

The exploded book – creative research practice in natural history museums

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On the top shelf of the first aisle in the Hiddingh Hall art library at the University of Cape Town, *The art of the book* [H002.09] nestles snugly against *Chaos theory* [H003.7]. The ineffable logic of Dewey Decimal Classification brings together bodies of knowledge in unexpected proximity, and in this instance the chance meeting of ‘the book’ with ‘systems sensitive to initial conditions.’ This contiguity sets the scene for this paper, that suggests that ideas and research in fine art are the product of sometimes random, sometimes structured oppositions. It also focuses on the specific example of my recent PhD study in which display within natural history museums was used as a site of knowledge within which and against which creative research could be used to generate new ways of thinking about the museum. This study identified the form of the book and its Christian inheritance as a primary factor in the representation of speciation in museums as linear and hierarchical, and sought ways of interrupting these structures. Furthermore, my association with the Iziko South African Museum and its particular conflation of nature and culture inspired a project that looked at display as the meeting of these two paradigms.

This PhD in Fine Art was the first to be submitted at the Michaelis School of Fine Art, University of Cape Town — a degree that sees practice as a component of the thesis rather than a practice-based study — and while the increasingly vast literature surrounding the nature of this PhD, including Sullivan (2005), Elkins (2009), Buckley and Conomos (2009) and Daichendt (2012) was familiar, the real issues of the degree were only tested through practice. So much has been written about research over the arts of the past 20 years that I am reluctant to add to it here. I have instead opted to discuss a specific project of my own work that, by example, offers a commentary on aspects of creative research. The discussion provides details of the project, that while not directly

concerning research method, are necessary in establishing the conditions under which the research was generated. Art is not a method of exactitudes and proofs, it is unpredictable and erratic: it follows threads, abandons them for new ones and finds points of intersection, weaving an irregular web of associations. The expectations of a PhD at the University, containing hypothesis, methodology and conclusion, are and were not easy impositions and to discuss the work and its intentions as conclusive seemed antithetical to the process of making art. The visual relies on the sensory for affect — a place of subjectivity — and thus necessitates an open-endedness of interpretation and response that can only be determined over time. This subjectivity echoes Plato's assertion that truth cannot emerge through written form alone and that it is only through dialogue that texts become 'fertile'. Thus the two exhibitions generated within the study set up the opportunity for discourse and the potential for new knowledge, but the latter could only be achieved through experience, by others, of the exhibitions themselves. The discussion of the project follows this 'oscillation of method' moving from the site of research to questions that the site generates to the production of creative interventions and back again to the questions tabled.

The title of the thesis — *The exploded book* — was intentionally ambiguous. On the one hand, the museum currently exists as the exploded book: a single form that is articulated and distributed in space like a Beauchene skull; and on the other, in terms of the arguments presented in the thesis, the constitution of the museum as a book is one that needs to be exploded, fragmented and forever separated from its parent form. By allowing both an openness and separation of components, the research was able to remain fluid yet simultaneously directed. This paper will pick up on some of the strategies that the use of the exploded book allowed the method of research and production.

Many museums of natural history still rely on a mode of display that has remained largely unchanged for the last 150 years. Deferring to a system based on Linnaean taxonomy and an iconography based on the Darwinian tree schema of evolution, the experiential space of the museum is one of order, reliability, authority and discipline that has, in many ways, denied public participation in active learning. I would argue that this experience, particularly in South African museums, reinforces a linear reading of nature and that while physically traversing between cabinets, the viewer becomes complicit within a sequential articulation of speciation. Furthermore, this successive, serialised ordering of specimens evokes the reading of a book, a narrative revealed over time and constrained by the format of the page. A central proposition of the study is that these hierarchies are compounded by what I argue is the dual presence of the book within museum display, that the binary format of the codex pre-empted the museum as a form of natural collection and that printed books provided a template, adopted by the museum, through which nature was classified and compared. Duncan Cameron, in 1972, identified the museum as occupying two distinct roles: the authoritative temple and the discursive and conversational forum. This typifies what I understand as the tension in museums between production and reception; between authority and subjectivity.

The museum operates simultaneously as a disciplinary, ideological space and as a discursive space, where the participation of visitors within the spatial reading of museums activates them as viewers. While I accept the role of the institution in the construction of an ideological position and the role of site in informing that construction, at the same time I assert that artists and visual art have a role to play in interrupting expectation within these contexts, and reshaping the often-passive interaction of the viewer within the museum. This passivity is often shaped by the authoritative voice and the illusion of objectivity conferred by the anonymous museum curator. In contrast, creative projects acknowledge the individual and in doing so, the legitimacy of subjectivity.

The intention behind the study was to understand the formal and analogical references that construct the image of speciation within museums of natural history. The current ‘crisis of representation’ within museums has arisen precisely because the strong visual tropes which drove previous curatorial and display decisions can no longer interpret current theory. In a contemporary world filled with digital forms that are hypertextual and metatextual, fuelled by networks, hybridisation, complexity and systems theory, a need for a more appropriate analogy of speciation is inevitable and essential. The project, drawing on contemporary evolutionary models, proposed the representation of speciation as a web of connectivity, and ultimately the thesis too absorbed this structure. Visual practice is associative and analogous: the text followed the logic of the exhibitions, neither entirely linear nor narrative. Connections were made rather in the manner of Renaissance curiosity cabinets: ideas brought into close proximity, demonstrating correspondences and sympathies, whereas textual chapters were introductory, fragmented and dense, setting up nodes of connections throughout the document.

