INTRODUCTION

Shrouded in subfusc tones that are interrupted by channels of light, natural history museums are staged as solemn performances — tragedies in which characters are timelessly cast, performing their roles as generic species. These are plays with limited dialogue. Bound not only by their glass vitrines, but also by their choreographed arrangement that best depicts speciational taxonomy, specimens rarely extend beyond their limited conceptual frame. This view of the natural world is one of tidy containment, in which everything has its place and, by reinforcing a sequential, progressive view of evolutionary development as well as presenting species as distinct, defined entities, exhibits tend to meet constituent expectation.

Contemporary curated exhibitions, however, have nothing of this taxonomic order. They are chimerical creatures. They are developed and conceptualised with multiple agendas and with multiple expectations. They evolve unseen over long periods, shape-shifting and morphing before being unleashed into the public realm in their imaginative and perhaps monstrous form. Subtle Thresholds is in this sense a project like any other. Initially intended as a critique of the visual politics within the representation of infectious disease, emphasis shifted to allow for a response to the context of the exhibition, the South African Museum. Thus, it is as much about the politics of display as it is about the medical body. It has long been argued that the South African Museum with its co-habiting social and natural history exhibits is, similarly to other museums of natural history throughout the world, essentially one that talks of the culture of science. Yet these two provinces lie in an uncomfortable proximity that has not been convincingly bridged.

While the 19th century saw a move towards themed arrangements that best depicts speciational taxonomy, specimens rarely extend beyond their limited conceptual frame. While the 19th century saw a move towards themed museums, bound by finite disciplines in which categories of knowledge could be intricately ordered, the aim of much contemporary museum practice has been to make systems of classification self-consciously visible, and in so doing question the authority of these structures. There has also been an increasing tendency to integrate the polar divisions between museums of science and culture in a post-Snowdian acceptance that the two cultures mutually inform one another, and it is in this context that my exhibition evolves. Furthermore, the development of critical museum studies together with artist interventions into the spaces of museums have reinvented museum practice. By uniting scattered collections and creating a ‘community of objects’, artists have been able to reflect on past practices as well as comment on contemporary concerns. The work of Joseph Kosuth, Fred Wilson and Mark Dion has been particularly significant in this regard.

The part museums have played within the colonial project needs no introduction. The development of museums is recognised as running parallel to the rise in nation states, as museums were seen as a means of actualising power through object wealth. Similarly, collections were used to reinforce ideological positions that collapsed science into forms of social control. Science museums also have a particular link to authoritative classification and valorised forms of knowledge as they have promoted an ideology of progress and mastery over nature as well as an appeal to notions surrounding beauty and discovery. In order to perpetuate a hierarchy of nature, the production of taxonomic scientific knowledge relies on the generalised example – the unit that stands for the whole community. One of my concerns has been the manner in which a particular type of museum display intrinsically perpetuates ascendency theories embedded within the iconography of evolution. The ‘crisis of representation’ within museums has arisen precisely because it is acknowledged that museums have been complicit in perpetuating certain understandings of taxonomic knowledge and that the strong tropes which directed previous curatorial and display decisions can no longer interpret current theory. My contention has been that a shift of the conceptual and schematic model may allow for a shift in the nature of display and dissemination of content.

Subtle Thresholds concerns itself with representational taxonomies, taxonomy being a codification of this system of order based on difference. The word’s etymology, from the Greek taxis (order or arrangement) and nomos (law or science) suggests this to be an inflexible system, and one that is ultimately hierarchical. Taxonomic thought has driven the visual presentation of biological collections and display, both within the book and museums, and it has developed persuasive visual metaphors to carry these ideas. The close alliance between schematics and ideology is evidenced in the medieval imago mundi.
which sought to represent a cosmology of the known world. The symmetrical geometry of the imago mundi – an encyclopaedic system of human knowledge – and by a pansophic philosophy, the idea of a comprehensive knowledge, evidenced through collections, and linking the natural, human and divine worlds.

