

A REPLICA OF CONSERVATION
Those That, at a Distance, Resemble Ivory

by

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Submitted to the Department of Architecture in partial fulfilment of the requirements for the
degree of Master of Science in Art, Culture and Technology at the
Massachusetts Institute of Technology

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ABSTRACT

This text embodies a process of deconstructing museological and ecological conservation. By constituting a part in the multi-layered art work *Those That, at a Distance, Resemble Ivory*, which culminates in a replica ceramic elephant tusk and a film that chronicles the process of the object coming into being, the text invites reflection upon forms of representation, replicas, and embodiments of various materials, disciplines, and institutions.

Those That, at a Distance, Resemble Ivory was made in collaboration with conservators, scientists, archaeologists, ceramicists, and technicians across various museums. This approach allowed for a disruption of perspectives and methods in the field of conservation, offering new ways of thinking for everyone involved, including myself. The text does not offer overt resolutions. Instead, it registers the performance of a process with a pluralistic understanding of the subject, composed of suggestions and varieties of knowledge systems.

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TABLE OF CONTENTS

i.	Prologue	5
ii.	Introduction	26
iii.	Chapters	
I	An ivory tusk is carved from the skull and closed mouth of an elephant	30
II	When attempting to trade the ivory tusk internationally, it is confiscated by customs	35
III	The ivory tusk is donated to the museum for restoring objects that contain ivory	39
IV	Before the ivory is cut and used for restoring another object at the museum, I photograph the raw tusk numerous times from multiple angles to create a 3D rendering	45
V	I print a 3D model using a bed of powder made of plaster, vinyl polymer, sulfate salt, and a liquid-binding resin, which selectively deposits onto the powder creating the shape of the tusk which I then excavate	49
VI	I form a plaster mold from the model and pour ceramic slip into it to make a ceramic tusk	53
VII	I insert a jarina seed, also known as vegetable ivory – the endosperm derived from a species in the genus <i>Phytelphas</i> used as a replacement for ivory and celluloid – into the hollow ceramic tusk	62
VIII	The ceramic tusk is kept in bad condition: I expose it to the elements throwing it against tree trunks and other plants	66
IX	I take the ceramic tusk through a process of technical analysis to determine its material component, history, whether it should be cleaned, and how it should be stored for increased longevity	70
X	I donate the ceramic tusk to the museum	78
iv.	Bibliography	83
v.	Acknowledgements	88

PROLOGUE



Analia's cabinet, 2017

Analia keeps each item of clothing individually wrapped in her cabinet. Some are in old dry-cleaning bags, others in the bags the clothes came in, or re-used plastic bags. When you compliment her outfit, she does not say “thank you,” she says “oh, it’s old” then tells you where she bought it, thirty years ago in Argentina with her mother, before immigrating to England, while her mother was still alive, and when she was surrounded by family.

She is generally a very clean and organized person. She has been told on numerous occasions that her house is like a museum – everything is looked after and impeccable. Even the objects that are not kept in plastic bags are regularly dusted and polished. Each object is placed on a surface – a table or a wall, deliberately, as if being allowed the space to breathe. She has been collecting small boxes for as long as I have known her. Her favorites are empty, laid out on one particular fingerprint-less glass top table.¹

She is actively exhibiting, caring not only for each object but also how visitors experience her home. Of course her home is private, those who enter have been invited in.

In England there is a tradition dating back to 1959 called the National Garden Scheme where people chose to open up their private home gardens to the public once a year.² Analia’s garden is similar to the interior of her house. The colors of each plant are chosen and arranged in specific locations, trimmed regularly, with weeds consistently cut and removed.

Similarly, within public museums there are occasional ‘open days’ and guided tours to selected private and restricted areas such as the archive collections and storage spaces not readily available to the public.³ Otherwise, access to a particular part of the museum, or to view a specific object, often involves a long and arduous process with multiple forms and delays.

Within most museum archives, objects are stored under specific conservation regulations. In the Museu de Arqueologia e Etnologia in Saõ Paulo, the artefacts are wrapped in plastic bags and kept in temperature-controlled environments for conservation purposes.

Conservation seems to be a human necessity - a need to preserve a culture or a memory, verbally or through objects. Although conservation as a practice within museums began during the nineteenth century, humans have been conserving art since prehistory.⁴

¹ “Whether a child collects model dinosaurs or dolls, sooner or later she or he will be encouraged to keep the possessions on a shelf or in a special box or to set up a doll house. Personal treasures will be made public.” James Clifford, *The Predicament of Culture* (Harvard University Press, 1988), 219.

² “Who We Are,” National Garden Scheme, accessed March 17, 2018, <https://www.ngs.org.uk/who-we-are/who-we-are-and-what-we-do/>.

³ In the 1980s the Natural History Museum, London created a space visible to the public referred to as “the goldfish bowl” where scientists were conserving large fossil marine reptiles. In 2016 the museum opened a similar space when cleaning and restoring the blue whale which now lives in the main entrance, Hintze Hall. The space was created for public outreach and consequently the museum won the Keck Award for Public Understanding of Science, but the space was also created because of lack of space in the conservation lab. In both occasions the public encounters the scientists work through a glass wall, similar to vitrines which keep the exhibited taxidermy, creating a spectacle of labour. Lorraine Cornish, email to author, 29 January, 2018

⁴ Traditional story-teller of the Nugal-warra clan, Willie Gordon, when talking about the preservation of Indigenous rock art said: “If you go to different parts of Australia they’ve [tribes] already recoated or repainted art. They’ve painted it because it’s in our culture to keep it alive and well.” Sam Davis, “Preserving Indigenous Rock Art,” last modified 27 October, 2009, <http://www.abc.net.au/local/stories/2009/10/27/2725103.htm>.



