork can cause an "embodied simulation" in art viewers/participants, an empathetic response to what is seen or otherwise experienced. Furthermore, they suggest that the neural substrate can mimic the action of gestural mark-making in non-representational works as if the viewer's own hand were involved (Freedberg & Gallese, 2007b:202). Their study convincingly argues for the affectiveness of art, in that emotional mirroring and perspective-taking are concrete neurophysiological processes and that empathy is a pre-rational, embodied process that occurs in humans and certain nonhuman species (De Waal, 2012:874; Freedberg & Gallese, 2007b:198). The neurophysiological processes that are stimulated through artwork-viewer relationships can be interpreted as intra-actions that produce emotional affects (Barad, 2007), which become generative within a relational configuration. Sensorimotor activity forms a crucial part of aesthetic experiences in terms of how bodily sense receptors and internal sensations are responsive to the exterior world, showing that motion and emotion are inextricably linked (Freedberg & Gallese, 2007b).

While empathy studies in the cognitive sciences provide empirical support for making sense of another's actions, empathy should not be reduced to a mechanical reaction, as such a stance would again relegate bodily responses to mindless automatism. Importantly, the actions mirrored in empathetic responses have to connote meaning to the observer (Petit, 1999). Empathy is a form of understanding, and the macaque monkey that observed the gestures of the human respondent reacted to the *meaning* of the gestures. Jean-Luc Petit (1999:239) argues that the monkey

understood the stimulus (provided by the scientist) in relation to his/her subjective world, and that the monkey's mirroring response was due to recognition and understanding. Studies in developmental and social psychology have found that empathy is influenced by a variety of contextual inputs and psychosocial variations (De Vignemont & Singer, 2006:437), suggesting that empathetic understanding connotes more than can be expressed through "sense-data", and that it should not be reduced to a form of physical "empiricism" (Petit 1999:243).

Human empathy for nonhuman animals is similar to our empathetic response to other humans, though the neural pathways activated during the process may differ (Franklin et al., 2013).[109] Studies in neuroscience and environmental psychology have used images of a nonhuman species in distress to stimulate empathetic responses (Berenguar, 2010; Franklin et al., 2013), and it may even be that empathy for nonhuman species, particularly those closer to humans on the phylogenetic tree, is more difficult to suppress than empathy for other humans due to the particular neurological pathways activated in empathetic experiences (Urquiza-Haas & Kotrschal, 2015:174). These recent studies show that the long-standing close affiliations between human and nonhuman species are reflected in bodily cognitive processes and physiology. While artists are often cautious of laying claim to empathetic responses for nonhuman species through their work, eliciting empathy for humans through art is an already established practice (Kelly, 2012; Reynolds & Reason, 2012). The notion of engaging audiences' empathetic responses for other species through subject matter that depicts those species has seemed speculative, but recent considerations of embodied spectatorship propose that empathy for nonhuman species can be evoked by phenomenological experiences with artworks (Lauwrens, 2018:90-95; Sutton, 2017), as this thesis seeks to confirm. These findings are encouraging to artists in their creative investigations of empathy.

[109] When comparing humans' empathetic responses to other humans with their empathetic responses to nonhuman species (dogs, specifically), Franklin et al. (2013) found that human brain areas were considerably active in both instances.

2.3 Relational aesthetics and its strategies of inclusion

Relational artworks are often motivated by a desire to increase social cohesion by encouraging audiences to share their personal experiences.

The relational artwork *Small victories,* which I presented between 2007 and 2009, was intended to diminish perceived hierarchies and disrupt social stratification and was motivated by my desire to connect with fellow Capetonians (Grobler, 2014). In South Africa, social relations between different cultural groups are often uneasy, so the project encouraged informal exchanges and conversations between participants from a wide spectrum of areas and classes (Grobler, 2014:59). Like other relational artworks, the artwork presented an alternative space for informal interactions, outside of the regulated order of urban spatial experiences (Bourriaud, 2002:16). Audiences were free to choose whether to participate or not, so the activation and success of the artwork was dependent upon the willingness of audiences to collaborate. During a series of public interventions, I asked Capetonians to write about and draw their minor triumphs in return for a drinking mug (Grobler, Nicola. n.d.).[110] These drinking mugs, emblazoned with a description of someone else's victory, functioned as trophies that during future coffee breaks might serve as prompts for the participants to cherish their own minor victories (Grobler, 2014:61). With its simple premise, *Small victories* aimed to work against the grain of ostentatious consumerism and celebrity culture and encourage a positive framing of everyday events away from the glare of news media.

Figure 25 *The drinking mugs from* Small victories *were presented on a tea trolley.*

[110] The artwork was presented in public spaces such as Cape Town's Metrorail station and Thibault Square.

Small victories framed art as a commonplace activity in the mode of the Fluxus artists, who considered ordinary events as art, and the narratives collected during these interventions ranged from clearly significant events to minor ones, according to the participants' varied interpretations of the task. A woman described feeling proud of having gone for a run that morning despite not having any running shoes (Grobler, 2009:76), while another participant wrote that he had been reunited with his biological father, who accepted him unconditionally (Grobler, 2009:102). The work was relatively open-ended to allow for a wide scope of shared achievements and events. With this relational artwork, an idea could be articulated many times through live interactions with participants (Grobler, 2014:70), whose contributions provided a glimpse of the finely grained textures of a multiplicity of urban experiences.

The artwork acknowledged the subtle shifts in habits and thought patterns that may occur in the social realm and addressed the possibility that these moments of mobility can allow for the reconstitution of subjective perspectives in a collective and generative event (Highmore, 2011:164-171). *Small victories* awarded "single encounters with a significance beyond the local and personal" (Grobler, 2014:72) as a challenge to established social hierarchies. The work was performative in its invitation to viewers/participants to position their minor achievements within a constellation of singular acts and in that these "ordinary" citizens regarded their own contribution to society as significant. In this way, *Small victories* presents a model for intersubjective relationships, as described by Bourriaud (2002:18), as a means to inspire contributors to value their own and others' minor achievements. When sharing imperceptible motivations through conversation with a broader public, and by concretising these inspirations upon drinking mugs for future occasions, these small victories may touch the lived experiences of others.[111] Dialogical artworks evolve through performative, intersubjective communications and perspective-taking through which subjects (artist and audience) can be transformed (Kester, 2004:10,109-101); the ameliorative orientation of the work does not in itself negate the particular agency of aesthetics within the sociopolitical sphere, as focusing on that which is deemed insignificant has political implications.[112]

Figure 26 *A participant jots down his contribution to* Small victories.

[111] *Small victories* initiated "incremental adjustments" in my own perception of the city of Cape Town and its residents (Grobler, 2014:70) and was intended to similarly affect its participants and the readers of the multiple narratives.

[112] As a positive framing of the everyday, the work could be critiqued for a rather prescriptive moral stance, as Bishop (2012:23) argues in her assessment of Kester's dialogical aesthetics.

Professor in cultural studies Ben Highmore (2011:51) suggests that by sensorially experiencing the insignificant, humans can be alerted to aspects that make up our sociality and that aesthetics can draw attention to the invisible and insignificant normally excluded from the human sensorium. By applying Rancière's (2009) ideas of the "aesthetic cut", Highmore (2011:166) describes a world-enlarging event when aspects not previously considered within the realm of the human sensorium are acknowledged and included, reflecting that "ordinary acts of generosity and care face a world where selfishness is taken as the norm and kindness is seen as extraordinary". In *Small victories,* multiple interpretations of a common theme provided a means for reframing ordinary acts, revealing a constellation of differentiated motifs and motives previously unacknowledged. When these processes of recognition are activated through artistic interventions, audiences can potentially experience their interaction with the artwork as world-enlarging.

Relational aesthetics may help expand audiences' considerations of nonhuman species as part of the social web by addressing other hierarchical configurations, such as the binary categories that stratify human and nonhuman species relationships. Artist duo Snaebjörnsdottír/Wilson's relational artworks invite varied and contradictory interpretations of multispecies relationships to counter oversimplified distinctions of nonhuman species. Their artwork *Uncertainty in the city: pets, pests and prey*[113](2007-2010) sought to interrogate the irreconcilable aspects of close human and nonhuman species encounters within the urban, foregrounding in particular the cultural category of pests as an ambiguous grouping. The project, commissioned by Storey Gallery, unfolded over four years in the city of Lancaster in the United Kingdom. The work created dedicated spaces for conversations about nonhuman species, such as a mobile public radio station, a website, public discussions, conference presentations, an exhibition at Storey Gallery and a book publication (Wilson, 2012:100-101). During the process, the artists joined the local pest control authority on their excursions and invited numerous perspectives from different publics, pest control services and Lancaster's human population.

[113] *Uncertainty in the city: pets, pests and prey* (2010) was the exhibition component of the project at Storey Gallery, Lancaster, hereafter abbreviated as *Uncertainty*.

Uncertainty's mobile radio station, Radio Animal,[114] was housed in a converted caravan that travelled to where people interested in animals met, such as "county and garden fairs" (Wilson, 2012:103), so that the artists "crossed categories between areas of knowledge" to create points of contact and potential for dissonance (Kester, 2004:62). As with other relational artworks, *Uncertainty* adopted the various arrangements that signify forms of social connectivity (Bourriaud 2002:28), such as the radio station, discussions, meetings and interviews. The interior of the mobile radio station was cosy and interesting, displaying newspaper articles, images and information related to the project (Wilson, 2012:102) and formed a homely backdrop for interviews with experts and non-experts. People were invited to share their anecdotes about personal encounters with urban species, and these anecdotes were recorded and published as audio files on the website, as transcripts in the publication and as an audio wall with playback functionality in the exhibition (Wilson, 2012:105, 110). The extended duration of the work allowed for these interactions to coalesce into a complex and detailed reflection on urban multispecies relationships.

[114] The website radioanimal.org is still live and accessible.

Figure 27 Snaebjörnsdottír/Wilson's Radio Animal in Lancaster Market Square, 23 October 2009.

Dialogue can be approached as a means to catalysing a shift in perspective, initiated by perspective-taking and critical self-awareness (Kester, 2004:110-111). Through the interviews, the artist duo recorded subjective, often passionate, responses to nonhuman species, underlining the embodied and emotional dimension of multispecies relationships. The relational artwork *Uncertainty* involved fleeting encounters with species that fall outside of the remit of daily considerations, and Wilson (2012:103) observes:

> Without an appropriate forum, it seems possible that in a cultural context where individual encounters with animals are valued little, if at all, some people will not know they even have a story to tell. Many visitors to the [Radio Animal] unit remarked that they had never before told anyone of this or that encounter.

These multispecies encounters resonated with each storyteller, with the narratives considered "whole" rather than as vague recollections struggling for a foothold in the narrator's sense of place. Wilson (2012:99) points out that in the title, "uncertainty" refers to multispecies relationships that are under pressure, and the stories relayed experiences of discomfort, fear, intrigue and fascination, allowing uncertainty to seep into the audience's experience of the work. By asking viewers/participants to share their stories and listen to the viewpoints of other contributors, the artwork called on contributors to reflect on their own positions.

When animal "pests" invade human homes, the human inhabitants experience a loss of control that may cause fear and "seemingly irrational and unjustifiable neuroses" (Wilson, 2012:99-100). Snaebjörnsdottír/Wilson wanted to understand how cultured these responses were and reflected that the stability of the category "pest" was crucial to determining a solution to the "pest problem" – usually pest control. A moral binary of good versus bad underwrites the category of pest, and it is crucial that the categorisation of "pest" does not stray into other categories such as "pet" or "endangered species", as this would contradict the moral obligation to annihilate. The binary between categories of animals can also be influenced by religious motivations, as in correlations of cleanliness and purity with a virtuous life. When eradicating pests from their homes, humans re-establish control and certainty, which may correspond with religious values. Artists acting against these impulses may effectively destabilise a system of order that humans depend on for a sense of security.

Cartesian categories are dependent upon the distinction and differences between concepts (Deleuze, 1990:155), and the multiplicity of interpretations that *Uncertainty* invited and presented blurred the certainty of hierarchical categories. Snaebjörnsdottír/Wilson's work reflects on the "interdependency of different agents" (Wilson, 2012:120), in other words a multispecies assemblage within the urban milieu. In these multispecies assemblages, nonhuman species and humans are perceived as co-existing entities that are responsive to each other. The artists accept the messy, reciprocal ways of what Haraway (2016) terms "making kin" in a network of alliances in which humans are

but a part of the web of life. In relational artworks such as *Small victories* and *Uncertainty,* multiple human and nonhuman relations are implicated, activated and presented over time by means of the artwork and can be considered an assemblage of connectivity and conflicts.

2.4 Assemblage as a connective/destabilising practice

Deleuzo-Guattarian assemblage theory provides a framework for forming linkages between different components while retaining the individual functions of each entity (DeLanda, 2017) and can be linked to relational aesthetics through its processual, contingent and open-ended characteristics. In this section, relational artworks are considered as forms of assemblages that can enable cohesion between fragments and present multiplicity through perpetual processes of interaction (as discussed in Chapter One). As an artistic approach, assemblage tends towards openness, suggesting rather than dictating meaning and retaining ambiguity through the loosely conceived unity between different parts, where the relationship of these parts to each other, to their original "wholes" and to previous and current environments are all of importance. Assemblages accentuate process and allude to how subjectivity emerges as a result of a "changing set of relations" (Dezeuze, 2008:32). Assemblage sculptures are often intentionally "unfinished" to extend the idea of chance encounters between their various components (Kelly, 2008), with fragments co-opted from other environments and assembled into sculptural forms. As such, fragmentation augments the process of assemblage and consequently suggests that the artist may have separated, broken or torn off a piece from an integrated whole. Fragmentation denotes a practice of taking apart, which can be a destructive or analytical undertaking but also implicitly suggests a process of assembling, as the fragment always becomes part of another form or environment.[115] Fragments that form part of the assemblage must maintain their integrity, such as a history of use or recognisable functionality, to generate those associations for the viewer. Through its disconnection from an existing set of relationships, a fragment is free to join another set of relations, and assemblages that resist easy synthesis invite the viewer to imaginatively combine different

[115] Fragmentation is closely associated with abstraction, modernity and alienation, and the fragment features as a device in innumerable contemporary art practices.

constituent meanings into a whole, the diverse and distinct components communicating through their varied subjective associations.

As with collage, the inclusion of found objects and non-traditional art materials in assemblage was at first a transgressive impulse aimed at broadening narrowly defined artistic genres and diminishing the hierarchy between high art and the mundane.[116] Diverse art practices, including relational art, reflect the transgressive impulse of assemblage, where the process of gathering, choosing, cobbling together and making that the artist engages in becomes a "model of engagement with the world" (Dezeuze, 2008:31). These actions, when employed conceptually without necessarily resulting in a pieced-together object, still adhere to the qualities of assemblage and are a form of *bricolage* (Dezeuze, 2008; Kelly, 2008).[117] Art historian Anna Dezeuze (2010:50) compares the practice of the *bricoleur,* who creates with mundane materials (often discarded on the street), with the creation of open works that combine "visual, verbal and auditory elements" already in existence. Open-work artists of the 1960s selected their materials from the detritus of cultural production (Dezeuze, 2010:50), and there was an urge in the practice of Fluxus artists such as George Macuinas to disperse of artistic authority by creating "a concept or a method" that allowed audiences to recreate artworks (Dezeuze, 2010:51). For Dezeuze (2010:54), participatory practices follow this directive towards open-endedness, and relational artists can be considered *bricoleurs*. The provisional communities envisioned by Bourriaud (2002) and Kester (2004) are created by bringing together social groups from diverse societal sectors or bonding individuals through shared experiences. Relational artworks, like sculptural assemblages, address a hierarchy between the elevated realm of cultural connoisseurship and everyday lived experiences. As the artworks are conceived within limited time-frames, attachments are made in fleeting encounters and when societal boundaries are crossed or individuals are purposefully engaged in an activity.[118]

Figure 28 Small victories *in progress*.

Figure 29 *A* Small victories *contributor holds a drinking mug depicting another participant's minor achievement.*

Relational artworks reveal a similar process-orientated structure to assemblages that are emerging spatial and material configurations with a social or affective dimension. Participatory artworks enact a process of combination, where the human and nonhuman actors, objects, situations and ideas involved accomplish an assemblage. In assemblage theory, all entities are considered to be groupings of heterogeneous parts that have temporarily combined into an unstable unit (Deleuze & Guattari, 2004:290), similar to the process of chemical synthesis, in which two (or more) elements combine to form a new substance (DeLanda, 2017). Assemblage thinking provides a means through which to consider the temporary communities that form during relational art events as moments of synthesis: assemblage thinking frames the newly formed entity, here envisioned as participants at an art event, as never static, in a precarious unity. The process of synthesis that occurs when participants form temporary bonds can be described as a distribution of energies that stabilises the assemblage by connecting and holding individual elements in place (DeLanda, 2006:18-23). These energies can also work against the unity of the assemblage by destabilising or disintegrating its formation, however, allowing other entities to join and form new constellations. These stabilising and destabilising energies are represented as a continuum between processes of territorialisation and deterritorialisation (Deleuze & Guattari, 2014:587).[119] Due to the internal processes that designate a movement towards stability or decay, assemblages are always mobile and precarious, forming connections and disconnections over time.

[116] The combination of disparate fragments in collage, for example in Cubism, transgressively combined everyday materials with high art on a single canvas (Frascina, 2014). Cubist assemblages were influenced by African art practices that made use of found objects, such as Baining masks and Congolese nkisi or "power figures" (Kelly, 2008:24).

[117] The French word *bricolage* originates from the verb *bricoler*, "'to make provisional repairs', which later became associated with 'do-it-yourself'" (Kelly, 2008:26).

[118] During *Small victories* events, the knot of people gathered around my tea trolley sometimes functioned as a harmonious system, with participants organising pens and paper according to an informal order and patiently waiting their turn to scribble their contributions (Grobler, 2014:69).

[119] DeLanda (2017) provides a visual analogy of the two axes proposed by Deleuze and Guattari, in which the axes are likened to the volume knobs on acoustic instruments. These variables can be adjusted at any time to either side, allowing for changes over time (territorialisation/deterritorialisation; content/expression). DeLanda added another axis (genetics/language) to allow for more subtle coding and decoding.

By comparison, a relational artwork's physical location and duration can be understood as a process of territorialisation: as relational interventions are dependent upon social processes of connection that determine whether viewers/bystanders will participate and form assemblages, the artworks are similarly unstable and mobile. It is through their mobility and instability that relational artworks present a challenge to hierarchies.

Assemblages are arrangements of embodied and dynamic relationships. As in sculptural assemblages, when individual elements are meshed together to form conceptual assemblages, each element of the conceptual assemblage can retain its individual characteristics and is defined by its "capacity to be affected" and through which it articulates itself (Deleuze, 1990:217; Deleuze & Guattari, 2014:300). Deleuze and Guattari draw from Spinoza's monistic theory, which defines bodies as "compositions of relations", and in which singularities maintain their power to affect and be affected (Deleuze, 1990:218). These capacities are articulated on another axis, or continuum, according to expression or content (Deleuze & Guattari, 2014:586). In social assemblages such as one-on-one conversations, both the content and expression of the discussion can be articulated through bodily gestures, enunciation and the selected topic (DeLanda, 2006:19-20). In *Small victories,* the multiple perspectives gathered during the events can likewise be conceived of as narratives with affective capacities. Even as an assemblage is a singularity, its components can still exercise their capacities, which explains why the whole does not become the sum of its parts (DeLanda, 2006:17-18). When assemblages form, the capacities of the various components remain unknown until they are articulated durationally and in response to interior (within the assemblage) and exterior affects (DeLanda, 2006:17-18). In keeping with assemblage thinking, the anecdotes from *Small victories,* displayed on drinking mugs or gathered into books, can be thought to have retained their affective and dynamic capacities, as these were not automatically subsumed within the larger conceptual assemblage. Instead of an aggregation of properties or merging of parts, assemblages present an exercise of capacities with "relations of exteriority" (DeLanda, 2006:17-18) that can be enacted or remain inactive until the components establish new relationships, and it is this uncertainty that allows for continuous complexity in assemblages.

Conceptual assemblages follow the "acentered, non-hierarchical, non-signifying" structure of rhizomes, in which all the components can interact and form connections to each other (Deleuze & Guattari, 2014:21-22,307). Inspired by Spinozism, which posits that all beings are equal, the inanimate and animate combine in assemblage theory to create a singularity (Deleuze, 1990:167, Deleuze & Guattari, 2014:306). DeLanda (2006:35-36) describes assemblage theory as a flat ontology in which each component is given equal importance; in such a non-hierarchical conglomeration, intangible aspects crucial to establishing and maintaining relationships, such as emotions, affects and experiences, are given credence too. As assemblage thinking allows for considerations of material properties and affective capacities, it can be applied in ways that "allow us to think outside of dualistic modes of perception to focus on the present as emergent" (Kennedy et al., 2013:46). Due to its open-endedness and in acknowledgement of its capacity to reveal relationships and urge a reconsideration of boundaries, assemblage can be seen as a "productive theoretical tool" (Kennedy et al., 2013:63).

Figure 30 *Mark Wilson conducting an interview for Snaebjörnsdottír/Wilson's Radio Animal.*

Relational artworks, considered here as assemblages, can give form to the crossing of margins and assist in destabilising categories. In *Uncertainty,* the artists declared that their aim was to articulate multiple relationships and to retain a sense of tension between different perspectives. Conceptual categories of what constitutes pests, vermin and prey formed part of the assemblage of participants, viewers, mobile radio station, nonhuman species, the city of Lancaster and the artefacts produced. Snaebjörnsdottír/Wilson united all these elements through various media and methods and attended to the expressions enacted through *Uncertainty's* assemblage without attempting to cohere the different strands of thought that constituted interspecies relationships into a unified whole. In the various accounts of non-expert and expert opinions presented in *Uncertainty*

("from a man who feeds pigeons, to pest exterminators"), it was clear that one person's urban wildlife was another person's vermin (Broglio, 2011:79). The fluidity and ambiguity of distinctions between categories enabled processes of deterritorialisation that lessened distinctions and allowed for contamination between ideas. *Uncertainty* was presented as a process, and the artists can be considered the curators of these multiple relationships between human and nonhuman species, between participants and artists and between artefacts and future audiences. In this way, *Uncertainty* and other relational artworks unsettle limits and allow audiences to see the potential in new alliances between species. In *Uncertainty,* the artists created a space in which audiences could re-evaluate human and nonhuman species relationships and established classifications by giving access to contradictions, conflicts and counter-narratives.

The rhizomatic mode in which the artists presented their work accentuated the shifting and tentative nature of relationships, and the ideas that circulated in *Uncertainty* could be extracted from different visual, verbal and audio "access points"; one need not access the exhibition to make sense of the workings of the mobile radio station. Such tactics demand an investment from the viewer/reader/listener to assemble the narratives and information in a dialogic process of sensory engagement.[120] This activation also occurred in *The Visitor Centre*, in which I provided the raw material for audiences to assimilate but allowed for conflicting views to co-exist in the recorded responses of people with different orientations to nonhuman species. Audiences who engage with the work must draw their own conclusions by synthesising the information available, which may induce anxiety or stress because of the many possibilities to consider.[121]

The stable categories implied by Cartesianism conceptually fragment nonhuman animals into human-determined entities with designated functions within particular social worlds (Broglio, 2011:79). By confining an animal to a category determined by its species and dominant cultural associations, humans control and reduce the animal to its generalised qualities (Ingold, 2012). To combine all the different views of a particular nonhuman species is impossible, as categories such as pest, pet and prey

[120] Even the book publication, which followed the format of a field guide, was designed to contradict the reader's expectations of an expert, coherent position on the subject (Wilson, 2012:109-111). Images consistently placed on the right-hand side of the page (as in a field guide) were arbitrarily chosen in relation to the text on the left-hand side of the page.

[121] The tension experienced by people who perceive pests as a threat are perhaps echoed in the audience's reception of the work and can be considered as emerging affects of the artwork.

are ultimately irreconcilable, but artworks such as *Uncertainty* unsettle the conditions that determined these categories and offer audiences an opportunity to re-examine their predetermined, habitual responses to nonhuman species. Prominent anthropologist and scholar in human-animal relations Tim Ingold (2012) proposes that by perceiving the nonhuman animal as a living being engaging with the world, the limitations imposed on it by human categorisations can be reversed: an animal comes alive in its particular context, in the relational world that it inhabits and where it can thrive. In the Deleuzo-Guattarian notion of "becoming", a nonhuman animal "spills out into the world", as it is no longer defined by its name but by its capacity to act (Deleuze & Guattari, 2014:300, Ingold 2012). As assemblages, relational artworks resist a unified synthesis and emphasise the durational and emerging properties of each constituent, including the nonhuman species that are evoked through the conversations – as demonstrated in my own work, *The Visitor Centre*. Within assemblages, nonhuman entities can activate relationships and perform affective capabilities, while relational artworks reveal that conflicting views of nonhuman species exist concurrently, and, through their destabilising and connective energies, these artworks provide a method through which fragments can be reassembled to create a sense of the whole nonhuman animal.

2.5 Telling stories to reveal a web of relations

The various opinions and anecdotes collected by artists and presented in artworks can be considered within a practice of storytelling. In *Uncertainty* and other relational artworks, artists gather stories to reveal and interpret multispecies relationships. As imaginary tales, stories can open up worlds of possibility and, by subjectifying nonhuman species, encourage listeners to proceed with care. In his book *The storytelling animal* (2012), Jonathan Gottschall describes humans as "fictional animals" whose lives are so saturated with stories that we struggle to identify fiction's hold on us, and the practice of telling stories can be linked to a narrative tradition of exploring and figuring the bond between human and nonhuman species.[122] The kinds of storytelling helpful for finding opportunities beyond a world view predicated on rational, instrumental thinking engages with fictional, imagined worlds. Haraway (2016:2) formulates a "speculative fabulation",

[122] Humans and nonhuman animal lives are intertwined in typical children's stories, from those populated with animal characters to the folk tales and myths of different cultures (Ingold, 2012), but storytelling traditions millennia old have been usurped by advertising, sports, music, film and gaming in a Westernised world (Gottschall, 2012).

or SF, as "science fiction, string figures, speculative feminism, science fact, so far" and draws on the traditions of First Nations people who blend fact, fiction, myth and history to describe the world they know (Nadasdy, 2007). Speculative fabulation engages with fact and fiction in "the patterning of possible worlds and possible times, material-semiotic worlds" of the past, present and future (Haraway 2016:31).

Telling stories reveals the narrator's involvement in multispecies worlds and can be understood as a strategy for stimulating an ethic of care. Narratives can reflect experiences of embodied empathy and offer particularised insights into nonhuman animal lives, which may bring nonhuman subjectivities to the fore. Such stories transmit forms of experiential knowing, of learning from the world, and can be related to oral knowledge systems as found in African societies, where knowledge is shared and revised through stories, oral histories, myths and legends.[123] Myths are flexible and bound to adapt in response to changes in the environment, as in the VhaVenda tradition in South Africa, where traditional healers would monitor local fauna and alert the chief when they noticed a particular species becoming vulnerable through overuse (Mutshinyalo & Siebert, 2010:155).[124] A myth would be formulated to limit use of the plant and thereby protect the species, aiding the conservation of biodiversity and ecosystems (Mutshinyalo & Siebert, 2010). This example demonstrates how fact and fiction can be knotted together to affect undesirable behaviour and can be considered an example of scholar in feminist science studies Martha Kenney's (2013:2) "fables of attention" that are able to focus people's attention on a particular species. In the same way, artists devise creative "fables" to encourage practices of attentiveness and to discourage undesirable behaviour.

As narratives surface the emotional aspects of relationships, they may encourage empathy from the listener or reader. In *Uncertainty,* each narrative was marked by hints of "fear, of joy, disgust, bewilderment or awe" in what the artists recognised as the shock or thrill of that particular encounter (Wilson, 2012:103). As such, audiences can share in the "emotional qualia" that these experiences provoked in the narrator (Donovan, 2016:97). The artists' role as mediator of subjective narratives was highlighted in another exhibition by Snaebjörnsdottír/Wilson titled Trout fishing in America and other stories (2015), which focused on the politics of extinction.[125] The accompanying publication *You must carry me now: the cultural lives of endangered species* (2015) documented conservation efforts to reintroduce the California condor and the humpback chub (a species of fish) into the Grand Canyon ecosystem in Arizona, USA. Snaebjörnsdottír and Wilson (Brown University, 2016) were surprised to learn that condors, after release into the "wild", ended up spending long stretches of time in poison rehabilitation centres.[126] As the birds were likely to end up in rehabilitation more than once, the same scientist was likely to treat an individual bird intermittently over a number of years, thereby establishing relationships with the condors in their care. Sadly, however, after a number of years in the wild many of the released condors died from accumulated poisoning, and many of the scientists conveyed the deep sense of loss they felt when a condor under their care died. As the narrators brought their own subjectivity to the tale, their stories anchored the actors and storytellers together: the artists, in turn, were affected by these narratives of loss that disclosed an aspect of the relationship between scientist and research subject not well known or documented. Wilson (Brown University, 2016) points out that "these stories had nowhere to go", as the typical data capturing of scientific research disregards the scientists' emotional experiences. After these stories had been gathered, the artists had to determine how to communicate these entangled relationships, often obscured by binary categories or scientific regard for objectivity, to a broader public.

Figure 31 *Snaebjörnsdottír/Wilson,* You must carry me now, *photograph and text; condor 232: "You know what hits me more than anything is not just the carcass – some of them you can recognise – I remember holding that bird…".*

[123] Appreciation for a "common people's knowledge (popular or folk science) based on practical reason and communicative sociability" can also be found in earlier knowledge traditions in Western culture (Fals Borda, 1997:109).

[124] In African oral traditions, myths, folk tales, superstitions and taboos are known to assist in the conservation and management of the natural environment (Colding & Folke, 2001:584; Izidine et al., 2008:385). Social taboos are often the means through which indigenous knowledge is communicated to conserve and manage species and habitats, with some taboos specifically working towards preservation of habitat and the protection of vulnerable species (Colding & Folke, 2001:596).

[125] In this exhibition, Snaebjörnsdottír/Wilson's relational work placed conservation practices in the spotlight and again revealed a web of relations fraught with inconsistencies and contradictions.

[126] Concerted efforts to save the condor have resulted in focused breeding programmes, but many condors released into the wild from such breeding programmes are still dying at an alarming rate from lead poisoning, as the carrion they feed on is often riddled with lead bullets from hunters. Once ingested, the lead seeps into the condor's bloodstream, poisoning them slowly, painfully and fatally (Brown University, 2016).

In the logic of an assemblage and in art, the individual elements of an assemblage tell their own stories. Narratives are components with an expressive role that trigger emotional responses from narrators, readers and listeners, and through stories, narrators and listeners are able to form linkages and reveal relationships where the conceptual merging of an animal with its environment is a process of assemblage. Oral traditions can be considered as cohered fragments assembled by the bricoleurs who reappropriate material from disparate sources (Hofmeyr, 1994:160). Stories from the aboriginal societies of the Ojibwa of North America and the San of southern Africa reveal the world as a precarious and ever-changing assemblage: in Ojibwa stories, nonhuman animals offer guidance to humans, as both co-exist on the same social plane (Ingold, 2012; Nadasdy, 2007), while for the San, human and nonhuman species traverse boundaries to enter the spirit world (Lewis-Williams & Pearce, 2004).[127] Telling stories about nonhuman animals can rekindle these mythical aspects and accentuate the contingent and processual in relationship formation.

[127] For the Ojibwa, animals are considered people who conduct reciprocal relationships with humans. Nadasdy (2007) argues that this position should be taken seriously to challenge Western dominance and to establish interspecies relationships that acknowledge nonhuman animal agency.

Relational artworks such as *You must carry me now* and *Small victories* provide "everyday storytellers who are not professionals or writers" with an outlet for their stories that can provide enriching accounts of "speculative fabulation, SF" (Fabbula Magazine, 2016). Stories told by mothers and fathers to their children, or recollections of events shared between friends, are world-making "speculative fabulation, SF" (Fabbula Magazine, 2016). In recognition of the inventive potential of every person, Joseph Beuys' social sculpture was predicated on the belief that everyone can remake their lives creatively, and both Beuys' and Haraway's approaches acknowledge the creative and subversive role of the audience, who are often deeply invested in the contributions they offer (Grobler, 2014). The observant narrators, participants and artists who gather stories can thus become the proponents of these alternative worlds.

When considering the role of the artist to mine stories from participants, it is worth recalling Baker's (2000:41) defence of the amateur, the position artists assume to subvert "expert" formulations of categories and rule-based limitations; someone outside the sphere of professionalism can

entertain multiple possibilities, and artists negotiate disciplinary boundaries and appropriate from numerous spheres, as reflected in the bricolage mode of relational artists. As stories draw on the audience's embodied perceptions, artists can intervene to circumvent an over-reliance on quantified knowledge and hard facts. In art, fiction can be understood as a performative element that proclaims something to be so that it might exist. Keeping step with storytellers requires the curiosity necessary to invite the other possibilities that fiction allows for, and storytelling is a practice of worlding: a manner of thinking and a manner of making.

2.6 Moral responsibility and care in relational art

In this section, I discuss the approaches of a number of artists who incorporate living organisms in their artworks, and I assess whether these participatory works advance an aesthetic of care by enacting compassion towards nonhuman species (as described in Chapter One). Artists may have the requisite tools to attend to nonhuman animals in their complexity and liveliness through their work, but for many artists the burden of moral responsibility is deemed too prescriptive and restrictive. Often, artists approach nonhuman species to achieve a constructed response from audiences, as simple subject matter in the service of art. Drawing on the historical avant-garde, artists still use strategies of "shock, attack and dislocation" to create rupture for the viewer (Kester, 2004:26, 27) and prepare audiences "for the nuanced and sensitive perceptions of the artist", which were then levelled as a criticism of societal norms. Frequently, avant-garde artworks drew attention to the viewers' own complicity in the increasing objectification and rationalisation of the world, and Kester (2004:25) argues that avant-garde artists offered their societal critique as a "resistant subjectivity" that was somehow separate from bourgeois society and untainted by capitalist workings. Contemporary artists are still inclined to approach their audience as "hapless dupe[s]" entrapped within societal power structures who eagerly await the expository skills of the artist (Kester, 2004:153). As a method that leads to a revelatory message, artists will go to great lengths to shock audiences, and by incorporating live nonhuman species in their artworks, artists set the stage for emotional responses. As upholding a moral position may at times mask a conserva-

tive, discriminatory ethic and limit the parameters of art, artists tend to resist modulation of their creative expression (Baker, 2013:2). Care aesthetics thus produce a tension between radicalism and conservatism, where artists' ethical behaviour can be perceived as weakness and their creative expression as self-censorship.

Figure 32 *Bronwyn Lace,* 77/21, *performance at Parking Gallery, 22 June 2006.*

If art is indeed a powerful tool that can be used to achieve social change, then its disruptive, antagonistic qualities must be valued as important instigators of change. In contemporary considerations of animals in art, the "networked" animal, embedded in cultural, historical, emotional and symbolic values, can easily be usurped by the artist's desire for recognition and/or creative expression (Aloi, 2012; Baker, 2013). Bronwyn Lace's goldfish performance *77/21* (also referred to as *Float*) (2006) and Marco Evaristti's goldfish-in-a-blender work *Helena* (2000) were meant to highlight a failure in the audience to respond appropriately rather than to be artworks that were particularly cruel or offensive.[128] Lace snipped away at a web-like structure of strings supporting a goldfish in a fishbowl; when enough strings were cut, the fishbowl smashed to the ground and the fish was left to die (Lace, 2014). Evaristti presented live goldfish in Moulinex blenders and invited the audience to press the button that would annihilate a fish. Evaristti groups people into three types: the "sadist" who pushes the button, the "voyeur" who fails to act and the "moralist" who chooses ethical targets but loses sight of their own entanglement in global social injustice (Evaristti Studios, 2019; Frank & H-Animals Readers, 2008:32). In response to vehement critique of the work, Evaristti stated that far worse atrocities are committed against humans and attract less attention than his artwork (Frank & H-Animals Readers, 2008:32). Where Baker (2013:16-17) seeks to evaluate the artworks on merit, this thesis argues against artworks that appear indifferent to nonhuman species: by shifting moral responsibility onto the audience, the artists deflect their own moral responsibility and condone the objectification of nonhuman species, with a cruel outcome. As courting controversy is a familiar strategy for artists, sensationalist work is often the result of a careful, deliberate strategy to attract media attention and public interest (Broglio, 2011:15-17).

[128] *Helena and El Pescador* was an installation at the exhibition Eye go black (2000) at the Trapholt Gallery in Copenhagen and included a photograph of the artist blindfolded with combat trousers around his ankles (Evaristti, 2019), while *77/21* was performed at the Parking Gallery in Johannesburg (Clements, 2016).

These artworks demonstrate a lack of care and empathy on the part of the artist rather than the audience's moral dilemma. Care aesthetics follow from an artist's own corporeal engagement with nonhuman species, where careful attention and responsivity towards the other allow for empathy and care (Donovan, 2016). Through receptive attention, a sense of emotional connection can form with the other (Noddings, 2010), and in care aesthetics, nonhuman species are presented as subjects. A sense of multispecies connectivity might have translated into different outcomes, but in these examples, emotional bonds were not established between the artists and the goldfish. Evaristti used goldfish "…for its beauty and for the minimum demand of care" (Frank & H-Animals Readers, 2008:32). An empathetic failure can occur when people detach their empathetic capabilities in order to serve their own needs (Gruen, 2015:93), but such a failure can be remedied by acquiring more information about a particular species and exerting the moral effort required to form attachments (Gruen, 2015:92, 94; Jenni, 2016). While there is room for antagonism in art and for negotiating contentious terrain, the maltreatment of animals in the service of art should be considered empathetic failures that cannot be masked by sophisticated counter-arguments, as animals do not have agency or choice in such an unequal relationship.[129] The empathetic failure in the work of Evaristti and Lace occurred during the creative conception of the work, *before* the audience's failure to respond, as both artists conceived of a work in which the fish were condemned to death when the audience was still only an imagined entity.

Figure 33 *Marco Evaristti,* Helena *(2000), installation at Trapholt Gallery.*

[129] Peter Meyer, director of the Trapholt Gallery, where the work was first shown, killed two fish during the exhibition run. Meyer argued for Evaristti's artistic freedom and was absolved from a fine imposed by Danish police for animal cruelty, as a Danish court found that the fish died "instantly" and "humanely" (BBC News, 2003).

Relational artists follow a different approach to the revelatory impulse, as their work commences with dialogue that can develop through collaborative interactions into more convivial outcomes (Kester, 2004:24). Lucy Kimbell's (2011:78-79) work *One night with rats in the service of art*

(2005) evolved from conversations with rat fanciers and scientists who conduct experiments on rats, as well as from research on rats. The artwork was conceptualised to replace *Rat evaluated artwork* (REA), an earlier proposal that Kimbell eventually discarded,[130] opting instead for a rat-friendly artwork, one of gentle coercion that would respect their interests and welfare. *One night* was a relational artwork in which pet rats, ratters and humans mingled for a one-night-only performance lecture and rat fair, which presumably suited the nocturnal rats but perhaps not the humans (those who missed the one-off event). Whereas the REA would have involved keeping the rats hungry and using food treats to entice them to explore a maze (Kimbell, 2011:88), *One night* was developed with the rats' lifestyles in mind. Like other dialogical artworks described by Kester (2004:24), *One night* was determined by the artist's capacity to listen and was developed through conversation and reflection. Kimbell investigated rats within opposing frameworks: as pets and as laboratory animals, and she came to experience these different worlds viscerally, her explorations going beyond abstract calculations. In the world of rat fanciers, rats are named and cuddled and "crawl down your shirt or into your cleavage" (Kimbell, 2011:83). There is a stark contrast in the relationship between scientists and their research subjects, where live rats are ordered as "animal models", reiterating their status as generic and expendable (Kimbell, 2011:83).[131] Kimbell (2011:79) conceived of the *One night* interactions as aesthetic investigations that allowed her to bring the emotional and ethical aspects of human-rat relationships to the fore through practice.[132]

Figure 34 *Lucy Kimbell,* One night with rats in the service of art *(2005), performance lecture and public intervention.* Is your rat an artist? *drawing competition at the rat fair, Camden Arts Centre, London.*

Following an ethic of care can shift the outcomes of creative practice and direct artists to think creatively and compassionately about nonhuman

[130] Kimbell (2011:77) first envisioned the REA as a maze structure "with many tubes and wheels" in which rats would make aesthetic choices. The work was to be installed in a gallery, with live rats in the maze, but Kimbell came to realise through her conversations with ratters and scientists that the REA would place the rats under stress, as rats are nocturnal creatures and would not enjoy the scrutiny, glaring lights and daytime schedule of the gallery.

[131] As Snaebjörnsdottír and Wilson revealed, scientists can form a bond with their charges, but the laboratory environment is neither conducive to nor supportive of the development of emotional bonds between research subject and researcher.

[132] Kimbell (2011:89) draws on Rancière's concept of the aesthetics through which art can challenge normative values and perceptions.

species. An ethical stance might determine that one should not involve live animals in art at all, but Kimbell became fond of rats by paying attention to how their life worlds intersect with human worlds. While the correlations between increased knowledge about a particular species and more tolerance for that species are intricate and difficult to predict (Kellert, 1993; Kortenkamp & Moore, 2001; Serpell, 2004), it is certainly the case that attunement to a subject's disposition is entwined with an emotional response such as empathy and a preparedness to care (as discussed in Chapter One). Kimbell's ethical stance moved her towards a position of care, and engaging the rats' subjectivity in the work countered the instrumentalised use of animals in art and science.

Figure 35 *Lucy Kimbell,* One night. *Rat beauty parlour at the rat fair.*

One night can be considered within the realm of care aesthetics, as the work presents the artist's empathetic regard for rats as informed by embodied encounters. Rat fanciers adapt to rats as corporeal, "excessive" animals[133] and develop tacit knowledge of their behaviours and subjectivities (Kimbell, 2011:82), and *One night* explored the embodied communication between rats and ratters. The work was conceived of as a means to unsettle hierarchies of knowledge and as a means to enlarge the realm of aesthetics, in the mode of Rancière (Kimbell, 2011:89). "Owners" of pet rats were invited to bring their rats to the fair in an evening of pro-rat activities such as a rat beauty parlour, agility test and rat face painting for humans (Kimbell, 2011:86).[134] The proposition of rats "drawing" with their bodily movements was mapped to their inherent curiosity and intelligence, and *Is your rat an artist?* provided an

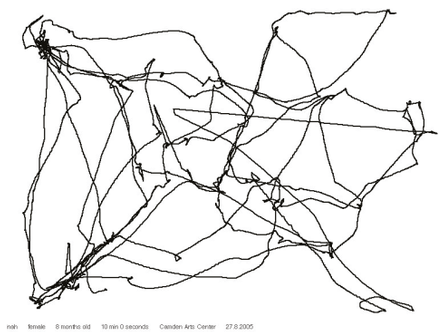


Figure 36 *Lucy Kimbell,* One night. *The winning work of* Is your rat an artist? *by Dinah, an eight-month-old female rat.*

[133] For Kimbell (2011:82), rats are excessive due to their preference for profuse quantities of food, their insatiable sexual appetites and their desire for physical interaction.

[134] Other contributions included Maximillian's Pet Shop, an opportunity to design and race your own RoboRat, a memory test for rats and an advice "corner" (Kimbell, 2011:86).

opportunity for rats to "draw", with their spatial movements digitally recorded and mapped via a computer interface and digital software (Kimbell, 2011:86).[135] The rats preferred to stay close to humans familiar to them, so the proximity of rat "owners" and bystanders affected the rats' explorations, and thus the drawings. *One night* visualised the embodied knowledge and kinaesthetic communication shared between rats and humans, aspects present in empathetic relationships.

Figure 37 *Adam Zaretksy and Julia Reodica,* Workhorse zoo *(2002), public intervention at Salina Art Centre.*

It is evident from Kimbell's contemplation of the process leading up to *One night* that she wanted to share with a wider public the intermeshed worlds of rats and pet keeping that had brought her closer to rats. In comparison to Evaristti's and Lace's works, Kimbell's ethical approach made the animals more than mere material for the work and did not sanction animal distress. Kimbell's tonic to human-centred art was to provide a phenomenological experience of positive human-rat relationships in which emotional bonds and reciprocity between rat owners and their rats could be visualised and felt.[136] While the use of anthropomorphism in art may often be questionable, in *One night* it was a considered strategy that enabled pro-rat sensibilities to develop in the human participants.

Artists Adam Zaretsky and Julia Reodica's *Workhorse zoo* (2002) highlights the implications of multispecies co-existences that are a common interaction between organisms. Where Kimbell's work drew on proximity and subjectification, Zaretsky and Reodica's work presented an assemblage of multispecies life worlds and their affects. The artwork was presented during the SymbioticA *Aesthetics of care?* symposium held in Kansas, USA (2002), where the value and ethics of incorporating living entities into artworks was debated, with particular consideration of the proliferation of artists using biotechnology and laboratories-as-studios. The issue of the artists' responsibility towards nonhuman species in their care was raised, but the most compelling discursive thread was the paradoxical position of how an artwork could raise contentious issues with or without implicating the artist in the processes being critiqued. *Workhorse zoo* draws attention to the myriad of inoperable and restrictive forms of compassion and care that humans selectively apply in various social situations (Zaretsky, 2002:85). The artists lived for a week with eight most-studied organisms in molecular biology (humans and selected species of bacteria, yeast, plants, worms, flies, fish, frogs and mice) in a glass-house at the Salina Art Centre and invited the public to engage with the ethics of "multispecies housing" in the context of popular culture, science, art, religion and ecology (Zaretsky, 2002:89).[137] The artists avoided the subjectification of the other inhabitants of the multispecies zoo, instead letting the predator/prey and symbiotic relationships play out. The frogs *(Xenopus laevis)* ate the zebra fish *(D. rerio)*, the humans ate the mice *(M. musculus)* and nearly everything else, and the worms *(C. elegans)* devoured the excrement of all the species. The species were placed on an equal footing, although the humans were empowered to decide the fate of individuals. In ordinary zoos, these common behaviours are sanitised by separating species and feeding nonhuman species meals that are culturally accepted, often after visiting hours. Similarly, in lab environments, multispecies environments are discouraged and even prohibited.[138] Although *Workhorse zoo* presented a controlled environment, the organisms interacted with each other as they wished, establishing a sense of nonhuman agency, more so than in *One night,* where the rats conformed to human-centred categories and measurements.

Figure 38 *Adam Zaretksy and Julia Reodica,* Workhorse zoo. *Preparing a* Xenopus *frog for human consumption.*

In *Workhorse zoo,* multispecies relationships played out in public and posed challenging questions to viewers/visitors. The event was streamed live on TV and daily visitors to the art centre became part of the multispecies network by handling the mice and frogs and consuming the yeast (brewed into beer) and, at times, cooked mice with the artists (Zaretsky, 2002:88, 92-93). Zaretsky and Reodica's approach was not to garner empathy for the species housed within the "clean room", but rather to pose

[135] The digital mapping system was collaboratively adapted from the Morris water maze, a "behavioural procedure to test rats' spatial ability" widely used in experimental psychology (Baker, 2013:55). The Morris water maze consists of a submerged platform in a container filled with water and is used in a laboratory to test rats' ability to locate the submerged platform after receiving medication such as receptor blocks (Baker, 2013:55).

[136] Kimbell (2011:83) discusses how rats have trained their humans to acquire more rats, and how their inquisitiveness and appeal to humans have ensnared humans to their needs.

[137] The work was part of the exhibition Unmediated vision, curated by Stacy Switzer (Zaretsky, 2002:85). During the first week of the exhibition (26 January-3 February 2002), Zaretsky was a permanent resident of the glass house (dubbed the "clean room"), whilst Reodica spent interrupted periods of time there. Thereafter, the humans left and the nonhumans species co-habited in the space for a further seven weeks (Zaretsky, 2002:87, 89).

[138] This was cited as the main concern of the Animal Care Committee at the University of San Francisco, who rejected Zaretsky's proposal to present the work on the campus (Emutagen, n.d.).

questions to the audience that contrasted popular opinions and beliefs. In an "aesthetic simulation of vertebrate food chains" (Zaretsky, 2002:94), the artists also courted controversy by eating nonhuman species in a bid to air the interwoven complexities of animal ethics and welfare selectively applied in laboratories and food industries. *Workhorse zoo* points to the difficulty of formulating a moral-ethical stance when dealing with subjects as individuals and species-representative, interacting across varied contexts.

Kimbell's and Zaretsky/Reodica's works are very different and present considerations of human and nonhuman relationships that are, at face value, incompatible. The multispecies worlding presented in *Workhorse zoo* is not predicated on a moral incentive for a better world, and it evoked a sense of desperation and erratic behaviour similar to a zoo or elements of the reality TV show *Survivor,* with creatures caged in forced co-habitation (Zaretsky, 2002:88). It reflected living in all its complexity, albeit in a clinical, lab-styled setting, where predation was allowed, even whilst care was purposefully administered to keep the nonhuman species alive. Conversely, Kimbell's work displays features of care and reflects her ethical position, but the artifice of the environment, a rat fair for and with domesticated rats, again presupposed an anthropomorphic world. The manner in which audiences *responded* to the works suggests that *One night* fostered interspecies connectivity, while *Workhorse zoo,* despite critiquing biomedical practices, retained some of the distancing effects encouraged by a lab setting.[139] Focusing on biocentric multispecies assemblage is a cogent strategy for avoiding anthropocentrism, but in practices of care the emotional dimension of relationships with nonhuman species is of importance, and artworks that subjectify nonhuman species are more likely to initiate a caring and empathetic response from audiences.

[139] Proximity was at times encouraged so that visitors could pick up and handle some of the model organisms, connoting the desired process of subjectification.

Figure 39 *Adam Zaretksy and Julia Reodica,* Workhorse zoo. *"Demented naturalists".*

Art allows for the easy solicitation of subjective and embodied responses from audiences, as it addresses the viewer's body directly. The basis of care aesthetics is that bodily and emotional connections to an artwork lead to empathy and care for the artwork's subject. Snaebjörnsdottír/Wilson, Kimbell and Zaretsky/Reodica explored ways to establish and develop bonds between humans and nonhuman species and to challenge predetermined values and categories assigned to nonhuman species, working to enlarge the sphere of human concern and to include nonhuman species within the social web. Relational art and assemblage thinking bring relationships to the fore and counteract the fragmentation that occurs when life is parcelled out into discrete species-bound categories. Where binary thinking sets limits, assemblage offers a means to access other possibilities by emphasising complexity, process and contingency, and relational art allows for the hierarchical relations between human and nonhuman species to be reconstituted through embodied and collaborative audience interaction.

Natural history museums present a less flexible approach to change: where art offers a comparatively unrestricted opportunity for creative exploration, museum modes of display are more closely bound by established conventions. However, new modes of display can be designed to stimulate an ethic of care towards nonhuman species, with changes in perspectives on subjectivity and the impact of participatory ontologies expected to lead to subtle changes within the museum environment. Visitor participation can shift the manner in which nonhuman species are perceived, as phenomenological experiences elicit attachment to nonhuman species as subjects. I have argued that nonhuman species representation in natural history museums perpetuates a mindset based on their use-value to humans, but in the following chapter these expectations are tested by the investigation of a specific local museum. In particular, the orientation of this museum towards its visitors and their embodied experiences is evaluated against the influence of relational frameworks.