The culture of biological and scientific knowledge is, in many ways, one of reading the visual, and in order to communicate knowledge these disciplines have often had to rely on analogy to carry complex ideas. To/opt layering and repetition of form through visual ‘hyperlinks’ to evoke a cosmology – a scattering of objects and images become ambiguous and multi-referential. In the oppositional nature of the evolutionary ‘tree of life,’ representing both a linear view of species and one of implied ascendance. The topology of the tree provides a confident stability as the character of organisms (objects) as singular, reliable entities means that they may be compared and organised with predictable outcomes. The oppositional nature of taxonomy, built on similarities and difference, is currently contrary to speculation as both relational and contingent on space and time. In addition to this, recent developments in bio-informatics, and the culture of biomedical and biological science which rely on the binary oppositions of clean/unclean; known/alien; contaminated/sterile, as well as the history of the relationships between images and text and museums and text, this project attempts to disaggregate object and image from text used label, allowing for a sensorial apprehension of the material alongside a more traditional reading of details within it, and it is this that is able to dislodge the certainty of interpretation.

The title of the exhibition, Subtle Thresholds, suggests a network of knowledge; these disciplines have often had to rely on analogy to carry complex ideas. Chains of reference are unravelled and objects and images become ambiguous and multi-referential. The oppositional nature of the evolutionary ‘tree of life,’ representing both a linear view of species and one of implied ascendance. The topology of the tree provides a confident stability as the character of organisms (objects) as singular, reliable entities means that they may be compared and organised with predictable outcomes. The oppositional nature of taxonomy, built on similarities and difference, is currently contrary to speculation as both relational and contingent on space and time. In addition to this, recent developments in bio-informatics, and the culture of biomedical and biological science which rely on the binary oppositions of clean/unclean; known/alien; contaminated/sterile, as well as the history of the relationships between images and text and museums and text, this project attempts to disaggregate object and image from text used label, allowing for a sensorial apprehension of the material alongside a more traditional reading of details within it, and it is this that is able to dislodge the certainty of interpretation.

The early 20th century inclusion of displays of indigenous populations within museums of natural history established race as a proxy for progress, situating Africa as a site of origins in opposition to progressive Europe.

In popular imagination this is paired with the ‘march of progress’ forward facing, single file, male species that demonstrate reduced hairiness, reduced pigmentation and increased vertical stature. This apex is best typified by German biologist, Ernst Haeckel’s tree of 1876 which traces a deliberate route from microbes to mammals and label, allowing for a sensorial apprehension of the material alongside a more traditional reading of details within it, and it is this that is able to dislodge the certainty of interpretation.

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16 quatrefoils and trefoils of Scanning Electron Microscope images of animal excrement, 10 chromed steel plates of bacteria and parasites, 1 carrier pigeon, 1 dispensing scale, 10 rusted steel plates of bacteria and parasites, 4 percussion hammers, 63 metres of concordance ruler, 5 bats, 24 coordinate plates, 2 ophthalmometers, 4 rat skeletons, 40 framed mythological index cards, 220m² of shadow paintings, 1 jackal pelt, 1 pharmaceutical prescription book, 2 rolls of bandage, 220m² of schematic grid, 25 chalk texts, 4 zebra hooves, 10 viral light boxes, 4 auriscopes, 512 healers’ hands, 1 pheasant, 22 wax moulding plates, 488 microbial test tubes, 1 parrot, 6 plague saint animals, 7 ophthalmoscopes, 7 rusted synonyms; 1 cockatoo, 2 medical cabinets, 6 autoclaves, 1 caracal pelt, 9 sterilisers, 40 metres ducting, 3 pneumothorax apparatus, 2 video projections, 3 coprolites, 1 marmot, 1 fox, 1 rabbit, 21 dental impression trays, 1 partridge, 1 foal, 4 hearing aids, 1 pig foetus, 5 snakes, 14 bottles, 7 retort stands, 2 pill makers, 1 snake bite kit, 50 small birds, 30 syringes, 14 cause of death reagent bottles, 25 dental moulds, 9 lion claws, 21 anaesthetic masks, 1 sheep skull, 20 surgical scissors, 50 ampoules, 2 UV lights, 3 trial lens cases, 10 stethoscopes, 1 zebra foetus, 40 syringes, 1 wax scabies model, 15 glass cupping devices, 2 mice, 1 baboon pelt, 2 oxygen masks, 3 monkey skulls, 22 glass slides, 5 pairs of antlers.
The exhibition works with a system of dualisms. The layout and visual iconography enable the gallery to be simultaneously read as both a cathedral and a laboratory. The 'angelic wings' are constructed from silhouettes of art historical and popular images of healers' hands, and while the shape formally references a schematic tree or set of lungs, it thematically refers to the religious binaries of damnation and salvation associated with disease and healing.
The wings are paired with the ‘ex-voto’ plague altar which uses the negative form of the hands as a screen, protecting six bandaged, taxidermied animals (surrogate plague saints) from the viewer. Plague doctor silhouettes run across the top of the screen, making further connections to the bird as a prevalent and ambiguous metaphor within the visual iconography of disease. Liberated from their dusty vitrines in the old mammal room, these bandaged animals occupy an ambiguous space somewhere between a zoo, infirmary and a confessional. Behind the animals the typical realistic diorama has been replaced by a chalkboard drawing of Celera Genomics’ diagram of chromosomes 13 and 14.