Questions raised in the study were to a certain degree answered through practice — the exhibitions becoming the site of research within the very particular context of natural history museums. Museums of natural history have become anachronisms, confounded within their own terms. ‘Natural history’ is both a practice and a concept: that of labelling, collecting, naming and, within that, an implied dominion over nature. The term is fraught as it signals a progression in time — a linearity or naturalisation of the past. There is a deep contradiction in these terms: rather than the study of nature being an empirical, objective endeavour, the very idea of nature is historicised and absorbed into a cultural discourse. While social history museums have, on the whole, responded to challenges of representation, museums of natural history have remained obdurate in their presentation of nature as untainted by cultural and ideological agendas.

The gallery destined for the first exhibition, *Subtle Thresholds* in 2009, was situated between the social history and natural history displays within the Iziko South African Museum, (ISAM), and as such seemed to draw attention to the uncomfortable relationship between these two areas within this institution. The taxonomies of display that divided collections in Cape Town, as with many museums around the world, between museums of natural history (animals and indigenous culture) and cultural history

(European artefacts) were a painful controversy for many years: the collation of animals and indigenous peoples as the ‘others’ of dominant culture (Bal, 1992: 561). Although the social history collection is no longer housed within the ISAM and the old Cultural History Museum has been reshaped as the Slave Lodge presenting human rights exhibitions, the African cultures gallery remains largely unchanged since its opening in the 1970s. This gallery used to flow seamlessly into the world of water area until the bridging palaeontology displays were removed in 2003, creating a symbolically troubled and transitional space between two precincts of study. The whale well, installed in 1987 and the rock art display installed in 2003 both appeal to beauty and wonder in their methods of display, and in this way link nature and culture through aesthetics and artifice.

Although controversy has surrounded the now closed San diorama and the representation of human remains, it struck me that the representation and politics of animal display has, in this museum, remained fairly uncontroversial — at least until the recent acceptance of the Peter Flack hunting trophy collection. Extensive ethical regulations have been developed for the display of human materials, whereas similar policies for the representation of animals are limited to those of conservation. Perhaps this is because most museum literature has focused on the display of objects of culture, ignoring that taxidermied specimens are artefacts, representing particular histories and ideals. Thus, as the display of animal remains is as much a display of dominant cultural values as any other, I elected to look at why the inheritance of linear and hierarchical Linnaean and Darwinian analogical systems have endured within contemporary museums, and ISAM particularly. I decided not to focus on the politics of the display of social history in this museum, which has already received much attention, but rather to consider the natural history collection, which, in presenting species as discrete and passive, reveals a speciesist bias and anticipates a racialised taxonomy.

While some attention has been paid to the display of natural history, notably by Donna Haraway (1984) in her essay on the dioramas in the American Museum of Natural History and Mieke Bal (1992) in her analysis of the same space, museum studies have been biased towards cultural display. While it may be axiomatic that ordering and display result in a construction of meaning (Baxandall, 1991:34), this is made opaque, and somewhat occluded within discussion of natural history museums. Ivan Karp (1991:23) writes that the display of natural history is that which is not made by human intervention, and that it is only when human artefacts are introduced into these museums and nature is substituted for culture, that representational problems arise. My contention is that objects from nature presented in museums cannot be disaggregated from the politics of presentation. It is a given that the history of museum display is a mirror of the ideological positions of particular moments or periods in time (Bennett, 1995; Pearce, 1996; Vergo, 1989; Hooper-Greenhill, 1992, 1995), and all periods of history are informed by epistemic or underlying conditions of truth particular to that period (Foucault, 2002). In the way that both Renaissance curiosity collections and colonial museums were a means of actualising power through object wealth and licensing

the domination of the viewer over the object (Bennett, 1995 & 2004; Foucault, 2002; Hooper-Greenhill, 1992), the display of natural history cannot be separated from the ideological imperatives that drove and continue to drive collection and organisation of nature — and the place of humans within it. Museums of science and nature valorise authoritative classification and forms of knowledge that promote progress and mastery over the environment (Jardine et al., 1997; Jordanova, 1989a). In communicating this unstated agenda they make appeal to the senses of beauty, wonder, discovery and realism; what Mieke Bal (1992: 568) refers to as the powerful claim of realism to truth and what Donna Haraway identifies as a “rhetorical achievement crucial to the foundations of western science” (Haraway, 1984:36). The constructed narrative of exhibits is disguised and deflected by realism and beauty, providing a mediated illusion of authenticity. Through this the viewer is persuaded by the underlying denotation of human supremacy. While many international museums have over the past few decades begun to question their colonial inheritance and look at new ways of representing and displaying their collections, nowhere is the spectre of racialised display as strong as in South African museums. It is thus fitting and necessary that this study locates itself within ISAM, where the systematic categorisation of race has deep resonances. Racial discrimination and speciation hierarchy form part of a single continuum.

The Iziko South African Museum with its co-habiting social and natural history exhibits is, similarly to other museums of natural history around the world, essentially one that talks of the culture of science. The manner in which the objects are displayed and the history of the collections says as much about the museum as it does about the specimens themselves — probably more. Yet these two provinces of science and culture lie in an uncomfortable proximity that has not been convincingly bridged. Rather than any attempt to co-opt display strategies to break with the colonial past, the museum has chosen to foreground the natural history collection — social history remains a side chapel to the central nave. The ISAM is an institution built upon racial classification and determinism, as evidenced by the early collecting policy that, under Louis Péringuey (Director of the Museum, 1906-1924), developed the collection of Khoisan skulls and Bushman life-casts (Davison, 1991:105). The spread of Social Darwinist ideals in the late nineteenth and early twentieth centuries legitimised the association of race with evolutionary progress and so naturalised the conflation of ‘primitive races’ with animals (Gould, 1981; Gilman, 1985). In this way, collections of zoological and anthropological specimens were comfortably housed together in museums around the world. Much of the residue of the ISAM colonial collection is still on display. Unable to resolve the tensions between what is construed as natural and social history, the ethnographic gallery — constructed during the time of apartheid — has become increasingly dislocated from the rest of the museum — and also increasingly dark. Despite attempts at contextualising its 1972 displays, this wing, housing a number of cast figures in ‘habitats’ together with indigenous technologies, perpetuates the classificatory divisions between subjects of anthropological study and those conducting and observing the product of the study. In the late 1980s