Chapter Three

The Ditsong National Museum of Natural History: a case study and a response

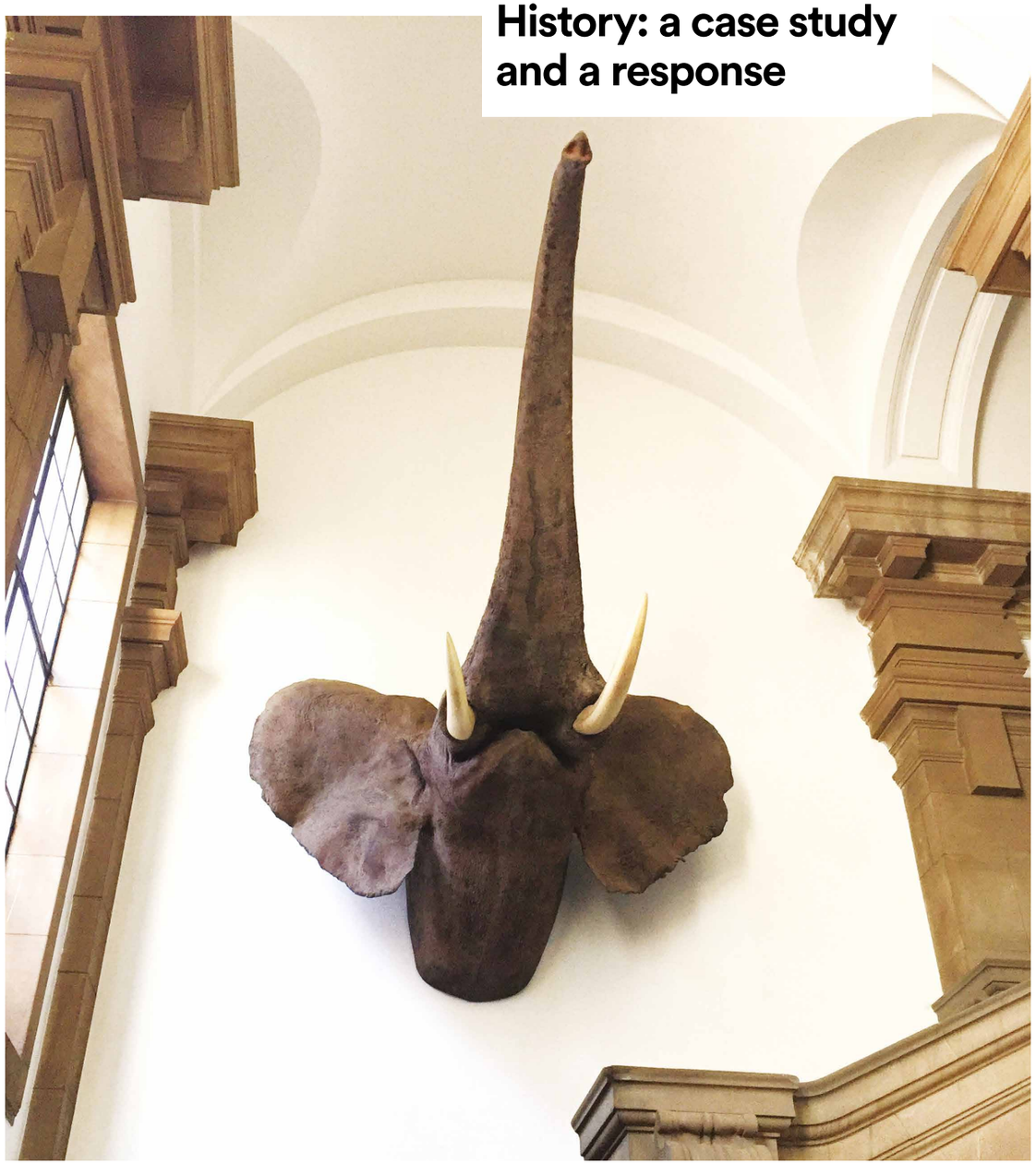
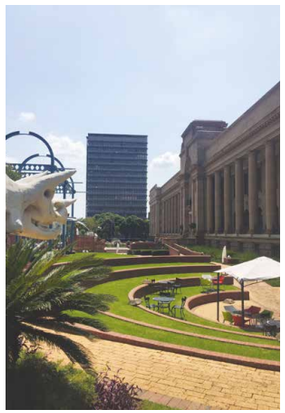


Figure 40 *Stairwell at the Ditsong National Museum of Natural History.*

The built environment of the Ditsong National Museum of Natural History (DNMNH) exudes an air of permanence and dignity. The museum is located in Pretoria Central in a stately neoclassical-styled building from 1912. This landmark building's exterior is dominated by the imposing 24-metre skeleton of a fin whale (*Balaenoptera physalus*) on the street-facing lawns outside,[140] alongside which a number of fibreglass casts of dinosaur skeletons and a petrified tree dot the lawn that provides a picnic area for visiting school groups. Upon entering the building, visitors are directed through a rather gloomy entrance accentuated by dusty and discoloured mammal and bird dioramas, up a bright stairwell past boars and hogs, antelope horns and trophy mounts, including the head of an an African bush elephant (*Loxodonta africana*), towards the Genesis of Life exhibition halls. Here the sandstone neoclassical architecture, guided by the Victorian examples so typical of colonial natural history museums, anticipates the dignified displays and imposing halls to follow.

The architecture of the DNMNH supports the perception of natural history museums as enduring authorities on the natural world. I noted in Chapter One that the stable presentation of these institutions, apparent in the familiar spatial experience they offer and their adherence to established conventions of display, can be perceived in a negative light. Their static exhibitions of taxidermied mounts and singular specimens present a construction of nature steeped in the binary logic of Cartesianism, which denies the viewer the

[140] According to the inscription, the skeleton was donated by the Union Whaling Company in Durban and arrived at the Museum in June 1970.



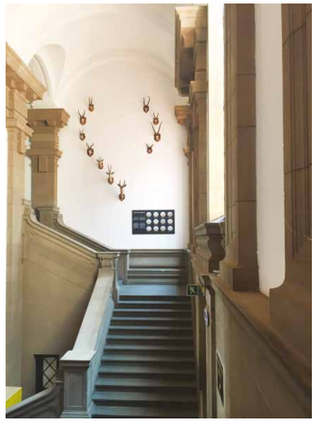
Figures 41 & 42 Façade of the neoclassical-styled DNMNH building; fin-whale skeleton on display in the DNMNH grounds.

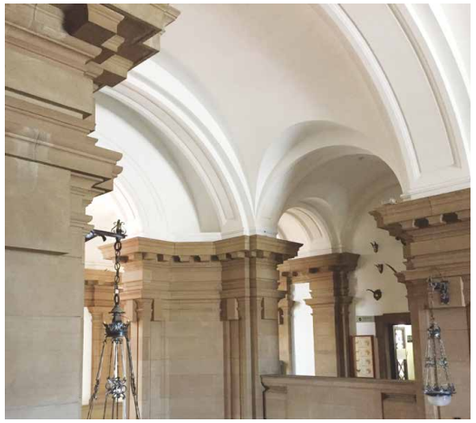
opportunity to see beyond a notion of generalised, objectified nonhuman species. Consequently, many natural history museums facilitate a disembodied viewing experience for visitors that forecloses opportunities to surface the intricate relationships that exist between humans and nonhuman species.

This case study evaluates the extent to which the DNMNH, as a form of public biological sciences communication, has incorporated contemporary challenges to Cartesian binaries through embodied engagement in its exhibitions. The focus of this study is two of the main exhibition halls, Genesis of Life I and II, and the Discovery Centre.[141] The Genesis I hall opened in 1978 (Dippenaar, 1992) and is dominated by 1970s styling, with mock-Spanish stucco walls, wooden beams, artistic batik prints and ceramic tile details. The mammal hall of Genesis II opened in 1987 and the ungulates display in 1992, while the Discovery Centre was launched in 2002/2003 as "a hands-on activity centre where five human senses are used to discover the wonders of nature" (Ditsong Museums of South Africa, n.d.; Legwase, personal communication 9 August 2017, 1 June 2020). Sections within the Genesis of Life exhibition halls have been updated, with a meaningful change to the entomology division in the Genesis of Life I hall.[142] This chapter assesses whether relational frameworks and notions of multispecies assemblages can be discerned in the present means of display and exhibition content, taking note of to what extent visitors are invited to draw on tactile and haptic senses to encourage embodied engagements.

In broader museum discourse and research, much attention has been given to visitors as active participants in learning experiences and the contextual and subjective aspects that inform their experiences (Falk, 2004; Simon, 2010). Current studies have identified a paradigm shift in which contemporary museums are conceived of as sites for dialogue, where science can be presented as embedded within sociocultural frameworks (Carnall, Ashby & Ross, 2013; Pedretti, 2002, 2004), and curators and museum practitioners are responding to improved understandings of varied learning processes. The move towards interactive and hands-on exhibitions represents a distinct shift from the display mode of objects behind glass (Pedretti, 2002:5), and many museums now present opportunities for interactivity, participation and multi-sensorial engagements to extend beyond the didactic and instead stimulate debate about socioscientific issues. This mode becomes a means for critiquing science to reveal the tentative and directed aspects of scientific research (Pedretti, 2002). Whereas conventional pedagogy considers learning the result of "specific, predetermined information" transmission (which can be measured), sociocultural models are contextually sensitive and learner-centered (Tal & Morag, 2006:749-750). As museums are regarded as places of informal learning where adults and children can interact with material that enhances their understanding of particular issues, events and concepts, many of them are integrating these learning styles into their exhibition content (Pedretti, 2002).[143]

As a result of these revisions and interventions in modes of learning and in the public role of museums, active participation and multisensorial visitor engagements can now be understood as integral to visitor experiences. However, while the literature on participation in museums is extensive (Pedretti, 2002; Simon, 2010; Carnall, Ashby & Ross, 2013; Xanthoudaki, 2015), much less has been forthcoming on embodied museum visitors and





Figures 43 & 44 Sandstone stairwell leading to the Genesis of Life I exhibition hall; arched ceiling, DNMNH.

[141] The Austin Roberts Bird Hall, opened in 1972, does not form a significant part of this discussion. It displays 875 bird species and is named after the past director of the DNMNH, known locally for his contribution to ornithology (Brain, 1992:49).

[142] These updates were part of a process of public engagement and dialogue at the South African Museum Association conference in 2000 (Toms & Nanaka, 2000).

[143] Where schools are considered places of formal learning about science, museums of science are seen as sites of informal learning (Pedretti, 2002).

the affect of phenomenological experiences (De Kock, 2015; Leahy, 2012; Larkin, 2015). While bodily modalities of learning, such as kinaesthetic learning and the role of emotions in facilitating learning, have gained attention, the cognitive and sensorial aspects of visitor experiences are often discussed as separate occurrences (see Pedretti 2002 and 2004 on issues-based exhibitions). Studies on participation in museum spaces rarely draw attention to the intertwined manner in which cognition and sensorial responses function, which may indicate that there is a need to focus more on embodied visitor experiences.[144] To an extent, the move towards participation in museums correlates with the intent of relational aesthetics to focus on reducing hierarchies and create opportunities for dialogue and co-authorship (as discussed in Chapter Two). The main objectives of participatory museum exhibitions are to allow visitors to interpret material and to contribute to discussions as an alternative to the didactic approach that produces narrow outcomes and limits visitors' imagination. However, as museums have for long employed interactive and hands-on experiences to realise predetermined outcomes, phenomenological experiences are often regarded as limiting (Pedretti, 2002:10), and while embodied engagements may allow for subjective interpretation and critical reflection, the type of responses that are forthcoming are influenced by the manner in which the interactions are construed within a particular pedagogic framework. In this case study of the DNMNH, the extent to which active participation and multisensorial experiences are facilitated through their displays is considered, as are the subtle directives that may influence embodied experiences. Participation and multisensorial experiences are a means through which the objectification of modes of viewing can be alleviated, but these strategies may prove to be insufficient if their function within informal learning contexts is too narrowly defined.

This discussion draws linkages between pedagogical directives and artistic responses to notions of active participation and multisensorial engagements as presented in contemporary museums. Artistic museum interventions are often less restrained by curricula considerations and can offer respite from didactics. Artists can employ relational aesthetics and present opportunities for phenomenological encounters that invoke multispecies relations and stimulate embodied responses. To this end, the artistic interventions of Fritha Langerman at the Iziko South African Museum (ISAM) in Cape Town and of Tomás Saraceno at the Senckenberg Museum of Natural History in Frankfurt, Germany are discussed.[145] Mark Dion's permanent installation *Neukom vivarium* (2006) in Seattle, USA, is considered as a counterpoint to interventions in natural history museums. Dion's work can be regarded as art installation, scientific laboratory or natural history museum and inverts many of the established processes that comprise the research and educational activities of natural history museums. Having established in Chapter Two that relational aesthetics can work against the hierarchical categorisation of nonhuman species, artistic interventions in natural history museums can perhaps equally be understood to challenge speciesist narratives.

Figure 45 *Diorama, Genesis of Life I, DNMNH.*

Aside from the pressures that museums face to bring their exhibitions into line with new pedagogical approaches, the DNMNH faces financial challenges to fulfil its core functions (Toms & Malherbe, 2005:14). Entomologist Rob Toms and former director of the DNMNH Carina Malherbe (2005) argue that financial constraints, which impact the quality of taxonomic research and documentation (particularly of invertebrates), have led to the "neglected" and vulnerable state of the DNMNH's collections and suggest that many South African museums face similar challenges. At present, the state of the DNMNH's displays is still a matter of concern, so while the mammal hall, Genesis II, does indeed transport visitors along a timeline of life on earth, it stops in the late 1980s to early 90s. Visitors expecting to be informed and surprised by contemporary findings about evolution are instead presented with flimsy notices and aging fibreglass casts. A sign at the entrance to the Genesis I hall informs visitors that the displays are undergoing renovations, but there is

[144] Literature on museum participation is substantial and is often discussed in relation to civic responsibility, collaboration, critical engagement and dialogue (Carnall, Ashby & Ross, 2013; Simon, 2010; Xanthoudaki, 2015) in relation to learning (Dierking et al., 2004; Tal & Morag, 2006) and is evaluated as the anticipated result of interactive and hands-on experiences (Bailey-Ross et al., 2017; Heath & Vom Lehn, 2008; Kisiel et al., 2012). A corporeal approach to visitors as implicitly embodied, particularly in displays where multisensoriality or kinesis are involved, was not evident in the literature assessed here.

[145] Although ISAM has displayed both natural history and ethnography collections, it is largely known as a natural history museum. Recently, the ethnography collection moved to the social history holdings, and all displays of people other than as they relate to rock art have been closed. See Davison's (1990) critique of ISAM on the problematic differentiation between cultural history and ethnography.

no indication of how long the process has been underway or when the work will be completed.[146] Insects have literally turned to dust in their glass cabinets, and although evidence of neglect can be regarded as a failure by the museum to maintain its displays, this study imagines it as a deliberate tactic.

Drawing from artistic interventions in museums and assemblage theory, this thesis evaluates whether the deterioration of the DNMNH can be utilised as a positive educational strategy. Museums of science are often assumed to be neutral in their objectivity, with fact-based representations soothing the public into an unquestioning acceptance of objective truth (MacDonald, 1998), whereas fragmented narratives can challenge such assumptions (Porter, 2012). As a lack of government, provincial or municipal funding has placed local museums in a dire situation, this study explores opportunities to work within financial constraints while simultaneously responding to contemporary demands for visitor participation.[147]

Furthermore, while natural history museums are not purposefully orientated to stimulate an ethic of care through their displays, their permanent exhibitions could offer a route towards fostering empathetic and caring responses from visitors. I seek to determine, by example of the DNMNH, whether museums are able to respond to this thesis' contention that a position of care is needed to reconfigure the bond between human and nonhuman species. In light of the environmental crisis and the lack of care that humans generally demonstrate towards nonhuman species, natural history museums have acknowledged that they must adapt to these pressing concerns by finding innovative approaches to foster respect for nonhuman nature (Carnall, Ashby & Ross, 2013). I contend that while studies in environmental psychology recognise that empathetic responses can contribute to changing perspectives and, possibly, behaviours (Berenguar, 2010), the ways in which natural history museum displays can be adapted to stimulate empathy and care in visitors has not been sufficiently explored.

[146] This description is based on visits made in July and August 2017, May and June 2018 and October 2019; the notice and some of the decomposed insect specimens were removed over this period.

[147] For a broader perspective on cultural institutions, see Sara Byala's (2013) investigation of Museum Africa (a cultural history museum in Johannesburg) and the desperate state of the Johannesburg Art Gallery, where structural decay threatens the safekeeping of artworks (CityBuzz, 2017).

3.1 Situating the DNMNH's practices of display within current debates

The DNMNH was established as a State Museum (Staatsmuseum), intended to further the nationalist agenda of the then Zuid Afrikaansche Republic (ZAR) in the province of the Transvaal.[148] Whereas the majority of South African natural history museums were established by British colonial powers, the State Museum was initially influenced by both British and Dutch institutions (Grobler, 1994:52-53).[149] According to Elda Grobler (1994:49-50), a former curator of the National Museum of Cultural History, the State Museum was government-funded from its inception in 1892 and was established to curate and preserve tangible heritage collections of historical and national significance. It began as a museum housing both cultural history and natural history artefacts, as did many South African museums (Grobler, 1994:54). Its specimen collections (focusing on fauna) were established through international collaborations with natural history museums and the purchase of private collections (Brain, 1998:17), while joint field excursions such as the extensive Vernay-Lang Kalahari expedition of 1930-1931 furnished specimens for both the American Museum of Natural History and the DNMNH. The scale of the museum's collection practices was considerable, with Austin Roberts collecting over 50 000 specimens in his career at the museum by way of example (Brain, 1998).[150] In 1996, Ditsong Museums of South Africa, a governing body of national museums in Gauteng, was established, under which the DNMNH was incorporated.[151] In its current consideration, the museum is described as "custodian and documentation centre of South Africa's natural heritage" (Dept of Sport, Arts & Culture, n.d.), including of the hominid fossils from the Cradle of Humankind.

The DNMNH has an established and documented research profile focused on archiving the biodiversity of southern Africa that informs research in conservation and ecology (Brain, 1992:16).[152] The natural

[148] The ZAR was established in the region north of the Vaal River that currently comprises the provinces of Gauteng, North West, Limpopo and Mpumalanga (Bergh, 1996). Elda Grobler's master thesis (1994) offers a historical overview of the State Museum, which collected and displayed South African natural history, minerals, cultural history and ethnography and eventually split into a National Museum of Cultural History and a National Museum of Natural History, housed in separate buildings (Grobler, 1994:55).

[149] Natural history museums were established in Cape Town (1825), Makhanda (formerly known as Grahamstown, 1855), Pietermaritzburg (1879), Durban (1887) and King William's Town (1898), most museums combined natural and cultural history, and were poorly funded from the start when compared to their North American and European counterparts (Albany Museum, n.d.; Amathole Museum, n.d. a; Sheets-Pyenson, 1988:16).

[150] Hunting/killing practices in the name of science aided the destruction of nature and reveal a calculated, distanced conception of nonhuman nature. Contemporary museums focus on how specimen collections have contributed to scientific understanding of nonhuman species, but this is only a partial view, as they are also evidence of the human urge to dominate nature, and the impact of these collection practices was congruent with this controlling impulse.

[151] A drive to transform museums into places representative of all South Africans followed the first democratic elections in South Africa in 1994 (Rassool, 2001:43).

[152] The *Annals of the Ditsong National Museum of Natural History* (1908-) provides a platform for the publication of original research on terrestrial zoology with a focus on the museum's collections.

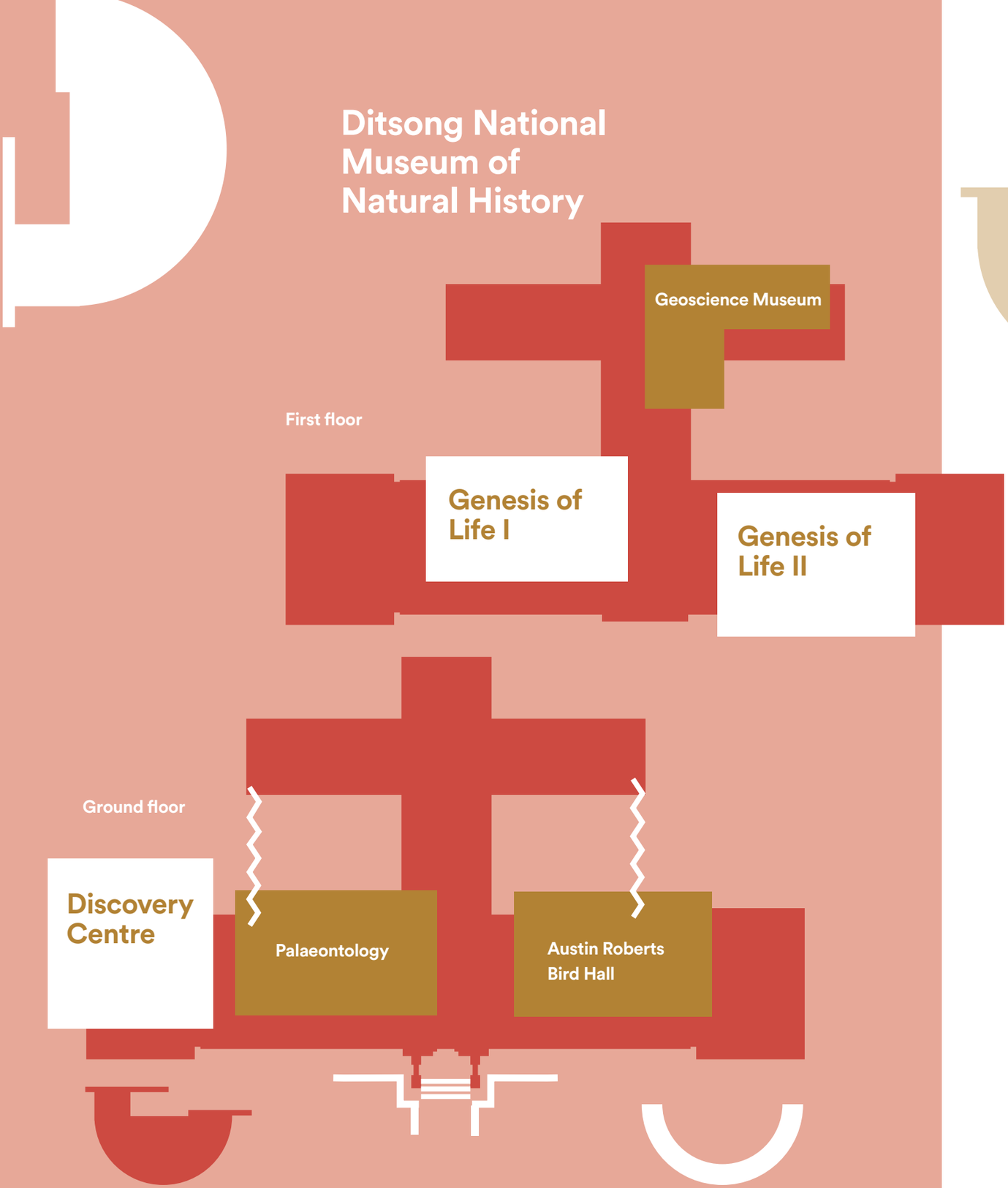


Figure 46 *Floor plan, DNMNH.*

history collections of the museum are central to its work and are actively used by visiting researchers and full-time staff members, showing that these collections (which include many type specimens) remain important to the scientific community (Toms & Malherbe, 2005). As is the case with many natural history museums, however, the interface between research and education at the DNMNH is not as functional as it might be (Legwase, personal interview, 24 August 2017; Rader & Cain, 2008), and only recently have contemporary museums sought to improve the alignment between public communication and the scientific research conducted at museums (Watson & Werb, 2013).

On issues of access and public appeal, the educational focus of the DNMNH has contributed to its established outreach programme, a steady influx of learners in school groups, public seminars and nights at the museum that are aimed at drawing in different publics (Legwase, personal interview, 24 August 2017). One of the museum's earliest mandates was to further the educational needs of the Republic's constituency, and from inception the collections were utilised in schools (Brain, 1998; Grobler, 1994), and travelling exhibits were distributed by rail (between 1930 and 1955) "in sturdy wooden boxes" to other locations within the Transvaal (Brain, 1998:48). Despite evidence of the museum's commitment to public education from the onset (albeit within a nationalist framework of civic responsibility), its current presentations point to a missed opportunity to attract a wider public to the museum. In their paper on representing entomology at the DNMNH, Toms and Kenichi Nonaka (2000) observe that the museum collections are not presented in ways that adequately demonstrate their social relevance to the public, and the authors draw attention to potential links that can be made between indigenous knowledge and visitors' personal experiences, which can highlight naturalcultural entanglements and remind us of eroded and existing bonds with nonhuman species.

In South African museums, opportunities for visitor participation have largely focused on the redress of social and political injustice and been presented in cultural history museums, while natural history museums have to an extent retained their pre-democratic modus operandi. Museums occupy a tenuous position in South Africa as products and agents of colonial and nationalist enterprises (Grobler, 1994; MacKenzie, 2009) and are complicit in practices of

racial discrimination, as in the DNMNH, which was racially exclusive from the outset (Grobler, 1994:60, 91). Cultural artefacts were racially classified, following dominant practices in similar colonial-era institutions but with a particular Afrikaner nationalist focus (Grobler, 1994:33, 47). Although the museum divided into a separate cultural history museum and natural history museum in 1964 (Dippenaar, 1992), museums of science are proponents of political ideas, and the ideologies of previous governing powers are inscribed on its architecture of display. Consequently, South African museums such as the DNMNH may struggle to establish their own localised identities that are not bound to the inheritance of colonial displays, Eurocentric epistemologies or racially determined agendas (Byala, 2013; Rassool, 2001; Toms & Nonaka, 2000). As the project and epistemologies on which natural history museums are founded are so closely mapped to the expansion of empire and racist narratives of progress, decolonising the museum will require a radical rethinking of both the space and act of collecting.

3.1.1 The challenge of specimens and taxidermy to reveal nonhuman subjectivity

The DNMNH outlines its permanent displays along established conventions (described in Chapter One). According to the museum's brochure, "Genesis of Life takes the visitor through the timeline of life on earth, from single-celled organisms to primitive animals, amphibians and reptiles, while Genesis of Life II focuses on the evolution of mammals and humans" (National Museum of Natural History, n.d.).[153] The sequential mapping of the exhibition starts on the first floor with simple life forms and leads to mammalian species, presenting a linear view of evolution. Although the timeline is not entirely consecutive, with displays on prehistoric life in both halls and hominid evolution as a central exhibition in the Mammal Hall, the exhibitions offer a stable and permanent narrative of evolution.[154] The route creates a sense of "organised walking through evolutionary time" that can be mapped to a narrative of progress culminating in an ideal state (Bennett, 1995:47,186-189; Langerman, 2013).[155] Brain (1992:49) confirms that the exhibitions were intended to provide visitors with an appreciation of the "gradual unfolding and elaboration of life from its simplest beginnings to its present complexity". Even the lighting in Genesis I and II contributes to a sense of progressive ascendancy: the exhibition panels in Genesis I block the natural light from the windows, and the additional mezzanine level adds to the sense of confinement (de Villiers, 2010:48, 54), while the Mammal Hall of Genesis II is filled with natural light and invites a sense of relief after the dimly lit enclave of Genesis I. This trajectory contributes to an understanding of species as fixed objective entities in which subjectivities are subsumed within a larger narrative function.

Figures 47 - 49 Views from the mezzanine level; batik print illustrating the class Arachnida. Genesis of Life I, DNMNH.

Figure 50 Genesis of Life II, entrance to the Mammal Hall, DNMNH.

A verse from the book of Genesis, on display at the entrance to the Genesis of Life I hall, situates the beginnings of life within a creationist context, aligning with a hierarchical view of speciation in which humans are at the apex or crown of creation.[156] In this perspective, species occupy a fixed and stable position in the hierarchy and fulfil predetermined roles within divine creation.[157] Even contemporary secular museum exhibits struggle to effectively represent the contingency and entanglement of evolution (Asma, 2001; Langerman,

[153] The main building houses five exhibition halls: in addition to Genesis of Life halls I and II, the Austin Roberts Bird Hall and the Discovery Centre, there is a Geoscience Museum (Ditsong Museums of South Africa, n.d.) and a recently added Palaeontology section.

[154] A new exhibition, a joint venture with the Centre National de la Recherche Scientifique in Paris called The fossil world of Bolt's Farm, was due to open on 26 March 2020 in the west wing but was postponed as a result of the national Covid-19 lockdown (Creative Feel, 2020). The exhibition was to focus on palaeontology in South Africa, detailing the carnivore fossils found at Bolt's Farm (near the Sterkfontein caves) and hominid fossils such as Mrs Ples as part of a narrative of evolution.

[155] Langerman (2013:40) draws on Gould's "iconography of expectation", which relates how western visualisations of evolution have miscommunicated progress and ascendancy. In Langerman's (2013:75) own assessment, museum visitors expect a clearly laid out, linear narrative focused on conventional notions of nature, with ample text and easy-to-digest information.

[156] Genesis 1:30 appears in Afrikaans:"'And to all the beasts of the earth and all the birds in the sky and all the creatures that move along the ground- -everything that has the breath of life in it--I give every green plant for food.' And it was so." In the context of the National Party's apartheid ideology, white, male Afrikaners would have been at the apex of creation.

[157] This anti-evolutionary stance was enacted by the board of the DNMNH in the apartheid years, when they forced the closure of an exhibition about evolution, leading to the resignation of the zoologist in charge of the display (Taylor & Hamer, 2009).

Figure 51 *Taung child and leopard, Mammal Hall, DNMNH.*

2013), and many people with strong religious beliefs still find it difficult to marry evolutionary theory with Christian dogma (Sutherland & L'Abbe, 2019:28). As Christianity remains a dominant belief system in South Africa (Schoeman, 2017), this Christian outlook may be supported by the majority of visitors to the museum. A biblical framework prevents visitors from reaching alternative understandings through the display, as they may not be open to arguments in support of thinking differently about nonhuman species. The legacy of Cartesian dualism persists within such a dogmatic framework, while the hierarchies established through religious, political and intellectual traditions remain unchallenged.[158]

In the Mammal Hall, the dioramas (completed in 1987) of early humans depict nature as violent, with the realism of taxidermy presenting a fable in which the dead specimen enacts human narratives in wild, awe-inspiring nature. The Taung child (*Australopithecus africanus*) dragged off by a taxidermied leopard and a predator's lair filled with human remains are dramatic visualisations of early humans pitted against a wild and merciless "nature".[159] These depictions are often reflective of racialised fantasies that seek to draw links between indigenous human populations and early humans (Davison, 2000; Bennett, 1995:196), displaying indigenous populations as embedded in natural history and perpetuating a racist view of them as apart from civilisation (Davison, 2000; Gordon-Walker, 2019).[160] Although the DNMNH exhibitions do not make such overt comparisons, their

Figure 52 *Display specimens, Mammal Hall, DNMNH.*

[158] In the DNMNH, the orientations and ideologies held by the previous government remain embedded within the permanent displays, which have not been extensively altered or adapted since their inauguration to the public. When the Genesis of Life I hall opened in 1978, the apartheid politics of the National Party were intertwined with the Christian dogma of the Dutch Reformed church, whose narratives reduced the impact of evolutionary theory by framing the beginnings of life within a creationist context, still present in the permanent displays to this day.

[159] It has since emerged that the Taung child was killed by an eagle, not a sabre-tooth cat or leopard as depicted in the display (Berger & McGraw, 2007).

[160] In South Africa, white settler culture was displayed in cultural history museums, while indigenous cultures were displayed ethnographically in natural history museums (Davison, 1998, 2000). Gordon-Walker (2019) notes that a Canadian museum adopted a similar approach, equating indigenous culture with nature and separate from white cultural history and narratives of civilisation.

displays of early humans and hominid and nonhuman fossils require a more substantive framing within a larger narrative of evolution and contemporary palaeontological debates.[161] Anthropocentric perspectives are maintained by binary dualisms that allow for "racial bifurcation" and othering to occur (De Robillard, 2018:15), and in their conflation of wild nature and early humans, the displays in the DNMNH confuse attempts to bridge the long-established separation between human and nonhuman nature.

Further along the taxonomic narrative of the museum, ordered rows of fibreglass casts and taxidermied ungulates and animated groupings of primates pose little threat to human visitors, fulfilling the representational role of taxidermied displays that present animals without agency (Poliquin, 2008), the arrival of *Homo sapiens* and the gradual project of civilization seemingly having tamed nature into a mild reflection of human will and entertainment (Berger, 1991). A display depicting a mannequin milking a taxidermied Friesian cow shows instrumentalised nature as the purposeful outcome of scientific endeavour, alluding to the lengthy process of animal domestication while simultaneously and unintentionally signalling debates on the ethical treatment of animals and the exploitation of farm animals in agricultural practices (Cavalieri, 2006; Singer, 2002).

Figure 53 *Vervet monkey, Mammal Hall, DNMNH.*

In the DNMNH Mammal Hall, familiar tropes of nature untamed and human domination play out in glass-fronted presentations and arrangements of taxidermied mounts. When passing the display cases that show marsupials, a vervet monkey with suckling youngster and a stage filled with primates, the position of the visitor remains one of a distanced spectator tasked with following the narrative sequence. In this instance, the suckling youngster signifies the mammalian traits of live-born young

[161] De Robillard (2018) argues that public debates in South Africa that surrounded the *Homo naledi* fossil findings tend towards an avoidance of the intersection between race and species and an acknowledgement of the role that racist science has played in South African politics. By confronting and unmaking the taxonomical categories of human and animal, the racialising power of species categories can be quelled (De Robillard & Lipschitz, 2017).

dependent on maternal care.[162] A specific characteristic has been isolated, encouraging visitors to form a fragmented perception of a particular species. By presenting mammals as nonhuman animals without historical context, the exhibition mutes and flattens mammalian subjectivity despite ample evidence to the contrary.

While object biographies may expose the practices that extract a living animal from its contextual world to that of the museum (Alberti, 2011), thereby revealing power relations and the hidden practices through which a particular version of nature is constructed, the DNMNH has yet to incorporate this method into its strategies of display. Even when little is known about a living animal, object biographies that uncover the invisible work of taxidermy can often contribute to visitor engagement. As an example, the taxidermied elephant in the foyer of the DNMNH is described as a matriarch with her calf, but the skin belonged to an elephant bull killed on 4 June 1914 during a joint expedition between the DNMNH and the Provincial Museum of Maputo, Mozambique (Brain, 1992:36).[163] The former director of the museum, Herman Breijer, describes the hunt and slaughter of the elephant, which took place inland from the Maputo River in Mozambique, in graphic detail: "It was a ghastly sight. The belly was blown up a little… The most striking sight was offered by the head. This was partly skinned and one mass of blood" (Brain, 1992:36). The size of the elephant made skinning him difficult, as "the efforts of about 40 men" could not turn him over, requiring the teams to remove two limbs and the intestines first (Brain, 1992:36). By making visceral information available and bringing to life the circumstances surrounding the hunt and the elephant's death, visitors might be prompted to respond emotionally. As a narrative that provides details about the elephant's death, its skinning and preparation for transportation by boat and by train to Pretoria (Brain, 1992:36), a sense of the scale of these expeditions and the networks of people involved, it could encourage visitors to engage with the ethical and political implications of museum collections and collecting practices.

Figures 54 - 56 Elephant and calf, entrance hall, DNMNH.

In their educational role in a museum context, artefacts function as signifiers of an established and familiar language. Bennett (1995:147) describes museum objects and specimens as "double dealing rascals", as their own meanings reflect the meaning of similar objects. The intrinsic meaning of an object or specimen is absent, and interpretation is only possible through its function within a predictable narrative and set of relations. However, a biogeographical account of the embodied processes and durational effects of taxidermy could draw attention to the mount as an assemblage, an object that is in itself continuously reconfigured (Patchett & Foster, 2008:101-102). Such an approach presents a discursive specimen as a mutable component within larger processes, instead of as a fixed and finished form. This approach may help museums reframe their exhibitions to reflect the fluctuating meaning of cultural objects (Everest 2011:97) and relieve them from the strictures of dualistic forms of categorisation.

3.1.2. Visitor engagement

Most of the learning material in the main DNMNH exhibition halls follow a pedagogy grounded in a didactic expository mode (Hein, 1998:25-37), where the director's intent with these exhibitions (initiated in 1970) was to deliver a "single unified experience, such as may be had from a good theatre production or a film", with the sequence of the exhibition arranged to tell a "clear story" through a "single route" (Brain, 1992:49). As part of a larger unfolding narrative, objects in museums behave as simple and uncomplicated nuggets of information for mass instruction, and visitors are invited to read their labels and to understand and compare species characteristics, size and habitat, with minimal opportunities for subjective interpretation (Bennett, 1995:42). Specimens in natural history displays function tokenistically, as referent for an entire species (Bennett,

[162] As with an elephant calf presented in the museum's foyer, displays of maternity seem particularly cruel as they require the killing of juvenile animals.

[163] Natural history displays tend to represent the females of nonhuman species in stereotypical ways that emphasise their reproductive and parental roles (Machin, 2008:60), and biographical information might prompt visitors to critique the museum's representational strategies. The matriarch and calf diorama can be understood as indicative of an androcentric museum bias, but its backstory reveals an interesting twist that could provide a means for the elephant bull's afterlife (and gender stereotypes) to be interrogated.

Figures 57 - 60 Desks and seating for young visitors; diorama of the tooth-mouse's home; a constructed tree and its tree-top diorama. Discovery Centre, DNMNH.

1995:42; Carnall, Ashby & Ross, 2013:57), and as such, the mammals on display in the Genesis of Life II hall are indexes within a system of classification. The displayed chacma baboon (*Papio ursinus*) could be any baboon reduced to a node on a larger taxonomical schema; an oversimplification of existing information about baboons is merely a requirement of the pedagogic function of museum displays, so the complexity and detailing of human-baboon relationships is left out of these representations. The displays retain the dissociation of Cartesian perspectivalism that seeks to order the world according to mental vision, or concepts that were first formed in the mind (Jay, 1994:73). The structural order and neat categorisations presented in museums displays are based on mental schema that is disconnected from the contingent processes of life.

Recent shifts in approaches to learning have been from didactic modes to sociocultural approaches in which dialogue, subjective experiences and social collaboration are recognised as important components in knowledge construction and meaning-formation (Pedretti, 2002; Tal & Morag, 2006). Participatory experiences allow for a "multidirectional flow of information", where visitors can interact with the material, create and share content and connect with other museum visitors (Simon, 2010:2), whereas in a conservative institution, information flow is one-directional and authoritarian, as the institution imparts information to the visitor without opportunities for co-production and sociability around the presentations (Simon, 2010:2). While the permanent exhibitions in the DNMNH main building, where Genesis of Life I and II and the Austin Roberts Bird Hall are located, offer limited opportunities for participatory engagement, their Discovery Centre answers a need for experiential modes of learning.[164] Here, children can use magnifying glasses to inspect

[164] The Discovery Centre is evidence of a financial commitment from government to enhance the learning experience of young museum visitors (the centre's activities are focused on children, but adults are not excluded from visiting).

seeds and insect specimens, while live fish in a tank provide a stimulating setting for other forms of active exploration.

The Discovery Centre offers an opportunity to engage all the senses and bodily interactions that are undervalued in conventional ocularcentric modes of display. Kinaesthetic learning is activated when visitors climb a ladder to reach a diorama of birds perched on top of a constructed tree, while a fantastical diorama of the tooth mouse's home at floor level requires visitors to perform bodily contortions while simultaneously pushing a switch to light the display. Learners can gain confidence by assessing and responding to the educational prompts through active engagement, and learning through discovery and physical activity may lead to predictable results or to open conclusions, depending on the pedagogic approach followed (Hein, 1998:30).

Sensorial experiences and the use of affect in exhibitions are used as a "hook" for visitors that can lead to deeper engagements with exhibition material, and embodied engagement can stimulate emotional responses and may lead to visitors experiencing exhibitions as both immersive and rewarding (Csikszentmihalyi & Hermanson, 1995). Since sensorial perception is not isolated to a singular sense organ, experiences are always multimodal and emplaced (Gallace & Spence, 2011; Stafford, 2009). As such, curatorial strategies that destabilise the centrality of vision by using audio, olfactory, tactile and kinaesthetic sensations allow visitors to transition from objectifying and detached modes of viewing to become active participants in the museum experience (De Kock, 2015).

Figures 61 & 62 Touch objects: animal skins in the Mammal Hall; cubes containing concealed taxidermied mounts in the Discovery Centre, DNMNH.

The District Six Museum, a community museum in Cape Town, successfully utilises multisensoriality in their exhibition design. The exhibition Digging deeper (2000) presented

Figures 63 & 64 Interactive audio, Genesis I hall; Buttons and light prompts for visitor interaction in the Mammal Hall, DNMNH.

memories of some of the inhabitants of District Six, an area destroyed under the apartheid Group Areas act, through oral histories and visualisations (Julius, 2008). A floor map of District Six, which formed part of the opening exhibition Streets: retracing District Six (1994), provided an opportunity for ex-residents to walk over the map and recall memories of particular places. Although the direct experience of remembrance is reserved for those who traversed the suburb before its destruction, recorded speech and visual strategies attend to the performative and poetic and invite visitors to participate in an embodied enactment of memory (Julius, 2008). As sensory experiences and emotions are interlinked, engaging a visitor's multisensorial responses can lead to more personal and intimate felt experiences.

In one of the few tactile learning experiences in the main exhibition halls of the DNMNH, visitors are invited to touch cut-out squares of various animal skins worn through by many years of handling.[165] Touch objects provide a more intimate and active interaction that often contradicts what is suggested by sight and requires a sense of curiosity and bodily engagement. The touch objects hidden in the Discovery Centre require visitors to rely on their tactile perception and to spend time with the objects to establish their identity. Visitors must bend down, extend their arms into a container and explore the form and textural qualities of the hidden object. Importantly, tactile experiences are conducive to eliciting emotional responses, as tactility is closely mapped to the body and early experiences (Gallace & Spence, 2011:577), and while for some the experience of touching an animal skin may cause revulsion, for others it can create a sense of connection with the once-living animal.

[165] The skins are of sheep, kudu, blue wildebeest, giraffe, llama, reedbuck, warthog, chacma baboon and black-backed jackal.

In keeping with a didactic model, the interactive components in the Genesis of Life halls are closed systems of interaction that mostly require pressing buttons to light up tiny red, amber or green lights on the displays and are clearly made from outmoded components. While anachronistic examples of technology can appeal to visitors as novelties or reminders of the past, as learning interventions they ascribe to a stimulus-response teaching mode (Hein, 1996:25). When a button aligned with a mammal's name is pressed in a cabinet demonstrating warm-bloodedness, for example, a red globe glows next to the taxidermied animal or animal cast and a sign that displays the body temperature of that species. Such buttons and red lights are dotted throughout the museum halls and present a one-sided interaction, whereas visitors can reflect and form their own interpretations in a participatory system (Simon, 2010).[166]

One of the displays provides an opportunity for visitors to comment and become part of a larger conversation, and text that accompanies the human evolution presentation states that "concepts on human origins are never static, they are regularly revised to accommodate new evidence as is shown here." The display shows how palaeontological findings have necessitated adaptations to the theory of *Homo sapiens'* evolution and emphasises contingency in knowledge construction. In response to the rhetoric of fragmented knowledge and its organic distribution, visitors are invited to jot their comments onto a piece of paper (not provided) and drop it into a post box (provided). Open-ended questions such as these can engage visitors' critical assessment of how displays reveal or conceal absences and incomplete narratives. Allowing visitors to reflect on the subjective nature of science and providing a space for comment is a small example of the paradigm shift at work in museums towards issues-based themes and displays that encourage critical reflection and participation (Pedretti, 2002). Museum visitors are empowered to question and critique when knowledge deficiencies are made explicit (Porter, 2012), and while open-ended questions are not often posed in natural

[166] Opportunities to engage visitors through multisensorial experiences are limited. One of the few audio experiences offered in the Genesis I hall asks visitors to compare the calls of grey hornbills and yellow hornbills as evidence of their hereditary relationship, but this stimulus-response mode offers a narrow scope of interpretation.

Figure 65 Fritha Langerman, exhibition view of R-A-T: an associative ordering *(2012-2013), installation, Iziko South African Museum.*

history museums, they can engage audiences as active collaborators and challenge normative views (Carnall, Ashby & Ross, 2013).

3.2 Artistic interventions in natural history museums

Artistic interventions are among the strategies available to museums to work against the particular hierarchical constructions of nature that species narratives and didactic presentations offer. Temporary exhibitions can help highlight the tension between current perspectives and historical practices, and artists can offer alternative means through which to encourage active participation and embodied interactions. Whereas the role of the museum curator in authoring displays is usually hidden behind objectivity, artists typically lay claim to their authorship, and their interventions within museum environments can be understood as subjective interpretations. In this section, I focus on artists who use a relational approach to disrupt binary dualisms and disembodied viewing practices in natural history museums.[167] Fritha Langerman's intervention *R-A-T: an associative ordering* (2012-2013), presented at the ISAM, acted as a disruptive strategy of the sequential linear narrative of speciation and challenged the limits of species categorisation,[168] whereas Tomás Saraceno's works in Spinnen (2016) at the Senckenberg Natural History Museum introduced living arachnids into the museum environment. The immediacy of an encounter with live spiders may enable embodied modes of attention that aid processes of subjectification, and it is thus a strategy that warrants closer attention. Mark Dion used a similar approach in *Neukom vivarium* (2006), in which living multispecies assemblages are presented for visitors to observe and experience.

Figure 66 *Fritha Langerman,* R-A-T: an associative ordering.

Langerman's curatorial strategy in *R-A-T* accentuated the complex and entangled ways in which meaning is formed by visitors' embodied interactions with non-linear visual displays. The exhibition was distributed

[167] This discussion emanates from my first-hand experience of Langerman's (February 2013) and Saraceno's (November 2016) exhibitions. Dion's work is discussed through secondary sources.

[168] This was Langerman's third intervention at the museum, after the curated group show Lexicons and labyrinths (2003) and the solo exhibition Subtle thresholds (2009-2010).

as fragmented insertions in and amongst the permanent ISAM displays, and visitors had to unravel the significance of numerous specimens, objects and textual elements in relation to each other, to the permanent display areas and to other discrete artistic insertions in the museum, tracking the *R-A-T* displays through the museum's exhibition halls to forge their own connections. Visitors had to retain a mental picture of the previous displays, and only once all the missing parts had been assembled into a mental picture could they make sense of the artwork. In his book on human-rat relationships, Jonathan Burt (2006) describes rats as route-finders able to retain mental maps in their explorations; through Langerman's intervention, humans enacted a rat skill. This ability is often tested in scientific experiments when a rat is in pain or when drugs trials are conducted on rats.[169] Langerman's curatorial strategy incentivised humans to find and track her displays by providing a map and clues instead of instructions. The visitor's body was addressed in the process of actively seeking and finding, with motion and positionality contributing to sense experiences and thus meaning making (as discussed in Chapter Two). Visitors also followed the processes of an assemblage by physically traversing space to connect different parts and assemble the work's meaning, which required bodily-cognitive engagements and demonstrated that the links between different components were contingent upon unstable factors such as memory and interpretation and countered traditional narratives of power.

Figure 67 *Fritha Langerman,* R-A-T: an associative ordering.

As a considered strategy, art objects can be inserted into the museum to direct visitors' attention and encourage active interpretation. In their educational role, artefacts function as signifiers of an established and familiar language, where the intrinsic meaning of an object or specimen is absent; interpretation is made possible through its function within a set of relations and a predictable narrative. *R-A-T* demonstrated how objects

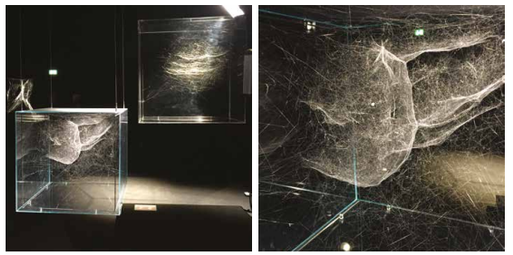
[169] Such as the Morris water maze described in the previous chapter.

Figures 68 & 69 *Installation view of terrariums and Nicky Bay's photographs at the Spinnen exhibition (2016), Senckenberg Natural History Museum.*

and specimens can suggest meanings through defamiliarisation and careful placement. Langerman's layered displays visualised the different attitudes humans have towards the brown rat, *Rattus norvegicus*: as laboratory animals, vermin, pets, carriers of disease, predators and Disneyfied fictional characters. These varied orientations were presented as human-determined cultural constructions, making the framing of nature through natural history displays apparent. Rats seem paradoxical creatures, because contradictory cultural perceptions of the species co-exist in the public mind (as discussed in the relational artworks of Kimbell and Snaebjörnsdottír/Wilson). As the widespread prevalence of Rattus norvegicus is directly related to the distributions of humans, to colonial history and to notions of greed, exploitation and extinction, the overwhelmingly negative associations that rats spark in people reveals a "schizophrenic" relationship (Langerman, 2012). Humans are implicated in the construction of categories such as vermin, revealed in displays by the integral role seafaring expeditions played in the distribution of brown rats. Entanglement is predicated on a sense of mutual reciprocity and responsibility, and by providing glimpses into multispecies assemblages, humans are presented as part of the activities and not necessarily in control of the unfolding assemblage, as reflected by the unintended effects of human-rat entanglements.[170]

Saraceno's contribution to the temporary exhibition Spinnen in the Senckenberg Museum interrupted objectifying modes of viewing by presenting live spiders and scorpions in the museum. Saraceno showed the intricate and delicate webs created by *Cyrtophora and Nephila* spiders and a live orb spider busy constructing her web. In an adjacent room, photographer Nicky Bay's large-scale macrophotography of jumping spiders *(Salticidae)* and other species was shown alongside terrariums containing exotic arachnids such as hairy tarantulas and scorpions from tropical climates. Saraceno's installations were exhibited in a separate darkened room with spotlights positioned to highlight the spider at work and the other webs. Where specimens foreground the objectification and violent deaths of nonhuman species, living arachnids can provoke the same immediate affects that occur in the field, which may include ethical and emotional responses. The exhibition provided access to phenomenological encounters with nonhuman species, as visitors could come close to the spider at work and observe the other arachnids as they sheltered or moved around within their terrariums.[171]

As discussed in Chapter Two with regards to Kimbell's work, liveliness in the museum environment can introduce uncertainty and the promise of unscripted interactions. Visitors may have perceived the arachnids as individuals and not species representatives, as the distilled, graphic representations of specimens shifted to real-world encounters with lively possibilities of fugitive tarantulas or a defensive orb spider. Saraceno's presentation of the orb spider at work accentuated the perceptual world of the spider as alien to human life yet worthy of recognition and respect, in the manner suggested by Nagel (1974:441) in relation to bats, emphasising the ways of being of spiders and scorpions and encouraging an empathetic response to them. Bay's saturated macrophotography created a sense of wonder for and fascination with the depicted jumping spiders, presenting a life beyond the limitations of human vision.