Their bodies broke out in sores that became ulcers; sleepless and agitated, unable to bear the touch of clothes or bedding, they staggered naked through the streets, seeking water for their unquenchable thirst.

430 BC, ATHENS, Aristod 1995:39
Bandaged vicuna, Siberian husky, capybara and giraffe.
A low stage houses two steel medical cabinets from Groote Schuur hospital and a collection of sterilisers, autoclaves and fish hooks. The two cabinets contain ducting that, while reminiscent of bacterial forms, is simultaneously an agent of extraction and cleansing. Smothered in black Rockwell typeface with synonyms for pain and disease, the cabinets become ‘contaminated by language’. The autoclaves, tethered or anchored to the cabinets, are filled with remnants of chalk, setting provisional knowledge against the authority of the black type.
Chromed and rusted steel plates exist in two binary states: contaminated and sterile. The forms of the chromed plates are derived from pharmaceutical labware and parasitic and bacterial disease forms, while in the rusted plates, the disease forms are enlarged and populated with silhouettes of demonic images. This highlights the divisive and polarised positions of purity/impurity that construct much of the language of disease.
Yellow directional plates display the GPS coordinates of sites of major disease outbreaks in history. These are reminders of the levels of international infectious disease surveillance held on vast databases around the world. The plates are paired with a map in which geographical landform is determined by the incidence of ten major infectious diseases. Politics of access to medication and resources are made apparent by the relative density of continents.
The exhibition received impetus from key texts on medical representation and episteme by Foucault, Gilman and Sontag and self-reflexively makes these quotes part of the visual content. One of the many layers on the walls takes the form of 24 chalk texts that quote personal, mythical and philosophical readings of the diseased body. Contained within a schematic layout that spans 220 m² of wall space, the use of chalk speaks to the didactic and yet fugitive nature of the material. Similarly, the authority of the Times Roman script is undermined by its translation as handwritten inscription.

Itching skin eruptions first appeared on the breast and stomach and soon spread all over the body. When such an eruption was scratched, a multitude of these insects burst forth. The tissues were slowly eaten away and the insects emerged from many small holes in the skin.

50 BC, AFRICA: Bouleson 1977/5
Animal faeces collected from various pet shops, farms and zoos in the greater Cape Town area. Images produced at UCT's Electron Microscope Unit, by a Scanning Electron Microscope: 10 μm at 1000 – 2000 x magnification. Faeces, the ultimate feared site of contamination, become beguiling landscapes. Prints are framed in trefoil and quatrefoil frames, derived from medieval cathedral windows and labeled with Latin species names, elucidating the uninitiated viewer.

[Cholera] like any other disease, has in itself no meaning; it is only a micro-organism. It acquires meaning and significance from its human context, from the ways in which it infiltrates the lives of people, from the reactions it provokes, and from the manner in which it gives expression to cultural and political values. 1980. INDIA. Arnold 1980: 151
In order to disrupt the stigma and fear typically associated with disease, the exhibition co-opts two curatorial strategies: wonder and layering. The light boxes and complex lattice defer to Stephen Greenblatt’s well-quoted notion of wonder as the ‘power of the displayed object to stop the viewer in his or her tracks, to convey an arresting sense of unipness, to evoke an exalted attention’ (Greenblatt 1991: 49).