the museum introduced a contextualising label ‘out of touch’ that asked the viewer to consider the accuracy of the display in a contemporary South Africa. Current newspaper images were overlaid in the displays to point out that the population of South Africa was largely urban, and not conforming to the display of rural idyll. The ‘out of touch’ label and newspaper clippings remain untouched 20 years later — further evidence of paralysis in the ability to rethink the exhibits. The diorama of the |xam figures from Prieska, cast in 1912, has remained closed since 2001. Although several meetings and discussion groups have contemplated its future, the museum has been unable to act and respond to this heavily loaded symbol of imperialist and racialised study. It remains boarded, hidden from public sight, the figures shrouded ghosts of the past. Interestingly, the ‘Bushman Boy’ cast by Drury in 1910, Tokai, remains on view, as do twelve other figures. Contextualised by various technologies and ritual practices, these figures sit outside of the landscape in a denuded, labelled backdrop, suggesting that the offence of the Prieska exhibit may have been to connect the San with the landscape and nature.

While museum studies over the past 30 years have foregrounded reflexivity — the need for museums to draw attention to the processes that gave rise to their collections (Ames, 1992; Clifford, 1988) — this process has been particularly slow within ISAM. Anthropologist and past curator at the museum, Patricia Davison (1991:89) writes that museums in post-apartheid South Africa faced the challenges of responding to changing conditions while remaining subject to institutional conservatism and entrenched historical modes. Although this was written more than 20 years ago, little has changed within certain aspects of this museum. While new displays of rock art, dinosaurs and whales have been added, these have made appeal to aesthetics: to the devices of wonder and beauty, and have done little to introduce reflexivity into the display of animals. The isolated presentation of species throughout the museum does nothing to contradict the assumption by the viewer that a lineage of diverse speciation culminates in humankind at the terminal point of the tree, which, within this particular context implies a racial hierarchy too. Nowhere is there evidence of the long and connected relationship that humans have had with animals. Nowhere is there evidence of the rich symbolism of animals in African mythology, (other than in the Rock-art exhibit, which remains discrete). While labels may give brief snippets of information, nowhere is there material and experiential evidence of animals as companion species, as desirable trophies, disease carriers, threats to livestock, urban pests or objects of experimentation. Even in the whale well, where the Museum attempts to give a direct, sensory experience of nature, amplified by sound and light, with evidence of the scale of the Leviathan, of its provenance, nomenclature, its extraordinary beauty and architectonic form, there is little of the intersection between whales with humans. There is nothing of the remains of whale bones left within the West coast middens by gather populations; of the history of whaling in the Cape, begun in 1792; or of the 12,000 Southern Right whales killed between Walvis Bay and Maputo over the next twelve years. The lone harpoon hidden in the upper gallery has

to carry a weighty burden. The Whale Well lives up to its name, and is a repository begging to be filled.

While the ethics of representing human form within museums has been hotly debated, the ethics of animal display within museums have largely been overlooked. This is notwithstanding the concerns that are raised as to the manner in which the specimens were sourced, which is countered by the inclusions on the label of the provenance of the animal — where it was found, when, and who performed the taxidermy — imbuing it with some sense of biography and historical reference. Yet this does little to elevate it from the typical to the specific. That most museums have remained visually unreflective was emphasised for me by the slew of discussion around the ‘tree of life’ that surrounded the 2009 year-of-Darwin. This included reference to W. Ford Doolittle’s article “Uprooting the tree of life” in *Scientific America* (2000) that brought into the public domain the debate over the iconography of evolutionary schemas and suggested an alternative schema. Further articles revealed that research in bio-informatics, which allows for the most intricate analysis of genomes, has resulted in the questioning of previous evolutionary, phylogenetic models, particularly the iconography of the Darwinian tree (2006:118). Lateral or horizontal gene transfer (LGT/ HGT), observed particularly in microbes, suggests that species transfer genetic material between each other fairly regularly and that this is a fundamentally non-branching process, undermining the vertical de-/ ascent, imagined by Darwin. HGT allows organisms to carry simultaneous attributions: a partial snake genome has been located within the cow genome, presumably transferred by the action of viruses (Lawton 2009:38). Although the phenotypical expression and cultural understanding of an individual species clearly remain intact, its chimerical genotype undermines the belief that species evolve determinately from a single point. What this does is dislodge the sanctity of coherent, independent entities, collapsing hierarchies and tipping humans from the apex of the ‘tree’. A further challenge to human supremacy came from the Neanderthal Genome Project (2006), the findings of which suggest that the categorical line between brutish Neanderthal and thinking *Homo sapiens* may not be as defined as previously imagined.² In addition, the oppositional nature of taxonomy, built on similarities and difference is currently held to be contrary to speciation, which is both relational and contingent on space and time (Zimmer, 2008). This is a complex set of arguments that are part of a wide discourse. In popular science writing, this implied interconnectivity of life has been articulated by many authors, including Fritjof Capra and Richard Dawkins. Capra’s book *The Web of Life* (1996) presents further evocations of his scholarship on systems theory and he sets up a stark contrast between Cartesian, reductive and mechanistic frameworks, and a web-like structure; the interconnectedness of which he applies to ecological, biological and social systems. Similarly, in contradicting a determinist conception of *Homo sapiens* as a privileged species, Dawkins draws attention to the “tyranny of the discontinuous mind”³ emphasizing that speciation is not neat or delineated, but is filled with intermediacy (Dawkins, 1993: 85). As Stephen Jay Gould did before him, he points to

the dominance of the image of evolution as progressive and intentional, revealing the false delineation of the inevitability of the origin of ‘man’.