Figures 70 & 71 *Tomás Saraceno, installation for Spinnen: spiderwebs in a darkened room.*

However, Saraceno's own ambiguous attitude to spiders was echoed in the sense of hierarchy between human and orb spider maintained throughout the exhibition. The artist's own interest in arachnology involves research on the special properties of spider webs in relation to micro-gravity, social biology, astrophysics and sustainable cultures and is conducted in consultation with experts at MIT and the European Space Agency (Senckenberg

[170] As a contemporary example, urban townships in the Western Cape have an extensive rat problem, and many households resort to illegal agricultural pesticides (sold by street vendors) (Swartz et al., 2018). Severe child poisoning as a result of such pesticide use is a grave and unintended consequence of this human-rat entanglement.

[171] Saraceno's work *spider/web pavilion 7* (2019) at the 58th Venice Biennale was perhaps more successful in revealing the interrelatedness of human and arachnid worlds. In an intimate space filled with spider webs, where the floor tremored in response to barely perceptible frequencies, the installation highlighted the role of spiders in knowledge practices that make use of spider divination methods (Angelopoulou, 2019). Described as a space "of care and attention", visitors had to explore the installation with caution to prevent damaging the intricate spider webs, which were sensitive even to visitors' breath.

Museum, 2016). Spiders communicate with "pressure and vibrations" that "render a cobweb as a sensory object" (NTU CCA, 2015), and in this exhibition it is difficult to ascertain whether the artist was more interested in the orb spider or her web, and the notion of spider as collaborative partner, in the mode of multispecies assemblages, was not effectively communicated.[172] The orb spider could be considered an artist whose web demonstrates a sensory artistic output, and if she was indeed an artist, her work was process-based. Her labour could also signify subjugation, however, with the spider spinning continually for the thread to be technologically captured and utilised for human need. The incongruity of the brightly lit, stark environment (without even a fake plant in sight) and the solitary spider was different to the adjacent room's tropical terrariums, where arachnids could hide from curious visitors. Although Saraceno framed his practice within the scope of ecological concerns, the artist's stance on matters such as the spider's living conditions was not clear, and this lonely and vulnerable spider evoked more empathy than the other living arachnids.[173]

Mark Dion's *Neukom vivarium* (2006) can be understood as a critique of the methods of display and the binary oppositions inherent in natural history museum presentations. The artwork comprises the permanent installation of a nurse log, transferred from a forest floor to a custom-built greenhouse in Seattle's Olympic Sculpture Park, where the public can observe the continuous processes of renewal and decay of the living plant forms and organisms sustained by the decomposing tree (Art21, n.d.). Dion interweaves the educational and research functions of natural history museums, as the public is invited to perform the observational work of scientists whose activities are usually behind the scenes or in the field. Visitors can don white lab coats, look through magnifying glasses and engage up close with the plants and fungi that sprout from the nurse log and the insects that thrive in the environment. The nurse log can be touched, and visitors can crouch or bend down to attain a better view, activating kinaesthetic perception. Experiential aspects such as the humidity within the space, the hum of climate control machines, viewing as participatory investigation and the odour of decomposing matter contribute to a sense of immersion and proximity that counteracts distant surveillance.

[172] Saraceno has a long-standing relationship with the curator of the arachnid collections at the Senckenberg, Peter Jäger, who advised him on his quest to create the first 3D scan of a spiderweb (Saraceno & Arrhenius, 2011). The artist eventually created a replica of the web sixteen times its normal size that has been shown at numerous locations since.

[173] The lack of acknowledgement of Saraceno's arachnid collaborator may signal an emotional distance from the spider, particularly as all human contributors were acknowledged in the accompanying leaflet, which also did not shed light on the artist's or institution's stance on the ethics of captivity and the welfare of spiders – a missed opportunity, as audiences may question the ethics of exposing a live spider to the stress and discomfort of an unfamiliar museum environment.

The artwork presents many contradictions that can be regarded as a positive strategy for unsettling binary constructions of culture/nature. As a multispecies assemblage, the nurse log is a site for complex and interdependent interactions between nonhuman species, now made accessible to the public. Dion draws attention to natural systems by bringing into an urban environment the processes of decay and renewal that normally take place out of (human) sight and memory (Art21, n.d.). In the method of assemblage thinking, this multispecies environment signals changeability, involuntary cooperation and emerging effects that work against the reification of nature presented as stable narratives in natural history museums. *Neukom vivarium* reverses the collecting practices of museums that turn living species into specimens, here sustaining and generating life through decomposition. Dion has cultured nature through the elaborate and costly process of transferring a fallen tree to a quasi-scientific public environment and encouraging the propagation of life forms by artificially simulating the ambient temperature of the forest floor (Art21, n.d.). While the monetary value of sustaining captured life is made evident through the complexity of artificial support systems, the ethical responsibility of the artist is also raised as the orchestrator of such a dependency.[174]

Figure 72 *Mark Dion,* Neukom vivarium *(2006), permanent installation, Olympic Sculpture Park, Seattle.*

These artistic interventions demonstrate that an embodied and participatory approach that encourages interpretation can counter prevalent notions of hierarchy, ownership and difference in natural history museums. By inviting audiences to participate and engage with the displays through multiple senses, visitors are enabled to interpret and reflect instead of relying on textual information to explain what they see. A more tolerant attitude towards spiders require that fear must turn into fascination; Saraceno's Spinnen shows the spider as she makes her web, and the liveliness of the encounter and the scale and dedication of her work is a means of subjectification. Visitors can experience the aesthetic and phenomenological properties of the spider and web through careful observation and close

[174] In *Some notes towards a manifesto for artists working with or about the living world*, Dion (in Aloi, 2012) outlines the relation between art and science and the responsibility of artists towards living organisms in their care. Dion's manifesto was originally published in an exhibition catalogue in 2000.

Figure 73 An orb spider at work as part of Tomás Saraceno's Spinnen installation.

proximity, producing an embodied and connected experience. If the web alone had been presented as evidence of the spider's work, the experiential aspect of the encounter would have been reduced to a more familiar visual engagement. Future interventions might consider how liveliness can be brought into the museum without jeopardising the well-being of animals, for example through webcams or more animal-centered engagements.

Counter-narratives that focus on relationships instead of bounded, taxonomic categories can be presented in museums. Museums are often constrained by the built environment and their collections (as discussed in Chapter One), and so artistic and other interventions within museum environments can be vital strategies. The DNMNH has not been the location of such interventions, but a case study in the discipline of interior architecture addressed the museum's limitations.[175] In her postgraduate dissertation, interior architect Olga-Marie de Villiers (2010), proposed that an additional building be located underneath the vault structure of the museum to host exhibitions aimed at creating sensorial experiences for visitors. Her proposal highlighted how spatial experiences can be mapped to different sensorial perceptions through which visitors can be informed and enticed, and she suggested that the sensorial world of insects could be introduced to visitors through these phenomenological experiences. De Villiers proposed a positive strategy that could enable visitors to connect with insects by forming associations between nonhuman and human perceptual worlds. Strategies of display and visitor experiences that accentuate and embody continual and responsive processes and affects, as these interventions indicate, are more likely to shift dualistic modes of thinking and to invigorate natural history museum displays.

[175] In the DNMNH, art is presented in the form of either illustrative works such as the batik prints and ceramic works in the Genesis I hall or as a jumble of curios displayed as insect "art". The latter is a mishmash of contemporary wire and bead street art, which, without accompanying text to situate it in the broader context of Genesis of Life, reads as an ad hoc addition to the overall exhibition experience.

3.3 Envisioning a fragmented visitor experience as a positive educational strategy

It is difficult to assess the DNMNH's displays against my interests in natural history museums, such as the legacy of binary categorisations and the disembodied museum, as, apart from minor updates and adjustments, most of the DNMNH's exhibitions have remained unchanged since their launch in the 70s, 80s and early 90s. While the exhibitions should in fairness be measured against the debates and frameworks that preoccupied museums then, the visible deterioration of the exhibits undermines the museum's authority. Visitors' expectations of knowledge as an unwavering truth are subverted by the static and outdated state of the museum's public exhibitions, and the encoded power relationships established in natural history displays are disrupted when the specimens are revealed as nothing more than mounted skins, with many specimens in need of maintenance and care, much like the displays that have come adrift from their original purpose in other natural history museums. Political agendas that inform the architecture of display are conceivably eroded over time, and the museum may consequently struggle to convince visitors of the stability and singularity of the taxonomic narrative and the certainty of universal truth, as material decay suggests entropy and a lack of control.[176] The DNMNH has inadvertently stumbled upon a strategy that undermines embedded narratives of dominance and the lingering effects of previous political persuasions.

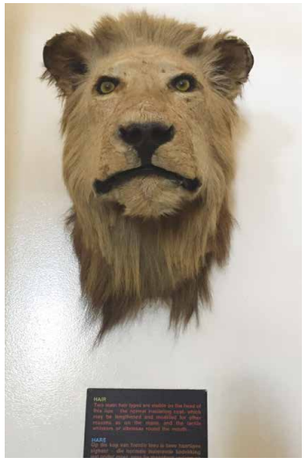


Figure 74 Lion (Panthera leo). *Mammal Hall, DNMNH.*

Museums with financial means can keep audiences enthralled through the fantasy and novelty of their displays, but while this may offer a seamless narrative of institutional authority, it may also limit visitors' opportunities to insert their own interpretations. In the time-warped state of the

[176] This may be true of all natural history museum displays, but a well-maintained museum will offer a more convincing front to visitors.

DNMNH, visitors are constantly reminded that the information at hand is not stable, allowing for productive uncertainty that challenges the visitor to form associations and discard redundant information, in the manner of Langerman's *R-A-T*. The DNMNH presents a wavering view of the biological sciences, and the authority of the museum is subverted by the unintended effects of outdated displays, visible updates and material degradation laid bare for public scrutiny. Patricia Davison (1990:161), a former director of Iziko museums and a researcher in museum studies, writes that dominant ideologies in accepted practice tend to be "relatively unnoticed … and later … relatively transparent". These dominant ideologies are more exposed in the DNMNH, where the displays are literally coming apart at the seams to present a museum already turned inside out. The financially challenged state of the DNMNH has allowed for a more informal and open interaction with the visible displays that reduces the museum's authority and erodes visitors' confidence and certainty about what is seen. In terms of my proposal, this is a positive effect, as a fragmented viewing experience can empower visitors to actively or imaginatively interpret the displays and to challenge the hierarchies that shaped them, recognising the disjuncture between current ideologies of state and science and those of the past, which remain embedded in the DNMNH's strategies of display. The museum's shortcomings notwithstanding, I propose that the fragmented visitor experience it generates is preferable to a seamless narrative, as this fragmentation can become the departure point for future interpretations.

When visitors are able to selectively construct their readings and interpret the displays, their engagements enact the processes of assemblage, gathering information from fragmented presentations and constantly accepting or discarding what is relevant. As the emerging processes of assemblage can upset stasis and fixed categories, such a mobilising experience can become a means through which to challenge stable narratives and binary categories. Through fragmentation and assemblage, visitors are enabled to construct their own subjective approach to nonhuman species and consider their relationships more empathetically, in ways that counter a single, universal narrative. While the fixed character of museums makes it difficult for them to accommodate change (Hooper-Greenhill, 1992:8), a creative approach to exhibitions that incorporates mobility can utilise participation to establish a sense of connection with nonhuman species.

Figures 75 & 76 *A disintegrated antlion (family* Myrmeleontidae*) and an empty display case. Genesis I Hall, DNMNH.*

The participatory ethos of fragmentation and assemblage emphasises visitors' subjectivities and their interpretative skills, and a fragmented visitor experience can create a space for engagement and dialogue in which visitors are encouraged to share their interpretations with museum staff and each other. Interpretative exhibits should engage with the communities who frequent the museum through dialogue and community-centered events so that curators and educational officers do not work in isolation or provide top-down solutions (Simon, 2010). Museum consultant and museum studies scholar Gaby Porter (2012) proposes a reconsideration of museums as "studios and workshops" instead of "shrines" or "cemeteries" (the latter being Michelle Henning's (2006a:38) description of natural history museums as graveyards for nonhuman species). Such a participatory approach, focussing on dialogue as a means to reconfigure ideas and shift perspectives, shares similarities with relational aesthetics, which can be productively explored in museum settings. In art contexts, the unpredictable and varied responses of audiences are the welcome signs of viewers' creative engagements with a work. Similarly, museums that consider their role to be as "provocateurs" appreciate the complexity that multiple perspectives can provide (Carnall, Ashby & Ross, 2013:56), while institutions intent on providing a consistent learning experience may find a variety of visitor responses challenging. The aspirations of the museum curator or artist often determine whether participatory experiences are utilised towards dialogic exchanges and creative responses or towards narrower outcomes, but as opportunities for participation will produce different results each time, institutions (and artists) cannot predict or "guarantee" a regular visitor experience (Simon, 2010:2).

The value of uncertainty as a productive means by which to stimulate dialogue and invite unpredictable responses cannot be underestimated, as uncertainty propels the learning experience by encouraging audiences to make connections and bridge gaps in their knowledge. In her text outlining a feminist approach to museums, Gaby Porter (2012:66) suggests that a strategy that reveals the mechanisms of display will encourage visitors to assume a dynamic role as interpreters of the exhibition. Such a strategy emphasises that interpretation is subjective and critiques monolithic formations of knowledge, countering assumptions that knowledge is "fully-formed" (Allison-Bunnell, 1998) and that the world is or can be completely known. Revealing the processes by which an exhibition display is made suggests that "things can be made again, and made differently" (Porter, 2012:66), while each rendition reveals the subjective construction and interpretation of meaning.

I view a fragmented visitor experience as a positive educational strategy in which the visitor is co-active in constructing meaning. A measure of responsiveness to visitor groups and informality is already established at the DNMNH, as noted by the museum's educational officer, Bongi Legwase. In her engagement with visiting school groups, Legwase presents the casts of early hominid skulls to provide up-to-date knowledge on human evolution as part of an oral presentation (Legwase, personal interview, 24 August 2017). Her discussion incorporates artefacts that are not yet part of the display but can be placed on the existing timeline to indicate their place in the evolutionary narrative.[177] Through these performative insertions within the narrative of evolution, Legwase encourages learners to question the continuity of established knowledge. Her engagement with learners utilises the informal approach of "making-do", as provisionally practiced by relational artists, a method that is suited to an environment in which change is incrementally managed.

3.4 Cultivating an ethic of care through museum displays and visitor participation

While a fragmented exhibition that utilises assemblage as a strategy can activate collaborative, embodied visitor engagements and can aid the presentation of nonhuman species as subjects with agency, eliciting empathy and care requires a different approach that entails the subjectification of nonhuman species (as discussed in Chapter Two). Current DNMNH exhibitions are revisited here to ascertain museums' potential to adapt their presentations to the cultivation of an ethic of care for nonhuman species through visitor engagement. Although natural history museums were not designed with these moral demands in mind, by rethinking the type of visitor experiences their displays create, they can play a more active role in promoting respectful attitudes towards nonhuman species. Using the DNMNH as an example, I suggest how a care ethic can be stimulated by displays.

[177] The DNMNH has started to update their displays and exhibition halls, and a new design for the main exhibition halls was presented to the museum in 2014. Legwase has indicated that the exhibition space will be more open and better lit, and there will be more audiovisual and interactive elements and colourful displays (Legwase, personal interview, 24 August 2017). The curators of the different departments will provide the texts for the exhibitions. The renovations and display updates in the existing halls are on hold until the required funds can be raised, but a new palaeontology hall opened in 2020.

Within the DNMNH, nonhuman species are largely presented as passive recipients of human actions and decisions, but the moral responsibility of humans towards nonhuman species is not considered. This separation reinforces an attitude of human dominion that sits outside of our complex entanglement with nonhuman species. In the sea mammals section, for example, the narrative of dominance is reiterated in the display of tools from the South African whaling trade and in Japanese prints depicting whaling practices. While the increase and decline of whale species are inextricably bound to hunting cultures, these displays do little to acknowledge the interdependency of human and nonhuman animal lives. By drawing attention to these interlinked relationships, visitors might be emotionally prepared to pay attention to nonhuman species. In the Genesis of Life I hall, the recently updated insect display offers a useful counterpoint to the narrative of human dominance, with densely packed informative posters outlining the considerable role the malaria-bearing *Anopheles (An. funestus)* mosquito has played in human settlement in Africa. The tenacity of *Anopheles* (which translates as "useless") mosquitoes is posited as a negative for humans, but in conversation, poet and artist Lefifi Tladi describes *Anopheles* as "freedom fighters", as malaria deterred settlers from staking claim to particular tracts of land (Tladi, personal communication, 18 May 2016). From a conservation perspective, mosquitoes have discouraged humans from

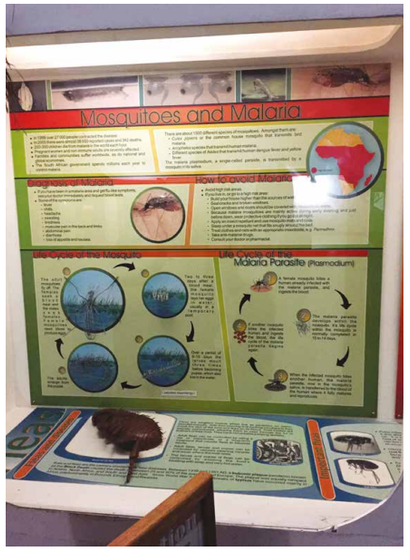
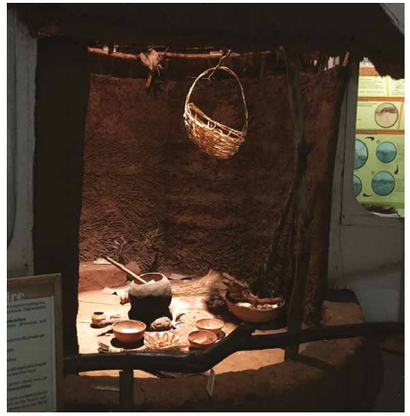


Figure 77 "Mosquitoes and malaria", Genesis I hall, DNMNH.



Figures 78 & 79 Accompanying text and Ndebele hut construction. Genesis I hall, DNMNH.

inhabiting tropical forests, which benefits the forest fauna and flora (Bates, 2016). The ethos of multispecies assemblages requires a consideration of all organisms as equivalent players in relational intra-actions. By acknowledging the role of nonhuman species in deterring human activities, the instrumental perspectives that lay claim to nonhuman species for human benefit alone can be disrupted, with the role of mosquitoes in multispecies assemblages demonstrated here as a challenge to human exceptionalism.

In another recent addition to the Genesis of Life I hall, an exhibit draws together the close-knit relationships between humans and invertebrates, following an extended discussion and public input on transforming the dated and Western-centric invertebrate displays (Toms & Nonaka, 2000). A mud, wood and thatch Ndebele hut construction fortified by mud from termite's nests frames an exhibition of edible insects that are part of the diets of different South African cultural groups. Opposite the hut, two freestanding display cabinets containing a collection of human-made

Figure 80 Human-insect relationships on display. Genesis I hall, DNMNH.

objects and packaged edible insects reflect different relational aspects. Some objects are made from insect parts or serve as containers for insects, while others are curio or art objects made to resemble insects: leg rattles made from the cocoons of the emperor moth *(Gynanisa)* and African silk moth *(Gonometa postica)* attributed to the Tsonga and San; a wood and leather container made by the San to carry poison beetle larvae; Japanese and Chinese cricket cages; and a gourd. The display was consciously constructed to highlight interdependent human-insect relationships and to allow visitors to form an understanding of an interlinked naturalcultural history (Toms & Nonaka, 2000:8, 10), revealing intersections between human and insect worlds that suggest a broader perspective than the traditional taxonomic narrative. Within the museum display, these objects reflect a tentative step towards more nuanced and multi-faceted multispecies relationships.

Figures 81 & 82 Wall displays of the skin of a monitor lizard and a taxidermied puffadder. Discovery Centre, DNMNH.

By activating multi-sensorial experiences for museum visitors, objectifying viewing practices can be refigured into more participatory and affective experiences that shift the object-subject boundary and provide scope for empathy. In the Discovery Centre, a curiosity wall displays fragments such as the tail of a Kori bustard *(Ardeotis kori)*, the skin of a monitor lizard *(Varanus albigularis)* and whole specimens, such as a taxidermied puffadder *(Bitis arietans)*. Visitors may touch the display, with directives drawing attention to textural qualities (e.g. "Puffadder skin. Note the keeled scales"). Textural qualities are called upon to identify species but do not allow for an emotional connection to develop, and the sample remains an objectified fragment that has not been synthe-

sised into an assemblage. Discovery learning is not utilised effectively if it does not "lead to uncertainty, challenge ideas and stretch beliefs" (Hein, 1996:38). While I have indicated some means by which museums can encourage care for nonhuman species, museums are ultimately moulded by their collections of specimens and not by lively human conversations. It is only through enacted, human conversation and action that a shift towards more empathetic relationships can be mobilised, and as relational aesthetics provides the means through which dialogical exchanges can be facilitated, this thesis proposes that an artistic intervention can deliver the conditions likely to stimulate an ethic of care for nonhuman species.

3.5 Notes towards a mobile art intervention

I have established that most natural history museum exhibitions maintain the power dynamic between the objectifying human viewer and the subjugated nonhuman species on display, preventing emotional responses and limiting the opportunity for deeper engagement. It can thus be reasoned that the challenge for speciesist natural history museums is to provide engaging experiences that yield insights into the material presented while offering more opportunities for collaboration, reflection and subjective interpretation. To this end, assemblage can inform a creative approach that destabilises binary categories and enables empathetic responses as a connective strategy that invites and produces multiple voices and readings, in keeping with a post-colonial and processual view of subject formation.

Narratives can assist empathy by encouraging links to form and emphasising relationships, and storytelling practices can help overcome the reductive effects of objective scientific methods by engaging visitors' imagination (as discussed in Chapter Two).[178]As a strategy that enables the formation of emotional and empathetic understanding, however, subjectification requires a practice of personalisation uncommon in museums of science, such as narratives that perform an expressive role. While art interventions can offer disruptive and responsive strategies that subvert visitors' museum viewing experiences (as explored in the work of Saraceno and Langerman), the challenge lies in tasking specimens with telling stories dedicated to eliciting emotional responses. Specimens embedded in the violence of

[178] Invigorating taxidermied displays by providing biographical details may conversely cement a position of anthropocentrism, inasmuch as these narratives focus on human endeavours and the limited agency of nonhuman species (Poliquin, 2008:129).

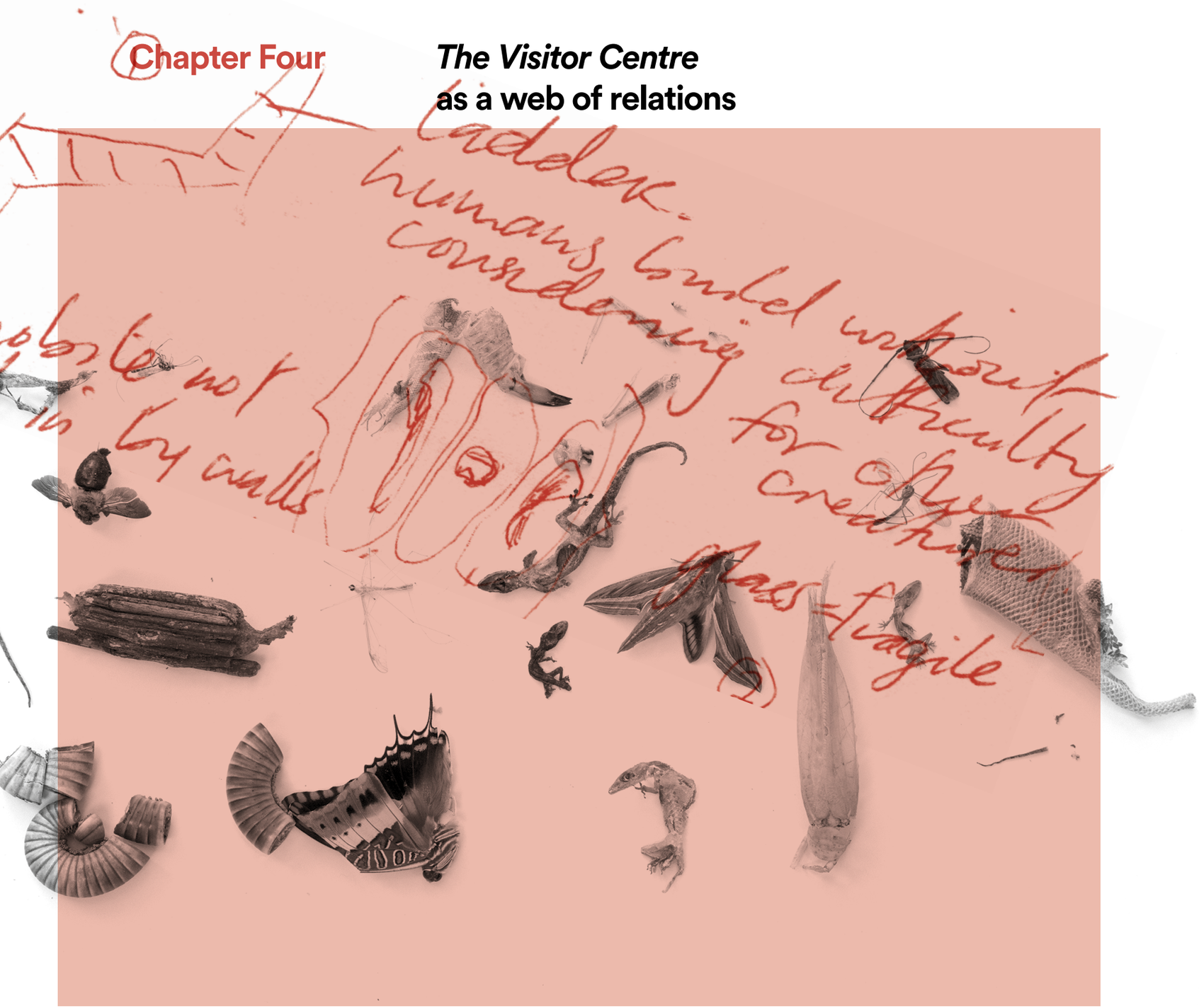
hunting/killing practices that have historically furnished museums with their collections may deter the connective possibilities this thesis proposes, and museums remain steeped in Cartesian dualisms that limit the extent to which counter-narratives can be integrated with current exhibitions. An intervention that can enact the mobility and contingency of multispecies relationships by means of its own itinerant format could offer a more convincing method with which to work against the stasis and anthropocentrism inherent in these institutions. This thesis proposes an alternative intervention format to circumvent these intrinsic impediments, one that does not involve capture and confinement or empathy for the dead.[179]

To enable lively interspecies encounters, this thesis adopts mobility as a means of circumventing the constraints of a fixed museum environment. *The Visitor Centre* does its work in the field, the artwork being constituted through relational interactions independent from the dictates of the museum interior and the ethical burden of specimens and from the need to inject liveliness into the museum experience by activating the realm of the imagination. The following chapter explores the making of *The Visitor Centre* as an unfolding relational process that incorporates entangled networks and contingency from the onset. The contribution of *The Visitor Centre* as an artistic approach with which to reframe human and nonhuman species relationships through empathy and care is discussed in Chapter Five.

[179] The possibility of bringing live nonhuman species into museum environments was rejected, as it raises ethical issues familiar to zoos and aquariums and would limit the possibility of stimulating an ethic of care.

Chapter Four

The Visitor Centre as a web of relations



In this chapter, I chart my own artistic process in the making of *The Visitor Centre*, which anchors the development of the artwork within the concerns of relational art and the moral aspects of care and empathy, showing how the ideas put forward in Chapter Two relating to relational aesthetics, care aesthetics, embodiment, assemblages, participation, storytelling, conversations and modes of attention are interwoven in my artistic process. I suggest that the artistic process is in itself relational, drawing on the views of theorists and practitioners who accentuate the phenomenological and embodied participation of artist, participants and materials in the creative process (Bolt, 2010; Kimbell, 2011; McGuirk, 2011; Sutton, 2017). As such, the conversations that took place prior to and during the creation of *The Visitor Centre* artworks shaped the creative outcomes. My creative processes of attunement, collection, conversation and interpretation through making are likened to the "arts of noticing" that Tsing (2015) proposes as a means towards empathy. The creative process of looking with care and being open and responsive to chance discoveries signifies the development of an aesthetic of care.

I discuss a selection of artworks made during the initial stages of *The Visitor Centre* as forms of artistic research that provide opportunities of thinking through and testing ideas (Macleod & Holdridge, 2006). While some of these artworks were incorporated into *The Visitor Centre* interventions, others signify particular points in the creative trajectory that were later

reworked, or that led me to consider different options. Barbara Bolt (2010), artist and scholar on artistic research, frames creative processes as relational ontologies, as the social and material interactions that form part of the creative process are co-constitutive and can lead to the formation of embodied knowledge. These social and material interactions, which are integral to an artwork's creation, are often invisible in the final rendition of the work. By considering all aspects of creative practice as inter and intra-actions, as defined in Barad's (2007) theory of agential realism, the focus shifts from a description of individual artistic effort to the mapping of a participatory process methodology in which creativity provides an opportunity to enact relationships. In this chapter I propose that a consideration of artworks within a longer durational framework and a contemplation of the hidden trajectory of artistic processes can offer unique insights.

While *The Visitor Centre* video (2015) presents a significant moment in my creative process, the artwork exists peripherally to the public interventions, which involved physical interactions with sculptural objects. The video was produced as a preliminary artwork that subsequently helped me narrow my focus. Video art can be regarded as an alternative method through which to alleviate the distancing effects of static display methods, as it affords opportunities for immersion and subjective responses.[180] Immersive art videos can conceivably provide a respite from the didactic displays and speciesist narratives prevalent in natural history museums, and *The Visitor Centre* video speaks to some of the challenges that natural history museums encounter as a result of their display conventions, presenting an opportunity for viewers to reframe binary relationships between human and nonhuman species by drawing attention to nonhuman agency. *The Visitor Centre* video forms an important precursor to *The Visitor Centre* backpacks, as it explores notions of transience, flat ontologies and ongoing interactions exemplified through assemblage. Although my presence as artist-observer is revealed in the sequence, the video focuses on a narrative of emerging nonhuman interactions.

[180] In art, immersion is used to describe a state of "heightened self-awareness", where viewers'/participants' responses to material, spatial and sensorial stimuli can produce powerful subjective associations (Bishop, 2005:41). It is a transition from one mental state to another, where the viewers'/participants' emotional engrossment in the work signals the lessening of distanced spectatorship (Grau, 2003:7). Artworks that create illusionistic spaces such as virtual environments, and that require embodied presence and participation, are often deemed to be immersive (Bishop, 2005; Grau, 2003:15).

4.1 "Arts of noticing" and the making of *The Visitor Centre*

An artist's empathy and care for nonhuman animals often surfaces during the process of making art. To create is to attend to things, to move closer to things and to form relationships with things (Murdoch, 2002). Once artists become attuned to nonhuman species, they can bring audiences closer to those species and activate emotional responses through their work. As evidenced by Kimbell's and Zaretsky/Reodica's artworks, however, bringing audiences face to face with a living, breathing animal is to invite unpredictability and to destabilise preconceived order. *One night* and *Workhorse zoo* accessed the "productive materiality" of art as a performative, emerging activity for human and nonhuman, animate and inanimate actors (Bolt, 2010:9-11), which can be likened to Kester's (2011:32) notion of "situationally responsive" art, where the uncertain terrain that artists and participants navigate allows for new possibilities to emerge. It is evident from Kimbell's account of her process that the activity of making art commences long before the encounter between audience and artwork (be it relational or object-based art). For Kimbell and many other artists, paying attention to nonhuman species is the first step: becoming attuned to the particular ways and interests of nonhuman others precedes the desire to foster empathy and care for them. One can consider this process as moving from the generic to the specific to consider the subject of the artwork through a subjective lens. In reflecting on the period that led to *The Visitor Centre* interventions, I describe a relational process through which my own embodied responses towards nonhuman species were negotiated.

Figure 83 Unidentified species of moth, Muckleneuk, Tshwane.

These encounters took place in the rapidly sprawling and changing metropolis of Tshwane.[181] As a biodiverse environment that encompasses two biomes, the severely threatened Grassland and Savanna, this large municipal area is home to 2 950 million people in uneven pockets of dense urban living (such as the high-rise buildings and flats of Central and Sunnyside),

[181] In 2000, thirteen municipalities combined to form the City of Tshwane metropole, and in 2011 an amalgamation with Metsweding District Municipality extended the land area of Tshwane to 2 198 km^2, making it one of the largest in the world (City of Tshwane, 2005; Adeyemi et al., 2015). The impact of urban development and sprawl is noted in studies on climactic changes (Adeyemi et al., 2015) and species distribution (Dippenaar-Schoeman & Haddad, 2014:75) in the region.

suburban sprawl, informal settlements and small-holdings (Adeyemi et al., 2015; City of Tshwane, 2005). Tshwane's rich biodiversity is evident in conservationists' and residents' stories of water monitors (*Varanus niloticus*) in residents' homes, small-spotted genets (*Genetta genetta*) that keep rats at bay and leopard sightings on the outskirts of the city (Thenga, personal interview, 2014 May 29).[182] The low ridges and rocky outcrops that originally demarcated the city and provided fortification and riches now form pockets of designated conservancies surrounded by urban developments. Even areas that are seemingly disconnected from conservancies, such as the suburb of Newlands near the Menlyn Maine precinct flanked by the N1 highway, is home to a wide array of species.[183] When I lived in Newlands for a short while, I was surprised that bushbabies regularly visited our garden in spite of the nearby construction sites and increasing traffic, as I assumed they would prefer leafy neighbourhoods with large gardens. An 80 cm female brown house snake (*Lamprophis capensis*) was found dead on our driveway at the same property the morning after my neighbour's delivery van was stolen, and I connected these two events into a single narrative.[184] I spotted rock hyraxes (*Procavia capensis*) living in the drainage systems, found a porcupine quill at Magnolia Dell (a nearby park), encountered geckos and skinks in abundance and saw wasps dragging rain spiders to their lairs. One day in Muckleneuk, a vervet monkey dropped by (described in Chapter Two). During the making of *The Visitor Centre*, discovery followed attentiveness. My current studio is populated by daddy-long-legs spiders (*Pholcidae*), with whom I have an informal co-habitation agreement. When I was collecting dead spiders one day, I realised that some "bodies" were only exoskeletons. I knew that daddy-long-legs spiders cannibalise their own, but by looking closely at my collection of spider fragments I also learned that spiders shed their exoskeletons.

From the project's inception, I amassed a collection of found shed skink skins, insect and spider bodies and parts, dead geckos, wasp nests and other objects of interest that provided tangible evidence of multispecies worlds. Urban encounters with nonhuman species are not always manifested, as an ability to hide from human view is frequently key to surviving in cities, but I developed an understanding of the different species living

[182] The water monitors were usually found in houses built too close to the flood line near rivers and streams(Thenga, personal interview, 29 May 2014).

[183] Menlyn Maine is a high-rise urban development set to become a new central hub in Tshwane, following the example of Sandton City in Johannesburg.

[184] The snake was identified by an official at the National Zoological Gardens' reptile park.

Figure 84 *The artist's personal collection of insects, myriapods, reptiles and nests.*

in my neighbourhood through these remnants and dead bodies. Encounters with humans may be marked by the death of the animal, as in the case of the brown house snake, where our meeting was facilitated by her death. Collecting formed part of my creative process and accompanied my interest in the living nonhuman species that co-habited with me. I am intrigued by my urge to collect as a seemingly contradictory impulse to modes of embodied attention. Through gathering and hoarding, I was brought closer to the practices of the natural historian, who also learns from the world by observing, gathering, comparing and analysing what is found. When coming across dying bees and wasps I often wonder if they died from pesticides or from natural causes. Keeping my eyes close to the ground revealed the variety of insects in my multispecies environs and spurred me on to identify lacewings and other species that I did not previously have names for. I experienced a sense of wonder at the insect diversity, and frustration when I was unable to identify them. I came to understand the taxonomer's work as a way of drawing species closer

Figure 85 Composition III *(2015), watercolour on paper.*

instead of perceiving the impulse to collect and name as one of separation, control and domination.

Creating multiple drawings and paintings at the initial stages of the project provided me with a sense of focus when uncertainty reigned. Observational drawings and paintings made from my collections provide evidence of relationship-making between artist and subject. Working mostly with small fragments of geckos and skinks, I started to see details previously overlooked. The simultaneous acts of drawing and looking force a closer engagement with an object to focus on "specificity and uniqueness of individual encounters rather than generalisations" and require the manner of attentive looking not always present in everyday interactions (Lyons, 2012:9). Looking closer and rendering what is observed is an enacted process of forming connections. My practice has for long been preoccupied with the amplification of details of the mundane and the familiar, and the task of bringing things to attention also has an ethical dimension; there is a morality to looking (Stafford, 1996). Drawing initiates looking closer by first "acknowledging the existence of the observed phenomenon", while investing time in drawing and looking brings forth dignity (Lyons, 2012:1).

My process, as a practice of embodied perception, is both emotional and analytical. Importantly, the emotional comport of corporeal embodiment allows for ethical behaviour and care towards studied subjects (Haraway 2008:36). Scientists who study living organisms can conceivably become attached to their research subjects and may form strong emotional bonds, as Snaebjörnsdottír/Wilson revealed in their documentation of condor-human relationships. Without emotional attachment, scientific practices and communications become disengaged from the living organisms that are studied. Embodied, situated and tacit knowledge are components of artistic practice that form an integral part of the epistemological spectrum and require recognition beyond the realm of art (McGuirk, 2011). When all forms of scientific investigation incorporate the "arts of noticing" as a form of embodied empathy, responsive and caring research practices will become more widely established.

My collecting practices included a nonhuman animal most familiar to me: I collected hair from Lupa, my animal companion, which I felted into ear-shaped forms. Lupa patiently yielded his hair to me, standing quietly as I groomed his thick coat. A personal interspecies relationship with a dog (*Canis lupus familiaris*) offers a different engagement to non-reciprocal relationships with wild and semi-wild species, and it is in their relationship with their pets that humans often excel in practices of care towards nonhuman species.[185] Touch is a primary means for forming interspecies emotional attachments and mutually constitutive relationships, when human and nonhuman become each other's companion species (Haraway, 2008:36). Haraway describes her relationship with her dog Cayenne Pepper as one in which boundaries are blurred during interspecies commune, and their relationship is explained in the language of phenomenological and interpersonal interactions. The sculpted ears of Lupa's hair, as dog hair interwoven over time by the artist's hand, similarly elicit a relationship of care and reciprocity. As relational endeavours are inclusive

[185] To the degree that pets are anthropomorphised and granted the status of personhood (Fudge 2002:31).

Figure 86 Detail of *Ambient I* (2014).

Figure 87 Ambient I *and* II *(2014), felted dog hair, sewing thread, synthetic felt, glue, paint and found objects. Exhibited as part of the Visual encounters exhibition, Rautenbach Hall, University of Pretoria.*

of their methods of making (Bolt, 2010:7-8), the artworks *Ambient I* and *II* (2015) speak of trust, affection and familiarity.

Ambient I and *II* became a pivot point from which my artistic research into non-reciprocal interspecies relationships proceeded. Lupa is the companion animal I have felt closest to and whose presence has altered my life irrevocably, but this familiarity is interspersed with alienation, as I cannot fully enter his world, or he mine (Nagel, 1974). I "listen" to Lupa's ears as they twist and turn; he hears my commands and conversations and, beyond my voice, much more. His world eludes me, especially his aural, olfactory and bodily perceptions. My sculpted forms, attached to seating, prompt the viewer to sit down, listen and connect with the absent animal.[186] While the artwork provides a space in which to experience a sense of interspecies commune, the silence indicates that our understanding is limited.

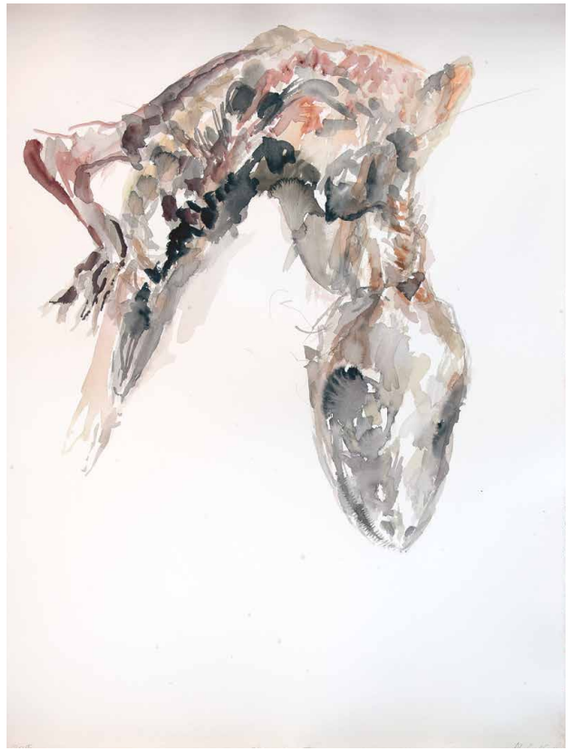
Art historian Elizabeth Sutton (2017:4) suggests that dogs are in-between creatures who can help humans form connections with wild animals. Her assessment stems from an analysis of student responses to a video of Joseph Beuys' performance artwork, *I love America and America loves me* (1974), which documented the artist's confinement with a coyote (*Canis latrans*) over three days in a New York gallery. The students intimated the experience of Little John (the coyote) according to their knowledge of canine behaviour and experiences with nonhuman species, which was often informed by their relationship to dogs. A strong bond with a pet will not necessarily determine a person's response to wild or semi-wild animals, as such a bond is usually subject-orientated towards an individual animal (Shell, 1986), but it may play a significant role in steering viewers towards an empathetic response. Sutton (2017) notes that many students expressed concern for the well-being of the coyote and were critical of Beuys' use of a live coyote for its symbolic value. She proposes that the video enabled embodied responses in the viewers and an empathetic understanding of the coyote's experience. While animals in art can provide phenomenological experiences to viewers (Sutton, 2017:62), such experiences are often informed by the viewers' existing disposition towards nonhuman species, and here human-pet relationships are known to contribute to positive attitudes towards nonhuman nature (Paul & Serpell, 1993). In the emotional experience of being with a nonhuman other, other kinds of knowing can be stimulated (Sutton, 2017:5).

Figure 88 Joseph Beuys, I love America and America loves me *(1974), performance.*

Empathy towards nonhuman animals starts with paying attention to their life worlds through the "arts of noticing", which require being responsive and sensitive (Tsing, 2010). "Arts of noticing" can be understood as situated cognition that recognises perception as an embedded process, with one's environment playing a role in how one's thoughts are assembled (Robbins & Aydede, 2009:3). In my watercolours series *Observations I* and *II* (2015), the shapes of tropical geckos (*Hemidactylus mabouia*) are approximated via loose, layered marks. By presenting fragmented, ragged brushstrokes, the viewer is invited to visually merge and interpret the dynamic surfaces. The paintings are reinterpretations of observational drawings, which are usually associated with the scientific pursuit of knowledge.[187] Observational drawing is deemed to present an accurate description of the object of scrutiny and to give credence to the draughts-

[186] Other interpretations are also possible, as the hair, being separated from a living dog, can engender a sense of the abject, and stir associations with pet fetishes and interspecies estrangement for the viewer.

[187] Methods of observational drawing or painting and, later, photography are closely associated with a "truthful" representation of species and were used during colonial expansion to document the riches of the colony, its fauna and flora, geological formations and natural resources. Renderings of natural history were regarded as documents rather than as interpretations of natural history.



Figures 89 & 90 Observations I *and* II *(2015), watercolour on Lanaquarelle cold press cotton rag, 68 x 58 cm.*

person's technical skill, but I used formal aspects such as line, colour and tone to express emotional qualities, engaging different types of observation, some visual and some felt, to create the works. Where observational drawings tend to isolate subjects and to extract the "thing" from its existence, my paintings are gestural interpretations that retain a sense of the energy that went into their creation. Watercolour does not allow for mistakes or "painting over", and these paintings were often completed within minutes to retain their colour vibrancy and to avoid over-layering of paint. The medium requires the artist's embodied receptivity to what is happening in that moment, and the paint and brushstrokes draw attention to the artist's hand and to the mediated nature of the painting. So while drawing can be used as a medium to order and distil its subject, it can also convey a sense of openness to what exists in the world: drawings can be examples of situated thinking that extend from the body into the world but can also express ideas beyond bodily limitations (Robbins & Aydede, 2009:3). As such, drawing can become a site for empathy (Snyman, 2016).

The creative process can be considered as a means with which to make subjects out of objects. Wendy Wheeler (2006:146-147), an eminent scholar in biosemiotics, defines creativity as "a state of prepared receptivity" and "an openness to life" through which tacit understanding can develop and allow for multispecies engagement.[188] Creativity can be likened to a process of embodied learning from the world, "where we submit to the world and open ourselves to it", engaging in a process of "mutual responsiveness" in which the hierarchical subject/object relationship shifts (Ingold, 2018). Artistic creativity can accordingly be understood as a form of embodied empathy, when disinterest gradually makes way for a closer engagement with nonhuman species (discussed in Chapter One).

Getting to know nonhuman subjects through embodied observation is necessary to move beyond general knowledge or an abstract understanding of nonhuman species, and artists that become closer to their subjects to understand nonhuman relational worlds practice an aesthetic of care distinct from a controlling, objectifying or probing scrutiny.

[188] Biosemiotics applies the study of signs and codes to enable understanding of living entities as "active systems of sign production" (Emmeche & Kull, 2011:1). A biosemiotic approach engages with complexity theory to find correlations between human processes and biological occurrences that disrupt the culture/nature binary (Wheeler, 2006).

An artist's receptivity and sensitivity to nonhuman species during such an encounter is comparable to the attitude of a caregiver towards the cared-for. Care ethics require openness to others and a sensitivity to another's needs, where one is consistently "prepared to care", even under difficult circumstances (Noddings, 2010:10). An approach of compassion and care disrupts the familiar mode of distanced, objectifying viewing (Baker, 2013:37), and embodied observation and an ethic of care generate an emotional connection to the artist's subjects that precedes empathetic responses (Noddings, 2010:9). In so doing, artists can develop a situated understanding and appreciate the details of the moment, looking beyond the generic species to see an individual animal within its own *umwelt*. The recognition that nonhuman species are central to their own perceptual worlds destabilises human centrality, and the specifics of animal lives can inform creative outcomes that are enactments of subject-to-subject relationships. Companion animals are reliant on their human companions to provide all their needs: it is the human who decides on the quality of life that the animal leads (Broglio, 2011), and the artworks *Ambient I* and *II* have come to signify my personal journey with a particular animal who has aged and become frail. Within the broader discussion of care, this relationship has led me to experience the burden of care, as the gradual deterioration of nonhuman companions requires emotional resolve. Novelist and philosopher Iris Murdoch (2002:65) describes the attentive gaze of artists upon their subjects as filled with compassion, according to which artistic drive can be equated to an act of care directed towards the subject and the artistic processes involved.

4.2 Artistic practice as a relational undertaking

Creativity is more than cerebral; it is an embodied activity. Although guided by the parameters of the doctoral research project, my artwork could not be mapped out from the beginning because of my process of negotiation between what is possible and what is desired. Artists are known to stretch the capabilities of media beyond their original intention, and I experienced art practice as a relational activity while creating gloves for bushbabies as a work for *The Visitor Centre II*.[189] After investigating the tensile strength and flexibility of different casting materials when thinly applied, I worked with a silicone rubber aptly named Dragon Skin, often used to create skin textures and cinematic props. To create the gloves, I approximated the process of dipping used in factories that make surgical gloves for human hands. My initial test was very successful, but I encountered numerous challenges when I worked to the scale of *Galagos maholi*, the lesser bushbabies found in Tshwane. During the casting process, the hands had to be rotated consistently to avoid congealing at the finger points and to ensure an even thickness between the fingers for successful demoulding. The casting material proved to be highly sensitive to changes in temperature, which affected the viscosity of the material and hence the outcome of the artwork. The product's technical advisor could offer no assistance due to the non-commercial specification of the artwork, so I had to navigate the material possibilities of the material through trial and error, while retaining the conceptual integrity of the work. In art, a hypothesis is tested through an expansive practice in which one constantly seeks to gain from both failure and success, and so a sense of continuity prevails in creative research. Ingold (2018) describes art experimentation as "trying something out and seeing what happens"; it can be likened to experiences in life. Although I am not a specialist in one particular medium, my method of work is specialised, and my approach to the material cannot be scaled up or outsourced, because the artwork is made through a process of discovering what works.

Figure 91 gloves *in progress: clay models dipped in silicone-based casting material.*

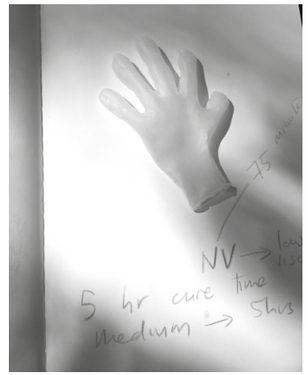


Figure 92 *Technical process notes while working out how to create* gloves.

[189] My interest in bushbabies stems from personal encounters with them at my home in Newlands and my childhood fascination with them. As they are a charismatic species of primates, an artwork focused on bushbabies could potentially elicit very different responses from audiences than those involving insects or reptiles.

Experimentation in art making can be compared to the experimental methods of scientific research, in which taking risks is rewarded, as both explore uncertain terrain and attempt to forge links that are relatively obscure (Lapointe, 2015). Drawing on the work of cultural theorist Raymond Williams, Wheeler (2006:131) describes art as a form of communication that involves absorption, explanation and interpretation, through which the world can be reconfigured.[190] As Williams (in Wheeler, 2006:131) reflects, the inclination to separate art and life or to perceive art as a leisurely pursuit is misguided and masks art's potential to shape the world. Scientific research is more widely accepted as a means through which the world can be brought into focus and knowledge can be obtained. While modern science is considered a means to certainty and establishing the world as an external reality to the human subject, a distinction is made here between science and scientific research, with the latter considered a creative endeavour. All researchers can be regarded as creative thinkers when seeking to establish new relationships. In creative thinking, new analogies are formed that allow researchers to go against the established grain of normative thinking by establishing connections between disparate things and ideas.

Creativity is relational, as it selectively differentiates and combines. For Wheeler (2006), ingenuity encompasses biological processes and speciation, as she redefines creativity as a bio-cultural occurrence that exists beyond human endeavours.

Figures 93 - 95 gloves *in progress: wire armature, clay model and a failed attempt.*

From a biosemiotic perspective, an "openness to life" describes the driver of evolution: "new strata of complex life" can materialise by encountering difference and being responsive to that difference (Wheeler, 2006:133). By mapping cultural processes (creativity) to biological processes, biosemiotics disrupts the distinction between culture and nature and allows for a more comprehensive account of creativity as an enactment of relationship formation. In a "state of prepared receptivity", encounters with difference require a process of listening, watching and waiting to better understand the other and thereby to be able to respond (Wheeler, 2006:147). The research of scientists who were responsive to their research subjects and practiced care (as described in Chapter One) embodies a relational approach that contrasts with a perception of the world as a data repository, where scientists "break off fragments" from the world to study in a decontextualised and objectifying manner (Ingold, 2018).