Ten light boxes or vitrines contain representations, in pharmacological labware, of ten viral forms known to cause disease. The labels confound the uninitiated viewer, as they refer to international disease codes, taxonomy codes, medications and symptoms, without naming the diseases. The disease, by implication, can in certain frameworks only be read through the discipline that constructs it.
<table>
<thead>
<tr>
<th>Condition</th>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avian Flu</td>
<td>AIV</td>
<td>High fever, vomiting, watery diarrhea, coughing, chills</td>
</tr>
<tr>
<td>Measles</td>
<td>MM</td>
<td>Cough, fever, conjunctivitis, coryza, conjunctivitis, rash</td>
</tr>
<tr>
<td>Chicken Pox</td>
<td>HHV-3</td>
<td>Rash, coryza, conjunctivitis, fever</td>
</tr>
<tr>
<td>Rubella</td>
<td>RR</td>
<td>Low-grade fever, rash, coryza, conjunctivitis, rash</td>
</tr>
<tr>
<td>Measles</td>
<td>MM</td>
<td>Cough, fever, conjunctivitis, coryza, conjunctivitis, rash</td>
</tr>
<tr>
<td>Rubella</td>
<td>RR</td>
<td>Low-grade fever, rash, coryza, conjunctivitis, rash</td>
</tr>
<tr>
<td>Hepatitis</td>
<td>HBV</td>
<td>Fever, headache, loss of appetite, muscle aches, vomiting</td>
</tr>
<tr>
<td>Measles</td>
<td>MM</td>
<td>Cough, fever, conjunctivitis, coryza, conjunctivitis, rash</td>
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</tr>
</tbody>
</table>

**SYSTEMS**

- High fever
- Vomiting
- Watery diarrhea
- Coughing
- Chills
- Rash
- Coryza
- Conjunctivitis
- Rashy eruptions
- Blister on scalp
- Blister on mouth
- Blister on genital

**Medications**

- Tamiflu
- ReLENza
- Antitussine
- Sinus Max
- Robaxin
- Combiflam
- Paracetamol
- Flarex
- Motrin
- Naprosyn
- Ondansetron
- Antihistamines
- Corticosteroids
- NSAIDs
- Antipyretics

**Other**

- HEP-B
- COV-VAX
- ENCEPHALITIS
- RECOMBINANT HB REBETOL
- COPROTECT
- OCTAPROTECT
- FLAVIVIRUSES
- CRUZAD
- CYSTIC FLUID
- HEP-N
- FLUBEN
- FLURON
- FLUMAN
Two videos draw attention to the space above the cabinets. In the hierarchical space of control, they illustrate two ways of reading and interpreting the hidden body; the first through dissection (layered frog, fish, rat and human dissections) and the second through genomic mapping (1000 bacterial genomes flashing in a loop).
“Believing that it is always best to study some special group, I have, after deliberation, taken up domestic pigeons.”

Charles Darwin
480 test tubes labelled with names of bacterial species.
Disease follows the obscure, but necessary ways of tissue reactivations. But what now becomes of its visible body, that set of phenomena without secrets that makes it entirely legible for the clinician’s gaze: that is, recognizably by its signs, but also decipherable in the symptoms whose totality defined its essence without residue. Foucault 1975:59
Conscious of the politics of exclusion within medical discourse, the exhibition provides limited access to text. The scale and height of the framed index cards of mythologies make them unreadable, despite the provision of a magnifying glass; explanatory texts in the cabinets thwart analysis as they lose their numbering system and direct references; and animal specimens are only labeled by the diseases they carry. The index cards contain mythologies and superstitions pertaining to zoonoses from a cross section of cultures and time periods. The minute scale draws attention to the space afforded to belief within western medical practice.
Still born foal, donated by Boswell Wilkie Circus in 1922, anaesthetic masks and aural and ophthalmic devices.
“The observing gaze refrains from intervening: it is silent and gestureless. Observation leaves things as they are; there is nothing hidden to it in what is given. The correlative of observation is never the invisible, but always the immediately visible, once one has removed the obstacles erected to reason by theories and to the senses by the imagination.” Foucault 1975: 107.
“By taking us back up the Darwinian ladder of evolution to the associative origins of human thought, analogy 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.
exhausting cough, and praying for sleep or morning, from the bottom of my little shaken body. I have written in bed, and written out of it, written in sickness ... the powers have so ordained that my battle field should be this dingy, inglorious one of the bed. ROBERT LOUIS STEVENSON.