The suggestion that a more appropriate visual model for evolution may be an interrelated network or web has implications for the interpretation of artefacts and visual knowledge bases. This study acknowledges that the field of biological science is embedded within cultural and political narratives and that the idea of what organisms and objects are emerges from a discursive process (Haraway, 2008; Latour, 1987, 1999). The culture of bio-medical and biological science is one of reading the visual. In communicating bodies of knowledge, science has often had to rely on images to carry complex ideas and it is these visual analogies that hold persuasive power, occupying a central role in the formation of public perception of what things mean, as demonstrated by art historian Martin Kemp in his extensive writings on art, science and visualisation (Kemp, 2000). Images are able to mask points of obscurity within theoretical explanation and provide a unified gloss — an image of integration and completion and an imagined synthesis. The ‘tree of life’ is one of the most pervasive analogies, representing both a linear view of species and one of implied ascendance. In arboreal iconography, each node divides irrevocably into finite objects, whereas in web or net iconography, objects are fluid, subject to reattribution and change. The reading of biomedical visual and material culture may be subjected to the same revisions. In doing so, strings of reference may be unraveled and objects and images become ambiguous and multi-referential.

My study has identified this potential shift as a fertile idea for rethinking methods of display within museums. Not only do commentators of science propose that the space between species may be permeable, but that evolution is a tangled, rather than strictly linear, chronological process. This of course echoes Darwin’s description of the non-fixity of nature as a ‘tangled bank’ (Darwin, 1859:362), for while his thinking around visual analogies for evolution was complex, it is his ‘tree of life’ icon that found popular appeal and endurance. Much of my study has been to establish why this has been such an enduring icon and why, as I suggest, its uptake within museums has been so resolute. While it is commonly held that Darwin’s theory of evolution closed the Cartesian separation between animals and humans and that the divisions between reason, intellect and carnal behaviour, became more closely aligned (Lippit, 2000), what I am suggesting is that the chosen iconography of evolution, in its ascendant and binary form, does not acknowledge this continuity but accentuates divisions. My directed research into the history of the ‘tree’ as a symbol revealed that despite evolution challenging the foundations of Christian orthodoxy, the iconography of the tree is so deeply embedded within Christian mythology that the visualisation of speciation remains attached to previous established hierarchical divisions between species.

A central proposition of the study was that these hierarchies are compounded by what I argue is the dual presence of the book within museum display. What is considered the first book of ‘natural history’ was published in 1657, John Jonston’s *Natural history of quadrupeds* and at this point there occurred what Foucault identifies as an

epistemic shift (Foucault, 2002:140–141). Prior to this all books observing animals were ‘histories’ and included allegorical terms, whereas after this publication, ‘history’ became associated with ‘natural’. In Jonston’s book all animal semantics were removed and only anatomical and descriptive terms remained. The catalogue of the Tradescant curiosity collection, the *Musaeum Tradescantianum* (1656), commonly considered the first museum catalogue, was published contemporaneously and made distinctions between collections of *Natural* and *Artificial* items. However, although this collection (that was to become the Ashmolean Museum) was open to the public, it was more than a hundred years before both the first national museum — the British Museum — opened, and national museums began to develop methods of display of their collections. Many canonical natural history texts followed Jonston’s book, including Comte de Buffon’s *Histoire naturelle* (1749–1804) and Linnaeus’ *Systemae naturae* (1735–1768) and all of these books suggested a structure for the natural world that could be ordered within the geometries of the page. My argument is that this binary format pre-empted the museum as a form of natural collection and that printed books provided a template, adopted by the museum, through which nature was classified and compared. It is suggested that this highly organised linearity has reinforced ideas of animals and humans as separate and that the reliance on the book is evident in the natural history museum’s chronology, progressive narrative, sequential cases and discrete units of information: all modelled on a structure made available by the codex. The codex book was an early Christian development and its structure not only functional, but symbolic. This is one of many Christian inheritances in the visual appearance of the museum — the cathedral of nature.

Initial lines of inquiry in the research were: what are the analogical models of speciation; how have they been circulated; how have they impacted on the display of natural history; how may new analogies provide for alternative methods of the display of visual material within museums; and lastly, how can visual art intersect and disarticulate existing visual analogies? During my research it emerged that if the legacy of the codex book is accountable for perpetuating a certain way of ordering the museum, then the visual practice needed to focus on a restructuring of the ‘book-museum’ — a disassembly of form. In accepting this direction, the question that arose was, how can curatorial acts intersect and interrupt this linearity of the book — what I have termed the exploded book — and provide enmeshed, web-like ways of understanding information and speciation. The presentation of two exhibitions *Subtle Thresholds* (2009) and *R-A-T* (2012) allow the question to be asked how the experiential and sensorial nature of creative practice can facilitate different kinds of understanding within a museum context and how acts of curatorship can be used to explain or reveal the cultural nature of systems of organisation that underpin natural history display. This is answered through practice rather than through textual analysis. Following Greenblatt (1991), I understand curatorship to be a discipline whereby images, objects and texts from several or disparate sources are assembled in a new space in such a way as to divert attention away from them as objects and images and onto both the cultural practices and

biological phenomena that gave rise to them. Yet, paradoxically, the intention was to draw individual attention to specimens within the museum and elevate them from the generic to the particular through the visual suggestion of life histories and cultural significance. Through the exploitation of the symbolic and narrative power of individual objects, images and collections, and the creation of visual disjunctures, an imaginative space is created that allows for an openness of understanding the world. Visual practice is reflexive and accommodates referencing, citation and quotation and my intention has been to use the visual as the primary discursive vehicle, to use the act of curatorship simultaneously to absorb and interrupt the patterns of display and reception of information within a museum context. This relies on working within established conventions of display, using particular visual keys, yet subtly shifting the manner in which the work is approached and how reading is enabled.