Figure 96 gloves *in progress: curing the silicone layers.*

While this is a generalised view of the research mode of the hard sciences, it holds true for the extraction of entities from their environments without care, as testified to by the vast number of specimens housed in natural history museums. Research, as a relational and creative endeavour, encompasses both conceptual and tacit knowledge as intertwined modalities. When embodied learning as a cerebral-bodily activity becomes separated into two different modes, research develops into a desensitised practice, as demonstrated in modern scientific methods. Disembodied scientific communication and research place undue emphasis on rational thinking and abstract categories, which tend to delineate and separate instead of forming relationships (discussed in Chapter Three). When research is understood as a creative, responsive undertaking, however, embodied practices of learning from the world can become the norm.

[190] In *The long revolution* (1961), Raymond Williams draws upon evolutionary theory and biology to propose that society can be considered as a complex, changing organisation in which continual interactions between subject and environment elicit change and recompose the world. Wheeler (2006:13) develops Williams' ideas and proposes a "material base for human sociability" that shows human culture as part of "nature", where culture is not deemed a category of its own but forms an integral part of the complex and biosemiotic interactions that constitute life.

In a relational approach to making, the artist is present and attuned to the process, and has a material engagement or co-responsibility with the subject matter and the tools of art to allow the world to reveal itself (Bolt, 2010). When artists work in a participatory way, their processes are "counter-representational", disrupting the urge to abstract and quantify and in opposition to Cartesian perspectivalism (Bolt, 2010:16-17). When trying to exert too much control over the outcome, the opportunities revealed through practice can be missed; uncertainty marks the surrender of control but accompanies a responsiveness to the potential of the medium. The creative process is marked by "cycles of knowing and not-knowing" (Kimbell in Baker, 2013:46-47), or periods of certainty and uncertainty, in which the artist must rely on intuition and tacit knowledge to reach an elusive endpoint (Kimbell, 2011). A participatory approach is comparable to assemblage, as its process reveals the artwork through material interactions, newly formed relationships and emerging affects. While particular questions can be pursued through practice, I found that they can only be answered in commune with the materials at hand.

Figure 97 *Tropical gecko (Hemidactylus mabouia), Muckleneuk, Tshwane.*

I discovered that art practice is relational regardless of whether or not its practice involves human participants, as the process unfolds between artist, tools and materials (Bolt, 2010). Artists describe a kind of "flow" brought on through immersion in the activity of making. The painter Gerhard Richter (1995:13) posits that:

> Painting has nothing to do with thinking, because in painting thinking is painting. Thinking is language – record-keeping – and has to take place before and after. Einstein did not think when he was calculating: he calculated – producing the next equation in reaction to the one that went before – just as in painting one form is in response to another and so on.

Richter describes how his senses are attuned to what happens on the canvas: he is present in the moment and responds as events unfold. Richter's approach marries with the performative process that views art practice as a perceptual and tactile handling of media (Bolt, 2010) and the limits of the artist's authority over those media. Sutton (2017:4) writes that "media is never just material, it is also relational – it is social practice, formed of and with culture", and the boundaries that were affixed to the category of "relational aesthetics" as a specific moment in contemporary art are thus irrelevant when a relational worldview becomes the norm. The materials, participants, subject matter and all the components the artist engages with through making are enactive in a process of co-production. My creative process is a discovery led by materials, which have their own strengths and limitations that determine what can and cannot be made. The media and materials are co-producers with the artist within a moral obligatory framework (Bolt, 2010:74-75). When the tensile strength of certain casting m§aterials determines the smallest scale that the object can be cast in and its fragility as a sculptural piece, the artist must negotiate with the medium.

4.3 Conversations and social practice

The Visitor Centre is a social practice, and the connections formed in the social web follow an assemblage structure, with material properties, expressions and emerging effects. Throughout my research, I initiated many conversations to engage conservationists, taxonomers, zoologists, animal geographers, citizen scientists, traditional healers, animal enthusiasts, animal rescuers, staff from the Ditsong National Museum of Natural History (DNMNH) and artists. These were usually one-on-one interactions or informal interviews to discuss their specific areas of interest and personal experiences and so that I could gain insight into the different species that populate Tshwane. Conversations followed similar meandering tracks, as most people recommended other people to speak to and raised issues that either opened avenues for further exploration or negated other tracks.

One such meeting was with Cedric Thenga, a nature conservationist who was then one of the section conservationists at Akasia for the City

Figure 98 Still from The Visitor Centre *(2015), video 6:10 mins, edition of 5.*

of Tshwane municipality. With Thenga, I visited an area in Garankuwa zoned for nature conservation that as a potential site for my intervention. Thenga recounted many incidents of residents' responses to their nonhuman species neighbours, mostly indicative of a low tolerance level (Thenga, personal interview, 29 May 2014) and recommended that I visit Tswaing Meteorite Crater Reserve to discuss my project with Julia Roelofse, then the deputy director of the reserve. In passing, Thenga also mentioned that *The Visitor Centre* at Tswaing had been destroyed in a fire. From my first visit to the burnt-out visitor centre at Tswaing, and through my subsequent conversations with Roelofse, the site became central to the development of my project. The burnt-out centre was the impetus for *The Visitor Centre* video, and the first intervention took place at the Tswaing meteorite crater in 2016. Roelofse introduced me to the artist Eric Lubisi, who was integral in connecting me to other artists in the Soshanguve area and who later participated in the workshop and interventions.

Through these conversations, I became a hub that linked the different worlds of conservation, care, natural sciences, art, museums and multispecies environments. At first, I was the initiator of many of these conversations, but as the project developed and I became entangled in existing networks, the directional aspect became less pronounced. These dialogues happened prior to, concurrent with and after the art events and interjected different ideas and perspectives into the constellation of the work. During these conversations, I was the non-expert, often speaking with authorities in their fields, and the anecdotes that were shared with me were impactful and influenced the work I made. Conversations offer a different entry point into shared human and nonhuman species' worlds, tapping into private musings and giving insight into an individual's interior motivations, and I consider the entire process to comprise the artwork. In a sense, the conversations gave me a foothold in the naturalcultural context of Tshwane outside of my personal experience, in the same way that the participants in *Small victories* expanded my limited viewpoint of the hidden motivations of Capetonians in Chapter Two. During the making of *The Visitor Centre*, people spoke about their appreciation and subsequent care for nonhuman species. Through these dialogues, particular species became more familiar to me, and I shared my expanded world through subsequent conversations. I was made aware of existing networks of multispecies care in Tshwane and of the dedication and commitment of carers, such as the animal rescuers and veterinarians who take in and treat injured, sick and abandoned wildlife before they can be transported to a rehabilitation centre.

I met with Vida van der Walt, a jumping spider (Salticidae) enthusiast and accomplished macrophotographer, who works closely with distinguished arachnologist Ansie Dippenaar-Schoeman and other spider (Araneae) taxonomers, to photograph individual spiders for scientific purposes.[191] Jumping spiders are abundant in homes, and, because they are diurnal, people are aware of them. However, the extraordinary diversity and charm of the species is not so visible, as they are tiny. Some of the species (*Belippo, Myrmarachne*) mimic ants by walking on six legs and hoisting their frontal legs to imitate antennae. Van der Walt (2017) implores the arachnophobes: "Please don't kill them, they are amazing little creatures and highly beneficial in controlling pests". Jumping spiders are Van der Walt's "magic wells", and she stirs public interest and fascination with

[191] Salticidae are the largest family of spiders in the world (Dippenaar-Schoeman & Haddad, 2014:75), and Van der Walt's website *Jumping spiders of South Africa* showcases many of the species she has photographed.

these creatures through her website.[192] Jumping spiders are quick-moving and not easy to photograph, so Van der Walt has adapted to her photographic subjects to capture them in detail and has formed an emotional connection with the spiders. The spiders have enlisted Van der Walt to their needs as she usually sets the photographed spiders free, and when she may be required to send a spider specimen back to biosystematics dunked in alcohol in a sealed container, the difficult task has to be carried out by someone else.

Van der Walt is not a trained scientist, but her photographs help taxonomers identify work because they provide an accurate rendition of a species' physical appearance before their colours fade over time. Although spiders are populous and diverse, with over 1 500 new species identified in southern Africa in 2013-2014 (Lyle, personal interview, 14 January 2015), few taxonomers currently work on spiders in South Africa (Dippenaar-Schoeman, personal interview, 20 May 2016), and Van der Walt's contribution is particularly valued in a field with such limited interest.[193] While Van der Walt accepts the necessity of a specimen for taxonomical work, and that a better understanding of spider diversity, distribution and behaviours can inform human conduct (Van der Walt, personal interview, 14 July 2020), her approach is shaped by affection and respect. To document without killing is an unusual research practice in the biological sciences, and Van der Walt embodies the amateur who negotiates established practices without the conditioning that professional membership implies.[194] Her enthusiasm for jumping spiders is contagious, and my own interest in jumping spiders grew through our conversations and my engagement with her photographs. As I paid more attention to other arachnids in my home, I considered the ways in which my artworks might provide viewers/participants access to enacted human-spider relationships, as Van der Walt provided me, to convey fascination and pique their interest in spiders' worlds.

Cultural associations with particular species were often raised in conversations, which included descriptions of the use of nonhuman species in traditional medicine (muti) and taboos: conservationists and educators expressed their frustration with the persistence of cultural beliefs that have a negative impact on biodiversity conservation. Legwase focuses on scientific research in her discussions with learners to alleviate their fear of taboo species such as owls and snakes (Legwase, personal interview, 24 August 2017), because while social taboos can function to protect species and their habitats, leading to similar outcomes derived from more formal conservation measures (Colding & Folke, 2001:596), both Thenga and conservationist Custan Mavhunga described cases in which cultural beliefs hindered their efforts to protect species (Thenga, personal interview, 29 May 2014; Mavhunga, personal interview, 30 May 2016). Their solution is to draw on scientific evidence to inform the public and dispel harmful myths. Conversations with a traditional healer (*inyanga*), staff at Tswaing and an animal geographer provided local context for the broader issue of the legal and illegal killing of nonhuman species for medicinal use.[195] In informal discussions, a traditional healer mentioned that, owing to their association with the home, parts of lizards and geckos can be used as muti in cases of marital infidelity (Anonymous, personal communication, 12 November 2014), and their defence mechanism is a saving grace, as healers can use the tail without having to kill the reptile. Due to my long-standing interest in the geckos and skinks I have co-habited with, these conversations inspired one of the initial works for *The Visitor Centre*.

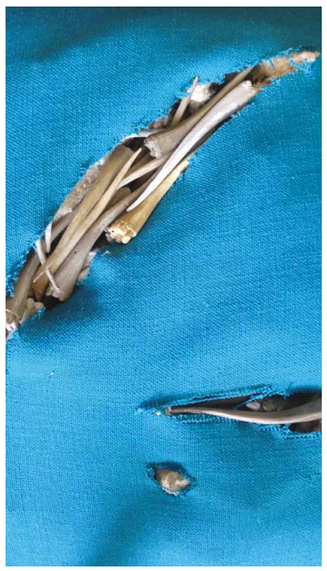
Conversations (2015) evolved from these accounts of cultural associations with nonhuman species. This sculptural work consists of two repurposed upholstered chairs placed in close proximity in the manner of two people sitting in deep conversation, with the cast forms of typical skink (genus *Trachylepis*) tails placed precisely upon one of the chairs. Typical skinks have adapted well to urban areas and are plentiful in Tshwane, and they can shed their tails when under threat. The sculptural forms are bone-like, made from Material One, a brittle, environmentally friendly resin substitute. In their precise placement on the chair, they allude to a forecast provided by these fragments of tails that were shed, as they appear rigid and bone-like. The fragility of the cast forms discourages anyone from sitting down, as the tails would clearly break. These tactile associations, with material weight, tensile strength and flexibility, affect

[192] "Magic wells" describe the talents and abilities of specific species that are revealed by studying their behaviour in their natural environments (De Waal, 2017). De Waal argues that while these intriguing skills may be noticeable to ethologists working in the field, they are often ignored in laboratory environments, as examples in the field of cognitive psychology demonstrate. Humans tend to structure experiments to test nonhuman species' cognitive abilities on human-determined measures of cognition, which limits the outcome to a comparable vector, even though the manner through which cognitive ability can be demonstrated in other species may be incompatible with the human measure (De Waal, 2017; Despret, 2016).

[193] Spiders provide important services to humans, particularly in controlling crop pests, but a "historical neglect of spider taxonomy" has contributed to incomplete taxonomic records and numerous undescribed species in the Grassland biome that extends into Tshwane (Dippenaar-Schoeman & Haddad, 2014:1-2).

[194] Specifically with regards to biosystematics, which requires a specimen for identification, and in laboratory settings, where research outcome generally results in the death of nonhuman species.

[195] At Tswaing and other reserves in Tshwane, traditional healers can harvest plants for medicinal use, following the principle of sustainable harvesting (Roelofse, personal interview, 12 November 2014). Snakes are often illegally traded and were evident in medicinal markets in Johannesburg such as the Faraday Market (Alexander, personal interview, 2014). Conservationists remarked that the African pythons at Tswaing may have been poached for medicinal use, as no traces of them were found over multiple visits to the reserve at the time of the interventions and workshops.



Figures 99 - 101 Conversations *(2015), Material One casts, found chairs, fabric, sheep's wool, dimensions variable.*

the audience's embodied response to the work. Where the tails penetrate the fabric, they appear nestled within the soft interior, and it is easy to imagine the whole seat teeming with life within the soft confines of the cushion, suggesting subterranean species living out of sight. *Conversations* communicates associatively and suggestively as a sculptural assemblage that merges different meanings into a partial synthesis. Multiple conversations are thus interwoven into the fabric of the various artworks.

As these works developed into smaller renditions that could fit into the backpacks of *The Visitor Centre I* and *II*, the conversations that influenced their formation were gathered together in material form. Stories told by artists can reveal an emotional involvement and passion filtered out in other forms of communication, as addressed in Snaebjörnsdottír/Wilson's works *Uncertainty* and *You must carry me now*. Extending the notion of art as a relational practice, conversations can become embedded within the artwork during its creation, when "the outside world enters the work" (Bolt, 2010:9). Conversations and stories are gathered in the backpacks of *The Visitor Centre*, held in place by the objects through which they are told, so that the backpacks become containers for the anecdotes and stories shared in conversations before, during and after the art events. Haraway (2016:118) describes stories as "capacious bags for collecting, carrying and telling the stuff of living."[196] Practices that collect stories, such as *The Visitor Centre*, knit together different threads of multispecies relationships. The artworks in the backpack are encapsulated stories that can be unravelled in public exchanges but can gather stories too: as visitors respond with their own narratives of multispecies interactions, those stories are hooked into the thick weave of the greater artwork. The fabric of stories helps to keep relationships intact.

4.4 Size and significance

The Visitor Centre investigates the value judgements we bring to our perceptions of small nonhuman species, whose size may also denote their importance to us. Species deemed to be of little value to humans often fall outside of the sphere of human concern, and many species are deemed insignificant or just not "wild" enough to warrant our interest or

[196] Haraway draws on the speculative fabulation work of Ursula le Guin and Octavia Butler, with specific attention to Le Guin's carrier bag theory that stories are vessels that carry seeds. Ideas spread, like seeds, and have an impact upon the world (Haraway 2016:117-125).

Figure 102 Process still from untitled video (2016).

respect. Nonhuman species' perceptual worlds, or *umwelts*, permeate the environs of every home, yet the existence of many of these small insects, reptiles, amphibians and mammals is nearly imperceptible and often passes unknown to the human inhabitants (Von Uexküll, 2010). In popular media, television channels such as National Geographic and Animal Planet exercise intrigue and wonder about nonhuman species, but the programming's mandate to entertain privileges larger species and "exotic" locations, while more ordinary species are overlooked. In popular media, insects such as ants are unlikely to be acknowledged outside of typical discussions about pests and "problem" animals. Looking closer and taking note of these species offers a first step towards building multispecies relationships.

Working with smaller species addresses the species fall-out that happens with urban encroachment: larger mammals are inclined to disappear in urban areas, whereas smaller species such as skinks may adapt better to smaller, fragmented habitats.[197] Furthermore, when species are perceived as numerous, their individual importance is overlooked, but it is important to counter the "big five mentality" that hampers both research and the appreciation of smaller-species diversity.[198] These scalable distinctions of importance, abundance and visibility relate to value appraisals such as nuisance animals, health risks and phobias. Insects comprise approximately 81% of the world's species and have the largest biomass of all fauna groups (Samways, 1993), but as many small species of insects are considered plentiful and not individually significant, it is often difficult to gauge population declines until stark evidence has been presented. The alarm has sounded in recent years, and the decline of insect populations has been more widely reported (Cardoso et al., 2020).

Micro-imaging systems and macrophotography can be employed to stretch the "arts of noticing" beyond the limitations of human vision. The remains of the tropical geckos that were studied for *Observations I* and *II* were photographed with a micro-imaging system to produce detailed photographs of sections of their bodies.[199] One of these images, *Hemidactylus mabouia: sever* (2015), frames the area where the tail autotomised. There is evidence of a violent rupture: the array of scales points in differ-

[197] Aronson et al. (2016) report that some larger mammals may be more successful in urban areas than their smaller counterparts with limited dispersal.

[198] An estimation from 2005 reported that a large percentage of South African insect species are yet to be described, but there are few taxonomers of invertebrates to do the work (Toms & Malherbe, 2005).

[199] The images were captured on a Zeiss Axio Imager compound microscope with the kind permission of the Biosystematics unit at the Plant Protection Research Institute in Roodeplaat.

Figures 103 & 104 Hemidactylus mabouia: sever *(2015);* Hemidactylus mabouia: yield *(2015). Digital prints on Hahnemühle paper, each 23 x 18 cm, edition of 6.*

Figure 105 Hemidactylus mabouia: grasp *(2015), digital print on Hahnemühle paper, 23 x 18 cm, edition of 6.*

ent directions, offset from the orderly arrangement of a healthy tail. The microscopic zoom reveals little black dots on the skin surface of the gecko, a detail that emphasises their hidden wonders. These photographs show geckos as De Waal's "magic wells", where the detail of their feet and patterned skins produces a sense of wonder and curiosity in the viewer.[200] While microimaging systems and advancements in microtechnologies expose the limitations of the human sensorium, the visualisation of the microimaging process is subject to the amount of data that can be processed, the quality of the lens and many other contingent factors. They do not provide a perfect image, but they are more accurate than previous technologies and have augmented taxonomic knowledge of small species.[201] Being able to see beyond the limitations of ordinary vision has also helped dissolve the boundaries of species categories and exposed the limits of human understanding.

Microscopic investigations have often provided evidence that contravenes notions of a stable and fixed taxonomy. The identification of microorganisms within the human body destabilised the "conceptual hegemony of the integral human body" and "loosened the grip of anthropocentrism" (Stafford, 1996:147). The human being is a multispecies assemblage, which challenges notions of purity and elevated perfection (Haraway, 2008:3,4). Influential art historian Barbara Maria Stafford (1996:147-164) explains that magnification can unsettle certainty, as natural historians of the Enlightenment era realised through their observations. When the microscope became more widely established in the eighteenth century, the magnification of corals confused scientists, as it revealed that these creatures straddled both the plant and animal kingdoms (Stafford, 1996:157). Through this dissonance, the boundaries of both kingdoms were called into doubt. Magnification disrupts the smooth perfection of surfaces by revealing their textural complexity to the observer (Stafford, 1996:147). Artists using magnified images for creative ends can encourage viewers

[200] This is not to deny that the perception of miniscule insects, microorganisms and cellular activity often stirs a sense of discomfort in humans. One reason may be that the exploration of these new micro-frontiers has provided substantial evidence that humans are not so different from nonhuman species.

[201] In light of contemporary genetics and technological improvements, the miniscule is often considered "the new frontier", an inversion of an earlier metaphor of space exploration as the new frontier. Many species of Arthropoda have "escaped" classification or were incorrectly classified due to various technological limitations, so there is scientific work to be done. The field of taxonomy or biosystematics has benefited from improvements in optical technology.

to look more closely at the world, so the tiny dots on a gecko's body can become prompts to explore and interact with species normally rendered invisible by their insignificant stature.

However, visual apparatuses such as the microimaging system that produced my photographs are also closely associated with the detached mode of modern science. Ocular mechanisms such as the microscope facilitate the isolation of distinct body parts and connote a process of fragmentation: the gecko, for example, had to be photographed in segments in the microimaging system, as it did not fit under the lens. When nonhuman species are objectified through ocular mechanisms, these technologies can be employed to further the ends of an anthropocentric, dominating attitude to nonhuman species. However, when looking is accompanied by care, the intense scrutiny that visual technologies afford can be used to encourage fascination and respect for nonhuman species, as Van der Walt's photographs demonstrate. Accordingly, augmenting technologies such as microscopy and microimaging systems can extend the subjective modes of their users.

4.5 Decentring the human in *The Visitor Centre* video

This discussion focuses on my video artwork *The Visitor Centre* (2015), which was an important precursor to the mobile mini-museums. The video was filmed at the burnt-out visitor centre at Tswaing Meteorite Crater Reserve in Soshanguve, Tshwane, which I discovered through informal conversations with Cedric Thenga. As a preliminary to the backpack artworks,

Figure 106 *Still from* The Visitor Centre *video.*

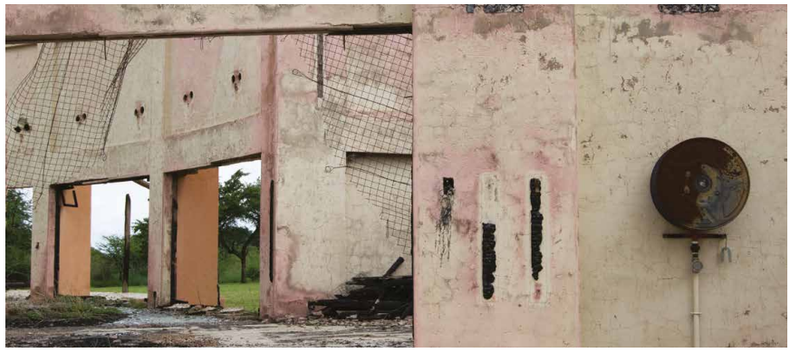


Figure 107 Untitled production still, The Visitor Centre (2015).

the video provided a means through which to investigate how hierarchies between subject and object can be overcome in works of art. The examples of other artists' works serve as inspiration to my own practice, but I needed to isolate the specifics of my own parameters and methods to formulate a suitable response to the research question. The creative process involves following the trail of ideas, making artworks to test ideas and continuing until there is clarity of expression and a resolved outcome. The video can be inserted into a museum environment, which allowed me the opportunity to envision how the artwork could emphasise entanglement, contingency and emergence in response to static displays and singular narratives. In the video, the familiar sight of overgrown, dilapidated structures is defamiliarised through filming and editing techniques that contribute towards attentive viewing and immersion within the art experience.

The visitor centre at Tswaing was opened in 1996 as the first eco-museum in South Africa (Coombes, 2003:164), but the building was destroyed in a fire in 2009 (Roelofse, personal interview, 12 November 2014). Although plans are underway to rebuild the centre, the building has stood unoccupied (by humans) since the disaster. The visitor centre and the adjacent, still-functional office building are situated in a nature reserve that is flanked by peri-urban township dwellings and encroached on by newly erected informal and formal settlements. I was drawn to this site

Figure 108 Tswaing meteorite crater, Soshanguve, Tshwane.

on the edge of the city because of the evocations of the burnt-out visitor centre, testament to the historical, geological and cultural significance of the site. The crater itself was formed 220 000 years ago and is one of only a few in the world that can be viewed in its entirety from the ground. It is small crater at approximately 1100 metres wide (Reimold et al., 1999:1), and is overshadowed by the larger impact site, the Vredefort dome, which is spread over 300 kilometres (HartRAO, 2005).[202] A salt lake has formed in the Tswaing crater and gives it its name, "place of salt" in Tswana. Historically, the salt lake is considered a holy site and draws traditional healers and religious groups (Stephen, 2012), and Tswaing served as a gathering point for local inhabitants, who collected salt deposits there (Reimold et al., 1999:1).[203] As a site-specific artwork, *The Visitor Centre* is informed by the particularities of place and time, but my own connection with the landscape of Soshanguve, where the crater is situated, is fleeting.[204] I live and work in Tshwane, one of the largest municipal areas in the world, in a neighbourhood nearly fifty kilometres away from the crater, so I am physically distant from the site and do not share the same spiritual or cultural connection to the crater as the local Tswana, Sepedi and Tsonga people who are regular visitors there (Lubisi, personal interview, 9 June 2016).

The meteoric event that impacted the landscape over 200 000 years ago provides an expansive temporal and spatial register to the artwork. The impacting meteorite travelled through deep space and crossed frontiers unknown to humanity to intersect with Earth at this exact location at a prehistoric time outside of human memory. The site of this burnt-out visitor centre provides an ever-expanding locality and spatiality that gathers momentum as it

[202] The Tswaing crater was first thought to have been caused by a volcanic eruption, but substantial evidence to challenge that assertion was provided in 1995 (Reimold et al., 1999). The original impact crater of the Vredefort dome is estimated to have been 300 km in diameter and occurred 3 000 to 3 400 million years ago, making it "one of the largest and oldest" clearly discernible structures on Earth (HartRAO, 2005).

[203] Cultural-historical artifacts dating back to the Middle Stone Age and spanning the Stone Age to the Iron Age have been found at the Tswaing crater (Frick, 1999:v).

[204] The area known as Soshanguve is a sprawling apartheid-era township development that was assimilated into the Tshwane metropolis. The name Soshanguve derives from a conglomeration of the different languages of the suburb's inhabitants: Sotho (Sepedi), Shangaan, Nguni (incorporating Swazi, Zulu and Xhosa) and Venda (Dippenaar, 2013). Due to apartheid-era spatial planning, its inhabitants are nowhere near the centre, caught in the periphery between the rural and the urban.

Figures 109 & 110 Stills from The Visitor Centre *video.*

moves beyond human space, time and understanding, while the remains of the burnt-out visitor centre also add to the otherworldly atmosphere. On a macroscale, the building consisted of concentric circular exterior walls and a central atrium, which, in its current state, offer layered viewpoints through the skeletal remains. The microscale, on the other hand, contracts and directs the viewer's focus downwards, to the hustle and bustle of nonhuman organisms. The film shows swallows as seasonal visitors to the area and zooms in on ants marching in a purposeful line. Owls hunt in the vicinity and rodent remains merge with shattered glass and charcoaled beams underfoot. The microworld of insects and other smaller forms of life signifies "the unknown" for those who are not immersed in their life worlds on a daily basis. The sound overlay offers no explanation of their activities, no David Attenborough-style voice-over with enlightening commentary. The controlled space of the visitor centre as educational node is ruined, and what was once a place of "cultural" learning has mutated into a place of "creatural" learning. Over time, the interior has returned to a state of unpredictable "wildness", a multispecies assemblage.

The medium of video provides suitable tools with which to do the work museums often struggle to achieve. While museum displays are understood as presenting a progressive narrative when a single demarcated

route is provided to the visitor, so too are moving images usually interpreted as narrative. Humans are conditioned to expect a linear, progressive narrative structure of memorable events with some form of resolution towards the end, and mass media does not generally divert from this norm. The viewing skills audiences have gained from the ubiquitous presence of mass media are usually couched in an expectation of linear progression, and film audiences are trained to follow the breadcrumbs of a storyline and may be disconcerted when a narrative shows no progression. When a film's objective is obscure, the experience of watching can become unsettling. Wildlife documentaries such as those on the BBC portray the excitement, danger and visuality of nonhuman life, whereas *The Visitor Centre* video portrays a continuity in which the vitality of multispecies assemblages is an ongoing event. The video as time-based medium captures the unfolding of micro-events at the site, paced at different speeds according to species preference, where the slow motion of the camera movement and the lack of clear plot or storyline fan the viewer's uncertainty. As the camera pans over a gap in one of the walls, the viewer is offered a glimpse of a human visitor, but the narrative does not follow the human as protagonist as the camera focus shifts between the manifold activities within the assemblage.

Some may regard the artwork as a documentary of events taking place in real time, but the moving eye of the camera is entirely subjective, and a nonhuman species perspective is suggested by shifting the vantage point and zooming in on micro-activities. A video camera is an extension of the visual faculties of its operator and director, as the word "technology" suggests. The technological embodied "eye", attached to an operator of sorts that orientates the viewer's body to the position of the ocular mechanism (Lauwrens, 2018:91), swoops and scurries in its survey of the visitor centre's ruins. In her discussion of the video, art historian Jenni Lauwrens (2018:91) proposes that the viewer is encouraged to perceive what the camera "saw", but more importantly to be entirely and subjectively immersed in the realm the video makes available. The low-angled shots used in the video cause the architecture to loom and stretch, and burnt timber interrupts a microlandscape of glass shards like rocky outcrops in the Karoo.

In these scenes, the vantage point of the camera does not correspond with the height and stance of a human operator, suggesting the embodied eye is nonhuman. And judging by the nonhuman actors that visibly and audibly populate the video, namely insects, birds and plants, an obvious deduction might be that the video offers an ant's eye view of the site. The shifting camera angles and ant's eye view encourage the viewer's immersion within this world of striving entities. Lauwrens (2018:90) suggests that technical aspects such as zoom, focus and blur can be used to shift the viewer's experience from complacent viewing to an immersed state of embodied attentiveness, and these aesthetic strategies are employed to bring the viewer closer to this environment and perhaps to feel a part of and partial to the unfolding buzz of a dynamic ecology.[205]

[205] Lauwrens (2018) discusses *The Visitor Centre* video as an appeal to her "gut feelings" that caused her to respond with empathy to the life worlds of the nonhuman species portrayed, and she identified with the human protagonist as a means through which her own sensorial responses were triggered.

The video presents the burnt-out visitor centre in a state of becoming: nonhuman species have repurposed the space and the role of humans has been decentralised in such activities. Ants scuttle and swallows swoop in and out of the condemned building; like a ship freed of its moorings, the ruined visitor centre has been pirated by opportunistic species. Barad's (2007) theory of intra-actions, which considers the enacted agency of phenomena and material-discursive processes along with intersubjective exchanges, aptly describes these strivings in which living and non-living entities act upon each other. The environment and the living beings within it can be viewed as an assemblage, an emerging spatial and material formation with affective capacities.

***Figures 111 - 115** Stills from The Visitor Centre video.*

Slow camera pans over the ruins create a sense of expectation similar to those used in Stanley Kubrick's 1968 film *2001: A space odyssey*, with its hypnotic, surveying camera and atmosphere. The repetitive survey of a vacated environment in *2001* sets the scene for potential action, with the camera drawing the audience in to actively seek clues with which to fill the narrative void. In *The Visitor Centre* video, a similar experience of estrangement and anticipation is created by the absence of a progressive narrative, the lulling soundtrack and the smooth, sweeping views provided by the camera.

Jane Bennett (2010:viii-ix) positions nonhuman life and inanimate things as entities with agency to argue for a more horizontal ontology of interacting "vibrant matter" that includes human bodies. In her political theory of "vital materiality", the agency of nonhuman nature and inanimate things is redefined as an efficacy (or ability to affect other entities) that is not bound to subjectivities, nor to a spiritual infusion of life (Bennett, 2010:xiii). By "equating affect with materiality", Bennett (2010:xiii) strips affect from its associations with personhood and human bodies and reframes the significant impacts that nonhuman entities and inanimate

matter have wrought on human existences, and their potential affects as a nonhuman political power.[206] As a result, the entire environment in which human activities take place gains significance as a site that intersects with and co-constitutes the human world. Bennett's vital materiality resonates with the "polyphonic assemblages" of multispecies existences defined by Tsing (2015:23), which draw attention to the constellation of interactions between all material things (including human and nonhuman, organic and inorganic) and their direct or indirect consequences. By alluding to these interpretations and to Barad's (2007:178-179) notion of entities responding within a realm of dynamic inter- and intra-actions, the video encourages the viewer to conceive of agency as an enactment of knotted relationships in which notions of self/other, inside/outside are complicated. By perceiving a non-deterministic sense of agency, and through the immersive strategies afforded by the video medium, the viewer becomes entangled in the spatial, durational and material field of the relationships presented, and I propose that such an immersive experience counters the objectifying modes of viewing that elevate humanity above the nonhuman world.

My own presence in the video is as an artist-observer who pauses to look closer, to photograph and document aspects of interest. Human habitation and activity is implied through sound (voices singing and talking), the ruined building, a car driving past and the implied hand of the videographer, but I am the only visible human. I move out of the frame, a peripheral visitor scanning surfaces, limited by my sensory capabilities and training. Some activities are hidden underground; others are imperceptible to me. When I returned to the site after filming the video, I excavated rodent skeletons in the scatological fragments regurgitated by owls, buried underneath tufts of grass on the charred site. Some of the skeletons were identified years later by Teresa Kearney, Head of the Vertebrate Department, DNMNH, as African pygmy mice (*Mus nannomys*), Tete veld rat (*Aethomys ineptus*) and Angoni vlei rat (*Otomys angoniensis*).[207] Though the video does not reveal these details to the viewer, the act of looking closer is given significance through my actions in the video and by means of the camera's slow, probing focus.

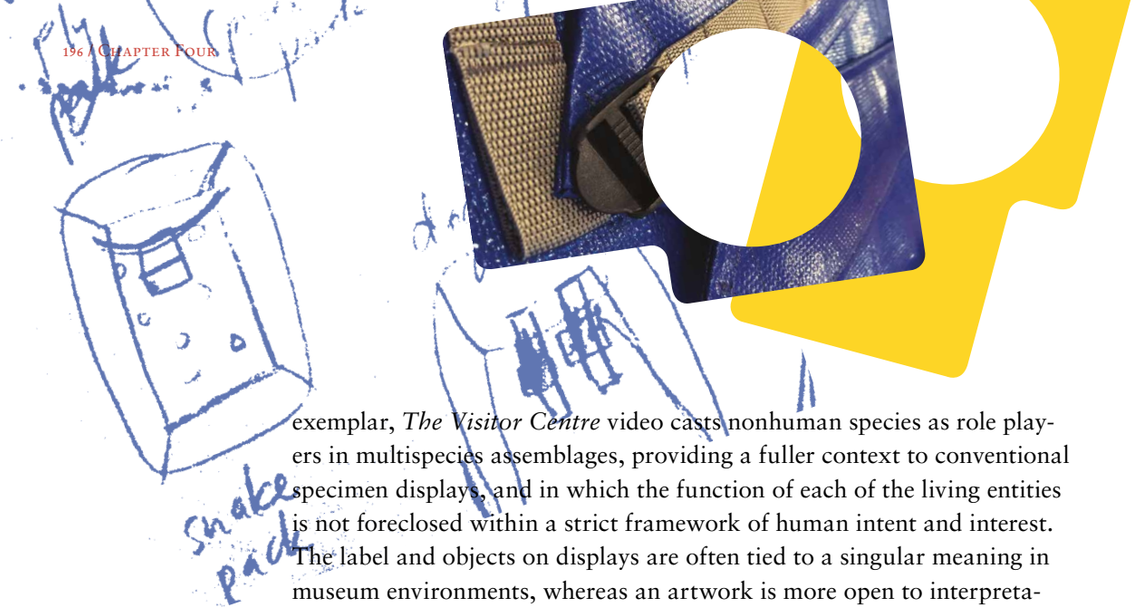
[206] My approach differs from Bennett's, as I see caring as dependent upon subjectification and emotional responses.

[207] Several of the skeletons were incorporated into *coughing up worlds* as part of *The Visitor Centre II* (Chapter Five). Naming the species established a firmer connection for me with the material fragments, as I was able to imagine their lives in more detail. I agree with Gruen (2015:51,66) that gathering contextual and specific information about a particular species forms part of the process of entangled empathy, as it may help formulate an appropriate response to that species.

The notion of learning from the world as a form of embodied empathy is supported by the activities of the artist-observer and the unfolding narrative. The film creates the expectation of a revelation, if one could just read the signs and attune to the movements and activities of the protagonists. My skills in embodied perception are limited, however, and I myself struggled to discern and learn within the space of the unbound visitor centre. Without access to digital and printed textual knowledge, I relied on first-hand encounters that had to be decoded. The embodied skills required to learn from the world by understanding the seasons, the direction of the wind, identifying food sources in the wild and listening to "nature as a teacher" have become devalued. Such skills are now assigned to indigenous cultures and appear to have little relevance to a globally urbanised population (Nadasdy, 2007; Miller, 2005), or these skills are commodified and staged, as in the TV series *Survivor*, to satiate the global desire for entertainment and spectacle (Zaretsky, 2002:90). The beneficial aspects of forging connections with nature are nonetheless appreciated by environmental psychologists and urban ecologists to counter what Pyle (1978) terms the "extinction of experience", and *The Visitor Centre* video proposes a way for the viewer to learn from the world by becoming immersed in quiet contemplation. By providing a method of looking with care through slow pans and zooms, the video creates an opportunity for empathetic viewing.

Figures 116 & 117 *Untitled production still,* The Visitor Centre *(2015); lower jaw of a vlei rat* (Otomys *species) found at Tswaing, identified by Teresa Kearney.*

The taxonomic narratives of ascendancy and gradual perfectionism prevalent in natural history museums can be countered by a narrative structure that unsettles progressive logic. Videos such as *The Visitor Centre* counter the narrative of dominance that prevails in public perception and scientific communication, as immersive video counters disembodied viewing by encouraging viewers to pause and absorb the presented content. As an



exemplar, *The Visitor Centre* video casts nonhuman species as role players in multispecies assemblages, providing a fuller context to conventional specimen displays, and in which the function of each of the living entities is not foreclosed within a strict framework of human intent and interest. The label and objects on displays are often tied to a singular meaning in museum environments, whereas an artwork is more open to interpretation, as viewers bring their subjective interpretations to the work. This sense of interpretative openness provides an opportunity for viewers to reframe human and nonhuman animal relationships in terms that exceed dualistic categories. The video is not *about* the human but employs various tools to decentre the human. The peripheral movement, in and out of the frame, of the artist-observer clues the viewer in to the ancillary role of the human protagonist, who is not enmeshed within the environment. The nonhuman actors are much more at home in the overgrown ruins, which suggests that, like seasonal swallows, human presence is transitory.

Figure 118 Collage of backpacks in progress

I later found it necessary to pursue the opportunities that mobility, adaptability and visitor participation presented as live interactions that are not mediated by screen-based media, but this video informed my next creative work and anchored my practice to the site of the burnt-out visitor centre. *The Visitor Centre I* backpack was presented at Tswaing, where associations could be made between the ruins of *The Visitor Centre* and the edifice of the natural history museums in central Tshwane. The mobility of the backpacks formed a stark contrast to these built environments, especially as Tswaing's Visitor Centre gradually succumbed to decay.

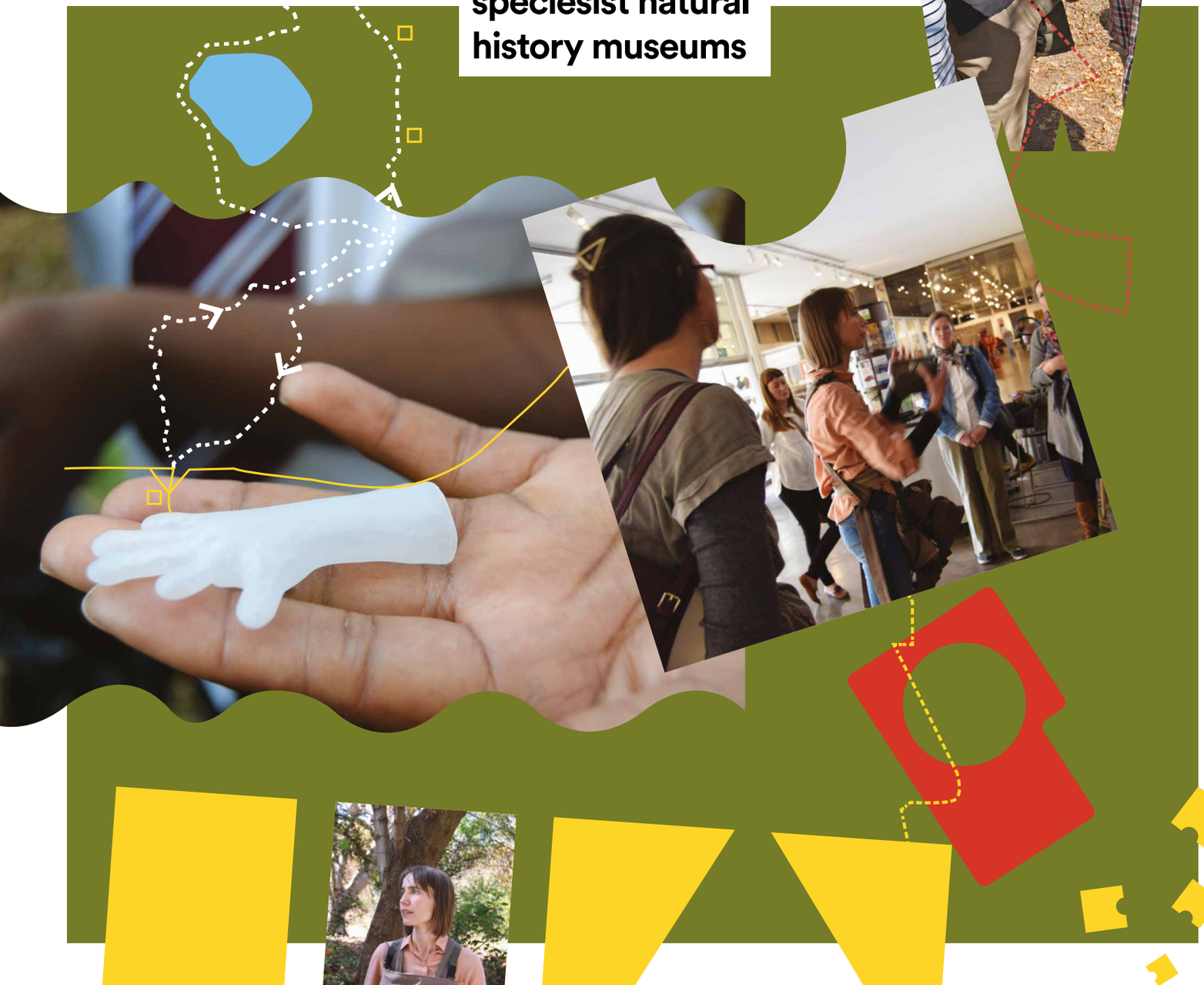
The initial artworks were human-scaled and too large to fit into a backpack, because I worked through ideas by making the work, to allow other solutions to present themselves. I was guided by questions such as how the work would communicate to the audience without being didactic, looking instead to avoid objectification and encourage empathy, and I also wanted to avoid symbolic representation, as nonhuman species are often interpreted as a stand-in for human protagonists or desires. The initial artworks filtered into *The Visitor Centre* backpacks or evolved into other incarnations and ideas, the experiments from which the first prototype emerged.

In my discussion of process works that developed into the art objects in *The Visitor Centre* backpacks, I noted that these artworks developed from a situated knowledge of nonhuman species and that emotional attachment can result from the creative process. In my work, I developed a stronger relationship with nonhuman species through observational drawings, presented as evidence of relationship-making. Making art is an embodied activity that can make subjects from objects and, as a subjectifying process, art creation can be considered a practice of care.

Artmaking can be considered as a relational undertaking that involves artists, materials, participants, subject matter and spatial and durational aspects that collaboratively constitute the artwork. In a materialist understanding of assemblage, the artist is a component within a larger assemblage of materials, artistic processes, ideas, affects and environments (Bolt, 2010). The various components of the creative process stretch beyond the combination of human hand and medium and include social connections and historical and current processes (multi-directional time), striving towards future emerging properties such as the artwork's reception or its eventual decay. Assemblage thinking is useful in this regard, as it frames creative practice as a volatile but fecund activity that discourages the viewer/participant from making assumptions about creative practice founded on binary principles.

Chapter Five

The Visitor Centre: an artistic response to speciesist natural history museums



This chapter presents *The Visitor Centre* as a response to the limitations of natural history museums, where speciesism remains embedded and presented in the means of display. Many institutions have remained faithful to methods of display that objectify, presenting their collections in ways that prevent visitors from making associations with and drawing relations between human and nonhuman species' experiences, as the displays and visual communication limit each object or nonhuman subject to a singular function within a larger stable narrative. As such, natural history museums in their current form cannot effectively address the lack of care that humans show for nonhuman species, as the museums were not designed to garner subjective, emotional responses from visitors. Empathy and care for nonhuman species are predicated upon a subject-to-subject relationship, whereas collected specimens are usually perceived as lifeless objects. These "objects" need to be reanimated through narratives or other imaginative strategies to activate emotional responses in the visitor. But while artistic insertions within natural history museums can alleviate some concerns around the representation of

nonhuman species, I believe a more radical approach is necessary to compel natural history museums to answer to the demands of our time.

With this belief in mind, *The Visitor Centre* was created as a relational artwork aimed at promoting empathy and care for nonhuman animals by subjectifying nonhuman species.[208] The artwork developed through creative practice into a series of lightweight backpacks that were presented in the City of Tshwane/Pretoria from 2016 to 2018. As a portable and adjustable mini-museum, *The Visitor Centre* functions as a mobile hub that forges connections between artist, audience and nonhuman species. The artwork's interior houses multiple objects crafted with particular nonhuman creatures in mind. When these objects were handed to visitors, they acted as touch and social objects that initiated conversations between participants, who were invited to share personal narratives and reflect on their own relations with nonhuman species. As immersive, embodied experiences can signify a sense of emotional connectivity, the work explores how a close engagement with art objects can elicit empathy in visitor-participants.

An overreliance on vision forms part of the legacy of the Cartesian perspectivalism that elevates privileged groups of humans above the nonhuman world (Jay, 1994; Grosz, 1994) and, as described in Chapter Three, relations of power are enacted through objectifying methods of display in natural history museums. As such, efforts to dismantle the hierarchical ordering and exclusionary practices embedded in contemporary museums require "visceral, affective and performative" engagement with audiences, informed by a post-colonial positioning that promotes dialogue, responsibility and efforts to challenge the distribution of power (Tolia-Kelly & Raymond, 2020:8). *The Visitor Centre's* mode of engagement coheres with efforts to disrupt ocularcentrism and its dynamics of power, as the artwork was informed by ideas of participation and co-responsibility that require presence, attunement and bodily engagement. Relational artworks involve their audience as collaborators, and the art objects contained within the work were devised as focal points to stimulate haptic and differentiated responses from participants.

[208] This analysis of *The Visitor Centre* appears in part in my chapter "Encounters with *The Visitor Centre*: art and interspecies relationships" in *Animal encounters: kontakt, interaction und relationalität* (Böhm & Ullrich, 2019).

The format of this intervention disrupts established museum practices. The artwork consists of three prototypes, namely *The Visitor Centre I, II* and *III*, which developed from my original research proposal. I initially conceived of different iterations of the artwork, starting with a backpack and ending with a converted trailer or a caravan filled with art objects, and only after I had made the first backpack and understood the implications of its use in public interventions did the potential of its carbon-zero mobility and open-ended flexibility become apparent.[209] The backpack signals mobility and is immediately familiar. Participants understood that its contents could be adapted and changed to encourage different outcomes. Although natural history museums often make use of mobile museums to transport exhibition objects to schools that are further afield, a converted vehicle does not allow for the same intimate experience as a backpack, which enables the artist to have an on-the-ground engagement with participants that sets up an atmosphere of informality conducive to audience interaction. The first prototype, *The Visitor Centre I*, tested initial ideas and established the mode of the artwork. *The Visitor Centre II* developed from the first prototype and, by applying the trope of maternal care as a critical strategy, presented another approach to unsettling the legacy of binary concepts in multispecies relationships. These two artworks are discussed in depth here, while *The Visitor Centre III*, which functions as a proposition, will be unpacked (literally and figuratively) in the conclusion of this thesis.

The contents of the backpacks were sculptural assemblages that contributed to co-active meaning making and informality. As a relational artwork, *The Visitor Centre* enacted the connective and destabilising aspects of assemblage, where visitors' conversations were linked together during the event to form a constellation of expressions. In cohering fragments into a temporary arrangement, the *bricolage of The Visitor Centre* presents a model for mitigating the disconnection between human and nonhuman species.

Figure 119 The Visitor Centre I *backpack, Tswaing Meteorite Crater Reserve.*

[209] *The Visitor Centre I* backpack and *The Visitor Centre II* pouch were designed and made by me.

Creative strategies provide alternative means for enquiry, and art allows certain freedoms that enable artists to press beyond disciplinary limits (Baker, 2000:40-41). Baker (2013:178) asserts that art can disrupt and disturb, bringing certainties and established facts into dispute, but Kester acknowledges that art can also be didactic and inductive when framed as a means to an end.[210] Aesthetics and politics are inextricably linked (Bishop, 2004; Rancière, 2009), and an artist's subjective position is constituted by material-discursive affects, including the sociopolitical contexts through which categories of race, class and gender are produced. My claims for affect and empathy are complicated by these concerns, especially as I fulfil multiple creative roles: as artist; as the actor between artwork and audience; and as the intermediary who documents the work's effects. As creator, witness, listener, interlocutor and audience, my invested view affords me a proximity to ideas and events that others do not have access to, and I offer my somewhat blinkered view from a position of care.

[210] Kester (in Finkelpearl, 2013:118) laments the "liturgical" relationships that artists form with theory, where art's intent is to illustrate a particular position, without allowing for the "kinds of unique insights" that can develop in art practice or for the "complex and contradictory" responses of art viewers.

5.1 Locating and framing *The Visitor Centre* as an urban art intervention

Where visitor or welcome centres often act as the first point of entry to a location, as a node that explains the outside, *The Visitor Centre* is not bound to a singular location. While the artwork's mobility and adjustable, custom-made contents suggest it can accommodate different audiences and contexts, and adaptability is evident in its construction, there is a specificity to the work, as it responds to the City of Tshwane as urban environment. The first two prototypes of *The Visitor Centre* were presented at particular sites: at two nature reserves, an outdoor biodiversity festival, an art museum and a natural history museum, all of which framed the artwork and determined the audience groupings, influencing the audiences' interactions with and readings of the work. As artworks generate responses "situationally (in particular spatial and discursive contexts) and relationally (in relation to the viewer and public)", audiences can experience and respond to embedded principles, concerns and discursive contexts through an artwork (Von Hantelmann, 2010:18). Site-specificity refers to more than the phenomenological experience of place and the naturalcultural framework of institutional and ecological spaces: immaterial, discursive sites are also activated through site-specific practices, in many instances becoming the primary site of activation (Kwon, 2000). As a relational practice, art is dependent on the audience's responses and the work's durational affects, along with the situated creative processes that occurred prior to the event (discussed in Chapter Four). In *The Visitor Centre*, locational specificity connects to embodied perception, situated knowledge and multispecies narratives while accommodating the fluidity of ideas and processes that characterise assemblage structures. While setting processes in motion that deterritorialise can be effective in working against authoritative structures, care should be taken to avoid an erasure of difference (Kwon, 2000), particularly in the South African context and its enduring legacies of colonialism and apartheid (De Robillard & Lipschitz, 2017; Dippenaar 2013) [211]

[211] Kwon's (2000:57-58) critique of mobility in relation to site-specific and site-oriented work speaks to a tendency to multicultural glibness in contemporary art that is insensitive to the politics and specifics of place. She asserts that there is a "privilege" to nomadism as an exercise of choice.