Dumfries 1883; 33

The nobleman, Tabora, had many swellings all over his body, from which insects streamed out incessantly; two of his Ethiopian slaves were employed in emptying small baskets of them into the sea. After weeks, he was devoured by these lice engendered under his skin.
Wax moulding plates and dental impression trays from the Adler collection, together with parrot bones, antler and lion’s claws from the SAM collection.
CAROLUS LINNAEUS
(1707 – 1778)
TAXONOMIST, ZOOLOGIST, BOTANIST
CAUSE OF DEATH
STROKE

COMTE DE BUFFON
(1707 – 1788)
NATURALIST
CAUSE OF DEATH
POSSIBLE KIDNEY FAILURE

CHARLES LYNNE
(1797 – 1875)
GEOLOGIST
CAUSE OF DEATH
MENINGITIS WITH AN EFFUSION OF SERUM ON THE BRAIN ACCELERATED BY A FALL DOWN STAIRS

ALFRED WALLACE
(1823 – 1913)
NATURALIST
CAUSE OF DEATH
RECURRENT MALARIA

CHARLES DARWIN
(1809 – 1882)
NATURALIST
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CHRONIC CARDIAC FAILURE POSSIBLY CAUSED BY CHAGAS DISEASE

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CHOLERA

14 reagent bottles labelled with the cause of death of 14 naturalists.
“There seems to me too much misery in
the world. I cannot persuade myself
that a beneficent and omnipotent
God would have designedly created
the Ichneumonidae with the express
intention of their feeding within the
living bodies of caterpillars or that a cat
should play with mice... On the other
hand, I cannot anyhow be contented
to view this wonderful universe, and
especially the nature of man, and to
conclude that everything is the result
of brute force. I am inclined to look at
everything as resulting from designed
laws, with the details, whether good or
bad, left to the working out of what we
may call chance.”
Darwin Letter to Asa Gray
(22 May 1860).
Pneumothorax apparatus and ampoules (Adler collection) together with selection of birds from the SAM collection.

SUBTLE THRESHOLDS
THE REPRESENTATIONAL TAXONOMIES OF DISEASE
AN EXHIBITION BY FRITHA LANGERMAN

25 July 2009 - August 2010
Lizeke South African Museum
Rat bones (SAM collection) on a dispensing scale (Adler collection).
Timelines are devices used to provide orientation and guidance, yet they often present a decontextualised chronology - the chosen inclusions often reflecting relationships of power. In this exhibition, the ‘timeline’ is in the form of a ruler, circumscribing 68 metres and including a biblical concordance of disease, literally running counter to a more conventional microbial history. The ruler measurements are indicated by a chordate species list, incrementally divided by microbial species in red.

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Baten, T. 1818. A succinct account of the contagious fever of this country, exemplified in the epidemic now prevailing in London. London: Longman.
Donne, J. 1623. Devotions upon emergent occasions.
Fritha Langerman is an Associate Professor at the University of Cape Town where she teaches printmaking and drawing at the Michaelis School of Fine Art. She trained at the University of Cape Town (BAFA and MFA, printmaking) and is currently registered for a PhD in Fine Art. Her research is of an interdisciplinary nature and research interests include curatorship, scientific representation of the body and the display and ordering of information. Her first solo exhibition, The dissection (Castle of Good Hope 1996) focused on biomedical visual representation and authorship of the human body. She has exhibited nationally and internationally and has produced a number of public commissioned works, including the 3rd Cape Town Public Sculpture Commission in St George’s Mall and a sculptural installation in the Pharmacology Dept, UCT. Her awards include a Sasol Wax Merit award (2003), an ABSA Atelier Merit award (1999), UCT Junior Fellow’s Award (2007) and UCT’s Creative Works Award (2010). Her last solo exhibition, Of symmetries and oxymorons: the knowledge chambers (2007-8), exhibited in Johannesburg and Cape Town, reflected on visual knowledge systems through the use of historical and contemporary print methodologies. She has curated a number of exhibitions including Lexicons and labyrinths: the iconography of the genome at the South African Museum (2003) and Curiosity 175 (with Pippa Skotnes and Gwen van Embden) at the University of Cape Town (2004). This is her eighth solo exhibition.

“Many of the views which have been advanced are highly speculative, and some no doubt, will prove erroneous; but I have in every case, given the reasons which have led me to one view rather than to another. False facts are highly injurious to the progress of science, for they often endure long, but false views, if supported by evidence, do little harm, for everyone takes a salutary pleasure in proving their falseness.”

Charles Darwin
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