The nature of a fine art thesis (and much creative production) is that it employs a funnelling of information. By drawing on the insights of many disciplines, philosophies, theories and studies, it creates overlap and closes gaps while keeping the interpretation of these interactions mobile. Art practice involves an immersion in a body of knowledge and its literature, from which ideas are often intuitively selected in ways that best service the practical production. In this way insights are gained through a diverse range of sources, and readings are in turn refracted through an absorbed visual engagement. My interest in the book informs some of the strategic choices made in the construction of the exhibitions (the dispersed text and the interrupted narrative) and simultaneously these choices in the exhibitions have informed the way in which my writing about the book and museums has manifested itself. Collage and assemblage form a critical method in my practice and in many ways this is echoed in the approach to the text and sources — as evidenced in the eclectic bibliography. Assemblage in the Deleuzian sense is sympathetic in that it sets up objects and texts in relationships that shift their independent meanings — where ideas rely on contagion (Deleuze & Guattari, 1987). This approach to scholarship is, for me, an authentic position from which the creative practitioner can operate. Thus the reader and viewer of the project should anticipate finding answers that are not necessarily asked in the research questions: the practice escapes the proposal.

The acceptance of the PhD in Fine Art suggests, in its standard formulation, that new knowledge and insight can be gained through the visual and that through both the construction and interpretation of images and objects, new understanding can be produced. While I appreciate that the production of artefacts does not in any direct way correlate with what is understood by ‘new knowledge’, what this particular study relies on is that images are persuasive and that complex and enduring ideas are dependent upon visual analogies or schematics. It accepts that the visual is able to represent and manipulate knowledges, and this being given, attempts to redirect those established systems in the presence of sensory experience through acts of curatorship. Curatorship is different from the making of autonomous objects and my curated exhibitions do

not stand as new knowledge in themselves, but as deflections — charged with working against the established language of the museum and in doing so, redistributing and realigning sets of objects and images in ways that draw attention to alternative means of imagining speciation. Thus new understandings can only be tested as part of viewer engagement and the affect and effect of the exhibitions is something that can only be determined after the passage of time — sometimes after the exhibition has closed.

The problem that I have identified in my research question is indeed a visual one and thus it is only fitting that it is addressed with a visual response. For me the problem with the PhD in Fine Art is not that practice is a form of inquiry or that the visual can be used to formulate an argument, but whether an argument made through the visual can ever be conclusive or verifiable. Art relies on a degree of incompleteness. Elkins distinguishes between the making of and the studying of art and “the conceptual disjunction” that exists between the two (Elkins, 2009:129). If this is so, and I believe that it may well be, then practice can never be used as a measure of a hypothesis. My approach to this study was to identify an area of concern, develop an attitude to that concern based on wide reading and looking and then to produce situated responses in the form of practice.

Unlike western science, which is predicated on evidentiary systems and uses analogy as a form of persuasion, what is suggested here is that art, or in this case curatorship, that engages with new knowledge depends on an explosion of established systems. Powerful mnemonics are activated when the viewer is confronted with new images and the default position is to rely on established, learned patterns for interpretation. The role of curatorship is to disorder accepted structures, and limit the known values that can be brought to the reading and experience of exhibitions. It is in this disorientation that active engagement may be generated. Accepting this process, particularly within the museum environment that comes with set expectations, *Subtle Thresholds* and *R-A-T* were intended to test the ways in which acts of curatorship are simultaneously able to adopt and disrupt recognised modes of display and the understanding of speciation. In doing so they propose a system that dislodges those strong visual prescriptors. The selection of two iconic and, for many, distasteful themes: disease and rats, allows the subjects of display to act as intercessors. Drawing attention to viewer assumptions and stereotypes, the exhibitions surfaced expectations around museum display and its anticipated subject. They operate in two ways in relation to the textual research: firstly the subject matter is a device that focuses on the arguments elucidated and, secondly, they operate as exhibitions in their own right in which the subject itself vies for primacy. In this second case the exhibitions were a major focus of research, an aspect of the research that was central to this thesis, yet ultimately not a part of it. Its presence, however, is imbricated into the various display strategies I employed. Research for the exhibitions was initiated with wide reading of the literature in the area: the representation and critical discourse of disease and a history of representation of rats. From there I developed an encyclopaedic method of research, dividing themes into dense lists and

categories of information. Research included visiting museum collections, zoos, pet shops, research centres and biomedical departments for the collection of material and sources. Once accumulated, this material was adapted, reimaged and reorganised for display. This encyclopaedic method resulted in an excessive volume of information, and while this is in keeping with the encyclopaedic museum collection (hidden from the public) it undermines the authority of museum display that reduces the collection to a limited label and singular insights. The irony of the fine art PhD is that it is detached from the method of art production and cannot contain, at least in its book form, the insights of the exhibition research.