In June 2016, I introduced *The Visitor Centre I* as a first prototype to audiences during a series of events held at the Tswaing Meteorite Crater Reserve in Soshanguve, Tshwane. The events included two public interventions (5 and 11 June), a World Environment Day event (7 June), an exhibition and workshops with local artists and postgraduate students (5 to 11 June). Members of the public, conservationists, artists, scientists, colleagues, teachers and a group of Grade 6 learners from a local school attended. Additionally, Custan Mavhunga invited me to present the artwork to Grade 10 learners at a nearby nature reserve (18 June) as part of a mentoring project for future conservationists. [212]

The second prototype, *The Visitor Centre II*, was presented at nine public events in May and June 2018 at the Pretoria Art Museum (PAM) (16, 19, 26 May, 8, 9, 13 and 23 June), the Ditsong National Museum of Natural History (DNMNH) (14 June) and at the City of Tshwane's Biodiversity Festival (BF) (22 May), held at Fountains Valley Resort. [213] I made use of existing opportunities to engage with other publics, such as through the University of Pretoria Fine Arts staff exhibition at the PAM titled In the Public Domain – the long duration of the exhibition (16 May-24 June) at a prominent venue enabled me to host and promote a series of public interventions, and the educational officer at the PAM, Mmutle Kgokong,

[212] *The Visitor Centre I* events were documented as photographs, and some were filmed (5, 8, 11 June) on commission.

[213] *The Visitor Centre II* events were documented as audio recordings and at times filmed, and are referenced according to place (BF, PAM or DNMNH) and date. These recordings are listed as appendices.

offered me the opportunity to present *The Visitor Centre II* at the walkabout of a student art exhibition hosted by the museum's education assistants.[214] The event at the DNMNH was made possible by Teresa Kearney, head of the vertebrate collection, and educational officer Bongi Legwase, and through the support of Mavhunga, who attended *The Visitor Centre I* presentation at Tswaing, I was invited to participate in the Biodiversity Festival. *The Visitor Centre II* intervention took place after a Friends of the Museum talk on bats and diseases by Professor in Zoonoses and director of the Centre for Viral Zoonoses Wanda Markotter. The format of these interventions differed from the first prototype, where I arranged a week of events and workshops at Tswaing and invited most of the attendees myself; by slotting into pre-existing events, I interacted with audiences drawn from a broader public. While visitors to the PAM were art-minded, the Biodiversity Festival attendees were environmental sciences and conservation students from Tshwane University of Technology and learners from Atteridgeville. The audience at the DNMNH shared an interest in small mammals, and many were scientists, students or interested members of the public. Each event was determined by the intersection of site and audience, inclusive of each individual participant's diverse and accumulated experiences and interests, marked by cultural, racial, gender and age differences (amongst others) and their disposition to the work.

The built environment of the art gallery and natural history museum were the antitheses of the first prototype, in which participants walked through the Tswaing Crater Nature Reserve, and the intervention at the Biodiversity Festival was held under shady trees next to a bubbling stream, the natural setting contributing to a relaxed atmosphere conducive to interaction. On the other hand, the presentation in the PAM framed the intervention within an art context, which facilitated an easier transition between the fictional and factual aspects of the work. One participant asked, "Are you more of a urinal now?" (PAM, 13 June 2018) in reference to Marcel Duchamp's famous readymade urinal as artwork, where the institutional framework of the art museum provided credibility and context to the work (Von Hantelman, 2010:11). By performing in the PAM, visitors could compare my activation with the artworks on display and were thus challenged to contravene the etiquette of art museums to not touch or handle works on display. As a critique of the conventions of art museums and galleries, relational aesthetics provides an approach through which to subvert the elevated status of the art object and to merge art with life. *The Visitor Centre II* intervention disrupted the formality of the art museum environment and invited productive comparisons with institutional conventions and modes of display. The same informed participant asked whether the artwork "changes *into* something else when you put it in a natural history museum?" (PAM, 13 June 2018), and the environment of the DNMNH indeed framed the artwork as a response to the extensive collection of taxidermied birds amongst which it was presented in the Austin Roberts Bird Hall. This intervention invited proximity and a close scrutiny of artefacts without the impenetrable solidity of glass-fronted cabinets so that, with the static, speciesist narrative of the museum in evidence, the workings of *The Visitor Centre II* provided a contrasting experience of looking and learning.

The setting of the Biodiversity Festival seemed to ease the process of meaning-making for participants. Although the groups of students and learners at the Biodiversity Festival had had limited exposure to contemporary art or museums and were ushered from one activity to the next according to a strict schedule, making it challenging to establish a rapport with each group, the environmental context contributed to an understanding of how the backpack could function as an aid for their conservation efforts. It is difficult to ascertain how *The Visitor Centre II* coalesced participants' existing understanding of artworks, but the engagement met expectations to some degree, as the site and various groups emulated a typical public interfacing event.[215] Social art practices such as *The Visitor Centre* do not require an in-depth understanding of relational art in all its theoretical complexity for audiences to create meaning for themselves. From the conversations that took place during the Biodiversity Festival it was clear that participants had critically engaged with the ideas the work presented.[216]

It was important to sustain the audience's sense of not knowing, and sometimes their confusion, as eliciting emotional responses such as anticipation,

[214] I made use of the opening event and two artist walkabouts to present *The Visitor Centre II* and added regular weekly dates during the exhibition run that were promoted on social media; the education assistants were Fine Art students from the Tshwane University of Technology.

[215] After the event, two of the participants discussed the potential of the artwork as a tool to assist them in educating the public about biodiversity conservation.

[216] In particular, audiences questioned my motive for presenting pet paraphernalia for wild urban species in the artwork *gloves*, as discussed later in this chapter.

The Visitor Centre I events

Site of intervention

Crater lake

Look-out point

Tswaing Meteorite Crater Nature Reserve

The burnt-out visitor centre

Educational centre

7 June 2016

Public intervention with learners from Tane Primary School, Tswaing

8-10 June 2016

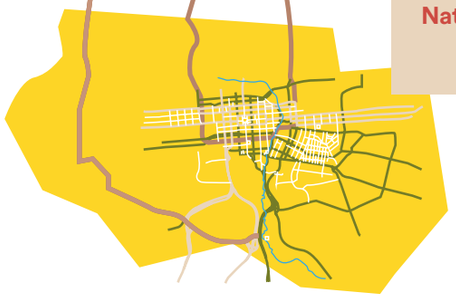
Workshops with local artists, Tswaing

11 June 2016

Public intervention, Tswaing

5 June 2016

Public intervention, Tswaing



18 June 2016

Public intervention with grade 10 learners, Roodeplaat Nature Reserve

The Visitor Centre II events

14 June 2018

Pretoria Central

Pretoria Art Museum

Ditsong National Museum of Natural History

Fountains Valley

22 May 2018

16 May 2018

19 May 2018

26 May 2018
8 June 2018

9 June 2018
13 June 2018

26 June 2018

surprise and excitement are important aspects of the artwork's unfolding. Accordingly, the work is secretive, and its secrecy was actively maintained by not sharing details of the events on social media. When visitors to PAM came in anticipation of an intervention (if they had received an invitation from me), I had to answer to their expectations of what the experience would entail. One participant in *The Visitor Centre II* thought that the intervention would involve a typical artist walkabout, in which information about the other artworks in the group exhibition is made accessible to viewers (PAM, 13 June 2018). Such pre-established ideas influenced the participants' experience of the work, as subjectivity is enacted during the event and the audience's own views affect their collaborative input.

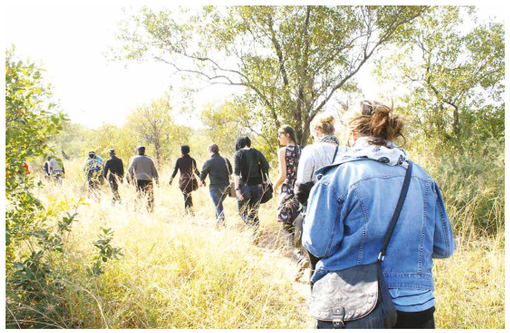


Figure 120 *Participants hiking towards the rim of the meteorite crater where* The Visitor Centre I *took place.*

5.2 Experiential spectatorship: getting closer to *The Visitor Centre I* and *II*

Throughout the art interventions, embodying aspects such as kinesis, tactility and environmental stimuli enhanced the participants' sensorial experiences and drew audiences into the art experience. Where displays in natural history museums tend to separate the visitor from the specimens on display, *The Visitor Centre* sought ways to bring audiences closer to the objects and to encourage bodily responses that would create opportunities for emotional attachment, embodied attention and care.

At the Tswaing Meteorite Crater Reserve, audiences joined me in a walk to the meteorite crater rim, accompanied by butterflies, birds and the occasional zebra before *The Visitor Centre I* was revealed. The walk gave people the opportunity to take in the reserve's fauna and flora, to talk to others and to relax without the typical distractions associated with urban spaces. Walking is more than a means to travel: it engages the senses and can initiate a sense of connectivity with nonhuman species, plants and the natural environment (Sutton, 2017:98-100). On the footpath leading to the crater, different sensorial perceptions intermingled as we gradually made our way through the tall grass of the bushveld. As one of the participants remarked, "us being here in this environment and amongst the grass with the hot sun and the leaves […] we are affected in a particular way because of all those sensory things" (Grobler, 2016). The activity of walking connected visitors to the natural site and to each other through their bodily sensations. Lauwrens (2019:104) writes that the sensorial engagement that is activated through walking can lead audiences of participatory ecological artworks to develop "deeper understandings" of human and nonhuman species relationships, and she reflects that the locomotion of hiking can shape participants' durational experiences through the intermingling of kinaesthetic perceptions with the particularities of place.[217] Informal conversations while walking may merge with environmental stimuli, personal thoughts about artworks and sensory responses to form rich, memorable experiences (Lauwrens, 2019:102-104). During the walk to the crater, participants became curious about the contents of the oversized backpack, which was later suspended from the branches of a mopane tree close to the crater rim as its contents were gradually revealed.

Figure 121 *Learners from Tane Primary School walking to the crater.*

The art objects contained within the fold-out backpack of *The Visitor Centre I* were wrapped or placed in containers, and as each object was distributed, the receiver had to unwrap the artwork, which, as one participant remarked, added another layer of anticipation to the experience. Anticipation is a crucial aspect of the project construction, as it generates emotional engagement with the work. The intervention created an opportunity for embodied perception by tasking audiences to focus their attention on a single object, in contrast to the multiple objects vying for attention behind glass in a conventional natural history museum experience.

[217] Lauwrens' (2019) reflection on walking is based on her experience of *The Visitor Centre I* and Hannelie Coetzee's *Locust and grasshopper* (2017).

Figures 122 & 123 coughing up worlds, *hand-blown glass, pygmy mouse femur, human hair; trophy, found objects, paint, wire, drawing.*

Figures 124 - 127 *Revealing* The Visitor Centre I, *Tswaing*.

These physical encounters with art objects relate to experiential modes of learning, where touch objects are used to encourage active engagement and interactions between participants (Simon, 2010:2). In contemporary natural history museums, interactivity is employed to engage distanced visitors and to influence their subjective responses. In *The Visitor Centre II*, *coughing up worlds* consisted of pods of hand-blown glass that enclosed pieces of bone and knots of human hair, with the reflections and distortions created by the molten glass obscuring the fragments within and encouraging participants to scrutinise what was inside. One visitor remarked that in the process of handling objects, they were "forced to focus on one thing" (PAM, 13 June 2018).

While haptic experiences with objects can focus visitors' attention, the strategic scale of the objects also slowed down the speed of viewing. *trophy* consisted of half a matchbox, which slid open to reveal a miniature trophy made from a press stud, wire, veterinary ear medication packaging, a nut, gauze, glue and paint, and visitors were challenged by a tiny drawing of a winged creature on the trophy – whether because of the low light in the venue, their own eyesight, my lack of proficiency in illustration or their skill in identifying insects. Visitors had to move in close to see the drawing, and many spent time contemplating the insect's identity and, consequently, its meaning. This rarely happens in museum environments, as studies show that the average visitor spends approximately 10 seconds of concentrated attention on a specific object in a display (Bitgood, McKerchar & Dukes, 2013). Shifting modes of viewing is an intentional strategy, as focused attention is a requirement to initiate feelings of attachment and care (Noddings 2010:8). In their revelation of how meaning emerges through embodied interactions with the world, such phenomenological experiences can trouble mind/body and subject/object binaries (Merleau-Ponty, 1974).

Participants had time to literally and figuratively weigh up each artwork as it was passed around, stimulating visitors' bodily responses as multimodal sensory experiences. Vision can correspond with haptic sense perception to encourage a sense of "absorption of the self within the object", which signals an immersive state where "boundary changes" can be effected (Esrock,

1. *listening device:* a roll of blue duct tape with baby scissors attached.
2. An LED light.
3. Anecdote pouch stacked with paper.
4. *evental:* postcards depicting squashed mosquitoes.
5. A mirror.
6. *forensic entomology:* a paint scraper.
7. A magnifying glass with LED lights.
8. Plastic calipers.
9. Rolled-up canvas sleeve containing four digital production stills from *The Visitor Centre* (2015) video (high-resolution prints on canvas).
10. Rolled-up sleeve as placeholder.

Not pictured: Pens and pencils.

Nicola Grobler, *The Visitor Centre I* (2016)

migratory medicine for ants: two homeopathic remedy bottles.

tails: sleeve containing Material One casts.

6 bedrooms: a lock with '6 bedrooms' engraved on both sides.

impossible neighbours: bronze frog in folded triangular fabric pouch.

still life with funnels: a cardboard box with two funnels and a glass sample tube.

spider pants: plastic container with collected arachnid fragments (not present at first event).

comfortable distance TM: engraved tape measure.

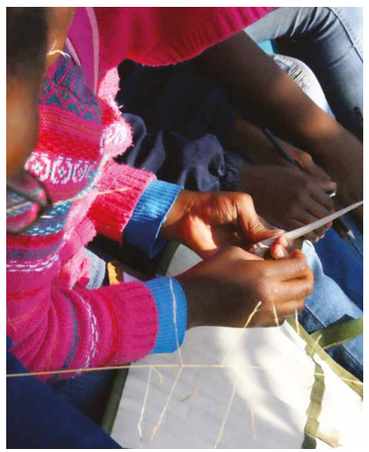


Figure 128 *Learners from Tane Primary School investigating* tails, The Visitor Centre I.

2001:244, 234). Esrock (2001:236) proposes that vision, as an embodied sense perception, can elicit a notion of being "touched" by artworks, because a viewer's subjective identification with an artwork can bring the external world (art object) closer. The viewer's somatosensory system extends into the world, and, through vision, the material qualities of the art object can be felt within the viewer's body (Esrock, 2001:238). When tactile sense perception is activated in aesthetic experiences, it may elicit an even deeper experience of intimacy with the art object, as touch may appeal to memories formed before visual sense development (Gallace & Spence, 2011:577).[218] Art can evoke memories and subjective responses, allowing for somatosensory projection and empathy to occur. An immersive experience brought forth by multimodal sense perception, such as a tactile experience, can mark the "as if" situations of empathetic projection (Grau, 2003:17).[219]

During the interventions, participants had to trust their own evaluations of touch. Audiences were asked to overcome distanced viewing and to bring the objects into their own frame of reference, as Esrock (2001) writes about empathetic experiences with art objects. The material aspects of the works guided the audience as they became attuned to variations in texture, weight, detail and the artistic appropriation of different functionalities so that the material qualities of solid bronze, heavy brass, feather-light plastic and fragile acrylic casts influenced attitudes to the objects. For example, one participant commented that the thickness and sturdiness of the walls of *6 bedrooms* could provide a sense of security to homing insects and spiders (Grobler, 2016), transferring her own positive associations with home to the found object and blurring the distinction between what humans and insects might desire of a home.

During *The Visitor Centre I* intervention, *still life with funnels* provided clues as to what it and its function might be, as the cardboard box with two standard laboratory equipment funnels and a test tube suggested a particular purpose. Small creatures might exit or enter the box via the open funnel, and, in my view, the dual funnels in blue and white invited comparison and implied choice. Simon (2010:127) explains that in museum practice, "social objects are the engines of socially networked experiences, the content around which conversation happens". As the icebreakers of participatory events, social objects distract attention away from other participants and personal discomfort to make awkward social interactions more convivial (Simon, 2010:127-128). As with participatory museum displays, in relational artworks the unit of analysis shifts from the art object itself to the participant's experience of the event. The objects in *The Visitor Centre* were intended to stimulate conversations so that, as visitors handled the artworks and in their encounters with each other, relationships were enacted. *The Visitor Centre* became activated through conversation and a "performative interaction" between artist, artwork and audience (Kester, 2004:10) and these intersubjective and embodied exchanges turned visitors into co-producers of meaning.

Figure 129 The Visitor Centre II *participants peering inside* coughing up worlds, *City of Tshwane Biodiversity Festival, Fountains Valley.*

The material and method of construction of the objects in *The Visitor Centre* helped elicit spontaneous responses. These sculptural assemblages, made from found objects and mostly non-hierarchical art materials, contributed to an informal environment conducive to audience interaction, stimulating connections between participants and the work. But sculptural assemblage can destabilise existing categories by disrupting expectations through the disjuncture of combined fragments to counter the elevation of art above lived experiences, and in *The Visitor Centre*, assemblage as a sculptural method was used both to destabilise and to form connections.

I regard the artworks in *The Visitor Centre* as "objects to think with", referencing the collection of evocative things in Sherry Turkle's (2007)

[218] Gallace and Spence (2011:569, 582) propose that tactile aesthetics are more "hedonistic", intimate and active and that pleasant touch sensations may implicitly generate early memories of a subject's prenatal experiences.

[219] Grau (2003:17) proposes that the "suggestive power" of art can initiate a state of immersion. Although his focus is on virtual reality and digital art, the language with which Grau describes immersion ("as-if worlds", "emotional involvement") is closely aligned with descriptions of empathy.

Figures 130 - 133 *Opening the fitted pouch* **of** The Visitor Centre II.

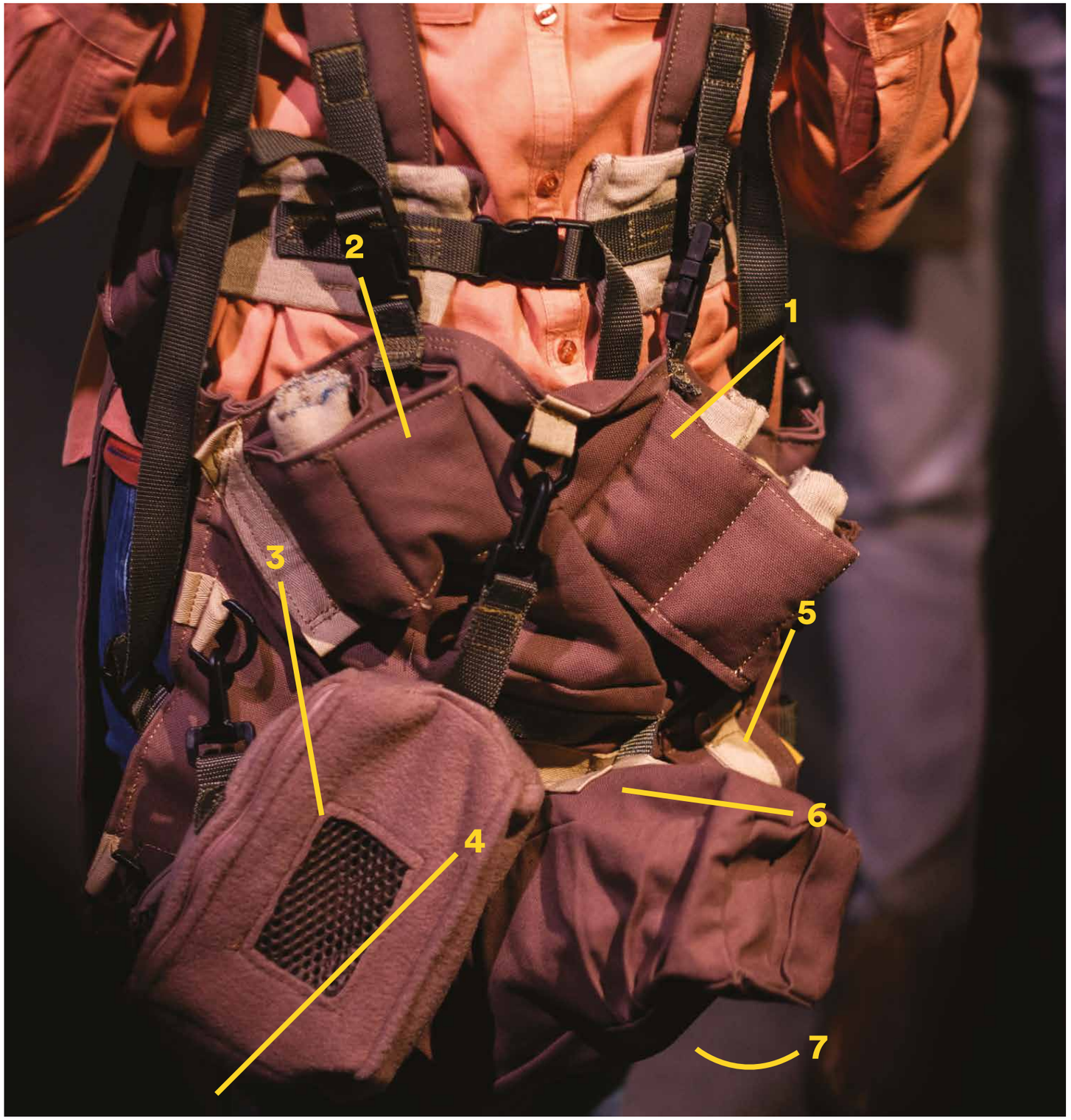
study of object biographies, in which she proposes that their material presences can prompt reflections on the uncanny and enable a person's subjective involvement in the world. The strange objects in *The Visitor Centre* were intentionally makeshift and provisional, lacking the polish of traditional gallery artworks and suggestive of incompleteness, with the "cobbled-together" juxtaposition of these sculptural assemblages allowing for multiple interpretations. In their use of non-hierarchical materials and provisional construction methods, both assemblage artists and *bricoleurs* often allude to a temporary solution, inadvertently suggesting that future "repairs" and a more permanent solution are possible.[220] A do-it-yourself aesthetic is often used to create a disjuncture between the engineered fabrication of slick art commodities and the work of the human hand, and I made use of assemblage to explicitly signify a way of constructing meaning and to suggest how established views could be reconfigured. The sculptural assemblages and found objects offered scope for interpretation, which simultaneously caused uncertainty in the visitors. This process of assembling information from various fragments was reflective of "how we learn painstakingly by gathering and arranging bits and pieces in the dark" (Stafford, 1996:34). In her text on the morality of viewing and visuals, Stafford (1996:35) refers to this process as the "dialogic aspect of visualisation", when objects or artefacts put audiences to work to decipher meaning.[221] By reviewing disparate fragments or objects, participants could reassemble the various parts to synthesise their own assemblage of meaning. This process of assimilation was visual and verbal, as the objects acted as props and prompts to initiate conversations about nonhuman species.

The material qualities of the art objects can be considered as prompts for specific behaviours, a form of inanimate agency described by Bennett's (2010) theory of affective matter. In art, current notions of materiality are informed by the work of new materialists and material feminists who propose that inanimate matter has the capacity to affect living organisms and can be considered to have agency.[222] As such, materiality refers to more than the associations that various materials bring to the artwork, such as the fragility of glass. In *The Visitor Centre II*, the novelty of *coughing up worlds* was in the materiality of the glass pods, their indistinct and

[220] The term "provisional" applies to these artworks as they are presented as inconclusive and ambiguous objects to allow for multiple interpretations, in contrast to the objects and specimens in natural history museums that function as fixed nodes in a pre-existent schema. My use of "provisional" here emphasises a deferral of permanence and poses a challenge to the fixed categories of Cartesian binaries.

[221] Visitors often offered different interpretations of an object, and one participant admitted that she had to "work hard" to decipher the meaning of the work (PAM, 13 June 2018).

[222] Referencing Barad's (2007:177) definition of agency as an "enactment or activity", as described in Chapter One.

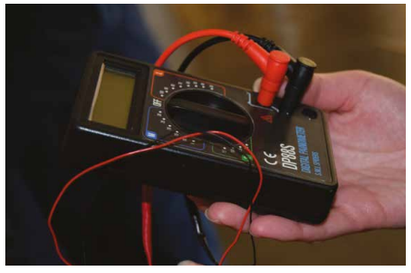


Nicola Grobler, *The Visitor Centre II* (2018)

1. coughing up worlds: hand-blown glass, rodent bones, human hair.

2. trophy: found objects, paint, wire, drawing.

3. appendage: fabric pouch.



4. painometer: converted multimeter, sticker.

5. gloves: silicone gloves, plastic sleeves, packaging.

6. reach: acrylic wool, sticks.

7. him/it: photographs, sleeve.

ambiguous contents and their suggestive, organic contours, which fitted comfortably in an adult's hand. One participant was reminded of a delicate perfume bottle; another thought, "Oh please don't let me drop this" (PAM, 19 May 2018). The delicacy of glass compelled participants to handle the object with care and may even have created a sense of anxiety around the object, signalling to me that the affective qualities of matter were being enacted. When participants feel responsible for the objects in their care, they may be more inclined to empathise with those objects.

Figure 134 *A zipped-up* painometer, The Visitor Centre II, *Fountains Valley.*

5.3 Curating the audience

During the various events, many participants asked what *The Visitor Centre I*. Some remarked that *I* am clearly *The Visitor Centre*, as the artwork needs *me* to present its contents, and it is true that the contents of the backpack/pouch must be mediated and presented.[223] My presence is undeniably part of the work, and so the significance of the artist as "speaking subject" who invigorates discussions about nonhuman species requires scrutiny. My role as the speaking subject is entangled with the backpack, art objects and the unfolding of thought and conversation that occurred during the interventions. Although I was uncertain as to how my subjective part in the event would and should play out in earlier interventions, I settled into my role as curator of the audience's experiences in *The Visitor Centre II*, becoming as much a part of the presentation as the material objects themselves, gesturing with my hands while speaking, unbuckling clasps and tugging at the straps of *The Visitor Centre II*. My function as guide and storyteller tied in with notions of collaboration, authority, agency and uncertainty as components of relational art practice.

[223] I considered asking one of the educational assistants to present an intervention (specifically in the PAM), but this would have directed attention away from the focus of the study and towards translation and intentionality.

The art objects were revealed according to a set order, and I touched on specific aspects related to each object. I was open to the audience's responses and willing to let their discussion lead the way. Throughout the interventions, I curated participants' experiences by allowing their voices to be heard, though I steered comments and interjected when I felt it was appropriate. Within the relational network created between artwork, audience and artist, my role was to guide the interactions through the various possibilities of the work. One participant remarked that, "You are holding us under while giving us time to think out loud" (PAM, 13 June 2018). I had to be sensitive to the audience to draw them into the experience, but also had to be pragmatic, as there were many objects to show within a limited time frame.[224] However, I also desired a particular reaction conducive to multispecies relationship formation, and I was hopeful that the experience would be transformative and would shift participants' attitudes to nonhuman species. At times, I needed to hold back to not spell out the meaning and to remain open to multiple perspectives from the audience, as their interpretations enriched the event and my own preconceived ideas about each object and, by extension, nonhuman species. Although the work was collaborative, the objects directed participants' responses and presented the parameters within which the work's meaning was generated.[225] Audiences were also reminded that this was a work in progress that might still develop and accommodate different objects, and I explained to audiences that our conversations would influence the next version of the artwork. Certain parameters were already in place, however, and people were not entirely free to act outside of those constraints. Even though the makeshift quality of the objects encouraged informality and improvisation, participants were ultimately concerned with getting it right: to interpret the art objects in ways that did not violate their perceived inherent meanings.

[224] My presentations of *The Visitor Centre I* and *II* took between 45 minutes and an hour, while the walk to and from the crater rim at Tswaing added an hour to the intervention.

Figure 135 *Learners attending* The Visitor Centre I *during a World Environment Day event at Tswaing.*

[225] Artworks develop organically, and artists are often resistant to disciplinary limitations, especially those set by fellow artists and art theorists. In some art circles, the inclusion of tangible art objects is considered contradictory to the ethos of relational artworks, but in The Visitor Centre I showed that objects in a relational artwork can encourage fertile discussion.

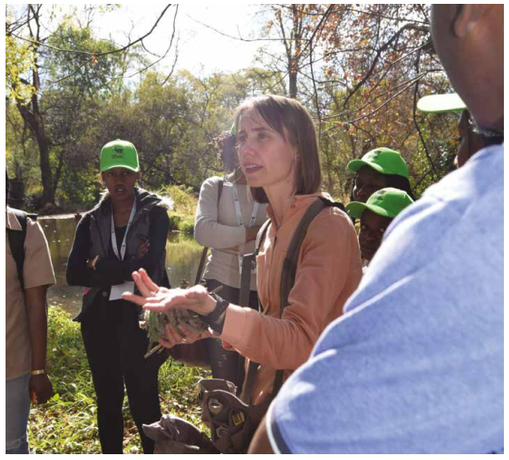


Figure 136 The Visitor Centre II, *Fountains Valley*.

Initially my presence served as an obstacle to achieving a non-hierarchical space, because, as the creator of *The Visitor Centre*, I was the only "expert" on its workings and motivation. I tried to restrain my own authority so that audiences would feel confident enough to express their opinions without fear of being corrected. As with previous relational artworks, my aim was to create a space for shared authorship and to flatten the hierarchy between audience and artist (Grobler, 2014:59-60), but the artist undeniably plays a role in determining meaning. In her seminal work *The artist is present* (2010), performance artist Marina Abramović sat in absolute silence, facing individual members of the audience across a table. The work garnered attention when it was performed at MOMA, New York, during the artist's retrospective exhibition because of some of the intense affective responses Abramović elicited in those five minutes of silent commune. Sitting quietly with an artist, albeit firmly in the glare of the media and with hundreds of spectators, may have loosened the emotional restraint that often characterises social conduct (Jarosi, 2014), and Abramović's presence garnered ardent responses. Many participants cried, their tears signifying an uninhibited reconnection between the act of seeing and of feeling (Jarosi 2014:158).

The relationship between artist and audience requires a careful negotiation to allow for audience participation through less prescribed means. I came to understand that in *The Visitor Centre*, my presence and interactions with the participants were keys to unlocking the artwork. In a similar manner to my previous relational artwork, *Small victories,* I became the conduit for the audience's experience. Unlike a performance artist such as Abramović, I avoided the theatrical in my attitude to the audience and how I dressed, but, like Abramović, my presence as the "speaking subject", the storyteller and guide, placed me unavoidably as an authority. By positioning the intervention and objects within the parameters of human and nonhuman species

relationships and by guiding the conversations, I directed the audience towards my idea of what the intervention should be.[226]

To encourage a more open-ended conversation, I stepped back and allowed conversations to unfold. Labels and packaging facilitated conversations without my lead: *comfortable distance TM* appeared as a product name on the tape measure as part of *The Visitor Centre I*, and I expanded this strategy in *The Visitor Centre II*, where the labels and packaging were used to suggest the "truth" of the objects while simultaneously introducing a sense of uncertainty. Labels can clarify the purpose of material objects on display and assist the visitor in understanding the significance of each object in an invisible order, as in a taxonomic narrative (Bennett, 1995:42, 168), but by fixing the reading of objects to a particular narrative, labels discourage further interpretation and alternate readings. Language can hinder the interpretation of subtle bodily cues, as it tends to structure and categorise felt experiences and relationships (Esrock, 2010:237), so I withheld some labels and provided others that required interpretation, thus repurposing their expected function and countering visitors' reliance on textual cues. Participants read the packaging to gain insight into the work's meaning and discussed the possibilities amongst themselves. For some objects, such as *painometer* and *gloves*, the text suggested an object's purpose but allowed for subversive slippages of meaning, acting as framing devices that simultaneously identified and twisted the function of the objects.

Figure 137 *Participant inspecting* comfortable distance TM.

The art objects, accompanied by a few leading statements and questions, were intended to engage audiences in a temporary suspension of disbelief. With *gloves,* I encouraged participants to keep guessing and to read the packaging to determine the intended receiver and purpose of the silicone gloves. According to the packaging, these "latex" gloves were "Designed by a primate specialist for urine-washing behaviour · Comfortable fit for *Galago moholi* · Lightly powdered · Hygienic · Single use only". In bold

[226] For *The Visitor Centre I*, I held a number of events with different groups during which I could adjust my own performance and presentation. A smaller group of adults responded particularly well, not only in response to the objects, but also to each other, as participants chatted to each other along the walk and made jokes.

Figure 138 Pet&Care packaging for gloves.

text, the packaging claimed they were "Premium disposable latex gloves designed for domesticated Lesser Bushbabies". The packaging ascribed a fixed purpose to the gloves in the familiar language of product advertisements, with Pet&Care purported to be the manufacturer. The packaging provided a similar function to labels in a museum environment, but the format was creatively manipulated so that the trustworthiness of the labels to provide meaning was called into doubt. My adaptation of the museum experience can be understood as a form of tinkering, where artists enlist objects and tools for their own purpose. The artwork created uncertainty, and visitors were required to negotiate a terrain without clear instructions.

However, it is possible to make emancipatory claims for participatory artworks while missing the nuances whereby audiences and artists are co-opted into covert political aims (Hewitt & Jordan, 2010).[227] The parameters set by the artist determine the audience's role and often predetermine their responses. It remains a challenge to envisage how audiences will receive a relational artwork, as artists rely on the readiness of individuals to become participants (Grobler, 2014:70), and Brown (2014:3-4) notes that, because "the audience" is a fictional and uncertain entity, an object may fail in its intended provocation. Similarly, in a museum context the experiential may prompt very different experiences for different individuals, but to determine the effect of particular experiences, the audience is often considered a homogeneous entity (Henning, 2006a:83, 93; Bennett, 1995). Some interactive participatory exhibits are didactic, for example when visitors are expected to follow a specific route (Henning, 2006a:89-90).

Artists can consider a range of options, from predetermined outcomes of participation to the creation of a space for collaboration or antagonistic responses (Bishop, 2006); my preference is to trust the audiences' aptitude for creativity and to facilitate their expression. Kester (2004:13) refers to the "vulnerable receptivity" that artists assume as they engage dialogically with the "external world" beyond the confines of art institutions. I regard the collaboration between artist and audience as a co-creative process,

[227] The Freee Art Collective, for example, is critical of how participation was co-opted into New Labour policies and used to placate communities that were overlooked in urban regeneration projects or who may later have become the victims of culture-led regeneration as a result of gentrification and escalating property valuations (Hewitt & Jordan, 2010; Freee Art Collective, 2014).

where the relations that are created are not the direct result of the artist's intention, but the "heterogeneous object" is instead a translation of the directives provided by the artist (Ranciére, 2009). In the manner of the collage, the meeting point of two disparate entities results in a "third" element, and here artist and audience participate and translate in the moment of encounter to create a "third thing" that exists as a result of the interpretations (Ranciére, 2009:47). Such an estimation of the creative outcome assists to erode the hierarchical relations between creator and passive recipient.

One way of countering the hierarchical alignment of artist and audience is to sustain a sense of ambiguity and uncertain outcomes, as the labels and packaging did. I also presented myself as a non-expert, an artist who set off on foot armed with very little understanding and, in a patchwork fashion, incorporated contributions from experts. In assuming a non-expert position, the artist can traverse and transgress disciplinary boundaries and social conventions (Kimbell, 2011:85, 89). In guiding the conversations, I worked against the concept of art as elitist, as I wanted to give participants a sense of their own agency in telling stories. This was supported by my public presentations and by involving some participants who were not familiar with contemporary art practices. When I undermined my position of authority and admitted my own ambivalence

Figures 139 & 140 Speaker and listeners, The Visitor Centre II, *Pretoria Art Museum; talking point:* reach, The Visitor Centre II, *Fountains Valley.*

Figure 141 him/it, The Visitor Centre II, *Pretoria Art Museum.*

towards and lack of knowledge about nonhuman species in the event, I allowed audiences to inscribe their own experiences into the narrative of the intervention.

When showing the work *him/it*, which tracked the subjectification of two feral pigeons, I called on the audience to compare, identify and offer a reading of the titled photographs, one called *him/it* and the other, *peanut*. I described how I became aware of a sick feral pigeon in my garden and faced a moral conundrum about whether to intervene or leave the bird to fend for itself. Had the bird been an indigenous garden species I would have intervened sooner, but feral pigeons are invasive, and I felt too conflicted to act immediately. Eventually my concern for the bird outweighed my principles and I contacted an animal rescuer for advice. During this process, my perception of the pigeon shifted from "it" to "him", and I could tell from the animal rescuer who took him under her wing that, to her, all birds were subjects.[228] Peanut, on the other hand, was an orphaned feral pigeon who was adopted and reared in Cape Town by humans until he was ready to fly his coop, with his tale ending on a much more positive note than "my" feral pigeon's. This personal anecdote illustrates the tone of my conversations with audiences and described my own fallibility, either for not sticking to my principled position or for not caring enough to intervene sooner. By setting an example, I facilitated a process that audiences could follow, and I hoped that this exchange would provide participants with a sense that their own uncertainty about their relationship with nonhuman animals could be voiced as a contribution.

[228] The animal rescuer took him from me, dusted off the parasites and remarked on his "lovely feathered feet". My indecision had wasted time, though, and while he recovered briefly, he was too weakened by the canker and died a few days later. The animal rescuer was upset when he died; had I intervened earlier, she probably would have been able to pull him through.

5.4 Conversational assemblages

In this discussion, conceptual assemblages provide a means to think with *The Visitor Centre* as a temporal, emerging artwork that could accommodate multiple voices and perspectives but was resistant to uniformity. Beuys proclaimed that everyone can be an artist, and my audiences were engaged in a creative process in which their own agency as storytellers

Figure 142 Interactions with gloves, The Visitor Centre II, *Fountains Valley.*

was emphasised, and the stories they related about their experiences with nonhuman species often expressed a sympoiesis, what Haraway (2016:33) describes as how we become *with* many. Their narratives presented a multiplicity of views and experiences, as well as ambiguity and unresolved attitudes towards nonhuman species. Multispecies worlds are made through relations with nonhuman species, from the microbes within our bodies to the species that are visible in our daily lives. This is a co-productive process that finds echoes in Kester's (2004) dialogic approach[229], which values conversational drift as a means of activating and revealing relationships and suggests that the unfolding conversations in the interventions were both world-making and world-enlarging narratives.[230]

During the interventions, the audience's observations revealed their conflicted feelings about nonhuman species and how tensions between values, beliefs and pragmatic solutions play out in unresolved and complicated ways. One participant spoke of Cape chameleons, which often died on the electric fences around her home (PAM, 26 May 2018), while others shared accounts of interspecies relationships that reflected the difficulty of dealing with unwanted animals in their homes. One participant, referring to a rat problem in his home that he had decided to use rat poison for, reflected that it is easy to be critical of farmers who put out poison for jackals, but it becomes a different story when it happens in your own home (PAM, 23 June 2018). In response, another participant suggested that bushbabies or other predators could be encouraged to come to the property instead of using poison. Clearly, people were conflicted about their relationship to pests and ultimately reached a decisive point where "it's you or me".[231] These confessions offered a counterpoint to the caring and embracing attitude that *The Visitor Centre* sought to promote, showing the difficulty in establishing an ethical line. Ignoring a rat infestation is likely to exacerbate a situation and may ultimately lead to a harsher remedy.

[229] Kester (2004:90) finds value in socially engaged art practices that evolve from process-orientated exchanges between artists and participants without a pre-determined outcome.

[230] Making worlds can be "a moment of poesis", a lived experience that requires attention to activities, sensory information and events as things occur (Stewart, 2008:71, 77). Highmore (2011) refers to art experiences as world-enlarging when audiences are presented with ideas that challenge seemingly settled perceptions.

[231] The conversation also showed that there is no consensus and that these different approaches are often the outcome of a longer process of deliberation and uncertainty, echoing Murdoch's (2002) sentiment about the hidden mental processes of moral deliberation before action is taken.

Figure 143 The Visitor Centre II, *Pretoria Art Museum*.

These discussions also revealed cultural categories and normative values, and species that are deemed uncharismatic or that instil fear, such as frogs or snakes, are often killed or subjected to cruelty (Tarrant, Kruger & Du Preez, 2016:14). Certain species may be regarded as pests in one culture but be a significant source of food in another, such as the harvesting and preparation of *Macrotermes* termites in the Vhembe municipal district in Limpopo. Netshifhefhe, Kunjeku and Duncan (2018:9) recommend that such indigenous knowledge be promoted, as there is a lack of research into entomophagic practices in South Africa. As discussed in Chapter Two, artists such as Kimbell, Snaebjörnsdottír/Wilson, Reodica and Zaretsky grapple with how cultural categories predetermine relationships between humans and nonhuman species. In South Africa, superstitions, myths and stories can fuel violent behaviour against species that are negatively perceived (Tarrant, Kruger & Du Preez, 2016:14), and culturally coded knowledge about animals may impede the formation of positive relationships.[232]

Some of the discussions during *The Visitor Centre II* events enabled an understanding of multispecies relationships as lived experiences that are unique and complex. Another "confession" (offered in a humorous way) described a cockroach problem in the participant's home (PAM, 13 June 2018), where she feared that guests would be horrified to see cockroaches in her kitchen (they lived behind her fridge) and would assume her house was dirty. Someone noted that not all cultures view cockroaches as dirty, citing the Beninese as being more accepting of them. At the end of the discussion, the suggestion was made that she could erect a "This is a cockroach-friendly house" sign at the entrance to her house to warn guests that she does not subscribe to the cultural categorisation of cockroaches as dirty and unwanted. Tolerating a few cockroaches around her home seemed preferable to regularly putting down poison. In this conversation, participants reached a consensus about the "solution" by half-jokingly, half-seriously weighing social norms against the wider effects of poison. By evoking narratives and subjective responses, the artwork produced perspectives that were sometimes expansive and opposed the simplification that occurs when nonhuman species are considered through anthropocentric values.

Haraway (2016:126-127), with reference to Hannah Arendt's statement on "think[ing] with an enlarged mentality", explores the notion of "visiting" as an active practice of fostering curiosity and posing questions.

Figure 144 *Narrator,* The Visitor Centre II, *Pretoria Art Museum*.

During the interventions, it became clear to the audiences that I invited and shared opinions, anecdotes and experiences with a fair amount of inventiveness. In the manner of Haraway's "speculative fabulation", the artwork ventured off the beaten track "to train the mind and imagination to go visiting".[233] Kenney (2013:22) describes "wild facts" as occurrences that are believed to be "fantastic, supernatural or fictional", which have not yet been tamed by scientific conventions.[234] These may be dubious stories that are later ridiculed or that become verified and accepted as truth, but most important is that the researcher-storyteller remain open to the possibilities of a study of uncertain phenomena, without prematurely reverting to established scientific conventions (Kenney, 2013:26). Thus, by not dismissing strange phenomena and by entertaining the notion of "what if", speculative fables can form connections between humans and nonhuman species (Kenney, 2013:210, 211). *The Visitor Centre* provided a space in which "wild facts" and anecdotes could travel and take flight, and those facts, fables and subjective interpretations that could accommodate

[232] In many South African cultures, owls are regarded as witches and taboo animals and are often killed as a result. When seeking to control rodent populations, particularly in urban areas, conservationists struggle to dispel myths and convince residents that owls are harmless to humans (Mavhunga, personal interview, 30 May 2016).

[233] Haraway (2016:126-127 explores the notion of "visiting" as an active practice of fostering curiosity and posing questions, with reference to Hannah Arendt's statement on "think[ing] with an enlarged mentality".

[234] Kenney draws on philosopher William James' (1897:358) use of the term "wild facts" as facts "with no stall or pigeon-hole" or "which threaten to break up the accepted system". James rigorously investigated psychical phenomena and championed the importance of understanding irregular occurrences as a means of challenging dogmatic views.

liveliness and possibility were called upon during the interventions; such stories can serve as inspiration to others.

The Visitor Centre invited audiences to share the practical, localised knowledge that emerged from attentiveness and personal experience. Donovan (2016:97) terms this practical, local knowledge métis, and describes it as "a craft-based knowledge rooted in one's unique habitat, transmitted orally and through local dialects and by manual practice – learning by doing – and through personal experience and apprenticeship".[235] Métis is akin to indigenous knowledge systems, which stem from intimate knowledge gained by attending to specific environments and can offer particularised insights into nonhuman animal lives and, in many cases, contributes to maintaining biodiversity in those regions (Kelbessa, 2015:144), a function of a shared belief system of a people's relationship with nonhuman nature (Berkes, Colding & Folke, 2000:1252).[236, 237]

Participants in *The Visitor Centre* were reminded to attend to the specifics of their environment and the nonhuman species with which they co-exist. My verbal curation of *The Visitor Centre* was reminiscent of oral traditions in which stories are valued as a means to inspire, to give moral guidance, to pass on knowledge and to enhance understanding. Importantly, as with the myths of the VhaVenda, stories materialise from attentiveness to species and care (albeit from a human-centred position) (Mutshinyalo & Siebert, 2010). Sharing localised knowledge can contribute to an improved understanding of and empathy for nonhuman species that co-exist in urban environments but are often overlooked, such as numerous species of spider and solitary bees.[238]

The narratives of *The Visitor Centre* can be understood as a means of rekindling a lost relational experience and finding ways to co-exist in multispecies assemblages. Despite the cumulative efforts of new knowledge within the natural sciences, there is a sense of disconnection and loss of situated knowledge about nonhuman species; at one of the interventions, reference was made to a distancing between human and nonhuman species (PAM, 13 June 2018). These perspectives are comparable to the estrangement from nature that many urbanites experience, often accompanied by little opportunity to connect with nonhuman nature (Miller, 2005:431). On an individual level, people may feel they require guidance on how to conduct multispecies relationships. From the interventions, I sensed that many people were uncertain about how to proceed or were fearful because of a lack of knowledge.

The conversations about multispecies relationships that occurred as part of *The Visitor Centre* ameliorated disconnection from nonhuman species. Cultural knowledge can help maintain biodiversity by creating webs of affinity between humans, nonhuman animals and the natural environment (Kelbessa, 2015; Mutshinyalo & Siebert, 2010), but the apparatuses employed by modern Western science have often served to displace and devalue indigenous knowledge practices (Rusch, 2016). However, my aim is not to instate a new hierarchy in which scientific research is discredited in favour of localised knowledge, as the dangers of such a stance are obvious. Rather, *The Visitor Centre* works to dismantle the hierarchies implicit in knowledge economies produced by colonialism and imperialism and to highlight the value of these experiential forms of knowledge.

Figure 145 The Visitor Centre II, *Pretoria Art Museum*.

Speaking and listening are both activities that allow participants to experience relationship. Empathetic listening can provide a means through which one's own boundaries of self can expand to include the other, and listener-centred artworks that encourage dialogue can draw attention to the "interrelational, ecological and interactive" aspects of the world, signalling a departure from bounded individualism (Gablik, 1995a:84).[239]

[235] The term originates from native North American cultures.

[236] Kelbessa (2015:144, 150) describes how peasant farmers in Ethiopia gained knowledge through experimentation, progressive attitudes and attentiveness to the natural environment and species, solving context-specific problems. When scientific research strives for global solutions, it runs the risk of failing in localised contexts, particularly when solutions for African problems are imported from different conditions, where biological pest control suited to one environment may wreak havoc in another.

[237] While the motivation for localised practices, such as social taboos, may be based upon cultural belief systems, these practices often share similarities with mainstream conservation efforts and ecosystems management (Berkes, Colding & Folke, 2000; Colding & Folke, 2001:596). Localised knowledge is important for biodiversity conservation, as regional methods are often adaptive and may garner compliance from local communities more readily than formal governmental laws (Colding & Folke, 2001).

[238] My interest in solitary bees was awakened in conversation with taxonomer Connal Eardley (Eardley, personal interview, 14 March 2018), and in the course of *The Visitor Centre* art events I realised that many people were not familiar with solitary bees either, which could be a liability for the species. In the broader context of biosystematics, this lack of knowledge is a concern, as there would be benefits to better understanding their pollinating role (Eardley, Gikungu & Schwarz, 2009).

[239] Gablik (1995a) terms these art forms "connective aesthetics", echoing Kester's (2004) dialogical aesthetics.

Communal efforts such as art interventions require participants to listen to each other and acknowledge each participant's social context (Kester, 2004:113-114). By sharing stories and listening with care, participants establish relationships among themselves that can provide a temporary sense of community. Kester describes "connected knowing", formulated by Mary Field Belenky, as a process in which perspective-taking is encouraged and argumentation and judgement is deferred:

> It is through empathy that we can learn not only to suppress self-interest through identification with some putatively universal perspective, or through the irresistible compulsion of logical argument, but literally to redefine self: to both know and feel our connectedness with others. (Kester 2004:114)

The open-ended narratives and objects encouraged by *The Visitor Centre* can be understood as a verbal assemblage in which partial ideas were brought together into a relational constellation. Conversational fragments behaved dialogically to inform, confuse and disturb my efforts to cohere a unified approach, in much the same way as assemblages resist oversimplification. The many voices accommodated in *The Visitor Centre* provide a variety of perspectives: participants felt free to cross these imagined boundaries by declaring their own ambivalence to nonhuman species and could share unconventional opinions about multispecies relationships, affirming that conversations can be generative as a means for negotiating boundaries through proximity and responsive, open exchanges that evolve over time (Kester, 2004:112). For Kester (2004:6), dialogic art is a durational form of assemblage, a space in which participants can disrupt the restrictive norms dictated by their social standing, profession and responsibilities and enter a space in which exchanges are less predetermined and rigid. *The Visitor Centre* provided a means to enliven interpersonal bonds by setting up an environment in which social conventions were upended, for example by forming provisional communities of heterogeneous groups of people. *The Visitor Centre* provided a space in which nonhuman species could be conceived of as part of such a provisional multispecies community.

Figure 146 The Visitor Centre II, *Pretoria Art Museum*.

5.5 Anthropomorphism as a subjectifying strategy

Fostering relationships and emotional connections with nonhuman species is challenging, as experiencing another species' particular world view lies beyond the scope of human understanding (Nagel, 1974:441). Humans tend to emotional projection and anthropomorphism, which can lead to over-identification and ignorance of the specificity of nonhuman species' phenomenological experiences (Dwyer, 2007). Anthropomorphism is criticised as an unscientific pursuit that dabbles in uncertainty and broad assumptions (Dawkins, 2012), but it can be used to challenge established binary relationships. I employ anthropomorphism to personalise nonhuman species, forging a tension between the materialism of multispecies assemblages that focus on emergence and intra-agency and the subjectification that is required to evoke empathy and care.