The exhibitions were the outcome of a deep engagement with a subject and they acted to deflect attention away from the expected: finding pleasure when presented with unpleasant subject matter and unexpected juxtapositions providing delight: a provocation of the emotions. The two projects had different intentions. The first exhibition, *Subtle Thresholds: the representational taxonomies of disease* (2009–2010), was developed at the outset of the project and was located within a single space, whereas the second exhibition, *R-A-T: an associative ordering* (2012–2014), was produced towards the end of the study and accumulated many of the ideas in the thesis more directly, particularly in its dispersion throughout the museum. The exhibitions co-opted much of the iconography of the written research chapters: the book, the tree, Eden and the web and in this way act not only as the bookends for the study, but as the thread that connects its exploded content.

Subtle Thresholds took as its subject infectious disease and the manner in which it has been imagined in both the popular imagination and medical literature, presenting a complex visual network of the inter-relationships between zoological, human and microbial worlds. Primarily concerned with how the constructions of ‘difference’ and ‘analogy’ have been used to mediate the cultural understanding of pathology, it aimed to draw attention to some of the mythologies that have contributed to the location of disease as a state of otherness and separation: both physical and psychological. It worked specifically with binary oppositions common in the representational language of pathology: clean/ unclean, known/ alien, beautiful/ ugly and sought ways of neutralising these oppositions. The choice of infectious disease as subject matter for this project was significant as it offers a meeting point between species. Disease is not something discrete and of itself, but dependent on a relationship between a host and an organism in order to exist. It defies discrete boundaries between species undermining structural hierarchies. While animals can be subjugated, their diseases cannot.

R-A-T (2012–2014) made the culture of natural history display within museums part of its subject. The rat, an urban creature abhorred within the anthropocentric city, has been excluded almost entirely from presentation in museums of natural history. This, despite the fact that rodents make up 40% of the total mammalian diversity, and that *Rattus* is the largest mammalian genus, consisting of more than 60 species. As an animal that is closely related to the development of human populations, the rat speaks as much

to a cultural and social history as to a natural one. It is an icon of modernity: of disease, migration, stereotype, destruction, behavioural psychology, literature and pharmacology. The exhibition pointed to the schizophrenic human relationship with rats that is at once able to treasure the rat as a loved icon of children's literature and to allow extermination on a mass scale. Through this exhibition I arrived at the conclusion that it is not only the linear form (the 'book' and the 'tree') that traps museums in a Christian paradigm, but also the subject of the museum. The rat was selected as the theme for this exhibition because it is not the stuffed, immobile animal — the subject of study that translates to page-like exhibits — but a furtive skulker and scurrier that resists categorisation and fixity.

One of the problems that I have identified with display arises from the tension between the museum and its audience — what is anticipated of the museum as a location of knowledge and how the museum responds to this. Audience expectations within museums of natural history are fairly predictable. Having spent months installing exhibitions I was able to witness what has been the subject of many tomes on museum culture — 'the viewer experience' and to confirm that expectations are fairly standard across audiences and that when these are not met, the response is hostile. There are four main lines of questioning: Where does it start? Why is this on display here? What does it mean? Where is the text? The first question points to the yearning for a linear narrative that comfortably takes the viewer from start to finish. There is a security in this that nothing has been missed and the sequence has been completed. The second question stems from both a disciplinary expectation (that natural history museums should be about nature — that which can be understood at a distance) and from the expectation that natural history conforms to a particular type of representation. The third and fourth are compounded and appear absurd, but are the crux of the visitor experience — that meaning should be clear, defined and easily packaged for take-aways. It is for me the most concerning question as it implies that without an authoritative text the visual is impenetrable and redundant.

Mieke Bal describes museum display as a "sign system working in the realm between the visual and the verbal, and between information and persuasion, as it produces the viewer's knowledge" (Bal, 1992: 561). My strategy was to provide text, but to do it in a way that was visual. The text and the reading of the text does not open a door to the 'meaning-making' of the exhibition, but requires the same degree of interpretation as the visual components. The links between elements are often circular, returning viewers to a starting point and insisting that only through an investment in the visual shall the exhibition be understood. The experience of the museum as book is one that locates the viewer within a particular moment. Visual practice, however, while not necessarily producing verifiable evidence of the empirical world, does reveal knowledge and understanding through sensory and intellectual experience, and, in being both immediate and associative is both synchronic and diachronic. As curator Ralph Rugoff (1999) writes, "curators need to begin by addressing the audience's actual experiences

in a gallery. And this involves re-imagining the conceptual context in which art is encountered by viewers.”

Typically, museums present objects as discrete entities — as synecdochal or metonymical specimens — within temporal or spatial sequences, and in physically traversing between cabinets, the viewer becomes complicit within a sequential articulation of species. Thus evoking what both Hooper-Greenhill (1992) and Foucault (2002) have identified as mechanisms of the disciplinary museum, the viewer becomes a passive recipient of this serialized march of progress. Many recent museum studies have claimed the museum as a discursive space and, in response, museums have recognised that in order to enrich the ‘viewer experience’ and delay the museum fatigue that sets in after a studied 45 minutes, they need to develop programmes that solicit audience engagement and participatory activity. In a parallel to the shopping mall experience that William Kowinski (1985) describes as a paradox between stimulation and sedation, the passive viewing experience has been shifted to align with a reality TV paradigm that proclaims ‘you too can be a part of this.’ Interactive worksheets at MOMA encourage responses to artworks, while swipe cards in the Darwin Cocoon at the NHM and Greenwich Naval Museum allow you to gather data as you make your own unique museum database. Although the educational team at the ISAM is more low-key, for *R-A-T* it suggested that I have a play area with living rats, have a treasure hunt for children and that I perform walkabouts as a Pied Piper of sorts. Tony Bennett writes that the museum spaces that he once described in his ‘exhibitionary complex’ have been replaced by discursive ones. Within ethnographic collections and display intercultural dialogues are sustained by open texts that encourage interpretation and are not enunciated by a curator or a dominant position (Bennett, 2006:63). The indeterminate has supplanted observation and description. The visual will no longer suffice and exhibits have to be part of a ‘museum experience’: conversation and activity replacing the exhaulted hush of the museum.