The Visitor Centre employed anthropomorphism and evocations of maternal care as artistic strategies to encourage empathy and care from its audience. The frontal orientation and bulging shape of *The Visitor Centre II* drew on familiar concepts such as motherhood, nurturing, human procreation and fertility. The work is not intended to gender care, although references are made to gender-specific roles. Gendering care could strengthen the notion that care is predominately a female practice, tying this project to a feminist ethos (Tronto, 1987), which might limit the extent to which care can be considered an intra-active realm of affects, a shared responsibility that can be distributed collectively and "multilaterally" in multispecies worlds (Puig de la Bellacasa, 2017:168-169). The artwork elicited conversations that proceeded from popular, generalised associations with care towards more critical considerations of relations of care as inherently asymmetrical. The shift in visual language from the oversized bright-blue backpack of *The Visitor Centre I* to the smaller, suggestive pouch was a tactic intended to coerce audiences to respond with empathy. During the interventions, I presented the closed pouch and asked the audience what they associated with this shape. Most people identified the shape as a baby carrier or a pregnancy bulge (BF, 22

May 2018). Someone said I reminded him of a tourist wearing a backpack on their front for security reasons (PAM, 13 June 2018); this association seemed apt, as taking care of one's belongings, whether human or inert, connotes caring for something or someone. Participants predictably stated that they associated babies with "love, care, protection" and that babies require attention (BF, 22 May 2018).

Calling on the audience's nurturing instincts was another strategy intended to move them towards empathetic responses. Motherhood is often idealised, and people can be manipulated through their positive associations with motherhood and nurturing. The reality, however, is that caring is complicated and often leads to conflicting emotions. One participant mentioned the burden of care, where the ongoing responsibility for a child's wellbeing can weigh a parent down (PAM, 13 June 2018), causing the carer to feel overwhelmed or emotionally drained (Gruen, 2015:91), or the carer or cared-for may harbour feelings of resentment that lead to guilt. In the context of multispecies care, nurturing may also raise connotations of the domestication of wild and semi-wild species as a result of ignorance or misplaced care. These associations are integral to helping audiences of *The Visitor Centre* recognise the complex layering of meaning inherent in caregiving that archetypes, generalisations and reductionist thinking gloss over.

When considerations of a "species as a whole" (instead of individuals) hamper the emotional connection that precedes empathetic responses, strategies to surface the individual qualities of nonhuman species are necessary to facilitate closer relationships. While Lorraine Daston and Gregg Mitman (2015:1) refer to anthropomorphism as the "irresistible taboo" because of its prevalence and near-universal communicative power, the significance of anthropomorphism to social behaviour is often overlooked. A neurophysiological study by Urquiza-Haas and Kotrschal (2015) offers a view of anthropomorphism as a social process and argues that it can assist interspecies communication. For those concerned with animal subordination, however, anthropomorphism is problematic in contemporary art practice and elsewhere, as it often leads audiences to conclude that animals are useful for humans to *think with*, but only to the point where human interests are served (Daston & Mitman, 2015).

Anthropomorphism relies on humans' natural affection for charismatic animals, especially those with paedomorphic qualities, as Disney has so conclusively demonstrated.[240] This human-centric position prioritises species that are similar to humans or that have cultural or economic value to humans, using a human measure and emphasising similarities, while species-specific differences, counter to the notion of the intrinsic value of species, are given insufficient consideration.[241] As Nagel (1974:438) notes, "anyone who has spent some time in an enclosed space with an excited bat knows what it is to encounter a fundamentally *alien* form of life." Although bats, like humans, are mammals, their sensory world and lived experience are vastly different to humans' and so, to bridge the divide between humans and other species and to foster understanding, we anthropomorphise (Bekoff, 2013).

Figure 147 The Visitor Centre II *pouch, Pretoria Art Museum.*

Daston (2005:54) describes the double bind of empathy by which "we are doomed to understand only our own kind because only in that circumscribed realm can empathetic and sympathetic understanding succeed". When humans attempt to bridge the species divide, we tend to overlook the otherness of nonhuman species, a form of anthropocentrism and sluggish thinking (Daston, 2005:53-54). Our predicament is that we do not have access to the subjective lives of other species, and the experience of "what it is like to be" another organism is particular and arguably indescribable (Nagel, 1974:436, 440). The stigma attached to anthropo-

[240] Paedomorphism is the retention of infantile characteristics into adulthood, such as large eyes in adult animals that remind people of human babies (Tarrant, Kruger & Du Preez, 2016), as in bushbabies.

[241] In environmental and ecological philosophies, such as biophilia (Wilson, 1984), biocentrism (Kirksey, 2015a; Van Dooren, Kirksey & Munster, 2016) and deep ecology (Naess, 1989), the intrinsic value of all species is acknowledged and the hierarchical position of humanity above other species and environments is rejected. In conservation, intrinsic and aesthetic values of species and ecosystems are usually neglected in favour of utilitarian or economic values (Ramp & Bekoff, 2015).

morphism is thus that it demonstrates a lack of critical distance and is perceived as fantasy (Chan, 2012), so when anthropomorphism is allowed to undermine the unique aspects of nonhuman conscious experiences, it will fail as a strategy for closer relationships.[242] *The Visitor Centre* seeks to do more than draw easy correlations between human and nonhuman species,[243] instead intentionally and explicitly utilising anthropomorphism to press beyond the norm and find ways to connect participants to species that are significantly other.[244]

The Visitor Centre uses absurdity and humour to engage participants and draw attention to our tendency to anthropomorphise nonhuman species. Through the subsequent conversations, the knotted implications of anthropomorphism as a means of forming connections or of imprinting human qualities were often unravelled and pursued. *trophy* asked its audience to guess who the recipient of a handmade trophy might be, with a tiny drawing of an insect providing a clue.[245] Winning competitions and seeking prizes for our achievements are ways we build a sense of self-worth and importance, but insects are not known to collect prizes for display, so while participants tried enthusiastically to decipher the drawing, the absurdity of rewarding an insect with a decorative object was not lost on them. The scale of trophy suggested that a medium-sized insect might be able to carry it off, and the winning insect is personified as the type of creature that would enjoy receiving a reward. Audiences wondered by what measure the recipient would deserve a trophy, with one group guessing that the insect on the trophy label was a fly *(Musca domestica)* but querying how one would differentiate a good fly (deserving of a trophy) from a bad fly, and whether the moral standard should be set by humans or flies (PAM, 13 June 2018). These conversations about the ethics of a human-centred value system were imaginative and interlaced with humour, and by inviting comparisons and highlighting conflicting values attributed to different insect species, participants engaged with the moral aspects of multispecies relationships that could nudge the boundaries of limited species categorisation that are delineated along physiological or evolutionary lines.

Figure 148 *Detail of* trophy*: drawing of a carpenter bee,* The Visitor Centre II.

[242] Conversely, researchers can challenge anthropocentric attitudes by practicing critical anthropomorphism that involves empathetic projection and recognition of nonhuman species as lively collaborators (Rivas & Burghardt, 2002).

[243] The continuity of physical traits between mammalian species, including brain function and neurochemical pathways, is well established and has assisted cognitive ethologists and neuroscientists to outline the emotional and moral dimension of nonhuman species' lives (Bekoff, 2009).

[244] *The Visitor Centre* thus offers an alternative approach to Gruen's (2015) formulation of entangled empathy, which excludes invertebrates and non-mammalian species and is based on an understanding that humans struggle to form emotional connections with species that are too different.

[245] *trophy* stemmed from my earlier relational artwork *Small victories*, discussed in Chapter Two.

Figure 149 *Participants inspect* trophy, The Visitor Centre II, *DNMNH.*

While some participants identified the subject of the drawing as a species of fly, my drawing of a carpenter bee *(Xylocopa caffra)* was intended to draw attention to the overlooked significance of solitary bee species.[246] *trophy* was inspired by the work of native bees, specifically solitary bees, who, as specialists often associated with co-evolved mutualisms that have resulted in highly specialised pollination mechanisms, are critical pollinators.[247] Many local bee species are endemic to South Africa but are vulnerable to extinction due to habitat destruction, urban sprawl and other human activities (Gous et al., 2017:24). The trophy was intended as a reward for solitary bees' pollination efforts, and I conceived of carpenter bees as the ideal recipient of the trophy. It was interesting to note the motivations audiences provided for both flies and bees as worthy nominees of the trophy: most people admitted to not *liking* flies but conceded that they fulfil an important role in ecosystems. Those who knew about solitary bees commented on their contribution to pollination but were in the minority, as most participants had little or no prior knowledge. In these cases, anthropomorphism provided an entry point into the mind of the broader public, and conceivably created a positive association with solitary bees.

In co-evolved pollinator-plant mutualisms, the reward for the pollinator is nourishment in the form of nectar, oil or pollen (Gous et al., 2017:2).[248] A reward that satisfies human needs for self-actualisation and status would

[246] Bees provide essential ecosystem services as pollinators and are the most significant group of pollinators (Eardley, Kuhlmann & Pauly, 2010:2). A third of the 2755 different bee species of Sub-Saharan Africa can be found in South Africa (Agricultural Research Council, n.d.). The majority of bee species are considered to be solitary, some species of bees are semi-social and few are eusocial (Eardley, Kuhlmann & Pauly, 2010:2), such as the honey bee (*Apis mellifera*). In solitary species, all females can reproduce and construct their own nests (Batra, 1984:120).

[247] Limited information is available about pollinator-plant relationships in South Africa, where only honey bees are managed for commercial crop pollination, and Gous et al. (2017:4) suggest that some native bees, such as a species of carpenter bee (*Xylocopa scioensis*), could be used as managed pollinators for tomato plants, as they are vibratile ("buzz") pollinators, which honey bees are not. In an American study, solitary bees were shown to be "economically significant" sunflower pollinators, as pollination by two wild bee species increased sunflower crop yield (Mallinger et al., 2019).

[248] Researcher in technoscience Carla Hustak and professor in anthropology Natasha Myers (2012) propose that pollinator-plant relationships can be considered "affective ecologies" that take into account the sensuous and embodied qualities of multispecies partnerships. Despret (2013a) advances this argument in her account of interagency produced by insect-plant interactions within assemblages.

Figures 150 & 151 Surprise and laughter, The Visitor Centre II, *Pretoria Art Museum and DNMNH.*

accordingly have to be reconsidered with species-specific needs in mind, as a trophy does not actually reward an insect. The reward system is entrenched in human-nonhuman relationships, such as in dog training and lab experiments with rats, and Kimbell (2011) notes that rats are kept hungry when tested on the Morris water maze system so that they can be rewarded with food when they save themselves from drowning. In human-nonhuman relationships, rewards come with many conditions, as administering pain or causing discomfort may also be used as incentives. In animal testing, electric shocks are often used to train rats for particular tests in addition to the food rewards.

Some species are granted religious or spiritual significance or are valued by humans and are rewarded with conservation efforts on their behalf, but to be a trophy animal for humans is a liability, as testified by the plight of rhinos hunted for their horns and by lions bred for canned hunting. The notion of reward, evoked through anthropomorphism, can initiate the kind of mental work necessary to shift hierarchical perspectives of nonhuman species towards a relational understanding of nonhuman species and their "intra-agency". For participants in *The Visitor Centre*, the reward may be a sense of clarity and the a-ha moments that followed from their initial uncertainty when the process and purpose of the work was still unknown. Visitors' own subjective responses (such as signs of enjoyment) or their recounted empathetic responses to the work can also be considered as a benefit.

The artwork *gloves* invoked a more complicated mental exercise that tested the audience's approval of my position, as it innately accepted a questionable practice. The work consisted of white silicone gloves packaged in plastic specimen bags in a blue-and-yellow, branded cardboard box. I handed the closed box to participants, who were prompted to open it and distribute its contents. Inside were five plastic pockets each containing two sets of gloves: four items to fit the hands and feet of a tiny creature. I encouraged audiences to open the plastic pockets to experience the textural and physical qualities

of the gloves and then to identify who the gloves were made for. Participants were directed to the packaging, which provided some relevant information. As the gloves were handed out, I heard expressions such as "aaah", and people would smile … some cupped a tiny glove in their hand. Many people first assumed that these gloves were meant for human babies because of their similarity to tiny human hands, with four fingers and a thumb (PAM, 16 May 2018). Some participants guessed "aliens", expressing the sense of discomfort they felt about the objects (PAM, 9 June 2018). Most participants expressed delight and wonder, however, finding the small scale of the gloves and their obvious similarity to surgical or domestic rubber gloves appealing. Visitors responded positively as they handled the gloves and felt the smooth texture of the silicone and talc. Someone commented that "even if I didn't like animals, after touching these gloves I will" (PAM, 16 May 2018). However, many participants' initial positive responses changed to unease when they realised the gloves interrupted bushbabies' normal behaviour in order to conform to a human understanding of hygiene.

Audiences expressed their critique of the gloves in different ways. During the intervention, audience responsiveness depended on their familiarity with bushbabies, with those familiar with bushbabies describing their urine-washing behaviour, enabling the rest of the group to quickly form an opinion on the purpose of the gloves and my role in producing them. One participant asked, "Aren't you hindering them?" (PAM, 13 June 2018), referring to the fact that the urine makes the bushbabies' hands and feet sticky and assists with climbing and jumping. On realising that the gloves were intended for domesticated or pet bushbabies, another participant commented that "They should be free" (PAM, 23

Figure 152 Audiences were encouraged to remove the artwork from its plastic sleeve. Often, a participant would slip the artwork onto their finger.

Figure 153 A participant responds to gloves, The Visitor Centre II, *Pretoria Art Museum*.

June 2018), and another asked "Are you allowed to keep bushbabies?" (PAM, 19 May 2018).

I pitched the idea that the gloves were covetable, as they would allow people to maintain domestic hygiene even when their pet started to exhibit urine-washing behaviour, but the participants struggled to make sense of the role of gloves within the remit of the project as a whole. On one hand, *The Visitor Centre II* was presented as a means of encouraging conversations about human and nonhuman species relationships, but here I was, creating products for people who domesticated wild animals for their own amusement. The environmental science and conservation students learned that animals kept in captivity have a shorter lifespan, understanding that domesticating wild animals is selfish and not in the best interests of the animal. Participants questioned my ethics in promoting the use of the gloves, as it clearly supported the domestication of bushbabies, and one group challenged my position on keeping wild animals (BF, 22 May 2018). Someone asked if I would sell the gloves and how much they would cost, which supposed that I would benefit financially from this design (BF, 22 May 2018). Others were convinced by the packaging and thought I had purchased the gloves as a found object (BF, 22 May 2018). These different readings of the artwork, as something made or purchased, affected the audience's understanding of my role in promoting the gloves, where my supposed investment in helping pet-keepers maintain hygiene within their homes belied a critique of the indulgence of people to adopt "cute" wild animals. By presenting an exaggerated and humorous scenario, the work acted as a catalyst for public discussion and drew attention to the reality of domesticated wild animals, highlighting that they might urinate on furniture or become aggressive.

The artwork points to a critique of care in which care for an animal "presupposes a human expectation as to how they should be doing whatever it is they are doing" (PAM, 26 May 2018), as one participant aptly

remarked. For others, the artwork prompted reflection through which further insights could be revealed, as one participant spoke to me after the event and said that he realised afterwards that *gloves* was meant as a critique of human domestication of wild animals (DNMNH, 14 June 2018).

gloves is a necessary component of *The Visitor Centre* repertoire, as an invitation to care cannot be extended without being critical of the effects of care on both carer and cared-for. When administering care to nonhuman species, humans are often required to restrain or cage that particular animal. In the case of animal rescue, for example, animals benefit from human intervention but should not become so acclimated to humans that they cannot be released again. And while human care may be to the benefit of that animal, it can nevertheless cause immense stress to it, too.[249] Participants were amused by imagining what would be required to actually put the gloves on nimble bushbabies (PAM, 19 May 2018), though aware that only force or coercion would get the job done. *gloves* prompted audiences to recognise the more sinister effects of care as a means of restraint and assertion of dominance. These artworks remain open to interpretations of care as a response to aggressive, human-centred behaviour, yet cognisant of manipulative iterations of care that are sometimes overlooked.

Figure 154 gloves, The Visitor Centre II.

We may recognise familiar tropes when care is misapplied, such as the overbearing mother who prevents her child from reaching independence or the carer who is subjected to violence or resentment by the cared-for. The maternal trope is evident throughout *The Visitor Centre II*: in the scale of the objects, references to nurturing young animals and in the shape and contained format of the maternal pouch, the work seeks to agitate the boundaries that limit caring practices to predetermined roles and responsibilities. I was inspired by an animal rescuer who kept baby birds and bats by her side as she attended sports events at her children's school

[249] On a personal note, my dog Lupa became agitated and howled as if in pain every time the vet trimmed his toenails, despite it being an act of care. As a companion animal, his health and wellbeing were tended to by humans, and he had no choice in the matter.

(anonymous, personal interview, 16 Feb 2018); the nonhuman dependents fit into a sturdy handbag, and she was able to feed them at two-hourly intervals. Through relations of care, she created multispecies families in the mode of Haraway's (2016:103) call to "make kin". I admired her pragmatism and the energy she dedicated to looking after so many wild, nonhuman dependents, and her description of how care happens amongst all life's other activities is familiar to most parents of human young. In later events, I attached a pouch that could be used to house baby bats as a reference to the animal carer, to Nagel's consideration of animal subjectivity and to the bat-themed evening at the DNMNH.[250] I argue for proximity to nonhuman species, but closeness can be both enabling and suffocating. As such, the pragmatic and artistic bat pouch, *appendage*, is also suggestive of a soft, cosy prison that baby bats are zipped into for their own protection.

[250] The addition of the bat pouch demonstrated the flexibility and adaptability of *The Visitor Centre II* in its commitment to be ready to care at all times. The pack and its accoutrements developed alongside the demands of nonhuman care requirements, filling up with various visual prompts for conversations about an ever-expanding array of multispecies relationships.

Figure 155 *Showing* still life with funnels *to an audience,* The Visitor Centre I, *Tswaing.*

These concerns should not diminish the effects of subjectification, and the effects of anthropomorphism in art should not be underestimated. People often form connections with others based on similarities, so artworks that express human-like qualities in nonhuman species can accordingly assist humans to form connections with other species, even when these conjured similarities are far-fetched or absurd. Art can push its viewers towards realisations through felt experiences, a phenomenological understanding of the world and its inhabitants. As Broglio (2011:xvi) reflects, where humans once thought that "animals live on the surfaces of things", concluding that they lead shallow existences, artists can mine these perceptions of superficiality by interrogating the contact zones between humans and nonhuman species. While acknowledging that the depth of animal experience may remain inaccessible to human perception, Broglio's (2011:81) enquiry into an animal phenomenology proposes that artists can work productively with these contact zones to bring a different set of ideas to the fore. During *The Visitor Centre* interventions, it became clear that the artworks presented nodes though which the categorisation of the animal could be freed, and that anthropomorphism shone a light on humans' reductive attitudes to nonhuman animals. These restrictive perceptions were loosened through conversation, and nonhuman species figuratively took flight from the human limitations imposed upon them.

5.6 Towards encouraging empathy for nonhuman species

The Visitor Centre advocates for empathy and co-existence by presenting a model for multispecies engagement that is not predicated on human exceptionalism, imaginatively inferring the capabilities of nonhuman species by evoking opportunities for animals to exercise choice. These choices included their place of habitation *(6 bedrooms)*, alternative living arrangements *(migratory medicine for ants)*, co-operation to facilitate a rental agreement *(spider pants)* and moral conundrums *(still life with funnels)*. The artworks framed nonhuman species as lively and wilful as part of a subjectifying strategy that emphasised kinship and embodied perception (Donovan, 2016:106).

still life with funnels was inspired by how taxonomers capture wasp eggs and larvae: the taxonomer seals a section of a tree branch in a cardboard box and waits and watches as a newly hatched wasp (or other insect) flies through the funnel towards the light, only to perish in a glass test tube on the other side of the funnel. These wasps are collected, labelled, pinned and studied further. My version of the box presented an opportunity for escape through a second funnel, so that, in my estimation, the wasps could choose self-sacrifice for science, or freedom. Humans are generally reluctant to attribute intent to insect actions, and the artwork attends to the concerns raised by ethologists that nonhuman species are constrained by how humans perceive them and that scientific studies often ask the

wrong questions (Despret, 2016). Despret (2013a:34-35) reframes deterministic accounts of species behaviour by offering examples in which nonhuman species participate meaningfully in each other's worlds. In a similar vein to her counter-questions that dismantle established modes of thinking, art can present idiosyncratic "arguments" in visual form.[251]

[251] I refer to Despret's mode of inquiry as practiced in the abecedarium *What would animals say if we asked the right questions?* (2016).

The Visitor Centre presents nonhuman species as subjects who exceed ordinary expectations, inasmuch as caring enhances the "potential aspects of entities that might otherwise remain unseen or unrealised" (Donovan, 2016:223-224). Participants were introduced to *migratory medicine for ants*, a homeopathic remedy to inspire ants to find alternative abodes. These vials of medicine were specifically intended for "Grobler ants" resident in my home and garden. The prescription stated that the contents of vials A and B were to be sprinkled at one- to two-hourly intervals close to the ants' nest. Alternatively, one participant suggested the remedy could be sprinkled in pathways leading to a future nest, inspired by the Hansel and Gretel fairy tale (Grobler, 2016). Both processes require personal commitment and an act of care, as I would continue to "nurse" the ants at regular intervals until they were inspired to migrate elsewhere. Co-operation based on principles of care can be practiced even when responding to unwanted invasions in the home. Subsequently, while the aim was to encourage the ants to relocate (with the aid of mythical medicine), this absorbing process brought me closer to the life worlds of ants. *migratory medicine for ants* presented an ethos of respect that underlines a willingness to seek constructive solutions to conflicts in the home, and audiences often responded within the framework of this co-operative model. When a participant suggested the use of a matchbox to relocate a spider, his consideration of finding an object suited to a spider's size evoked the consideration and care that the intervention proposes (Grobler, 2016).

Art objects can spark a momentary synthesis between the viewing subject and art object (Esrock, 2001), an assertion supported by neurophysiological studies that found that kinaesthetic and tactile sensations form linkages between the subject and the external world (Petit, 1999), and *migratory medicine for ants* prompted some participants to engage viscerally with the work. The work was usually presented outside of gallery confines and, as a relational artwork, outside gallery conventions, and audiences may accordingly have felt less restrained in their responses to it.[252] When the object was passed around, the grade 10 learners shook a vial, poured its contents into the cap and smelled – and nearly tasted – the remedy. Immersive experiences such as these can provide participants with a sense that the boundaries between themselves and the art object have been blurred. It may be that the viewer can sense an integration with the work by visually experiencing the textural or tactile qualities of the work or sensing the work as part of their internal bodily states (Esrock, 2001). Such experiences of unity with the art object mirror the processes that encourage empathy for living organisms.

Figure 156 *Grade 10 learners interacting with objects from* The Visitor Centre I, *Roodeplaat Nature Reserve.*

[252] Relational art is still seen as experimental in South Africa, as the broader public is not often exposed to it.

When the art objects addressed the visitor's own bodily relations to nonhuman species, it opened a space to discuss personal attitudes, including fear of and discomfort around particular species. *comfortable distance TM* at first appeared to encourage abstraction and reduction, inviting participants to consider their feelings towards spiders according to a spatial measure that indicated at what distance they were comfortable around spiders during the day and at night. The tape measure's units were in small spider legs (ssl) to evoke the size and vulnerability of small spiders. As the relationship was determined by a participant's level of bodily comfort, this became a very personal expression of a unique set of relationships, expressed in quantifiable data. The object caused some participants to recall previous encounters with spiders, which were often expressed in emotional terms of fear or revulsion. One participant remarked that by subverting the human measure to a spider measure, participants were

Figure 157 Participants investigating comfortable distance TM, The Visitor Centre I, *Tswaing.*

encouraged to consider the spider's perspective in the relationship (Grobler, 2016). The measuring tape prompted participants to draw on their emotional and physiological states to describe their relationships with spiders, and it was my hope that by expressing negative perceptions such as fear or discomfort in a public forum, participants would temper their fears, or at least establish a comfortable and respectful distance from which to peacefully co-exist with spiders. I followed Kester's (2004:112) notion of a transformative dialogic aesthetic when participants' own subjectivities are shaped through conversation and intersubjective interactions. Personal reflections, emotional responses and perspective taking were important indicators that multispecies linkages were being enacted during the intervention.

When directing my request to spiders to exchange their shed exoskeletons for board and lodging, I presented a fabulation of tiny proportions. To present, with confidence, evidence of this contract: the *spider-pants*. Without negotiating the difficult matter of interspecies communication via the written language, I asked the visitor to act "as if" human–spider contracts are commonplace. My contractual method was inspired by Edward Evans' (1906:3) accounts of medieval jurisprudence that obliged animals to follow human laws. The pre-scientific outlook on speciation was not strictly ordered according to difference and hierarchy, and although the anthropomorphism inherent in such historical and current conjuring acts sits uncomfortably with the modern scientific outlook, it may be what is needed to recover the bond that humans once had with the nonhuman world. *spider-pants* functions in the realm of "wild facts", where speculative fables keep possibilities open and nonhuman species are not tied down to their categorical imperatives (Kenney, 2013:210, 211). Stories and anecdotes are populated by subjects, who are anchored to the narrator and the contextual specificity of place. The artwork highlighted the value of subjectivity in forming relationships across species boundaries, whereas a typical museum experience would have presented an "objective" account of natural history. The tendency of audiences to interpret material objects as representative of "fully-formed facts" (Allison-Bunnell, 1998) was subverted in *The Visitor Centre*, where artistic strategies encouraged participants to be open to the possibilities of what nonhuman animals are, instead of what humans think they are.

Artists are often able to creatively manipulate audiences into recognising another perspective, and even to identify with another being's subjective experience, which may be alien to our own. Donovan (2016:17) agrees that this capacity is required for an aesthetics of care. Through processes of subjectification, and by appealing to participants' emotional and bodily states, the artwork can activate empathetic responses. A participant evaluated *painometer,* a digital measuring instrument with different settings for "s.m.l. spiders", and concluded that the tiny nodes reminded him of the pain inflicted on nonhuman species in the course of scientific experiments, demonstrating an empathetic response (PAM, 26 May 2018). While other participants concentrated on the human dimension, this response was sensitive to the spider's subjective experience.[253] Daston (2005:52) describes this process, when participants expand their personal perspectives to imaginatively infer the experience of another by means of anthropomorphic representations, as one of "transcendence". Anthropomorphism can be linked to empathy, as the same neural pathways are utilised for both activities (Urquiza-Haas &

Figure 158 painometer *(2018), converted multimeter, sticker,* The Visitor Centre II, *Pretoria Art Museum.*

[253] In light of Klein and Barron's (2016) study, Tiffin (2016) proposes that insects experience pain, but some participant responses suggested a glib, overdetermined pop psychology that short-circuited deeper engagement with species-specific life worlds. One participant reflected that humans do not consider the emotional pain of spiders and that they might feel unwanted, while another suggested that spiders may have "abandonment issues", as female spiders do not usually perform parental duties (DNMNH, 14 June 2018).

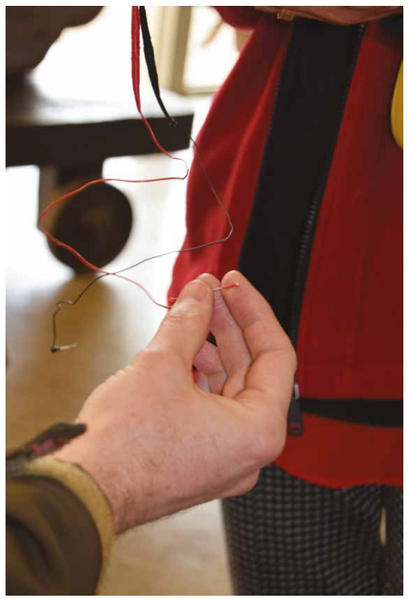


Figure 159 painometer, The Visitor Centre II.

Kotrschal, 2015). Accordingly, humans willing to attribute mental states and emotions to nonhuman species, as evoked through the contractual agreement of *spider-pants*, are also more likely to show empathy to nonhuman species (Urquiza-Haas & Kotrschal, 2015). Both empathy and anthropomorphism are "as-if" responses that activate a space of possibility. Acting "as if" signals a responsiveness to another being and creates a space for embodied communication, so empathy is not necessarily a claim to fully understanding the mind of another being (Despret 2013:71). Empathy, as a form of understanding, does not predictably extend into helping another or identifying a desperate need in the other. Despret (2013:71) describes the "as if" mode of empathy as a "creative mode of attunement" that motivates a relational openness and willingness to engage. Empathy as a bodily form of understanding functions in the realm of emotional responses and can guide us to participate responsibly and respectfully in embodied relationships with nonhuman species.

Of course, because the objects within the backpacks were relational art objects, participants were not bound to follow my reasoning. The artworks invited subjective responses and an investment in figuring out what the objects were and what they might signify. Embodied participants are orientated to respond through kinetic, multi-sensorial and environmental stimuli, but ultimately their own willingness to attend to the work and, by extension, to smaller nonhuman species, determines the outcome. My hope is that *The Visitor Centre* encouraged kinder, more empathetic multispecies relationships when audiences returned to their own environments. As a result of the conversations, one of the participants remarked: "I am starting to see spider webs as something else. Other than seeing a spider, I'm seeing other things that can start conversations" (Grobler, 2016).

The artwork may have facilitated a temporary shift in perspective, or the concerns put forward by the work might eventually have filtered through in less obvious ways. In some instances, the work may have been ineffectual in convincing participants to care for or about nonhuman species, and, as the audience's engagement with the work happens "on- and off-stage", it is difficult to know how their attitudes were affected. Some events were filmed and all were audio recorded, with some participants performing slightly in the spotlight, whereas others preferred to take more time to process the event. *The Visitor Centre* is best suited to a longer time frame, as it draws on personal reflections and narratives and calls for subjective, considered and emotional responses. Telling stories is a means of enhancing memories, and the intention was that the narratives and objects should remind visitors of the ethos of *The Visitor Centre*.

Ideas were transferred in *The Visitor Centre* to encourage a purposeful attunement to the subjective lives of nonhuman species, where the weaving and unweaving of different voices can be broadly understood as an embodied practice of reconnection and assemblage, but also one of loosening the perceived limitations imposed on nonhuman species. The offered fragments of stories were partial reflections about the mammals, reptiles, birds, insects and arachnids that co-habit with humans in Tshwane, which loosely cohered into a multiplicity of perspectives. While our perceived world of nonhuman species may be prescribed by restrictive and contradictory categories, the participants' conversations enacted simultaneous processes of combining, merging and loosening through verbal expression, listening and internalising, proving that the fragmented animal can be reconstituted as a lively collaborator in multispecies relationships through dialogic exchanges and a practice of embodied empathy.

Conclusion

This thesis has suggested that empathy can counter the inherited legacy of Cartesian dualism and thus transform the perceived hierarchical relationship between humans and nonhuman species. While the methods of display of public science communications tends to objectify nonhuman species, artworks appeal to the viewer/participants' subjectivity through bodily engagement and are thereby able to elicit the emotional responses required to shift speciesist attitudes. Although disembodied cognition and ocularcentrism continue to maintain power relationships over nonhuman species, relational ontologies provide perspectives that can counter both the stasis and disconnection upon which these dualisms depend. Chapter One described the mitigating role of empathy and care ethics as purposeful, bodily practices through which multispecies sociability can be accomplished. Relational art practices and experiential aesthetics can be aligned to the process-orientated, materialist positions of relational theories, as discussed in Chapter Two, and art offers methods and strategies through which to challenge normative views of nonhuman species. I have suggested, by means of an analysis of selected artworks, that art can unsettle binary relationships and allow for emotional attachments by stimulating embodied modes of attention and collaborative audience interaction (Chapter Two). Accordingly, I have argued that a mobile relational artwork that provides opportunities for differentiated and embodied audience participation and conversations can encourage care and empathy for nonhuman species.

This study proposes that participation and multisensorial engagements are integral to contemporary museum experiences, and I have investigated the extent to which these considerations might shift visitors' experiences. In Chapter Three, a case study of a local natural history museum concluded that opportunities for participation and bodily engagement in museums are currently limited, and that the established methods of display and didactic interactive features of the Ditsong National Museum of Natural History (DNMNH) foreclose an opportunity for visitors to form emotional responses to nonhuman species. I suggested that it is only through enacted human conversation and embodied attention that a shift to more empathetic relationships can be affected, and that natural history museums, with their lifeless specimens and stable taxonomic narratives, are not enabled to evoke care for nonhuman species (Chapter Three). The passive, objective viewing of specimens in the conventional natural history museum cannot be relied upon to shift relationships, whereas assemblages and relational aesthetics invite layered interactions from individual and subjective positions. By interlinking relational aesthetics and care aesthetics, I argued that these complementary – and sometimes contradictory

Figure 160 *View of* The Visitor Centre II *intervention, Austin Roberts Bird Hall, DNMNH.*

– approaches can be understood as connective and destabilising methods that can lead to multispecies relationship-formation through art.

The findings of this thesis came to light through my practice, and, while this study was guided by particular directives, I acknowledge that it is not possible to be resolutely conclusive within the bounds of a Fine Art PhD. As a relational practice, art cannot be tightly mapped to the artist's intentions, as many components interact to produce the work. While I have sought to highlight where their reactions substantiated the objectives of the project, participants interacted and responded subjectively. In artistic research, ideas are enacted through the ambiguity of material expression, the poetic aspects of the work and the felt and remembered experiences of the participants.

In my process, I cast a wide net and drew from multiple sources, ranging from the fine arts, philosophy, environmental humanities (with a human-animal studies focus), museum studies, ethology and neurosciences to the environmental and biological sciences. As creative practice is inspired and informed by an entire world of things, beings, ideas and environments, the unfolding, connective ethos of my practice determined a sense of fragmented parts that are provisionally joined in this study. The assemblage of *The Visitor Centre* was guided by a complex and interwoven collection of ideas, theories and methods that led me to the findings presented here and that are elucidated in this written component.

1. **The artistic strategies of assemblage thinking and relational aesthetics can unsettle the supposedly stable categories of human and nonhuman species**

I combined the related ideas of assemblage philosophy, sculptural assemblage and relational art in this study. The philosophy of assemblage offered me a means by which to challenge Descartes' legacy. As assemblage thinking suggests disruption and change, it can be applied to destabilise prevalent conceptions of insurmountable differences between opposing categories, such as human/animal, culture/nature and mind/body. Sculptural assemblage provided the method for selecting and combining found objects and made elements to create the art objects. As the processual aspect of this method can become less discernible when the art objects are

understood as fixed outcomes, I expanded my method by drawing from understandings of relational artists as *bricoleurs*. Relational artists seek out existent materials and willing participants to interact and form relationships within a specified environment. The notion of *bricolage* emphasises the processes that lead to the meeting of artist, artwork and audience, and in my presentations to participants at the events, I foregrounded my creative process and the contributions of those who had informed the work. The creative processes of collection and selection are a practice of *bricolage,* as I brought fragments from the outside world into my studio to be considered, combined or discarded. In the mode of a relational practice, these fragments included the intangible: ideas informed by conversations and insights gained through my practice. *The Visitor Centre* is an assemblage that consists of more than its visible components of backpack, pouch, art objects, artist and audience, as its actuality is dependent upon interacting forces: the artwork exists as a temporary arrangement of fragments that can be broken down, repurposed and reassembled in manifold ways, in the processual manner of assemblages.

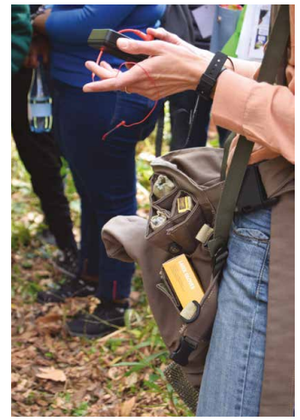


Figure 161 painometer *at hand,* The Visitor Centre II, *Fountains Valley.*

Through interpretation and in making something from what is given, audiences become creatively involved in artworks. My previous experience with relational aesthetics, through the work *Small victories,* informed my understanding of engaging audiences' responses by stimulating their curiosity. With *The Visitor Centre* I sought to attract interest and involvement by concealing objects inside the backpack and pouch, so that the unwrapping and revealing of these became part of a performance. Visitors became involved and responsive to physical cues and to their own hunches, while social interactions between participants kindled associations between their own perceptions and those of others. The curious objects of *The Visitor Centre* set interpretative challenges to visitors, and in my role as interlocutor, I was able to extend and encourage particular conversational threads. Through the use of anthropomorphism, absurd humour and verbal and material prompts, the artwork stimulated participants' own creative acuities to form associations.

Figure 162 The Visitor Centre I, *Tswaing.*

Figure 163 coughing up worlds, The Visitor Centre II, *DNMNH*.

By calling for enacted responses and by stimulating visitors' own aptitude for creative interpretation, assemblage and relational aesthetics present cogent methods by which links between human and nonhuman species can be formed. Creativity challenges stable categories, as it searches for associations and forms connections in unexpected places. Artists skilled in connective methods such as juxtapositioning, collage or assemblage can use these skills to bring disparate parts together in a shared environment, such as in a picture plane or through objects cajoled into a sculptural installation. Such artworks signify a field in which relationships can be made apparent, a meeting place of difference. In its processes of creative combinations, relational aesthetics can produce new relationships between entities and so allow hierarchies to shift. Participants in these artworks practice their own ability to form connections through their creative interpretations.

Scientific communication about nonhuman species that neglects the value of embodied attention and interactions is less likely to invite empathy, not only because it objectifies nonhuman species and fails to invite emotional responses, but also because it perpetuates a hierarchy that values reason and logic above creative subjectivities. Notwithstanding the importance of rigorous, systematic research, this thesis has shown how scientific communication can be to the detriment of multispecies relationships. By continuing to practice methods that neglect the role of the public as embodied subjects, scientific communication will fail to inspire humans

Figure 164 reach, The Visitor Centre II, *Fountains Valley*.

to adopt more caring attitudes to nonhuman species. Artworks can help bring the public closer to ideas and approaches by encouraging embodied perception and emotional responses, and by acknowledging the ability of art to produce experiential forms of understanding, this research contributes to the development of critical capacity in the field of fine art.

I have argued that the scientific, rational approach can cause fragmentation and separation, whereas art, as a social, relational undertaking, is more conducive to the formation of associations between humans and nonhuman species. The hierarchical basis of binary categories is reflected in the oversimplified and often contradictory reduction of nonhuman nature into human-determined categories (Chapter One). While scientific communication frequently presents nonhuman species as distant others, relational ontologies conceive of the subject as connected, intersubjective and responsive, which challenges the self-sufficiency model of individuation and the objectifying approach of scientific rationality.

Figure 165 trophy, The Visitor Centre II.

Multispecies assemblages present a model for interspecific relationships that is not anthropocentric or binary. Following the insights of relational ontologies, which conceive of species as entangled through their receptive relationships with each other and the world, individuals are not programmed according to their instinctual habits but are responsive within their environments. In addition to assemblage philosophy, relational aesthetics and sculptural assemblage, this study employed the notion of multispecies assemblage to connote an environment within which multispecies linkages can be formed. I suggested that the assemblage of relational aesthetics, storytelling (Chapter Two), artistic process (Chapter Four) and conversation (Chapter Five) could generate a perspective of these multispecies worlds. Creative assemblages are able to enact the combined and contradictory processes of unsettling fixity and stability and forging connections between different fragmented parts and participants' views. By interlinking these different expressions of assemblage, *The Visitor Centre*

presented a multispecies environment in which relationships were continuously formed, adjusted and suspended, and where nonhuman species could be recognised as collaborators in multispecies worlds.

I perceive of multispecies interconnectivity as co-constitutive and impactful, and this study has motivated that speciesism prevents humans from developing attitudes of co-responsibility and care. Subject formation is enabled by processes that are simultaneously material (physical) and semiotic (symbolic), as confirmed by relational ontologies. Accordingly, the delineation of human culture and objectified nature ceases to hold sway, as biological and cultural processes are entangled so that one does not develop independently from the other. The unfolding Covid-19 pandemic presents compelling and morbid evidence of a natureculture entanglement that defies human control. Coronaviruses' compatibility with nonhuman and human hosts brings to light the interconnectivity and shared physiological structures that enable mutations and transference and have manifested multispecies relationships, and a challenge to human exceptionalism, on a global scale.

2. A mobile artistic hub can be a viable experiential alternative to speciesist natural history museums

I have proposed that natural history museums do not serve the political and ecological needs of our time and that a presentation format that literally enacts mobile relationships instead of presenting inert entities in a museum can challenge the speciesist stasis of these museums. Through these relationships, museums can become agents of change that encourage shifts in public behaviour. Such an adaptation requires a radical change, however, from authoritative museums and their enduring structures, fixed cabinets and permanent displays to a mobile, adaptable format that encourages relationship formation by engaging the public on multispecies relationships in tangible and imaginative ways.

The imposing architecture of natural history museums in South Africa is a reminder of its colonial past and oppressive regimes. Natural history museums have been tasked with decolonising their practices, collections and the very structures and methods by which knowledge is presented. Where the collections of natural history museums previously served to

Figure 166 *A participant walking to pass* tails *along,* The Visitor Centre I, *Tswaing.*

Figure 167 The Visitor Centre I, *Tswaing.*

exert influence as displays of wealth and power, the orphan museum that I propose is not burdened by the ethical weight of colonial expansion and conquest. My mobile *Visitor Centre* operates outside of the authoritative museum setting; as an itinerant museum without attachment to a parent establishment, it provides a means through which to reconfigure the communicative role of museums. The small collection of objects contained within this mini-museum are reduced in size, lightweight and containable within a backpack or pouch. The type of adaptivity and flexibility implied by *The Visitor Centre* is responsive and more closely aligned to contemporary, post-colonial models of social organisation, education and knowledge transfer. Through this conversational and informal mode of presentation, the artwork encourages multiple voices and works against the authority of a single narrative. Audiences may feel empowered in their own authority and be more likely to interpret, revise and challenge the ideas put forward through the work, unsettling established ideas of knowledge as objective and stable.

Figure 168 The Visitor Centre II, *DNMNH.*

In *The Visitor Centre*, the artist/narrator tells stories to remind audiences of their own stories and prepares the visitors to take on a similar responsibility. As described by a participant, it is a consciousness-raising museum (*The Visitor Centre I*, 2016), where visitors are asked

to recall seemingly insignificant information as a vehicle to reimagining multispecies relationships. My intention is to have the third prototype, *The Visitor Centre III*, made by others who are willing to stitch together their own version of the artwork, with props and prompts that are aligned to each participants' multispecies networks and epistemic frameworks. Participants will be directed to craft a mobile relational artwork in response to their own immediate surroundings. The resultant containers and objects will act as prompts to facilitate conversations about nonhuman species that can be initiated in a variety of social situations. When the model is multiplied, participants, as creative interlocutors, become mobile hubs who can reflect on and respond to multispecies relationships in their own idiosyncratic ways.

Figure 169 *Participants with* gloves, The Visitor Centre II, *Fountains Valley*.

3. A public art intervention can foster relationships with proximate nonhuman species

The Visitor Centre I and *II* foregrounded my own process of attunement to nonhuman species, which involved making artworks, finding out more about different species, engaging people in conversation and paying attention to my immediate environment. Through these interactions, I became more informed about and emotionally attached to the nonhuman species that lived in my proximity, and it is these personal experiences that I sought to impart through the work. In the many locations in which *The Visitor Centre* was presented, I tested my statement that close encounters with artworks can promote bodily interactions and encourage emotional responses. My proposal that exposure to artworks can task audiences to respond with empathy is supported by the findings of the neurophysiologists, environmental psychologists and art historians who confirm that human empathy for nonhuman species can be encouraged by indirect means such as photographs, artworks and narratives (Chapter Two). And while empathetic responses were recorded during the events and were discussed in this study, I am interested in tracking the ensuing processes over a longer timeframe. Empathy can initiate behavioural shifts in people, and I suggest that the impact of the work upon the audience can be extended past the initial intervention, as artworks' affects can linger and continue to shape the participants' orientations.

Figure 170 The Visitor Centre II, *Fountains Valley*.

The Visitor Centre III proposes a shift in focus from the artist, as enabler of relationship formation, to the public and their multispecies networks. By creating their own visitor centres and initiating conversations about nonhuman species, residents of Tshwane are tasked with attending to nonhuman species in and around their own homes and neighbourhoods. While the benefits of multispecies relationships for human health and wellbeing are established, and it is known that biodiverse environments can provide us with a sense of pleasure and belonging (Chapter Five), less attention has been paid to the methods by which relationships with proximate wild and semi-wild nonhuman species can be nurtured. *The Visitor Centre III* offers a remedy to the loss of such multispecies engagements, as it encourages the public to practice embodied attention and to form the emotional connections that can dispel apathy and lead to responsible involvement. I recognise the role that citizen scientists and citizen carers can play in advocating for the integral value of nonhuman species, and this artwork could provide a platform for public communication and creative interpretation of their perspectives. Participants skilled in embodied perception who are sensitive to nonhuman species' requirements could provide insights and guidance through their stories and conversations. In the future, I envision that the multiple hubs of *The Visitor Centre III* will focus on sharing situ-

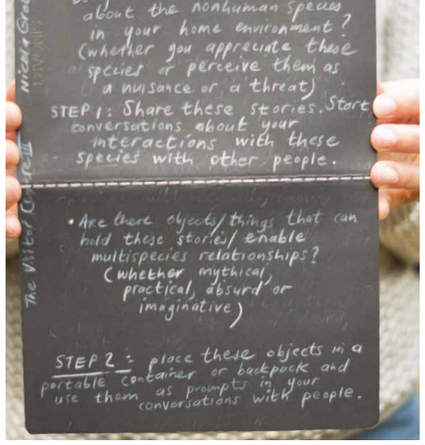


Figure 171 Make a visitor centre *(2016), proposal for* The Visitor Centre III.

Figure 172 him/it, The Visitor Centre II, *Pretoria Art Museum*.

ated knowledge, figuring co-existences within multispecies assemblages and promoting caring and empathetic relationships. The co-operative and creative model of *The Visitor Centre* could inspire civic responsibility towards nonhuman species and contribute to the tenets of urban ecologists advocating for biodiverse cities.

A number of conservationists who participated in the public interventions expressed their interest in adapting *The Visitor Centre* for both formal and informal educational programmes, which suggests that the impact of the artwork could extend beyond this study. Artworks such as *The Visitor Centre* offer scope for interdisciplinary studies between creative research and urban ecology, environmental education, environmental psychology and museum pedagogies, and future studies involving public interventions of this kind can utilise the insights offered here to develop subjective and participatory methods for different applications. Subsequent research involving *The Visitor Centre* could employ art interventions and embodied participation in conservation and educational programmes, but would need to retain its subversive workings and creative stimulus to remain an affective, relational intervention.

Figure 173 The Visitor Centre II, *DNMNH*.

4. Art provides cogent strategies towards multispecies sociability

I have discussed how cultured perceptions can perpetuate power relationships between human and nonhuman species, and, to unsettle these hierarchies, I adopted a co-operative approach in which the art objects provided examples of accommodative behaviour to nonhuman species. *The Visitor Centre* presents a neighbourly model for multispecies interactions, which includes uncharismatic urban species and those species that instil fear. I have drawn attention to small urban species, the populations of which, during the course of this research, have been in alarming decline. By focusing the audience's attention on species deemed small and insignificant, by fostering embodied modes of attention and by stimulating conversation, participants were encouraged to reconsider their perceptions of insects and spiders.

Figure 174 The Visitor Centre II, *DNMNH*.

As an established method in art, anthropomorphism is often understood to reflect an uncritical and naïve view. I consciously co-opted it as an artistic strategy to develop human affiliations with nonhuman species, especially with those significantly other to humans. Combining humour and absurdity, anthropomorphism prompted participants to navigate the ethical complexities and contradictions that circumscribe human-nonhuman species relationships (Chapter Five). This study has sought to enhance an understanding of the social function of anthropomorphism as a means to press beyond cultured and generalised species categories towards a recognition of nonhuman forms of subjectivity. *The Visitor Centre* speaks to a growing interest in neuroscience, ethology, conservation practices and human-animal studies in the function and potential of anthropomorphism to alleviate the limitations imposed on nonhuman species (Chapter One). As existing and shared procedures of multispecies reciprocity are poorly understood at present, I propose that the absurd prompts located in artworks such as *The Visitor Centre* can bring participants closer to existing but unseen multispecies sociability.

5. Art can enact relations of care

The forms of knowing that art practice enacts and produces gain significance when the body is acknowledged as central to meaning making and subject formation. Creative practices adopt a methodology of care that develop through embodied perception and an openness to the requirements of the other; an aesthetic of care is a mode of situated practice. Bodily interactions and emotional responses form part of these

Figure 175 The Visitor Centre II, *DNMNH*.

experiential ways of working, as tacit knowledge and learning through doing are intertwined with creativity. In this manner, creative practice enacts care and empathy, as it involves the heeding of feelings and embodied responses.

Creativity involves an inherent interest in the world and a willingness to explore unknown terrain with equal measures of passion and uncertainty. As a mode that searches for the unfamiliar and that seeks to form connections between self and other, creativity is a process of subjectification, and therein lies a challenge, as methods of familiarisation can erase difference and can be vexercised as acts of control. The caring approach that I have proposed in this study is one of receptivity, acceptance, cooperation and imagination. Nonhuman species are the unseen neighbours that compel us to explore the horizons of our phenomenological worlds and to accommodate difference, and creative practice can facilitate this world-enlarging process. Creative, caring receptivity calls for a relinquishing of control and a conscious

Figures 176 & 177 *Visitors handling the art objects*, The Visitor Centre I, *Tswaing and* The Visitor Centre II, *Pretoria Art Museum*.

vulnerability and responsiveness to unknown bodies and their affects. In this understanding, creativity is more than an expression of self, as it presents an aesthetic approach through which distant others can be brought into communal relations of care.

A creative and caring approach is both worldly and embodied. Embodied perception addresses the subject's connection to the exterior world and cannot simply be regarded as attentiveness to sensorial aspects and the experiential. Drawing from findings in neurosciences and art history, I have considered empathy as a form of embodied understanding in which the subject seeks to interpret and form connections with the world (Chapter Two). *The Visitor Centre* facilitated a space for visitor engagement and emotional attachment and produced the conditions that enabled empathy and care to follow. Audience responses indicated that close observation of the art objects slowed the pace of looking and responding, and by demanding focused attention and discussion, *The Visitor Centre* necessitated a personal and intimate response. Situated and speculative care requires dedicated attention, and art can draw participants' focus to particular subjects by engaging their senses and stimulating creative involvement. By touching and holding the art objects and by forming mental associations, participants became immersed in a bodily experience. Such moments of presence and embodied participation can lead to empathy when boundaries become mobile and audiences experience a sense of unity with the work. These creative "as if" moments of empathetic response correlate with the extension of the self into the world and the practice of bringing entities closer through relationship. Empathy requires imagination, and *The Visitor Centre* prompted audiences to pursue untethered mental scenarios that directed their attention to the external world and to nonhuman species. The visitors' recorded responses provide evidence of these empathetic engagements and prepare participants for other worldly encounters.

Figure 178 The Visitor Centre II, *Fountains Valley*.

This thesis has sought to utilise the relational artist's role in facilitating sociability and embodied participation and has highlighted the multiple roles of the artist as creator, witness, listener, interlocutor and audience. My evaluation of the audience's responses, provided from an invested insider perspective, offers an embodied viewpoint attuned to the intersubjective, processual and affective aspects of the art events. I have

reflected on creativity as subjectifying and suggested that attentive focus, or looking with care, enhances moral concern (Chapter Four). While the durational aspect of a practice of care can become embedded in an artwork, a substantial personal investment and dedicated focus precedes the work's ability to elicit emotional responses. In Chapter Two, I argued that artists who practice modes of perceptive attention are able to stimulate empathetic responses through their work and that artistic imagination performs a central role in care aesthetics. As the person with intimate knowledge of the processes and events of *The Visitor Centre*, the work was dependent upon my presence, which suggests that caring approaches can be imparted through physical proximity. Future iterations of *The Visitor Centre III* will require similar activation by others, who must be personally invested and present to fulfil this substantial role. At a time when social distancing is in effect in many countries and virtual work environments have become the norm, direct and close social interactions are vital to stimulate embodied participation and empathy.

Forging connections between nonhuman species, participants, artist, artworks and materials over time, this study has proposed art as a socially connective practice. Conversations prior to the interventions as well as my care as an artist for nonhuman species influenced the trajectory of the work and were manifested through the work and between participants. While relational art is often described in those terms, I suggest that all forms of art making can be considered as a connective, relational endeavour (Chapter Four). As indicated in Chapter Five, art can enact relations of care and initiate and establish relationships through its subjectifying strategies and dialogic exchanges.

6. Relational art can encourage empathy for nonhuman species

Visitors' stories and comments during *The Visitor Centre* art interventions detailed real world multispecies encounters as fraught with inconsistencies and flawed approaches as interpersonal human relationships (Chapter Five). Multispecies and interpersonal relationships are not governed by logic and reason, as the emotional and embodied aspects of being also influence subjective responses. After the first intervention, I recognised these conversations as a means through which relationships could be reframed, and, in the manner that these dialogues followed the behaviour of assemblages, these verbalisations came to constitute a significant outcome of this research.

When participants' conversations are considered as assemblages, fragments of personal experiences and verbal responses can become connected and contextualised in a form of synthesis. These conversations actively revealed the contingency of knowledge construction and the limitations of categorisation, as visitors were made aware of multiple possible interpretations and the subjectivity of individual perspectives. However, audience's responses are drafted into this particular epistemic framework, and this study acknowledges that processes of synthesis can initiate new relations of power and combine into established forms of domination. Therefore, *The Visitor Centre* follows relational ontologies that advocate for relationships enacted with care and responsibility. I have argued that assemblages disrupt stratified modes of thinking and categorisation, as the emerging flow of newly formed alliances and disjunctures is creative, allowing for expressions, affects and other properties to appear, as reflected in participants' exchanges. By approaching meaning-making as a process akin to assemblage thinking, visitors were encouraged to form a less circumscribed understanding of nonhuman species, informed by the conversations that emerged during their engagement with *The Visitor Centre*. I proposed that a combined process of fragmentation and synthesis through the re-assemblage of visitors' stories can disrupt the hierarchical alignment between human and nonhuman species, as the complexity and interdependency of multispecies relationships can be foregrounded through conversation and the expression of participants' subjectivities.

Figure 179 The Visitor Centre II, *Pretoria Art Museum.*

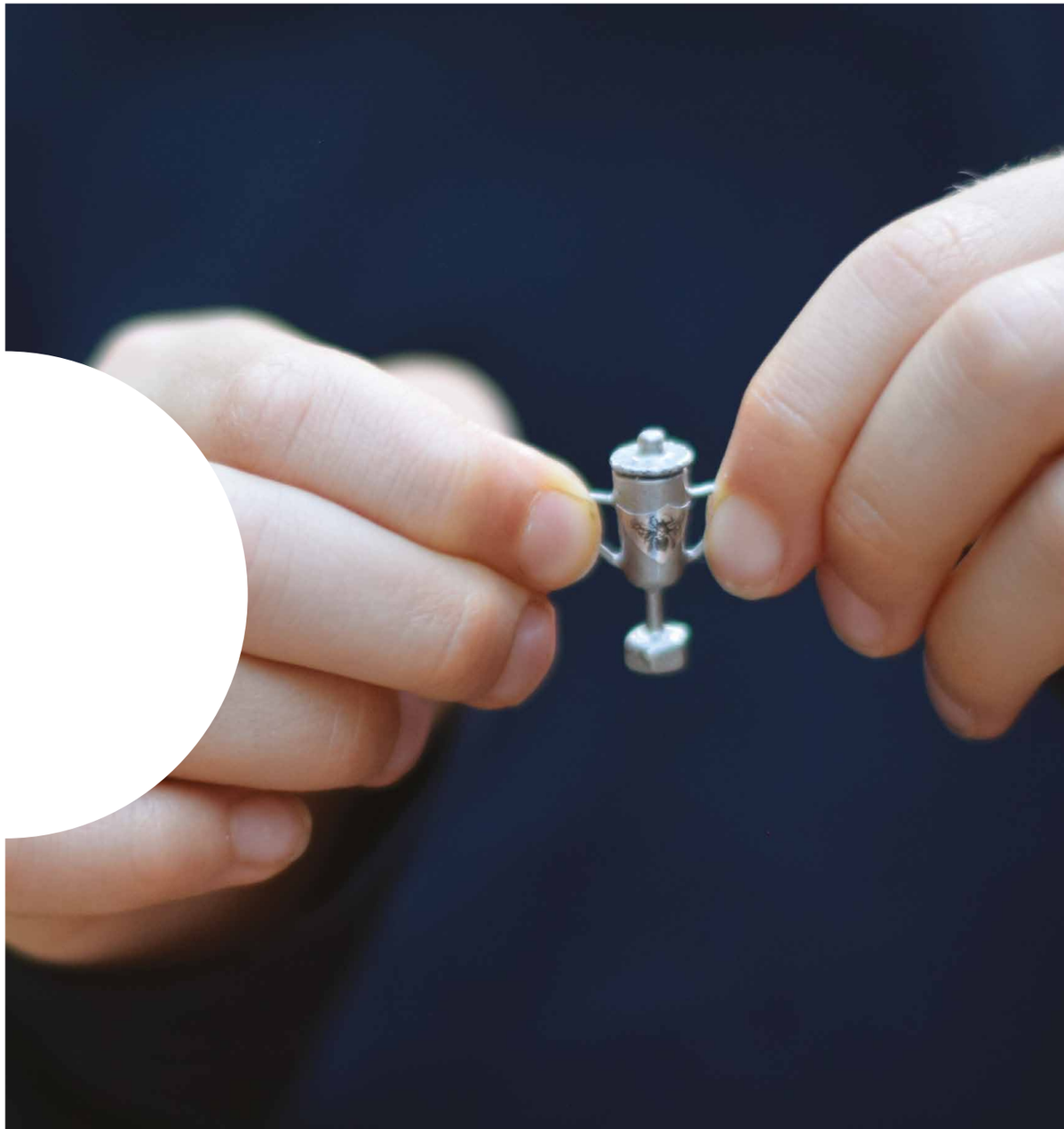
The narratives told by participants and by me were akin to storytelling and oral practice, where fact and fable intermingled to bring particular species to attention, to regulate destructive behaviours and to model future worlds. The objects of *The Visitor Centre I* and *II* were my material interpretations

Figure 180 The Visitor Centre II, *DNMNH*.

Figure 181 trophy, The Visitor Centre II.

of stories, which in turn prompted participants to share their own stories. Anthropomorphism and storytelling were employed to draw attention to nonhuman species' subjectivities and their capacity for choice and to break down the subject/object binary that speciesism upholds. Telling stories is a way of sharing perspectives and translating feelings and concerns, so by sharing their narratives, participants wove human and nonhuman protagonists into the assemblage of *The Visitor Centre*, and, in turn, kindled listeners' imagination and creative participation. As a mode of caring attention, the act of listening became an integral part of empathetic perception. The audience's imaginative and subjective experiences directed these conversations, and their subsequent articulations revealed a variety of emotional responses. Using artistic prompts to elicit subjective accounts of multispecies relationships is proposed here as a persuasive strategy with which to stimulate and develop human empathy in multispecies relationships.

As a means of promoting respectful multispecies relationships, I believe this thesis has presented an innovative method through which to foster empathy and care for nonhuman species. *The Visitor Centre I* and *II* demonstrated that artworks can encourage relationship formation with nonhuman species outside the realm of aesthetic affects. When participants respond to art, it can enable a temporary fluctuation between self and object as the outside world is brought into subjective bodily experience; these are the imagined moments of empathetic projection. In the merging and fluctuation between object and subject, the affiliation between human as subject and nonhuman as object can shift. I have proposed that participants who were moved by the art experience, who experienced a temporary attraction to the impossible other, are more likely to reflect on these relations after the event. In *The Visitor Centre*, participants encountered a world constructed on the principles of co-operation, respect and empathy. If this world can remain intact after the visitors have left, so that the artwork's affects extend beyond the event, then, in its creative interpretation of multispecies care, encounters with *The Visitor Centre* are transformative.



Bibliography

2001: a space odyssey (film). 1961. Directed and produced by S Kubrick. Beverly Hills: Metro-Goldwyn-Mayer.

Academy of Media Arts Cologne. n.d. Tue Greenford – NEOBIOTA. Available: https://www.khm.de/termine/news.1634.tue-greenfort-neobiota/. Accessed 10 May 2020.

Adams, LW. 2005. Urban wildlife ecology and conservation: a brief history of the discipline. *Urban Ecosystems* 8(34):129-156.

Adeyemi, A, Botai, J, Ramoelo, A, Van der Merwe, F, & Tsela, P. 2015. Effect of impervious surface area and vegetation changes on mean surface temperature over Tshwane metropolis, Gauteng Province, South Africa. *South African Journal of Geomatics* 4(4). Available: http://dx.doi.org/10.4314/sajg.v4i4.1. Accessed 25 Jun. 2020.

Agamben, G. [2002] 2004. *The open: man and animal*. Translated by K Attell. Stanford: Stanford University Press.

Aglert, K & Holmberg, T. 2016. Extinction stories [review]. *Humanimalia* Vol 8(1) (Fall). Available: http://www.depauw.edu/humanimalia/issue%2015/Aglert-Holmberg-Snaebjornsdottir-Wilson.html. Accessed 1 Nov. 2015.

Agricultural Research Council. n.d. *Hymenoptera: Solitary bees*. Available: https://www.arc.agric.za/arc-ppri/Pages/Biosystematics/Solitary-bees-(Hymenoptera).aspx. Accessed 5 Sep. 2020.

Alagona, PS. 2004. Biography of a "feathered pig": the California Condor conservation controversy. *Journal of the History of Biology* 37:557-583.

Albany Museum. n.d. Albany Museum. Available: http://www.am.org.za/. Accessed 9 May 2020.

Alberti, M, Marzluff, JM, Schulenberger, E, Bradley, G, Ryan, C & Zumbrunnun, C. 2003. Integrating humans into ecology: opportunities and challenges for studying urban ecosystems. *Bioscience* (53)12 Dec.:1169-1179.

Alberti, SJMM (ed.). 2011. *The afterlives of animals: a museum menagerie*. Charlottesville & London: University of Virginia Press.

Alexander, L & Moore, M. 2016. "*Deontological ethics*". *Stanford encyclopedia of philosophy*. Available: https://plato.stanford.edu/entries/ethics-deontological/. Accessed 10 Jan. 2017.

Alexandra Institute. n.d. RETHINK – contemporary art and climate change. Available: https://alexandra.dk/uk/cases/rethink-contemporary-art-and-climate-change. Accessed 25 Jul. 2014.

Alfreds, D. 2019. Battle lines drawn over death of Willie the koala at Pretoria Zoo. *News24*, 18 Jul. Available: https://www.news24.com/Green/News/battle-lines-drawn-over-death-of-willie-the-koala-at-pretoria-zoo-20190718. Accessed 30 Apr. 2020.

Allen, SW. 2016. "Animal consciousness". *Stanford encyclopedia of philosophy*. Available: https://plato.stanford.edu/entries/consciousness-animal/#hist. Accessed 31 Jul. 2020.

Allison-Bunnell, SW. 1998. Making nature "real" again: natural history exhibits and public rhetorics of science at the Smithsonian Institution in the early 1960s. In *The politics of display: museums, science, culture*. MacDonald, S (ed.). London & New York: Routledge. 77-83.

Aloi, G. 2008. Nanoq in conversation. *Antennae* 6:28-34.

Aloi, G. 2012. *Art and animals*. London & New York: IB Tauris.

Aloi, G. 2019a. Abbas Akhavan: Fatigues. *Antennae* 49 Autumn:70-77.

Aloi, G. 2019b. Speculative taxidermy: inscribing vulnerability. *Configurations* 27(2) (Spring):187-209.

Amathole Museum n.d. a. The Amathole Museum. Available: https://www.museum.za.net/. Accessed 9 May 2020.

Amathole Museum n.d. b. Mammal displays. Available: https://www.museum.za.net/index.php?option=com_content&view=category&layout=blog&id=21&Itemid=162. Accessed 9 May 2020.

Amathole Museum n.d. c. Huberta. Available: https://www.museum.za.net/index.php?option=com_content&view=article&id=36&Itemid=159. Accessed 9 May 2020.

Anderson, B. [2014] 2016. *Encountering affect: capacities, apparatuses, conditions*. London: Routledge.

Anderson, B & Tolia-Kelly, DP. 2004. Matter(s) in social and cultural geography. *Geoforum* 35:667-674.

Anderson, P & Elmqvist, T. 2012. Ecological and social-ecological research in the City of Cape Town: insights emerging from an urban ecology CityLab. *Ecology and Society* 17(4):23.

Angelopoulou, SL. 2019. Tomás Saraceno brings spider webs to the Venice Art Biennale. *Designboom*. Available: https://www.designboom.com/art/tomas-saraceno-spider-web-pavilion-venice-biennale-06-26-2019/. Accessed 10 May 2020.

Arcadia Earth. n.d. Arcadia. Available: https://www.arcadia.earth/. Accessed 9 May 2020.

Aronson, MF, Nilon, CH, Lepczyk, CA, Parker, TS, Warren, PS, Cilliers, SS, Goddard, MA, Hahs, AK et al. 2016. Hierarchical filters determine community assembly of urban species pools. *Ecology* 97(11):2952-2963.

Art in General. 2014. Meriç Algün Ringborg: The library of unborrowed books. Available: http://www.artingeneral.org/exhibitions/538. Accessed 11 Jun. 2014.

ArtCOP21. n.d. A global festival of cultural activity on climate change: Sep. – Dec. 2015. Available: http://www.artcop21.com/. Accessed 9 May 2020.

Art21. n.d. 'Neukom vivarium': Mark Dion [interview]. *Art21*. Available: https://art21.org/read/mark-dion-neukom-vivarium/. Accessed 10 May 2020.

Ashforth, WB Jr. 1997. Emblematic natural history of the Renaissance. In *Cultures of natural history*. Jardine, N, Secord, JA & Spary, EC (eds). Cambridge: Cambridge University Press. 17-37.

Asma, ST. 2001. *Stuffed animals and pickled heads: the culture and evolution of natural history museums*. Oxford & New York: Oxford University Press.

Bailey-Ross, C, Gray, S, Ashby, J, Terras, M, Hudson-Smith, A & Warwick, C. 2017. Engaging the museum space: mobilising visitor engagement with digital content creation. *Digital Scholarship in the Humanities* 32(4): 689-708.

Baker, S. 2000. *The postmodern animal*. London: Reaktion.

Baker, S. 2011. Contemporary art and animal rights. In Freeman, C, Leane, E & Watt, Y. *Considering animals: contemporary studies in human-animal relations*. Farnham & Burlington: Ashgate.

Baker, S. 2013. *Artist | Animal*. Minneapolis & London: University of Minnesota Press.

Barad, K, 2007. *Meeting the universe halfway: quantum physics and the entanglement of matter and meaning*. Durham NC: Duke University Press.

Barbican. *Event details. Radical nature: art and architecture for a changing planet 1969–2009*. Available: https://www.barbican.org.uk/whats-on/2009/event/radical-nature-art-and-architecture-for-a-changing-planet. Accessed 18 Mar. 2020.

Barron, AB & Klein, C. 2016. What insects can tell us about the origins of consciousness. *Proceedings of the National Academy of Sciences, United States of America* 113(18):4900-4908. Available: http://www.pnas.org/content/113/18/4900. Accessed 10 Jan. 2017.

Bates, C. 2016. Would it be wrong to eradicate mosquitoes? *BBC News* 28 Jan. Available: https://www.bbc.com/news/magazine-35408835. Accessed 10 Apr. 2020.

Bates, E. 2018. Can natural history collections support a connection to nature for young children and families? *Museum & Society* 16(3):369-382.

Bates, MF, Branch, WR, Bauer, AM, Burger, M, Marais, J, Alexander GJ & de Villiers, MS. 2014. *Atlas and Red List of the reptiles of South Africa, Lesotho and Swaziland*. Pretoria: SANBI Suricata.

Batra, SWT. 1984. Solitary bees. *Scientific American* 250(2) Feb.:120-127.

Batson, CD, Turk, CL, Shaw, LL & Klein, TR. 1995. Information function of empathy emotion: learning that we value the other's welfare. *Journal of Personality and Social Psychology* 68:300-313.

Bay, N. 2016. Spider photo exhibition at Senckenberg Natural History Museum. Available: https://www.nickybay.com/spider-photo-exhibition-senckenberg-natural-history-museum/. Accessed 25 May 2020.

Baxandall, M. 1985. *Patterns of intention: on the historical explanation of pictures*. New Haven: Yale University Press.

BBC News. 2003. Liquidising goldfish "not a crime". *BBC News* 19 May. Available http://news.bbc.co.uk/2/hi/3040891.stm. Accessed 30 Apr. 2020.

Beirnes, P. 1994. The law is an ass: reading EP Evans' "The medieval prosecution and capital punishment of animals". *Society and Animals* 2(1):27-46.

Bekoff, M. 2009. Animal emotions, wild justice and why they matter: grieving magpies, a pissy baboon and empathic animals. *Emotion, Space and Society* 2:82-85.

Bekoff, M. 2013. Animal consciousness and science matter: anthropomorphism is not anti-science. *Relations* 1(1) Jun.:61-68.

Bekoff, M & Pierce, J. 2009. *Wild justice: the moral lives of animals*. Chicago: University of Chicago Press.

Bekoff, M, Allen, C & Burghardt, GM (eds). 2002. *The cognitive animal: experimental and theoretical perspectives on animal cognition*. Cambridge, Mass.: MIT Press.

Benjamin, W. [1966] 1998. *Understanding Brecht*. Translated by A Bostock. London: Verso.

Bennett, T. 1995 *The birth of the museum: history, theory, politics*. London: Routledge.

Bennett, J. 2010. *Vibrant matter*. Durham, NC: Duke University Press.

Bennett, J. 2015. Encounters with an art-thing. *Evental Aesthetics* Retrospective 1:71-87.

Bennett, J & Connolly, WE. 2002. Contesting nature/culture: the creative character of thinking. *The Journal of Nietzsche Studies* 24 Fall:148-163. Available: https://doi.org/10.1353/nie.2002.0012. Accessed 9 May 2020.

Berenguar, J. 2010. The effect of empathy in environmental moral reasoning. *Environment and Behaviour* 42(1) Jan.:110-134. DOI: 10.1177/0013916508325892.

Berger, J. [1980] 1991. *About looking*. New York: Vintage.

Berger, LR & McGraw, WS. 2007. Further evidence for eagle predation of, and feeding damage on, the Taung child. *South African Journal of Science*. 103(11-12) Nov./Dec.. Available: http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S0038-23532007000600013. Accessed 9 May 2020.

Bergh, JS. 1996. The changing borders of the "Transvaal" 1840-1994. *Historia* 41(2) Nov.:11-17.

Berkes, F, Colding, J & Folke, C. 2000. Rediscovery of traditional ecological knowledge as adaptive management. *Ecological Applications* 10(5):1251-1262.

Berleant, A. 1993. *Art and engagement*. Philadelphia: Temple University Press.

Berleant, A. 2014. Environmental sensibility. *Studia Phaenomenologica* XIV:17-23.

Beuys, J & Harlan, V. 2004. *What is art? Conversation with Joseph Beuys*. Translated by M Barton and S Sacks. London: Clairview.

Bishop, C. 2004. Antagonism and relational aesthetics. *Oct*. 110 Autumn:51-79.

Bishop, C. 2005. *Installation art: a critical history*. London: Tate.

Bishop, C (ed.). 2006. *Participation: documents of contemporary art*. London & Cambridge, Mass.: Whitechapel & MIT Press.

Bishop, C. 2012. *Artificial hells: participatory art and the politics of spectatorship*. London & New York: Verso.

Bitgood, S, McKerchar, TL & Dukes, S. 2013. Looking back at Melton: gallery density and visitor attention. *Visitor Studies* 16(2). Available: https://doi.org/10.1080/10645578.2013.827024. Accessed 5 Jul. 2020.

Böhm, A & Ullrich, J (eds). 2019. *Animal encounters: kontakt, interaction und relationalität*. Stuttgart: JB Metzler.

Bolt, B. [2004] 2010. *Art beyond representation: the performative power of the image*. London: IB Tauris. Available: Google Play. Accessed 8 May 2020.

Boshoff, W. 2014. *Willem Boshoff Artist*. Available: http://www.willemboshoff.com. Accessed 5 Jun. 2014.

Bourriaud, N. [1998] 2002. *Relational aesthetics*. Translated by S Pleasance and F Woods with M Copeland. Dijon: Les presses du réel.

Brady, E. 2010. Animals in environmental art: relationship and aesthetic regard. *Journal of Visual Art Practice* 9(1):47-58.

Braidotti, R. 2013. *The post-human*. Cambridge: Polity.

Brain, CK. 1992. Natural history at the Transvaal Museum, 1901-1992. In *Staatsmuseum 100: National Cultural History Museum, Museum of the Geological Survey, Transvaal Museum*. Dippenaar, NJ (ed.). Pretoria: National Cultural History Museum, Museum of the Geological Survey, Transvaal Museum.

Brain, CK. 1998. *Austin Roberts: a lifelong devotion to South Africa's birds and beasts*. Cape Town: John Voelcker Bird Book Fund.

Brandon Ballengée. n.d. Brandon Ballengée home page. Available: http://brandonballengee.com/. Accessed 28 Jun. 2014.

Breuste, J, Niemelä, J & Snep, RPH. 2008. Applying landscape ecological principles in urban environments. *Landscape Ecology* 23:1139-1142.

British Animal Studies Network. n.d. The British Animal Studies Network home page. Available: https://www.britishanimalstudiesnetwork.org.uk. Accessed 24 Jul. 2020.

British Museum. n.d. History. Available: https://www.britishmuseum.org/about-us/british-museum-story/history. Accessed 24 Jul. 2020.

Broglio, R. 2010. A left-handed primer for approaching animal art. *Journal of Visual Art Practice* 9(1):35-45.

Broglio, R. 2011. *On the surface: thinking with animals and art*. Minneapolis: University of Minnesota Press.

Brown University. 2016. *Snæbjörnsdóttir/Wilson – Fading symbols, disappearing worlds*. Available: https://www.youtube.com/watch?v=i4QqZpM-qAE. Accessed 28 Feb. 2020.

Brown, KJ (ed.). 2014. *Interactive contemporary art: participation in practice*. London: IB Tauris.

Buchanan, B. 2015. The metamorphoses of Vinciane Despret. *Angelaki* 20(2):17-32. Available: http://dx.doi.org/10.1080/0969725X.2015.1039818. Accessed 6 Apr. 2016.

Buckland, A & Nattrass, N. 2019. Understanding preferences for humane and cruel treatment of pest rodents in Site C, Khayelitsha, South Africa. *Journal of Applied Animal Welfare Science*. DOI: 10.1080/10888705.2019.1666008.

Bulletin of the atomic scientists. 2011. Paul R. Ehrlich: Seeking environmental solutions in the social sciences [interview]. *Bulletin of the Atomic Scientists* 67(5):1-8.

Bunting, M. 2008. Does the art stop when the persuasion starts? *RSA Arts & Ecology*. Available: http://www.artsandecology.org.uk/magazine/features/madeleine-bunting. Accessed 18 Mar. 2012.

Burghardt, GM. 1985. Animal awareness: current perceptions and historical perspective. *American Psychologist* 40(8) August:905-919.

Burghardt, GM. 2007. Critical anthropomorphism, uncritical anthropocentrism, and naïve nominalism. *Comparative Cognition & Behaviour Reviews* 2:136-138.

Burt, J. 2006. *Rat*. London: Reaktion.

Butler, J. 1999. *Gender trouble: feminism and the subversion of identity* [e-book]. London & New York: Routledge.

Byala, S. 2013. *A place that matters yet: John Gubbins's Museum Africa in the post-colonial world*. Chicago & London: University of Chicago Press.

Cafara, P. 2001. For a grounded conception of wilderness and more wilderness on the ground. *Ethics and the Environment* 6(1) Spring:1-17.

Cain, P. 2010. *Drawing: the enactive evolution of the practitioner*. Bristol: Intellect books.

Cape Farewell. n.d. *Cape Farewell*. Available: https://capefarewell.com/. Accessed 9 May 2020.

Carbonell, BM. 2012. *Museum studies: an anthology of contexts*. 2nd Ed. Chichester: Wiley-Blackwell.

Cardoso, P, Barton, PS, Birkhofer, K, Chichorro, F, Deacon, C, Fartmann, T, Fukushima, CS, Gaigher, R, et al. 2020. Scientists' warning to humanity on insect extinctions. *Biological Conservation* 242(108426). Available: https://doi.org/10.1016/j.biocon.2020.108426. Accessed 25 Jun. 2020.

Carlson, A. 2000. *Aesthetics and the environment: the appreciation of nature, art and architecture*. London & New York: Routledge.

Carnall, M, Ashby, J & Ross, C. 2013. Natural history museums as provocateurs for dialogue and debate. *Museum Management and Curatorship* 28(1): 55-71. Available: https://doi.org/10.1080/09647775.2012.754630. Accessed 22 Jul. 2019.

Catts, O (ed.). 2002. *The aesthetics of care? The artistic, social and scientific implications of the use of biological/medical technologies for artistic purposes* [symposium proceedings]. Perth: SymbioticA & The Institute of Advanced Studies.

Cavalieri, P. 2001. *The animal question: why nonhuman animals deserve human rights*. Translated by C Woollard. Revised by P Cavalieri. New York: Oxford University Press.

Cavalieri, P. 2006. The animal debate: a reexamination. In *In defense of animals: the second wave*. Singer, P (ed.). Malden & Oxford: Blackwell. 54-68.

Chan, AAY-H. 2012. Anthropomorphism as a conservation tool. *Biodiversity Conservation* 21:1889-1892.

CityBuzz. 2017. UPDATE: "There is a general lack of appreciation across all heritage institutions," says JAG acting chief curator, 9 May 2017. Available: http://citybuzz.co.za/72085/update-there-is-a-general-lack-of-appreciation-across-all-heritage-institutions-says-jag-acting-chief-curator/. Accessed 23 Aug. 2017.

City of Tshwane. n.d. Nature Conservation. Available: http://www.tshwane.gov.za/sites/tourism/NatureConservation/Pages/default.aspx. Accessed 10 May 2020.

City of Tshwane. 2005. Proposed Tshwane open space framework vol 1: Status quo. Available: http://www.tshwane.gov.za/sites/residents/Services/OpenSpaceManagement/Framework/Open%20Space%20Framework%20Vol%201.pdf. Accessed 25 Jun. 2020.

Clements, A. 2016. 77/21: Bronwyn Lace @ Parking Gallery. *Pixelplexus* [blog]. Available: http://pixelplexus.co.za/blog/2006/06/22/7721-bronwyn-lace-parking-gallery/. Accessed 11 Feb. 2017.

Clough, PT. 2010. Afterword: the future of affect studies. *Body & Society* 16(1):222-230.

Coetzee, JM. 2000. *The lives of animals*. London: Profile Books.

Colding, J & Folke, C. 2001. Social taboos: "invisible systems" of local resource management and biological conservation. *Ecological Applications* 11(2):584-600.

Cole, L, Landry, D, Boeher, B, Nash, R, Fudge, E, Markley, R & Wolfe, C. 2011. Speciesism, identity politics and ecocriticism: A conversation with humanists and post-humanists [e-conversation]. *Eighteenth Century: Theory & Interpretation* 52(1):87-106.

Coombes, AE. 2003. *History after apartheid: visual culture and public memory in a democratic South Africa*. Johannesburg: Wits University Press.

Cooper, P. 2007-2015. "Assemblage". *Oxford Art Online*. Available: http://0-www.oxfordartonline.com.innopac.up.ac.za/subscriber/article/grove/art/T004631. Accessed 10 Jul. 2015.

Coplan, A & Goldie, P (eds). 2011. *Empathy: philosophical and psychological perspectives*. Oxford: Oxford University Press.

Costello, D. 2006. Overcoming postmodernism. In Elkins, J (ed.), *The art seminar volume one: art history versus aesthetics*. London & New York: Routledge. 92-98.

Crane, S. 2012. *Animal encounters: contacts and concepts in medieval Britain*. Philadelphia: University of Pennsylvania Press.

Creative Feel. 2020. *Bolt's Farm exhibition at Ditsong*. Mar. 2020. Available: https://creativefeel.co.za/2020/03/bolts-farm-exhibition-at-ditsong/. Accessed 10 May 2020.

Cronon, W (ed.). 1996. *Uncommon ground: rethinking the human place in nature*. London & New York: WW Norton.

Crouch, C. 2007. Praxis and the reflexive creative practitioner. *Journal of Visual Art Practice* 6(2):105-114.

Csikszentmihalyi, M & Hermanson, K. 1995. Intrinsic motivation in museums: why does one want to learn? In *Public institutions for personal learning: establishing a research agenda*. Falk, JH & Dierking, LD (eds). Washington, D.C.: American Association of Museums. 67-78.

Cumming, L. 2009. GSK Contemporary 2009 - Earth: Art of a changing world. *The Guardian*. Available: https://www.theguardian.com/artanddesign/2009/dec/13/earth-art-changing-world-review. Accessed 25 May 2020.

Damasio, AR. [1994] 2005. *Descartes' error: emotion, reason, and the human brain*. New York: Penguin.

Darwin, C. [1859] 1979. *The origin of species*. Avenel: Random House.

Darwin, C. [1871] 1885. *The descent of man and selection in relation to sex*. 2nd ed. London: John Murray.

Daston, L & Mitman, G (eds). 2015. *Thinking with animals: new perspectives on anthropomorphism*. New York: Columbia University Press.

Daston, L. 2015. Intelligences: angelic, animal, human. In *Thinking with animals: new perspectives on anthropomorphism*. L Daston & G Mitman (eds). New York: Columbia University Press. 37-58.

Davison, P. 1990. Rethinking the practice of ethnography and cultural history in South African museums. *African Studies* 49(1):149-167.

Davison, P. 2000. Redefining relevance: museums for a new millennium. *SAMAB* 25(1) May:1-5.

Dawkins, R. [1976] 1989. *The selfish gene*. 30th anniversary ed. Oxford: Oxford University Press.

Dawkins, R. 2009. *The greatest show on earth: the evidence for evolution*. New York: Bantam.

Dawkins, MS. 2006. The scientific basis for assessing suffering in animals. In *In defense of animals: the second wave*. Singer, P (ed.). Malden & Oxford: Blackwell. 26-39.

Dawkins, MS. 2012. *Why animals matter*. Oxford: Oxford University Press.

De Certeau, M. 1988. *The practice of everyday life*. Translated by S Rendall. Berkeley: University of California Press.

De Certeau, M, Giard, L & Mayol, P. 1998. *The practice of everyday life, vol 2*. New edition edited by L Giard. Translated by TJ Tomasik. Minneapolis: University of Minnesota Press.

De Kock, C. 2015. *Sonic display: expanding the sensorium in curatorial practice*. Honours dissertation, University of Cape Town.

De Robillard, B. 2018. In/On the bones: species meanings and the racialising discourse of animality in the *Homo naledi* controversy. *Image & Text* 32:1-26.

De Robillard, B, & Lipschitz, R. 2017. Race and "the Animal" in the post-apartheid "national symbolic". *Image & Text* 30:73-93.

De Vignemont, F & Singer, T. 2006. The empathic brain: how, when, why? *Trends in Cognitive Science* 10(10):435-441.

De Villiers, OM. 2010. The object of experience: a phenomenological approach to exhibition space in the Ditsong National Museum of Natural History. MA dissertation, University of Pretoria.

De Waal, F. [2009] 2011. *Age of empathy: nature's lessons for a kinder society*. London: Souvenir Press. Available: Google Play. Accessed 8 May 2020.

De Waal, F. 2012. The antiquity of empathy. *Science* 336(18) May:874-876.

De Waal, F. 2017. *Are we smart enough to know how smart animals are?* New York: WW Norton.Degen, M & Miles, M (eds). 2010. *Culture and agency: contemporary art and urban change*. Plymouth: University of Plymouth Press.

DeLanda, M. 2006. *A new philosophy of society: assemblage theory and social complexity*. London: Continuum. Available: Google Play. Accessed 8 May 2020.

DeLanda, M. 2017. A comparison of Deleuze's assemblage theory and the new materialist approach. *Assemblage thinking symposium: theory, analysis, practice and governance*, University of the Aegean, 2-4 Jun. Available: https://www.youtube.com/watch?v=VzJqOX4ASA8. Accessed 7 Feb. 2019.

Deleuze, G. [1968] 1990. *Expressionism in philosophy: Spinoza*. Translated by M Joughin. New York: Zone.

Deleuze, G & Guattari, F. [1980] 2014. *A thousand plateaus: capitalism and schizophrenia*. Translated by B Massumi. New York: Continuum.

Demos, TJ. 2012. Art after nature: the post-natural condition. *Artforum* 50(8) Apr.:191-197.

Department of Sport, Arts and Culture. n.d. *Ditsong Museums of South Africa*. Available: http://www.dac.gov.za/ditsong_museum. Accessed 9 May 2020.

Derrida, J. [2006] 2008. *The animal that therefore I am*. Edited by ML Mallet. Translated by D Willis. New York: Fordham University Press.

Descartes, R. [1637] 1968. *Discourse on method and the meditations*. Translated by FE Sutcliffe. London: Penguin.

Despret, V. 2004. The body we care for: figures of anthropo-zoo-genesis. *Body & Society* 10(2/3):111-134.

Despret, V. 2006. Sheep do have opinions. In *Making things public: atmospheres of democracy*. B Latour & P Weibel (eds). Cambridge, Mass.: MIT Press.

Despret, V. 2013a. From secret agents to interagency. *History and Theory* 52 Dec.:29-44. DOI: 10.1111/hith.10686. Accessed 30 Dec. 2016.

Despret, V. 2013b. Responding bodies and partial affinities in human-animal worlds. *Theory, Culture and Society,* 20(7/8):51-76.

Despret, V. 2015. We are not so stupid…animals neither. Translated by H Taylor. *Angelaki* 20(2) Jun.:153-161. Available: http://dx.doi.org/10.1080/0969725X.2015.1039855. Accessed 6 Apr. 2016.

Despret, V. 2016. *What would animals say if we asked the right questions?* Translated by B Buchanan. Minneapolis: University of Minnesota Press.

Despret, V & Meuret, M. 2016. Cosmoecological sheep and the arts of living on a damaged planet. *Environmental Humanities* 8(1) May:1-23.

Dezeuze, A. 2008. Assemblage, *bricolage* and the practice of everyday life. *Art Journal* Spring:31-37.

Dezeuze, A (ed.). 2010. *The "do-it-yourself" artwork: participation from Fluxus to new media*. Manchester & New York: Manchester University Press.

Diehm, C. 2002. Arne Naess, Val Plumwood, and deep ecological subjectivity: a contribution to the "deep ecology-ecofeminism debate". *Ethics and the environment* 7(1):24-38.

Dierking, L, Falk, JH, Scott, C, Rennie, L & Cohen Jones, M. 2004. Interactives and visitor learning. *Curator* 47(2) Apr.:171-198.

Dion, M. 2009. Mark Dion lecture. California College of the Arts graduate studies lecture series. Recorded on 15 Oct. Timken Lecture Hall, San Francisco campus. Available: http://www.youtube.com/watch?v=i5yB2thWxBI. Accessed 18 Mar. 2014.

Dippenaar, MA. 2013. *Hydrogeological heritage overview. Pretoria's fountains: arteries of life*. Pretoria: Water Research Commission. Available: http://www.wrc.org.za/wp-content/uploads/mdocs/Pretoria%20Fountains.pdf. Accessed 25 Jun. 2020.

Dippenaar, NJ (ed.). 1992. *Staatsmuseum 100: National Cultural History Museum, Museum of the Geological Survey, Transvaal Museum*. Pretoria: National Cultural History Museum, Museum of the Geological Survey, Transvaal Museum.

Dippenaar-Schoeman, A & Haddad, C. 2014. *Spiders of the grassland biome*. Plant Protection Research Institute Handbook no. 19. Pretoria: ARC.

Ditsong Museums of South Africa. n.d. *National Museum of Natural History* [brochure]. Pretoria: Department of Arts and Culture.

Dlamuka, M & Ndlovu, B. 2002. Post-apartheid museums; a "community"-centred approach [seminar]. *SAMAB* 28(1):46-48.

Doherty, C (ed.). 2009. *Situations: documents of contemporary art*. London & Cambridge, Mass.: Whitechapel & MIT Press.

Donna Haraway: Story telling for earthly survival (film). 2016. Directed by F Terranova, produced by E Meiresonne. New York: Icarus Films.

Donovan, J. 2016. *The aesthetics of care: on the literary treatment of animals*. London & New York: Bloomsbury. Available: Google Play. Accessed 8 May 2020.

Dorfman, E. 2018. *The future of natural history museums*. London & New York: Routledge.

Dreyer, E (cur.). 2011. *Aperture*, group exhibition with Strijdom van der Merwe, Nicola Grobler, Kai Lossgott and St John Fuller [digital catalogue]. Pretoria: Fried contemporary.

Duffy, K. 2017. The dead curator: education and the rise of bureaucratic authority in natural history museums, 1870–1915. *Museum History Journal* 10(1):29-49. DOI: 10.1080/19369816.2016.1259378.

Dwyer, J. 2007. A non-companion species manifesto: humans, wild animals and "the pain of anthropomorphism". *South Atlantic Review* 72(3):73-89.

Eardley, CD, Gikungu, M & Schwarz, MP. 2009. Bee conservation in sub-Saharan Africa and Madagascar: diversity, status and threats. *Apidologie* 40:355-366. DOI: 10.1051/apido/2009016.

Eardley, CD, Kuhlmann, M & Pauly, A. 2010. The bee genera and subgenera of sub-Saharan Africa. *Abc Taxa* 7. Available: http://www.abctaxa.be/volumes/vol-7-bees. Accessed 5 Aug. 2020.

Eco, U. 1989. *The open work*. Translated by A Cancogni. Introduction by D Robey. London: Hutchinson Radius.

Ehrlich, PR & Ehrlich, AH. 2008. *The dominant animal: human evolution and the environment*. Washington: Shearwater.

Elkins, J (ed.). 2012. *The art seminar volume one: art history versus aesthetics*. London & New York: Routledge.

Emmeche, C & Kull, K (eds). 2011. *Towards a semiotic biology: life is the action of signs*. London: Imperial College Press.

Emutagen. n.d. The Workhorse Zoo art and bioethics quiz. Available: http://www.emutagen.com/wrkhzoo.html. Accessed 30 Apr. 2020.

Eskell-Blokland, LM. 2009. Listening to oral traditions in a re-searching for praxis in a non-western context. *Journal of Health Management* 11(2):355-373.

Esrock, EJ. 2001. Touching art: intimacy, embodiment and the somatosensory system. *Consciousness and Emotion* 2(2):233-254.

Esrock, EJ. 2010. Embodying art: the spectator and the inner body. *Poetics Today* 31(2):217-250.

Evans, EP. 1906. The criminal prosecution and capital punishment of animals. London: William Heineman. Available: http://www.gutenberg.org/files/43286/43286-h/43286-h.htm. Accessed 31 Jul. 2017.

Evaristti Studios. 2019. Helena & El Pescador. Available https://www.evaristti.com/helena-el-pescador-1. Accessed 9 May 2020.

Everest, S. 2011. "Under the skin": the biography of a Manchester mandril. In *The afterlives of animals: a museum menagerie*. SJMM Alberti (ed.). Charlottesville & London: University of Virginia Press. 75-91.

Fabbula Magazine. 2016. *Donna Haraway / Speculative Fabulation*. Available: https://www.youtube.com/watch?v=zFGXTQnJETg&ab_channel=FabbulaMagazine. Accessed 5 Sep. 2020. Uploaded 24 May 2016.

Falk, JH & Dierking, LD (eds). 1995. *Public institutions for personal learning: establishing a research agenda*. Washington, D.C.: American Association of Museums.

Falk, J. 2004. The director's cut: toward an improved understanding of learning from museums. *Science Education* 88 (Supplement 1):S83-96. DOI 10.1002/sce.20014.

Fals Borda, O. 1997. Participatory action research in Colombia: some personal feelings. In *Participatory action research: international contexts and consequences*. R McTaggart (ed.). Albany: State University of New York Press. 107-112

Farber, L (ed.). 2010. *On making: integrating approaches to practice-led research in art and design*. Johannesburg: Visual Identities in Art and Design Research Centre & University of Johannesburg.

Farber, L & Mäkëla, M. 2010. Exploring through practice: connecting global practice-led research approaches with South African production. In *On making: integrating approaches to practice-led research in art and design*. Farber, L (ed.). Johannesburg: Visual Identities in Art and Design Research Centre & University of Johannesburg. 7-18.

Finkelpearl, T. 2013. *What we made: conversations on art and social cooperation*. Durham & London: Duke University Press.

Foster, K, Lorimer, H & Patchett, M. n.d. Introduction. *Blue antelope correspondences*. Available: http://www.blueantelope.info/?q=node/1. Accessed 9 May 2020.

Foucault, M. [1966] 2002. *The order of things: an archaeology of the human sciences*. London: Tavistock.

Frank, E & H-Animals Readers. 2008. Marco Evaristti: Helena. *Antennae* 5:30-32.

Frank, L. 2012. *Dr Frans de Waal – The feelings of animals* [interview]. Copenhagen: Danskernes Akademi. Available: https://www.youtube.com/watch?v=nXNjoJtZU6U. Accessed 10 May 2020.

Franklin, A. 2006. "Be[a]ware of the dog": a post-humanist approach to housing. *Housing, Theory and Society* 23(3):137-156.

Franklin, RG Jr, Nelson, AJ, Baker, M, Beeney, JE, Vescio, TK, Lenz-Watson, A & Adams, RB Jr. 2013. Neural responses to perceiving suffering in humans and animals. *Social Neuroscience* 8(3): 217-227.

Frascina, F. 2014. "Collage". In *Encyclopedia of Aesthetics*. M. Kelly (ed.). Oxford Art Online. Available: https://www-oxfordreference-com.uplib.idm.oclc.org/view/10.1093/acref/9780199747108.001.0001/acref-9780199747108-e-149?rskey=PF2Nos&result=10. Accessed 25 May 2018.

Freedberg, D. 2002. *The eye of the lynx: Galileo, his friends, and the beginnings of modern natural history*. Chicago & London: University of Chicago Press.

Freedberg, D & Gallese, V. 2007a. Mirror and canonical neurons are crucial elements in esthetic response. *Trends in Cognitive Science* 11(10):411.

Freedberg, D & Gallese, V. 2007b. Motion, emotion and empathy in esthetic experience. *Trends in Cognitive Science* 11(5):197-203. DOI: 10.1016/j.tics.2007.02.003.

Freee art collective. 2014. Impossible participation. In *Interactive contemporary art: participation in practice*. KJ Brown (ed.). London: IB Tauris. 255-270.

Freeman, C, Leane, E & Watt, Y (eds). 2011. *Considering animals: contemporary studies in human-animal relations*. Farnham & Burlington: Ashgate.

Frick, C. 1999. Foreword. In *Tswaing Meteorite Crater: an introduction to the natural and cultural history of the Tswaing region including a description of the hiking trail*. WU Reimold, D Brandt, R de Jong & J Hancox (eds). Pretoria: Council for Geoscience.

Fromm, H. 2009. *The nature of being human: from environmentalism to consciousness*. Baltimore: John Hopkins University Press.

Fudge, E. 2002. *Animal*. London: Reaktion Books.

Gablik, S. 1991. *The reenchantment of art*. London & New York: Thames & Hudson.

Gablik, S. 1995a. Connective aesthetics: art after individualism. In *Mapping the terrain: new genre public art*. S Lacy (ed.). Seattle: Bay Press. 74-87.

Gablik, S. 1995b. *Conversations before the end of time*. London & New York: Thames & Hudson.

Gallace, A & Spence, C. 2011. Tactile aesthetics: towards a definition of its characteristics and neural correlates. *Social Semiotics* 21(4):569-589.

Gallese, V & Lakoff, G. 2005. The brain's concepts: the role of the sensory-motor system in conceptual knowledge. *Cognitive Neuropsychology* 22(3/4):455-479.

Gaut, B & McIver Lopes, D (eds). 2002. *The Routledge companion to aesthetics*. London & New York: Routledge.

Gauteng Department of Agriculture and Rural Development. 2016. *Conservation* [pamphlet]. Johannesburg: Gauteng govt.

Gee, H. 2013. *The accidental species: misunderstandings of human evolution* [e-book]. Chicago: University of Chicago press.

Gibbons, A. 2012. Bonobos join chimps as closest human relatives. *Science*, 13 Jun. Available: https://www.sciencemag.org/news/2012/06/bonobos-join-chimps-closest-human-relatives. Accessed 9 May 2020.

Gilligan, C. 1982. *In a different voice: psychological theory and women's development*. Cambridge, Mass.: Harvard University Press.

Goodnow, KJ (ed.). 2006. *Challenge and transformation: museums in Cape Town and Sydney*. Paris: UNESCO.

Gordon-Walker, C. 2019. Unsettling nature, culture and history: layers of meaning and conversation at the Royal BC Museum. *Museum & Society* 17(2):248-260.

Gottschall, J. 2012. *The storytelling animal: how stories make us human*. New York: Houghton Mifflin Harcourt.

Gous, A, Willows-Munro, S, Eardley, C, & Swanevelder, ZH. 2017. Pollination: impact, role-players, interactions and study: a South African perspective. *South African Journal of Science* 113(9/10):23-30.

Grau, O. 2003. *Virtual art: from illusion to immersion*. London & Cambridge, Mass.: MIT Press.

Grobler, E. 1994. *Die Staatsmuseum van die Zuid-Afrikaansche Republiek en sy historiese en etnografiese versamelings*. MA dissertation, University of Pretoria.

Grobler, NH. 2009. *Small Victories II* [artist book]. Edition of 10. Cape Town: Nicola Grobler.

Grobler, NH. 2014. Participatory art and the everyday: a South African perspective. In *Interactive contemporary art: participation in practice*. KJ Brown (ed.). London: IB Tauris.

Grobler, Nicola (dir.). 2015. *The Visitor Centre*. Available: https://www.youtube.com/watch?v=Sh7xAjY0J2U. Uploaded 16 Sep. 2015.

Grobler, Nicola (dir.). 2016. *The Visitor Centre at Tswaing*. Available: https://www.youtube.com/watch?v=W-J1658Qt1mM&feature=youtu.be. Uploaded 12 Jul. 2017.

Grobler, NH. 2019. Encounters with The Visitor Centre: art and interspecies relationships. In *Animal encounters: kontakt, interaction und relationalität*. A Böhm & J Ullrich (eds). Stuttgart: JB Metzler.

Grobler, Nicola (dir.). *The Visitor Centre II: 16 May-23 June 2018*. DOI: 10.25375/uct.13325285. Uploaded 7 Sep. 2021.

Grobler, Nicola. n.d. *Small victories*. Available: http://nicolagrobler.com/projects#/small-victories. Accessed 6 Aug. 2020.

Grosbras, MH, Beaton, S & Eickhoff, SB. 2012. Brain regions involved in human movement perception: a quantitative voxel-based meta-analysis. *Human Brain Mapping* 33:431-454.

Grosz, EA. 1994. *Volatile bodies: toward a corporeal feminism*. Bloomington: Indiana University Press.

Gruen, L. 2015. *Entangled empathy: an alternative ethic for our relationships with animals*. New York: Lantern.

Guattari, F. [1989] 2005. *The three ecologies*. Translated by I Pindar & P Sutton. London & New York: Continuum.

Guattari, F. 1995. *Chaosmosis: an ethico-aesthetic paradigm*. Bloomington: Indiana University Press.

H-animal. n.d. H-animal home page. *H-net Humanities and Social Sciences Online*. Available: https://networks.h-net.org/h-animal. Accessed 25 Jul. 2020.

Halsall, F. 2006. Art history versus aesthetics. In *The art seminar volume one: art history versus aesthetics*. J Elkins (ed.). London & New York: Routledge. 106-110.

Halsall, F, Jansen, J & O'Connor, T (eds). 2009. *Rediscovering aesthetics: transdisciplinary voices from art history, philosophy and art practice*. Stanford: Stanford University Press.

Haraway, DJ. 1984-5. Teddy bear patriarchy: taxidermy in the garden of Eden, New York City, 1908-1936. *Social Text* 11 Winter: 20-64.

Haraway, DJ. 1990. *Simians, cyborgs and women: the reinvention of nature*. London & New York: Routledge.

Haraway, DJ. 2007. *The companion species manifesto: dogs, people and significant otherness*. Chicago: Prickly Paradigm Press.

Haraway, DJ. 2008. *When species meet*. Minneapolis & London: University of Minnesota Press.

Haraway, DJ. 2015. Anthropocene, Capitalocene, Plantationocene, Chthulucene: making kin. *Environmental Humanities* 6:159-165.

Haraway, DJ. 2016. *Staying with the trouble: making kin in the Chthulucene*. Durham & London. Duke University Press.

Harman, G. 2008. DeLanda's ontology: assemblage and realism. *Continental Philosophical Review* 41:367-383.

HartRAO. 2005. *Visit deep impact: the Vredefort Dome*. National Research Foundation: Hartbeeshoek Radio Astronomy Observatory. Available: http://www.hartrao.ac.za/other/vredefort/vredefort.html. Accessed 4 Dec. 2019.

Harvey, D. 1996. *Justice, nature and the geography of difference*. Oxford & Cambridge, Mass.: Blackwell.

Hatfield, G. 2014. "René Descartes". *Stanford Encyclopedia of Philosophy*. Available: https://plato.stanford.edu/entries/descartes/. Accessed 10 May 2020.

Heath, C & Vom Lehn, D. 2008. Configuring "interactivity": enhancing engagement in science centres and museums. *Social Studies of Science* 38(1) Feb.:63-91.

Hein, GE. 1998. *Learning in the museum*. London: Routledge.

Henning, M. 2006a. *Museums, media and cultural theory: issues in cultural and media studies*. Maidenhead: Open University Press.

Henning, M. 2006b. Skins of the real: taxidermy and photography. In *Nanoq: flat-out and bluesome: a cultural life of polar bears* [catalogue]. Snæbjörnsdóttir, B & Wilson, M (eds). London: Black Dog.