Acknowledging that the viewer welcomes a degree of activity, both *Subtle Thresholds* and *R-A-T* were indeed designed as challenges: encouraging the collection of clues, ideas, images and texts, and spatially navigating a dense matrix of connections. In *R-A-T*, the dislocation of displays meant that many were missed — the viewer looking for the exhibition needed to seek help and so the search for the work became conversational — a communal experience. Both the curatorship and experience of the exhibitions was weblike, making the viewer walk the exhibitions in either defined or dislocated spaces. Neither exhibitions had obvious starting or termination points, and could be entered at any location, so denying any progressive, sequential experience of the display. This search for linkages with no overt chronology is reminiscent of the strategy of the Renaissance *wunderkammer*, where the appeal to the senses allows for associations, dissonances, resemblances and analogy to lead interpretation. Polyphonic relationships, speaking and hearing are stressed over ‘ocular-centrism’ within the curiosity cabinet (Daston & Park, 2001:312), and as Barbara Stafford writes of analogy:

“It offers a non-algorithmic technique for binding our perceptual system to our

cognitive systems, expressed in terms of similarities and antithesis. Learning, in this development scheme, does not spring from a chain of reasoning, but from a dynamic back-and-forth motion among choices that embrace the entire universe in their scope.” (Stafford 1999:176-7)

As mentioned, the post-apartheid ISAM has found itself unable to resolve the tensions between various collections in the museum. In this deep paralysis, two things happened: the development of spaces for temporary exhibitions; and the proliferation of empty cabinets, that once exhibits were removed, remained vacant. Temporary exhibits allow for fluid and intermediate responses to circumstances, and need no permanent solution to problems of representation, whereas the neglected cabinets speak more deeply to an inability to redefine the role of the natural history museum. While both exhibitions aimed to critique the display of natural history and find alternatives to the trope of the tree and the book, my additional intention was to design exhibitions whose subject matter responded to the particular challenges that the two different types of spaces presented. The subject matter and sites determined two very different conceptual responses and while strategies of display were primary, they were able to accommodate the insights that the subject matter — infectious disease and rats — provided.

Both exhibitions were highly structured and complex projects, wherein small, contained units operated within internal systems of categorization and cross-reference. Attempts to analyse each project tends to be reductive and reduce each exhibition to thematic silos and as the potential for visual display is the affective, textual discussion tends to dilute and redirect that which can only be apprehended in the presence of the work. Although *Subtle Thresholds* was contained within a single gallery, and *R-A-T* was spread throughout the museum, both exhibitions relied on the disorientation and destabilization of the viewer and the viewing experience to affect interpretation. Certain conceptual choices were made in favour of the subject matter: infectious disease and *Rattus norvegicus* are both agents of mobility — moving in and out of or around species. Both are agents of contagion, bound by stereotype and linked by the Great Plague. Both are borne out of human settlement and are dependent on interaction with humans for survival.

As Elaine Scarry reminds us, pain is the only perceptual state with no object and so cannot be expressed through language. It is the most contracted human experience, as it cannot be paired with any external referent, as opposed the imagination, which she describes as the most expansive human experience. Although disease, unlike pain, has external markers and language, it is experienced in a way that is both contracted and at times, immersive (Scarry, 1985:162). With this in mind, my decision was to reflect the subject of *Subtle Thresholds: the representational taxonomies of disease* within its construction. Exhibited in a large but integrated gallery it sought to challenge navigability and cross-referencing within a single, area that could be apprehended at once. Although ‘pages’ of the book were symbolically exploded, the exhibition could still be held in sight from a single point, and so while disintegrated, the evidence of the book

remained. Although comprehending the exhibition required active participation in the linking and cross-referencing of images and texts, the viewer remained positioned at the centre of the museum, viewing the display from a position of authority. The exhibition was hermetic, and while the surrounding exhibits from social and natural history framed the reading of the exhibition, having some impact on the sequential encounter, it did not physically extend to other areas of the museum. The contracted experience of complex reading within the exhibition was intended to influence the visitor interpretation of consecutive exhibits.

Furthermore, in keeping with early museum construction, the exhibition self-consciously referenced the formal language of a cathedral. While there were also thematic reasons for this, the design along a central nave, culminating in an altar of wings, flanked by trefoils and rose windows with a central congregation of light boxes and confessional, referenced the museum of life, the cathedral of knowledge and, with its symmetrical design, the tree and book of life as well. ' This has multiple intentions. It draws attention to the relationship of Christianity to museums of natural history, the paradoxical position of religion to disease — both sin and redemption. Lastly, its obvious construction, draws attention to the artifice of exhibition construction, and in doing so, self-consciously proclaims itself as a critique of display. Mieke Bal writes that narrative is the most powerful form of address in the museum (Bal, 1992: 561) and the structure of the cathedral seemingly satisfied the expectation of narrative form — the security in a familiar symmetry that would reward careful observation with equally careful textual responses. It is this 'entryism,' this absorbing the patterns of museum display in order to invert them that was a chief strategy in this attempt to destabilise the form of the book.