Hetland, P, Pierroux, P & Esborg, L. 2020. *A history of participation in museums and archives: traversing citizen science and citizen humanities*. London & New York: Routledge.

Hewitt, A & Jordan, M. 2010. Exploring the function of art in culture-led regeneration: reflections on Futurology. In *Culture and agency: contemporary art and urban change*. M Degen & M Miles (eds). Plymouth: University of Plymouth Press.

Hey, J. 2001. The mind of the species problem. *Trends in Ecology and Evolution* 16(7):326-329.

Hey, J, Waples, RS, Arnold, ML, Butlin, RK & Harrison, RG. 2003. Understanding and confronting species uncertainty in biology and conservation. *Trends in Ecology and Evolution* 18:597-603.

Higgie, J. 2012. Shouts and murmurs: art's disputed relationship to activism. *Frieze*, 1 Sep. Available: https://frieze.com/article/shouts-murmurs. Accessed 6 Feb. 2014.

Highmore, B. 2002. *The everyday life reader*. London & New York: Routledge.

Highmore, B. 2011. *Ordinary lives: studies in the everyday*. Abingdon & New York: Routledge.

Hild, S & Schweitzer, L (eds). 2019. *Proceedings of the conference on "Animal welfare: from science to law"*. 10-11 Dec. 2015, Paris: La Fondation Droit Animal. Available: http://www.fondation-droit-animal.org/documents/AnimalWelfare2019.v1.pdf. Accessed 8 May 2020.

Hofmeyr, I. 1994. *We spend our years as a tale that is told: oral historical narrative in a South African chiefdom*. Martlesham: Boydell & Brewer.

Hooper-Greenhill, E. 1992. *Museums and the shaping of knowledge*. London: Routledge.

Hope Sandrow. n.d. Video open air studio. Available: http://www.hopesandrow.com/live/video_open_air_studio.html. Accessed 25 May 25 2020.

Howe, D. 2013. *Empathy: what it is and why it matters*. Houndmills: Palgrave Macmillan.

Hull, DL. 1997. The ideal species concept – and why we can't get it. In *Species: the units of biodiversity*. MF Oaridge, HA Dawah & MR Wilson (eds). London: Chapman & Hall. 357-380.

Hussin, Z. 2011. "Colonialism". In *Encyclopedia of political science, vol 1*. Kurian, GT, Alt, JE, Chambers, S, McClain, PD & Garrett, G (eds). Washington: CQ Press. 271-274.

Hustak, C & Myers, N. 2012. Involutionary momentum: affective ecologies and the sciences of plant/insect encounters. *Différences* 23(3):74-118. Available: https://doi.org/10.1215/10407391-1892907. Accessed 5 Jul. 2020.

Ingold, T (ed.). 1988. *What is an animal?* London: Unwin Hyman.

Ingold, T. 2012. Animals against taxonomy, or, the riddle of the wild [audio]. *Wild: First meeting of the British Animal Studies Network*. University of Strathclyde, 25 May. Available: https://www.britishanimalstudiesnetwork.org.uk/PastMeetings/Wild.aspx. Accessed 7 Feb. 2019.

Ingold, T. 2018. The art of paying attention [keynote lecture]. *Art of Research Conference*. Helsinki, 29-30 Nov. Available: https://www.youtube.com/watch?v=2Mytf4ZSqQs. Accessed 4 Dec. 2019.

Ives, CD, Lentini, PE, Threlfall, CG, Ikin, K, Shanahan, DF, Garrard, GE, Bekessy, SA, Fuller, RA et al. 2016. Cities are hotspots for threatened species. *Global Ecology and Biogeography* 25:117-126.

Izidine, SA, Siebert, SJ, Van Wyk, AE & Zobolo, AM. 2008. Taboo and political authority in conservation policy: a case study of the Licuáti forest in Maputaland, Mozambique. *Journal of the Study of Religion, Nature and Culture* 2(3):373-390. DOI: 10.1558/jsrnc.v2i3.373.

Iziko Museums of South Africa. n.d. Public programme and mobile museum outreach. Available: https://www.iziko.org.za/index.php/education/outreach-programmes. Accessed 12 Mar. 2020.

James, W. 1897. *The will to believe, and other essays in popular philosophyI* [e-book]. London: Longmans, Green, and co. Available: http://www.gutenberg.org/ebooks/26659. Accessed 5 Sep. 2020.

Jane [Netflix]. 2017. Directed and produced by Brett Morgen. Washington: National Geographic Documentary Films.

Jardine, N, Secord, JA & Spary, EC. 1997. *Cultures of natural history*. Cambridge: Cambridge University Press.

Jarosi, S. 2014. The audience cries back. In *Interactive contemporary art: participation in practice*. KJ Brown (ed.). London: IB Tauris. 155-176.

Jay, M. 1994. *Downcast eyes: the denigration of vision in 20th century French thought*. Berkeley & London: University of California Press.

Jenni, K. 2016. Empathy and moral laziness. *Animal Studies Journal* 5(2):21-51. Available: http://ro.uow.edu.au/asj/vol5/iss2/3. Accessed 4 Jan. 2017.

Jones, A. 2012. Foreword. In *Kinaesthetic empathy in creative and cultural practices*. D Reynolds & M Reason (eds). Bristol & Chicago: Intellect.

Jones, A & Stephenson, A (eds). 1999. *Performing the body/performing the text*. London & New York: Routledge.

Jordan, C. 2013. The evolution of social sculpture in the United States: Joseph Beuys and the work of Suzanne Lacy and Rick Lowe. *Public Art Dialogue* 3(2):144–167. Available: http://dx.doi.org/10.1080/21502552.2013.818430. Accessed 10 May 2020.

Julius, C. 2008. "Digging [D]eeper than the eye approves": oral histories and their use in the *Digging Deeper* exhibition of the district Six Museum. *Kronos* 34(1):106-138.

Kamuti, T. 2014. The fractured state in the governance of private game farming: the case of KwaZulu-Natal Province, South Africa. *Journal of Contemporary African Studies* 32(2):190-206. DOI: 10.1080/02589001.2014.936678.

Kaprow, A. 1966. *Assemblages, environments and happenings*. New York: Harry N Abrams.

Kaslow, A. 1996. Museum brings you close enough to feel the coat of a mountain goat. *Christian Science Monitor* 88(90):13.

Kasperbauer, TJ. 2015. Rejecting empathy for animal ethics. *Ethical Theory and Moral Practice* 18(4):817-833. DOI 10.1007/s10677-014-9557-1.

Kastner, J (ed.) & Wallis, B (survey). 2010. *Land and environmental art*. New York: Phaidon.

Kastner, J (ed.). 2012. *Nature: documents of contemporary art*. London & Cambridge, Mass.: Whitechapel & MIT Press.

Kelbessa, W. 2015. Indigenous knowledge and its contribution to biodiversity conservation. *International Social Science Journal* 64(211/212):143-152

Kellert, SR. 1993. Attitudes, knowledge, and behaviour toward wildlife among the industrial superpowers: United States, Japan, and Germany. *Journal of Social Issues* 49(1):53-69.

Kelly, J. 2008. The anthropology of assemblage. *Art Journal* Spring: 24-30.

Kelly, M. 2012. *A hunger for aesthetics: enacting the demands of art*. New York: Columbia University Press.

Kennedy, R, Zapasnik, J, McCann, H & Bruce, M. 2013. All those little machines: assemblage as transformative theory. *Australian Humanities Review* 55:45-66.

Kenney, M. 2013. Fables of attention: wonder in feminist theory and scientific practice. PhD thesis, University of California, Santa Cruz. Available: https://escholarship.org/uc/item/14q7k1jz. Accessed 9 May 2020.

Kester, G. 2004. *Conversation pieces: community and communication in modern art*. Berkeley & London: University of California Press.

Kester, G. 2005. *Groundworks: environmental collaboration in contemporary art* [catalogue]. Pittsburgh: Carnegie Mellon University.

Kester, G. 2011. *The one and the many: contemporary collaborative art in a global context*. Durham & London: Duke University Press.

Kiasma. n.d. *Coexistence: human, animal and nature in Kiasma's collections, 26 Apr. 2019-1 Mar. 2020*. Available: https://kiasma.fi/en/exhibitions/coexistence/. Accessed 9 May 2020.

Kimbell, L [dir]. 2009. *Seven minutes in the service of rats*. Available: https://vimeo.com/5124018. Accessed 19 Dec. 2016.

Kimbell, L. 2011. An aesthetic inquiry into organizing some rats and some people. *Tamara – Journal for Critical Organization Inquiry* 9(3-4) Sep.-Dec.:77-92.

Kirksey, E (ed.). 2014. *The multispecies salon*. Durham: Duke University Press.

Kirksey, E. 2015a. *Emergent ecologies*. Durham & London: Duke University Press.

Kirksey, E. 2015b. Species: a praxiographic study. *Journal of the Royal Anthropological Institute* 21:758-780.

Kisiel, J, Rowe, S, Vartabedian, MA & Kopczak, C. 2012. Evidence for family engagement in scientific reasoning at interactive animal exhibits. *Science Education* 96:1047-1070. DOI 10.1002/sce.21036.

Klein, C & Barron, AB. 2016. Insects have the capacity for subjective experience. *Animal Sentience* 100:1-19.

König Gallery. n.d. Tue Greenfort. The worldly house. Available: https://www.koeniggalerie.com/exhibitions/9013/the-worldly-house/. Accessed 25 May 2020.

Kortenkamp, KV & Moore, CF. 2001. Ecocentrism and anthropocentrism: moral reasoning about ecological commons dilemmas. *Journal of Environmental Psychology* 21:261-272.

Kristina Buch. n.d. *The lover, 2012*. Available: http://kristinabuch.net/works/the-lover/. Accessed 25 Jul. 2020.

Kurian, GT, Alt, JE, Chambers, S, McClain, PD & Garrett, G (eds). 2011. *Encyclopedia of political science, volume 1*. Washington: CQ Press.

Kwon, M. 2000. One place after another: notes on site specificity. In *Space, site, intervention: situating installation art*. E Suderberg (ed.). Minneapolis & London: University of Minnesota Press:38-63.

Lace, B. 2014. Department of Visual Arts [guest lecture]. University of Pretoria, 19 Feb.

Lacy, S (ed.). 1995. *Mapping the terrain: new genre public art*. Seattle: Bay Press.

Lakoff, G. 2012. Explaining embodied cognition results. *Topics in Cognitive Science* 4:773-785. DOI: 10.1111/j.1756-8765.2012.01222.x.

Lam, S, Ngcob.o, G, Persekian, J, Thompson, N, Witzke, AS & Tate, L. 2013. Art, ecology and institutions. *Third Text* 27(1):141-150.

Langerman, F. 2012. *R-A-T: an associative ordering* [exhibition brochure]. Cape Town: Iziko Museums of South Africa.

Langerman, F. 2013. The exploded book: a disarticulation of visual knowledge systems within sites of natural history display. PhD thesis, University of Cape Town.

Lapointe, FJ. 2015. On the role of experimentation in art (and science). *Media-N* 11(3) Fall. Available: http://median.newmediacaucus.org/research-creation-explorations/6095-2/. Accessed 25 Jun. 2020.

Larkin, J. 2015. The body in the museum [review]. *Journal of Conservation and Museum Studies* 13(1):1-3. DOI: http://dx.doi.org/10.5334/jcms.1021219.

Latour, B. 2010. Will non-humans be saved? An argument in ecotheology/2009. In *Nature: documents of contemporary art*. J Kastner (ed.). London & Cambridge, Mass.: Whitechapel & MIT Press.

Latour, B. 2004. Why has critique run out of steam? From matters of fact to matters of concern. *Critical Inquiry* 30(2) Winter:225-248.

Latour, B & Weibel, P (eds). 2006. *Making things public: atmospheres of democracy*. Cambridge, Mass.: MIT Press.

Lauwrens, J. 2018. Trust your gut: fleshing out an embodied encounter with Nicola Grobler's "The Visitor Centre". *Critical Arts* 32(2):83-99. DOI: 10.1080/02560046.2018.1434219.

Lauwrens, J. 2019. Take a hike: fostering environmental values by walking with ecological art. *De Arte* 54(1):86-107. DOI: 10.1080/00043389.2019.1611023.

Leahy, HR. 2012. *Museum bodies: the politics and practices of visiting and viewing*. Farnham: Ashgate.

Lewis-Williams, JD & Pearce, DG. 2004. Southern African San rock paintings as social intervention: a study of rain-control images. *African Archaeological Review* 21(4) Dec.:199-228. DOI: 10.1007/s10437-004-0749-2.

Lippard, L. 1973. *Six years on: the dematerialization of the art object from 1966-1972*. New York: Praeger.

Lippit, AM. 2000. *Electric animal: toward a rhetoric of wildlife*. Minneapolis: University of Minnesota Press.

Lipschitz, R. 2012. Skin/ned politics: species discourse and the limits of "The Human" in Nandipha Mntambo's art. *Hypatia* 27(3) Summer:546-566.

Lonetree, A. 2009. Museums as sites of decolonization: truth telling in national and tribal museums. In *Contesting knowledge: museums and indigenous perspectives*. S Sleeper-Smith (ed.). Lincoln and London: University of Nebraska Press.

Lopes, DM. 2011. An empathic eye. In *Empathy: philosophical and psychological perspectives*. Coplan, A & Goldie, P (eds). Oxford: Oxford University Press. 118-133.

Lorimer, J. 2015. *Wildlife in the Anthropocene: conservation after nature*. Minneapolis, MN: Minnesota University Press.

Lossgott, K. n.d. *Letters from the sky: experimental films on climate change*. Available: http://letters-from-the-sky-project.blogspot.com/. Accessed 7 Jul. 2014.

Lyons, L. 2012. Drawing your way into understanding. *Tracey* May:1-23.

MacDonald, S. 1998. *The politics of display: museums, science, culture*. London & New York: Routledge.

Machin, R. 2008. Gender representation in the natural history galleries at the Manchester Museum. *Museum & Society* 6(1):54-67.

MacKenny, V. 2011. *Threshold: climate change and environmental concern* [catalogue]. Cape Town: Michaelis Galleries & GIPCA, University of Cape Town.

MacKenzie, J. 2009. *Museums and empire: natural history, human cultures and colonial identities*. New York: Manchester University Press.

Macleod, K & Chapman, N. 2014. The absenting subject: research notes on PhDs in Fine Art. *Journal of Visual Art Practice* 13(2):138-149.

Macleod, K & Holdridge, L. 2005. The enactment of thinking: the creative practice PhD. *Journal of Visual Art Practice* 4(2+3):197-207.

Macleod, K & Holdridge, L (eds). 2006. *Thinking through art: reflections on art as research*. London & New York: Routledge.

Mallinger, RE, Bradshaw, J, Varenhorst, AJ & Prasifka, JR. 2019. Native solitary bees provide economically significant pollination services to confection sunflowers (*Helianthus annuus L.)* (Asterales: Asteraceae) grown across the northern Great Plains. *Journal of Economic Entomology* 112(1):40-48. DOI: 10.1093/jee/toy322.

Marsh, J. 2009. Fieldwork: a conversation with Mark Dion. *American Art* 23(2):32-53. Available: https://doi.org/10.1086/605713. Accessed 2 Aug. 2020.

Marzluff, J, Shulenberger, E, Endlicher, W, Alberti, M, Bradley, G, Ryan, C, ZumBrunnen, C & Simon, U (eds). 2008. *Urban ecology: an international perspective on the interaction between humans and nature* [e-book]. Heidelberg: Springer.

McGuirk, T. 2011. Drawing and intellectualism: contested paradigms of knowledge. *Art, Design and Communication in Higher Education* 10(2):217-231.

McIntyre, NE, Knowles-Yánez, K & Hope, D. 2000. Urban ecology as an interdisciplinary field: differences in the use of 'urban' between the social and natural sciences. *Urban Ecosystems* 4:5-24.

McNeil, D. 2010. Art without authors: networks, assemblages and "flat" ontology. *Third Text* 24(4) Jul.:397-408.

McTaggart, R (ed.). 1997. *Participatory action research: international contexts and consequences*. Albany: State University of New York Press.

Merchant, C. 1980. *The death of nature: women, ecology and the scientific revolution*. San Francisco: Harper & Row.

Merleau-Ponty, M. [1962] 1974. *The phenomenology of perception*. London: Routledge & Kegan Paul.

Miles, M. 2004. Aesthetics and engagement: interested interventions. In *Ecological aesthetics: art in environmental design: theory and practice*. H Strelow (ed.). Basel & Boston: Birkhäuser. 202-207.

Miles, M. 2005. A green aesthetic: after Kant the deluge. In *Groundworks: environmental collaboration in contemporary art*. G Kester (ed.). Pittsburgh: Carnegie Mellon University. 68-79.

Miles, M. 2010a. Readers as writers: from Benjamin to Rancière. In *Culture and agency: contemporary art and urban change*. M Degen & M Miles (eds). Plymouth: University of Plymouth Press. 142-161.

Miles, M. 2010b. Representing nature: art and climate change. *Cultural Geographies* 17(1):19-35.

Miller, JR. 2005. Biodiversity conservation and the extinction of experience. *Trends in Ecology and Evolution* 20(8) Aug.:420-434.

Miller, J. 2013. Review of Michael Kelly's "A hunger for aesthetics: enacting the demands of art". *Journal of Aesthetics and Art Criticism* 71(4) Fall:385-387.

Mishler, BD. 2009. Three centuries of paradigm changes in biological classification: is the end in sight? *Taxon* 58(1):61-67.

Mitman, G. 2015. Pachyderm personalities: the media of science, politics and conservation. In *Thinking with animals: new perspectives on anthropomorphism*. L Daston & G Mitman (eds). New York: Columbia University Press. 37-58.

"Modernism". *Encyclopedia of aesthetics*. 2014. M Kelly (ed.). Oxford Art Online. Available: http://0-www.oxfordartonline.com.innopac.up.ac.za/subscriber/article/opr/t234/e0358. Accessed 9 May 2020.

Morton, T. 2007. *Ecology without nature: rethinking environmental aesthetics*. Cambridge, Mass.: Harvard University Press.

Morton, T. 2012a. Art in the age of asymmetry: Hegel, objects, aesthetics. *Evental Aesthetics* 1(1):121-142.

Morton, T. 2012b. *The ecological thought*. Cambridge, Mass.: Harvard University Press.

Morton, T. 2013. *Hyperobjects: philosophy and ecology after the end of the world*. Minneapolis & London: University of Minnesota Press.

Moyer, T & Harper, G (eds). 2011. *The new earthwork: art, action, agency*. Hamilton: ISC Press.

Murdoch, I. [1970] 2002. *The sovereignty of good*. London: Routledge.

Mutshinyalo, TT & Siebert, SJ. 2010. Myth as a biodiversity conservation strategy for the VhaVenda, South Africa. *Indilinga – African Journal of Indigenous Knowledge Systems* 9(2):151-171.

Næss, A. 1989. *Ecology, community and lifestyle: outline of an ecosophy*. Translated and edited by D Rothenberg. Cambridge: Cambridge University Press.

Nadasdy, P. 2007. The gift in the animal: the ontology of hunting and human-animal sociality. *American Ethnologist* 34(1):25-43. DOI: 10.1525/ae.2007.34.1.25.

Nadler, S. 2020. Baruch Spinoza. Stanford Encyclopedia of Philosophy. Available: https://plato.stanford.edu/entries/spinoza/. Accessed 1 August 2021.

Nagel, T. 1974. What is it like to be a bat? *Philosophical Review* 83(4):435-50.

Natural History Museum. n.d. a. Collections. Available: https://www.nhm.ac.uk/our-science/collections.html. Accessed 9 May 2020.

Natural History Museum. n.d. b. History and architecture. Available: https://www.nhm.ac.uk/about-us/history-and-architecture.html. Accessed 9 May 2020.

Netshifhefhe, RN, Kunjeku, EC, & Duncan, FD. 2018. Human uses and indigenous knowledge of edible termites in Vhembe District, Limpopo Province. *South African Journal of Science* 114(1-2) Jan./Feb.: 10 pages. Available: http://dx.doi.org/10.17159/sajs.2018/20170145. Accessed: 11 Dec. 2019.

News24. 2010. Pretoria should stay Pretoria. *News24* 12 Feb. Available: https://www.news24.com/News24/Pretoria-should-stay-Pretoria-20100212. Accessed 10 Apr. 2020.

Ngcobo, G (cur.). 2011. *Don't/panic* [catalogue]. Johannesburg: Fanele.

Nixon, R. 2011. *Slow violence and the environmentalism of the poor*. Cambridge, Mass.: Harvard University Press.

Noddings, N. 1984. *Caring: a feminine approach to ethics and moral education*. Berkeley: University of California.

Noddings, N. 2010. Complexity in caring and empathy. *Abstracta* Special Issue V:6-12.

Norton, BG. 1984. Environmental ethics and weak anthropocentrism. *Environmental Ethics* Summer 6(2):131-148.

NTU CCA. 2015. Tomas Saraceno: Arachnid orchestra. Jam sessions. Singapore: Nanyang Technical University Centre for Contemporary Art. Available: http://www.arachnidorchestra.org/pdf.js/web/viewer.html?file=/content/About/Tomas_Saraceno_Arachnid_Orchestra.Jam_Sessions.pdf#. Accessed 25 Aug. 2017.

Nurmenniemi, J (cur.). 2015. Excavations. *Frontiers in retreat* [group exhibition]. 3 Jun.-30 Aug. Helsinki: HIAP Gallery Augusta.

Nurmenniemi, J (cur.). 2018. *Frontiers in retreat*. Available: http://www.frontiersinretreat.org/. Accessed 9 May 2020.

O'Hara, RJ. 1991. Representations of the natural system in the nineteenth century. *Biology and Philosophy* 6:255-274.

Oaridge, MF, Dawah, HA & Wilson, MR (eds). 1997. *Species: the units of biodiversity*. London: Chapman & Hall.

Outram, D. 1997. New spaces in natural history. In *Cultures of natural history*. N Jardine, JA Secord & EC Spary (eds). Cambridge: Cambridge University Press. 249-265.

Panksepp, J. 2011. Toward a cross-species neuroscientific understanding of the affective mind: do animals have emotional feelings? *American Journal of Primatology*. 73:545-561.

Patchett, M. 2010. Putting animals on display: geographies of taxidermy practice. PhD thesis, University of Glasgow. Available: http://theses.gla.ac.uk/2348/. Accessed 9 May 2020.

Patchett, M & Foster, K. 2008. Repair work: surfacing the geographies of dead animals. *Museum & Society* 6(2):98-122.

Paul, E & Serpell, JA. 1993. Childhood pet keeping and humane attitudes in young adulthood. *Animal Welfare* 2:321-337.

Pedersen, H & Snaebjörnsdottír, B. 2008. Art, artistic research and the animal question. *ArtMonitor: A Journal of Artistic Research* 3:109-123. Available: https://konst.gu.se/english/ArtMonitor/journal/3_2008. Accessed 9 May 2020.

Pedretti, E. 2002. T Kuhn meets T rex: critical conversations and new directions in science centres and science museums. *Studies in Science Education* 37:1-41.

Pedretti, E. 2004. Perspectives on learning through research on critical issues-based science centre exhibitions. *Science Education* 88 Supp/1:S34-S47. Accessed 29 Apr. 2020. DOI 10.1002/sce.20019.

Petit, JL.1999. Constitution by movement: Husserl in light of recent neurobiological findings. Translated by C Macann. In *Naturalising phenomenology: issues in contemporary phenomenology and cognitive science*. J Petitot (ed.). Stanford: Stanford University Press. 220-244.

Petitot, J. 1999. *Naturalising phenomenology: issues in contemporary phenomenology and cognitive science*. Stanford: Stanford University Press.

Phillips, D. 2003. *The truth of ecology: nature, culture and literature in America*. Oxford: Oxford University Press.

Pieterse, E (ed.). 2010. *Urbanization imperatives for Africa: transcending policy inertia*. Cape Town: University of Cape Town & African Centre for Cities.

Pieterse, E. 2014. Epistemological practices of southern urbanism [draft seminar paper]. *African Centre for Cities academic seminar*, University of Cape Town, South Africa, 21 Feb. 2014.

Pinnock, D. 2018. South African law is failing to protect its wildlife. *Daily Maverick*, 5 Jun. Available: https://www.dailymaverick.co.za/article/2018-06-05-south-african-law-is-failing-to-protect-its-wildlife/. Accessed 5 May 2019.

Pinnock, D. 2019. Trophy hunting, part one: the nasty colonial sport of shooting wild animals. *Daily Maverick*, 25 Apr. Available: https://www.dailymaverick.co.za/article/2019-04-25-trophy-hunting-part-one-the-nasty-colonial-sport-of-shooting-wild-animals/. Accessed 5 May 2019.

Poliquin, R. 2008. The matter and meaning of museum taxidermy. *Museum & Society* 6(2):123-134.

Porter, G. 2012. Seeing through solidity: a feminist perspective on museums. In *Museum studies: an anthology of contexts*. 2nd ed. BM Carbonell (ed.). Chichester: Wiley-Blackwell.

Pyle, RM. 1978. The extinction of experience. *Horticulture* 56:64-67.

Puig de la Bellacasa, M. 2017. *Matters of care: speculative ethics in more than human worlds*. Minneapolis: University of Minnesota Press.

Qekwana, DN, McCrindle, CME, Cenci-Goga, B & Grace, D. 2019. Animal welfare in Africa: strength of cultural traditions, challenges and perspectives. In *Proceedings of the conference on "Animal welfare: from science to law"*. Hild, S & Schweitzer, L (eds). Paris: La Fondation Droit Animal. 103-107. Available: http://www.fondation-droit animal.org/documents/AnimalWelfare2019.v1.pdf. Accessed 9 May 2020.

Quammen, D. 1996. *The song of the dodo: island biogeography in an age of extinctions*. London: Simon & Shuster.

Rader, KA & Cain, VEM. 2008. From natural history to science: display and the transformation of American museums of science and nature. *Museum and Society* 6(2) Jul.:152-171.

Rafferty, J. 2014. "R-selected species". In *Encyclopaedia Britannica Online Academic Edition*. Available: http://www.britannica.com/EBchecked/topic/487821/r-selected-species. Accessed 24 Jul. 2014.

Ramp, D & Bekoff, M. 2015. Compassion as a practical and evolved ethic for conservation. *Bioscience* 65(3):323-327.

Rancière, J. [2004] 2009. *Aesthetics and its discontents*. Translated by S Corcoran. Cambridge, Mass: Polity.

Rancière, J. [2009] 2011. *The emancipated spectator*. Translated by G Elliott. London & New York: Verso.

Rassool, C. 2001. Cultural history in collections. *South African Museum Association Bulletin* 25(2) Mar.:43-49.

Raven, PH, Berlin, B & Breedlove, DE. 1971. The origins of taxonomy. *Science* 174(4015):1210-1213.

Reid, GM. 2009. Carolus Linnaeus (1707–1778): his life, philosophy and science and its relationship to modern biology and medicine. *Taxon* 58(1) Feb.:18-31.

Reimold, WU, Brandt, D, De Jong, R & Hancox, J. 1999. *Tswaing meteorite crater: an introduction to the natural and cultural history of the Tswaing region including a description of the hiking trail*. Popular Geoscience series 1. Pretoria: Council for Geoscience.

Reodica, J. 2002. Test tube gods and microscopic monsters. In *The aesthetics of care? The artistic, social and scientific implications of the use of biological/medical technologies for artistic purposes* [symposium proceedings]. O Catts (ed.). Perth: SymbioticA & The Institute of Advanced Studies:46-51.

Reynolds, D & Reason, M (eds). 2012. *Kinaesthetic empathy in creative and cultural practices*. Bristol & Chicago: Intellect.

Richter, G. 1995. *The daily practice of painting: writings and interviews, 1962-1993*. Translated by D Britt. HU Obrist (ed.). Cambridge, Mass.: MIT Press.

Ringborg, MA. 2014. Works. Available: http://www.mericalgunringborg.com/works.html#Library. Accessed 11 Jun. 2014.

Rivas, J & Burghardt, GM. 2002. Crotalomorphism: a metaphor for understanding anthropomorphism by omis¬sion. In *The cognitive animal: experimental and theoretical perspectives on animal cognition*. M Bekoff, C Allen & GM Burghardt (eds). Cambridge, Mass.: MIT Press:9-17.

Rizzolatti, G & Arbib, MA. 1998. Language within our grasp. *Trends in Neuroscience* 21:188-194.

Robbins, P & Aydede, M (eds). 2009. *Cambridge handbook of situated cognition*. Cambridge: Cambridge University Press.

Roche, C. 2005. "The springbok…drink the rain's blood": indigenous knowledge and its use in environmental history – the case of the /Xam and an understanding of springbok treks. *South African Historical Journal* 53:1-22.

Roche, C. 2008. "The fertile brain and inventive power of man": anthropogenic factors in the cessation of springbok treks and the disruption of the Karoo ecosystem. *Africa (pre-2011)* 78(2):157-188.

Rusch, N. 2016. Sounds and sound thinking in |xam-ka !au: "These are those to which I am listening with all my ears". *Cogent Arts and Humanities* 3(1). DOI 10.1080/23311983.2016.1233615.

SABC News. 2017. *Decolonisation and democratisation of museums with Gabi Ngcobo*. Available: https://www.youtube.com/watch?v=ijHK_vQ6S7Y. Accessed 16 May 2020.

Salon Ninety One. 2012. Press release: Greenpop. Available: https://www.salon91.co.za/thank-you-salon-91-all-contributing-artists/. Accessed 9 May 2020.

Samways, MJ. 1993. Insects in biodiversity conservation: some perspectives and directives. *Biodiversity and Conservation* 2:258-282.

Sanger, N. 2013. Imagining possibilities: feminist cultural production, non-violent identities, and embracing the Other in post-colonial South Africa. *African Identities* 11(1):61-78. http://dx.doi.org/10.1080/14725843.2013.775841.

Saraceno, T & Arrhenius, S (eds). 2011. *Tomás Saraceno: 14 billions*. Milan: Skira

Sassen, R. 2005. Alison Kearney's "Portable Hawkers' Museum" at JAG. *Artthrob* 91, Mar.. Available: http://www.artthrob.co.za/05mar/reviews/jag.html. Accessed 11 Jun. 2014.

Saul, D & Other, A (dirs). 2012. *The head librarian*. Available: http://vimeo.com/39005078. Accessed 11 Jun. 2014.

Schoeman, WJ. 2017. South African religious demography: the 2013 general household survey. *HTS Theological Studies* 73(2): 7 pages. Available: https://doi. org/10.4102/hts.v73i2.3837. Accessed 3 Aug. 2020.

Scientific American. 2014. *Citizen science*. Available: http://www.scientificamerican.com/citizen-science/. Accessed 13 Jun. 2014.

Secord, JA. 1997. The crisis of nature. In *Cultures of natural history*. N Jardine, JA Secord & EC Spary (eds). Cambridge: Cambridge University Press. 249-265.

Seibt, J. 2017. "Process philosophy". *Stanford Encyclopedia of Philosophy*.Available: https://plato.stanford.edu/entries/process-philosophy/. Accessed 15 May 2020.

Senckenberg Natural History Museum Frankfurt. 2016. *Spinnen* [exhibition brochure]. Frankfurt: Senckenberg Natural History Museum.

Serpell, JA. 2004. Factors influencing human attitudes to animals and their welfare. *Animal Welfare* 13:S145-151.Serres, M. [1990] 1995. *The natural contract*. Translated by E MacArthur & W Paulson. Ann Arbor: University of Michigan Press.

Sevillano, V, Aragonés, JI & Schultz, PW. 2007, Perspective taking, environmental concern, and the moderating role of dispositional empathy. *Environment and Behaviour* 39(5):685-705.

Seymour, M & Wolch, J. 2009. Toward zoöpolis? Innovation and contradiction in a conservation community. *Journal of Urbanism: International Research on Place Making and Urban Sustainability* 2(3):215-236.

Shaked, N. 2010. "Institutional critique". *Grove Art Online*. Available: https://doi-org.uplib.idm.oclc.org/10.1093/gao/9781884446054.article.T2086985. Accessed 9 May 2020.

Sheets-Pyenson, S. 1988. *Cathedrals of science: the development of colonial natural history museums during the late nineteenth century*. Kingston & Montreal: McGill-Queen's University Press.

Shell, M. 1986. The family pet. *Representations* 15:121-153.

Siegal, N. 2019. Laure Prouvost represents France. But she doesn't feel very French. *New York Times* 7 Jun. Available: https://www.nytimes.com/2019/06/07/arts/design/laure-prouvost-venice-biennale.html. Accessed 25 Jul. 2020.

Simon, N. 2010. *The participatory museum*. Santa Cruz: Museum 2.0.

Simon, N. 2010-2016. The participatory museum. Museum 2.0. Available: http://www.participatorymuseum.org/. Accessed 1 Nov. 2016.

Singer, P. 2002. *Animal liberation*. New York: Ecco.

Singer, P (ed.). 2006. *In defense of animals: the second wave*. Malden & Oxford: Blackwell.

Site-Specific. n.d. *Global nomadic art project*. Available: http://sitespecific.org.za/global-nomadic-art-project/. Accessed 9 May 2020.

Situations. 2014. Available: http://www.situations.org.uk/. Accessed 26 Jul. 2014.

Sleeper-Smith, S (ed.). 2009. *Contesting knowledge: museums and indigenous perspectives*. Lincoln & London: University of Nebraska Press.

Slote, M. 2007. *The ethics of care and empathy*. London and New York: Routledge.

Smith, T. 2003. "Modernity". *Grove art online*. Available: https://doi-org.uplib.idm.oclc.org/10.1093/gao/9781884446054.article.T058788. Accessed 1 Aug. 2020.

Smithsonian National Museum of African Art. n.d. Africa matters. Art matters. Earth matters. Available: https://africa.si.edu/exhibits/earthmatters/. Accessed 25 May 2020.

Smol, JP. 2012. A planet in flux: how is life on Earth reacting to climate change? *Nature* 483 Mar.:S12-15.

Snæbjörnsdóttir, B. 2009. Spaces of encounter: art and revision in human-animal and non-human-animal relations. DPhil thesis, Gothenburg: University of Gothenburg.

Snæbjörnsdóttir, B & Wilson, M. 2006. *Nanoq: flat-out and bluesome: a cultural life of polar bears* [catalogue]. London: Black Dog.

Snæbjörnsdóttir/Wilson. n.d. a. Radio Animal. Available: https://snaebjornsdottirwilson.com/category/projects/radio-animal/. Accessed 26 Nov. 2020.

Snæbjörnsdóttir/Wilson. n.d. b. Uncertainty in the city. Available: https://Snæbjörnsdóttirwilson.com/category/projects/uncertainty-in-the-city/. Accessed 7 Jul. 2014.

Snyman, S. 2016. *Lending a hand: a phenomenological exploration of the act of drawing*. MA dissertation, University of Pretoria.

Soga, M & Gaston, KJ. 2016. Extinction of experience: the loss of human–nature interactions. *Frontiers in Ecology and the Environment* 14(2):94-101.

Soper, K. 1995. *What is nature? Culture, politics and the non-human*. Oxford & Cambridge Mass.: Blackwell.

Spaid, S. 2002. *Ecovention: current art to transform ecologies*. Cincinatti: The Contemporary Arts Center.

Spinoza, B. [1677] 2003. *The ethics* [e-book]. Translated by RHM Elwes (1833). Available: http://www.gutenberg.org/ebooks/3800. Accessed 8 Sep. 2020.

Stafford, BM. 1996. *Good looking: essays on the virtue of images*. Cambridge, Mass.: MIT Press.

Stafford, BM. 2009. Thoughts not our own: whatever happened to selective attention? *Theory, Culture & Society* 26(2-3):275-293. DOI: 10.1177/0263276409103108.

Stephen, J. 2012. Tswaing crater: the star that fell from space. *Timeslive*, 24 May. Available: http://www.timeslive.co.za/travel/2012/05/24/tswaing-crater-the-star-that-fell-from-space. Accessed 14 Aug. 2015.

Stewart, K. 2008. Weak theory in an unfinished world. *Journal of Folklore Research* 45(1):71-82.

Strelow, H. (ed.). 2004. *Ecological aesthetics: art in environmental design: theory and practice*. Initiated by H Prigann, edited in co-operation with V David. Basel & Boston: Birkhäuser.

Suderberg, E (ed.). 2000. *Space, site, intervention: situating installation art*. Minneapolis & London: University of Minnesota Press.

Sullivan, G. 2010. *Art practice as research: inquiry in visual arts*. 2nd edition. Thousand Oaks: Sage.

Sutherland, I & Krzys, S. 2007. Thinking with art: from situated knowledge to experiential knowing. *Journal of Visual Art Practice* 6(2):125-140.

Sutherland, C & L'Abbé, EN. 2019. Human evolution in the South African school curriculum. *South African Journal of Science* 115(7/8): 7 pages. Available: https://doi.org/10.17159/sajs.2019/5672. Accessed 16 Jul. 2019.

Sutton, E. 2017. *Art, animals and experience: relationships to canines and the natural world*. New York: Routledge.

Swartz, A, Levine, S, Rother, HA & Langerman, F. 2018. Toxic layering through three disciplinary lenses: childhood poisoning and street pesticide use in Cape Town, South Africa. *Medical Humanities* 44:247-252. DOI: 10.1136/medhum-2018-011488.

SymbioticA. 2019. SymbioticA home page. The University of Western Australia. Available: https://www.symbiotica.uwa.edu.au/. Accessed 16 Jul. 2019.

Tait, P. 2016. Introduction: analysing emotion and theorising affect. *Humanities* 5(70):1-7.

Tal, T & Morag, O. 2006. School visits to natural history museums: teaching or enriching? *Journal of Research in Science Teaching* 44(5):747-769. DOI 10.1002/tea.20184.\

Tarrant, J, Kruger, D & Du Preez, L. 2016. Do public attitudes affect conservation effort? Using a questionnaire-based survey to assess perceptions, beliefs and superstitions associated with frogs in South Africa. *African Zoology* 51(1):13-20.

Taylor, H. 2015. Translator's foreword. In We are not so stupid… animals neither. V Despret. *Angelaki* 20(2) Jun.:153-161.

Taylor, PJ & Hamer, M. 2009. Standing on the shoulders of colourful giants: 50 years of zoological research in southern Africa. *African Zoology* 44(2):217-231. DOI: 10.1080/15627020.2009.11407455. Accessed 20 Apr. 2020.

Thompson, N (ed.). 2012. *Living as art: socially engaged art from 1991-2011*. New York & Cambridge, Mass.: Creative Time Books & MIT Press.

Three minute theory. 2014. *What is intra-action?* Available: https://www.youtube.com/watch?v=v0SnstJoEec. Accessed 3 May 2019.

Tickner, L. 2012. "Feminism and art". *Grove Art Online*. Available: https://doi-org.uplib.idm.oclc.org/10.1093/gao/9781884446054.article.T027837. Accessed 9 May 2020.

Tiffin, H. 2016. Do insects feel pain? *Animal Studies Journal* 5(1):80-96. Available: http://ro.uow.edu.au/asj/vol5/iss1/6. Accessed 23 Sep. 2015.

Tolia-Kelly, DP. 2006. Affect – an ethnocentric encounter? Exploring the "universalist" imperative of emotional/affectual geographies. *Area* 38(2):213-217.

Tolia-Kelly, DP & Raymond, R. 2020. Decolonising museum cultures: an artist and a geographer in collaboration. *Transactions of the Institute of British Geographers*. 45:2-17. Available: https://doi.org/10.1111/tran.12339. Accessed 23 Aug. 2021.

Tomažič, I. 2011. Seventh graders' direct experience with, and feelings toward, amphibians and some other nonhuman animals. *Society and Animals* 19(3):225-247.

Toms, R & Malherbe, C. 2005. The state of natural history collections with reference to the NFI Transvaal Museum [conference proceedings]. *SAMAB* 31(1) May:12-14.

Toms, R & Nonaka, K. 2000. Fixing the bugs: transformation of a natural history display hall of invertebrates [conference proceedings]. *SAMAB* 25(2) Jul.:8-11.

Tronto, JC. 1987. Beyond gender difference to a theory of care. *Signs* 12(4) Summer:644-663.

Tronto, JC. [1993] 1994. *Moral boundaries: a political argument for an ethic of care*. London: Routledge.

Tsing, AL. 2010. Arts of inclusion, or How to love a mushroom. *Manoa* 22(2) Winter:191-203.

Tsing, AL. 2015. *The mushroom at the end of the world: on the possibility of life in capitalist ruins*. Princeton & Oxford: Princeton University Press.

Tully, AM. 2011. Becoming animal: rhetorical strategies in contemporary South African art. *Image & Text* 17:64-84. Available: http://www.imageandtext.up.ac.za/imageandtext/article/view/174. Accessed 25 May 2020.

Tully, AM. 2013. *Wolf in sheep's clothing, 9 Jun. – 2 Jul.* [catalogue]. Johannesburg: Nirox Projects.

Turkle, S (ed.). 2007. *Evocative objects: things we think with*. Cambridge, Mass: MIT Press.

Turner Contemporary. n.d. *Animals & us*. Available: https://turnercontemporary.org/whats-on/animals-us/. Accessed 8 May 2020.

Tyler, T & Rossini, M (eds). 2009. *Animal Encounters*. Leiden: Brill.

Ubuhle Bobuntu. 2016. *Ubuhle Bobuntu Arts*, 30 Apr. Available: http://ubuhle-bobuntu-arts.blogspot.com/. Accessed 8 May 2020.

Underhill, L. n.d. *Citizen science. Animal Demography Unit, UCT*. Available: http://www.adu.uct.ac.za/adu/citizen-science. Accessed 25 May 2020.

United Nations Environment Programme. 2019. *Global environment outlook 6*. Available: https://www.unenvironment.org/resources/global-environment-outlook-6. Accessed 24 Jun. 2019.

Urquiza-Haas, EG & Kotrschal, K. 2015. The mind behind anthropomorphic thinking: attribution of mental states to other species. *Animal Behaviour* 109:167-176.

Urry, J. 2011. *Climate change and society*. Cambridge: Polity.

Van der Walt, V. 2017. *Jumping spiders of South Africa*. Available: https://www.jumpingspiders.co.za/. Accessed 8 May 2020.

Van Dooren, T, Kirksey, E & Münster, U. 2016. Multispecies studies: cultivating arts of attentiveness. *Environmental Humanities* 8(1) May:1-23.

Van Horn, G & Aftandilian, D (eds). 2015. *City creatures: animal encounters in the Chicago wilderness*. Chicago: University of Chicago Press. Available: Google Play. Accessed 8 May 2020.

Von Hantelmann, D. 2010. *How to do things with art: the meaning of art's performativity*. Documents series no 4. Zurich & Dijon: JRP Ringier and Les presses du réel.

Von Uexküll, J. [1934] 2010. *A foray into the worlds of animals and humans: with a theory of meaning*. Translated by JD O'Neill. Minneapolis: University of Minnesota Press.

Waldau, P. 2006. Religion and animals. In *In defense of animals: the second wave*. P Singer (ed.). Malden & Oxford: Blackwell. 69-83.

Watson, B & Werb, SR. 2013. One hundred strong: a colloquium on transforming natural history museums in the twenty-first century [conference article]. *Curator* 56(2):255-265.

Webb, J. 2004. There's no place called home Japan. Available: https://theotherjameswebb.tumblr.com/post/120376750854/theres-no-place-called-home-japan. Accessed 25 May 2020.

Westra, L. 1997. Why Norton's approach is insufficient for environmental ethics. *Environmental Ethics* 19 Fall:279-297.

Wetherell, M. 2012. *Affect and emotion: a new social science understanding*. London: Sage.

Wheeler, W. 2006. *The whole creature: complexity, biosemiotics and the evolution of culture*. London: Lawrence & Wishart.

Wilson, EO. 1984. *Biophilia*. Cambridge, Mass.: Harvard University Press.

Wilson, M. 2012. *Beyond control: towards an ecology of uncertainty*. PhD thesis, Lancaster University, United Kingdom.

Witz, L. 2004. The making of an animal biography: Huberta's journey into South African natural history, 1928-1932. *Kronos* 30 Nov.:138-166.

Witz, L. 2015. Hunting for museums. *Journal of Southern African Studies* 41(3):671-685.

Wolch, J. 1996. Zoöpolis. *Capitalism Nature Socialism* 7(2):21-47.

Wolfe, C. 2003. *Animal rites: American culture, the discourse of species and post-humanist theory*. Chicago & London: University of Chicago Press.

Wong, K. 2014. Tiny genetic differences between humans and other primates pervade the genome. *Scientific American* 1 Sep. 2014. Available: https://www.scientificamerican.com/article/tiny-genetic-differences-between-humans-and-other-primates-pervade-the-genome/#. Accessed 10 Jan. 2017.

Xanthoudaki, M. 2015. Museums, innovative pedagogies and the twenty-first century learner: a question of methodology. *Museum & Society* 13(2):247-265.

Yanni, C. 1999. *Nature's museums: Victorian science and the architecture of display*. London: Athlone.

Zaretsky, A. 2002. The 'Workhorse Zoo' bioethics quiz. In *The aesthetics of care? The artistic, social and scientific implications of the use of biological/medical technologies for artistic purposes* [symposium proceedings]. O Catts (ed.). Perth: SymbioticA & The Institute of Advanced Studies. 85-95.

Zimmer, C. 2008. What is a species? *Scientific American* 298(6) Jun.:72-79.

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Department of Visual Arts. 2015. UP staff exhibition, Van Wouw House. Tshwane: University of Pretoria.

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Fossey, N (cur.). 2016. *Tempo,* Eduardo Villa Museum and Van Tilburg Collection [catalogue]. Tshwane: University of Pretoria.

Grobler, NH. 2015. *The Visitor Centre*: artistic reconfigurations of interspecies relations in the city [conference paper]. *The XIth International Institute of Applied Aesthetics' summer conference on environmental aesthetics*, 6-8 Aug. Lahti: University of Helsinki.

Grobler, NH. 2016. Encounters with *The Visitor Centre:* art and interspecies relationships [conference paper]. *Animal encounters: human-animal-contacts in the arts, literature, culture, and the sciences,* international conference at the Friedrich-Alexander University of Erlangen-Nuremberg (FAU), Department for German and Comparative Studies, 25-27 Nov. Erlangen: FAU.

Grobler, NH. 2017. Interview with Bongi Legwase on 24 Aug., Ditsong Museum of Natural History [audio recording]. Cape Town: University of Cape Town.

Grobler, NH. 2018a. *The Visitor Centre II,* 16 May, Pretoria Art Museum [video recording]. Tshwane: University of Pretoria.

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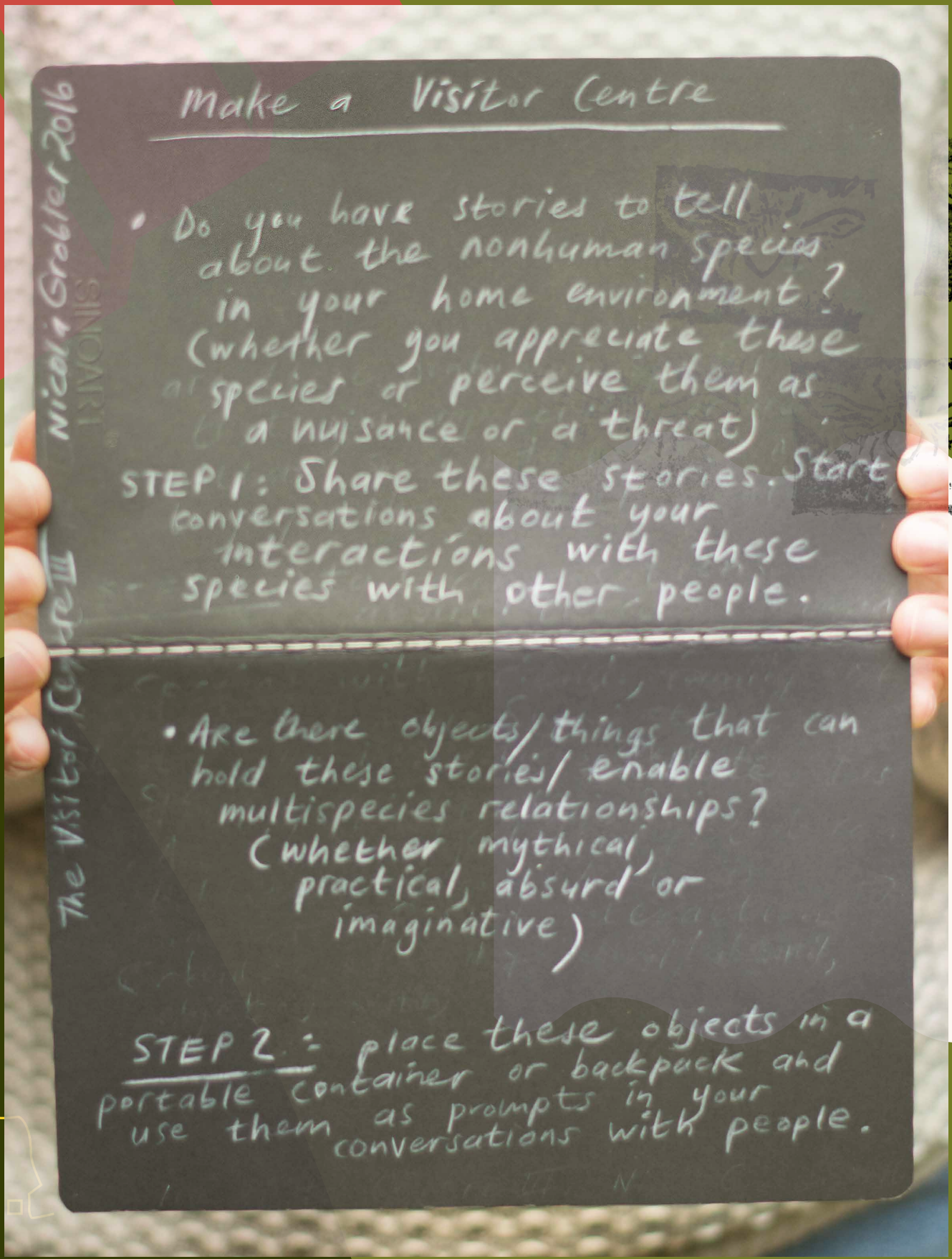
Grobler, NH. 2018j. *The Visitor Centre:* an urban art intervention devised to encourage human empathy for nonhuman species [conference paper]. *URBIO (International Network for Urban Biodiversity and Design) 2018 international conference: Urban biodiversity and food security,* 11-14 Sep. Cape Town: University of Cape Town.

Sooful, A (cur.). 2018. *In the public domain: shifting boundaries between the private and the public* [group exhibition]. Tshwane: Pretoria Art Museum & University of Pretoria.


Make a Visitor Centre
• Do you have stories to tell about the nonhuman species in your home environment? (whether you appreciate these species or perceive them as a nuisance or a threat)
STEP 1: Share these stories. Start conversations about your interactions with these species with other people.
• Are there objects/things that can hold these stories/enable multispecies relationships? (whether mythical, practical, absurd or imaginative)
STEP 2: place these objects in a portable container or backpack and use them as prompts in your conversations with people.
The Visitor Centre III
Nicola Grabler 2016
ISMONIS