Human relationships with other species are variable: conditional, furtive, intense, irregular — very much like evolution itself. In keeping with this, the intention behind *R-A-T: an associative ordering* was to 'explode' a set of ideas about display throughout the museum rather than in a single location. It took a single species as subject, *Rattus novogicus*, and dispersed it throughout the museum, impacting on various sites in unpredictable ways. The interventions were designed specifically to relate to proximate exhibits and to shift the reading of those exhibits. In this sense it followed the modalities of assemblage, that brings together seemingly unrelated materials and images in the synthesis of a new complex whole. This strategy aimed to undermine the display of specimens as isolated units that stand as exemplary, typical and as visible components of a greater, hidden collection. I particularly selected areas for display where neglected cabinets had remained empty for more than ten years — markers of post-apartheid museum unable to reinterpret their collections and displays. In this context the act of filling of these cabinets, and by rats, was a provocation. The reoccurrence of the rat throughout the museum not only referred to the furtive prevalence of this ubiquitous creature — an agent of mobility, but also served to draw attention to the dense layers of cultural and social history that connect humans and animals. The scattering of the w

The typical design of a museum places the observer at a single, central vantage

point from where they are able to survey the institution. Resonant of Jeremy Bentham's eighteenth-century panopticon, the museum visitor is positioned in the space of the 'inspection house,' able to observe the collection from one position. Tony Bennett points to the open gallery as a mechanism whereby the public could exercise self-surveillance, and so enact one of Bentham's aims, to become "both the object and subject of a controlling look" (1995:101). Within *R-A-T* the starting point was unintelligible. At the entrance to the ISAM was placed a panopticon on wheels, containing a stuffed rat — an icon of the exhibition — positioned as surveyor of the museum. Whereas in most museums the entrance would signal an infinite space — the entry to an endless vista over the natural world — the ISAM is truncated, new architectural interventions obfuscating any visual access to what lies beyond. The positioning of the rat, hiding under a dark stairwell was a further furtive act, small and insignificant, situated where dinosaur, whale and elephant skeletons may, in most circumstances, be expected. In this context the rat changes families and becomes a metaphorical mole — an agent of dissent and critique operating from within the museum. Its place within the panopticon is an inversion, drawing attention to relationship between viewer and exhibits. It also signals the theme of perspective. Situated on a tiled Victorian floor, an allusion to a Renaissance Albertian painting, under what was originally the grand stairway of the museum, this particular perspective has no vanishing point.

Single point perspective, developed during Renaissance, reinforced the position of the viewer, and privileged the human viewpoint. The codification of the rendering of a view became the seemingly "objectification of the subjective" (Panofsky, 1991:65) — an accurate image of the world. The museum typically immobilizes this viewpoint within visible grids and lines of sight through the use of rectilinear display cases and dioramas with their single vanishing point and horizon line calibrated to the average male height. The viewer is positioned outside the frame or rectangle as an onlooker and passive observer. The view through a window onto a continuous landscape is one that, in Panofsky's words, is aggregated, as opposed to the "radically discontinuous" space of antiquity (1991:44). In museums this continuity of vision reinforces the idea of progressive, linear evolution rather than one that is fractured and entangled. The modern vista is an opening up — the convergence of distant points of orthogonal lines in a view to infinity — "the concrete symbol for the discovery of the infinite itself" (1991:57). Perspective makes a worldview possible and so the positioning of the viewer within a vista is also firmly located within a Christian modality where the omnipotence and omniscience of God is proof of his infinite being. Neolithic agrarian settlement established a relationship with nature as separate: as a resource or commodity, and furthermore the development of fixed homes, through whose windows nature was viewed, fixed the distinction between inside and outside spaces: spaces of culture and spaces of nature (Aloi, 2012:14). These windows were to become the rectangular frames of paintings and the rectangular glass dioramas. Expediency dictated my selection of cabinets within the museum, and I chose to work within the convention of cabinet display rather than introducing an alternative

structure. Viewing was consequently contained and focussed in nodes throughout the museum, yet the overall sense of the exhibition was scattered. The tradition of perspective in museums was alluded to by the inclusion of photographic backdrops taken from the *Muséum National d'Histoire Naturelle*, Paris, and, most conspicuously, this was parodied in the Mammal Room 'rats in Eden', diorama on wheels where the ideal view can be randomly redeployed. The museum view is typically directed, with a focal point centered on specimens as markers in a predictable structure. In contrast, *R-A-T* employed collage and assemblage resulting in a scattered view with no vanishing point, undermining the tensions between equivalence and difference.

What the preceding description of these two exhibitions does is to provide a case study of an approach to visual research. The practice responds to a detailed understanding of a particular context. Throughout the research into the context and theoretical underpinnings that inform the project, inferences are made and questions established that the exhibitions attempt to address. They do this using the devices of dispersal, repetition, reflection and immersion to test the relationships between an anticipated audience and an anticipated museum experience, and while the exhibitions themselves do not generate new knowledge about their subject, they redirect the museum-goer and thus suggest new ways in which knowledge within the museum may be acquired. In choreographing a move in the viewer from passive recipient to active generator of meaning and association, the exhibition and its production becomes both the site of research and facilitated site of knowledge. This particular study foregrounded the legacy of the book and textual production as a problem in the understanding of speciation. This is mirrored by the ongoing tussle between textual and visual research outcomes for prominence in this and other creative studies. While the directive is to prove how method is tested and prove some conclusive results from the study, this can never be the case. Art remains an at of "unfinished thinking" (Borgdorff, 2010: 44) and the success of the exhibitions and the impact on the museum can only be measured over time and by the ways in which they are contemplated by others.

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CAPTIONS:

1. Detail of Subtle Thresholds (2009-2010), exhibition at the Iziko South African Museum
2. Detail of R-A-T (2012-2014), exhibition at the Iziko South African Museum