Museu de Arqueologia e Etnologia archive, 2017

When I was a child, Analia took me to the Zoológico de Buenos Aires. The zoo was conceived in 1875 by Argentine president, Domingo Sarmiento. The first director of the zoo, Eduardo Holmberg structured the environment so that the animals would be housed in buildings that reflected their countries of origin. For example, a replica of a Hindu temple was built for Asian elephants, housing the first one ever to be born in a zoo. These replicas were built as an attempt to conserve the *imagined* original home of the elephants. The idea of a lived human architecture being built for an elephant so that she can feel more at home is beautifully absurd. The power of these replicas is that they highlight the fact that the animals were plucked from varying countries, and at the same time allow the public to imagine a fiction of them living in human built environments.⁵

⁵ In 2014, a Buenos Aires Court ruled that Sandra, a 29-year-old Sumatran orangutan living in the Zoológico de Buenos Aires, had enough cognitive functions that she should not be treated as an object. She was granted non-human animal rights allowing her to be liberated from the enclosure. In 2016, the zoo was shut down with the promise that the animals would be transferred to alternative sanctuaries and reserves. A year later, a number of the animals including the elephants and Sandra, are still there. “La orangutana “Sandra,” una vez más sujeto de derecho no humano” ¡Judicial, last modified 28 December 2016, <http://www.ijudicial.gob.ar/2016/la-orangutana-sandra-una-vez-mas-sujeto-de-derecho-no-humano/>.



Family Photograph at Zoológico de Buenos Aires, 1997

Tom works as a technician building displays at the Victoria & Albert Museum (V&A) in London. In the staff canteen, he had overheard a colleague of his, Nigel Bamforth, discussing a cabinet filled with ivory in the furniture conservation lab. Nigel had previously worked in the fashion industry, with a subsequent nineteen years and four months heading the furniture conservation department at the V&A.

I visited Nigel in April of 2016 where he showed me the cabinet filled with ivory, which he explained was used for furniture and artefact conservation, used primarily to replace broken parts. He said that the material had been donated by customs.

I was curious whether the use of confiscated ivory in artefact conservation and restoration occurred in other national museums. I contacted Dr. Anna Bülow, Head of Conservation at the British Museum. Her response was that “no Western trained conservator would use plant or animal material for object conservation, as it is neither ethical nor useful to do.”

I visited Nigel again in March 2017 with Dr. Bülow’s ethical standards in mind. I asked him why alternative materials were not used instead. He answered “we have the material [ivory] available to us so it would be rather pointless.”⁶ Alternatives that exist for ivory include celluloid, and Jarina seeds (also known as ‘vegetable ivory,’) a dried endosperm of the seed of *Phytelphas* from the Amazon.⁷

⁶ Dr. Anna Bülow, email to author, 8 March, 2017

⁷ Yinghao Chu, Marc A. Mayers, et al, “A Sustainable Substitute for Ivory: The Jarina Seed from the Amazon,” *Scientific Reports* 5, Article number: 14387 (24 September 2015).

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Dear Jessica,

We do not use organic material as per your definition for conservation, although you might want to consider your definition of 'organic material' a bit more carefully. If you mean forms of unprocessed organic material such as ivory, [I would feel confident that no Western trained conservator would use plant or animal material for object conservation, as it is neither ethical nor useful to do so.](#) We do, however, use lots of processed organic material, such as silk, paper, and collagen based adhesive.

As for DNA digital data storage, again I am not sure what your definition for this might be, but neither Conservation nor Scientific Research at the BM has capability to analyse DNA, so we therefore don't store such data either.

Good luck with your thesis, and kind regards, Anna.

Dr Anna Bülow
Head of Conservation

Email response from Dr. Anna Bülow at the British Museum to author, 8 March 2017

United Kingdom law states that ivory post-1947 is illegal to trade. Nigel mentioned the bureaucracy of loaning objects or artefacts overseas which include materials of endangered species. The process includes completing a Convention on International Trade in Endangered Species (CITES) form - having to name the species, where the animal came from, the previous owner, and when the piece was made. The latest batch of ivory donated to the museum was in the 1990s, therefore, as old as the original object might be, if this contemporary ivory replaces a fragment of the original, it is technically, illegal to loan or trade. In theory, any addition would be documented by the conservator in the museum's treatment records.

We spoke briefly about the burning of ivory as a symbol of the material's non-value, which was in the news at the time - the fact that it takes seven days at a thousand degrees Celsius to burn ivory.⁸ He showed me the process of sawing the ivory and mentioned the terrible smell, likening it to the smell of getting a filling at the dentist.

I am dubious about whether burning is the solution to the ivory trade, especially since the process produces an incredible amount of carbon dioxide. I am also skeptical that this recycling of the material reinforces the deathly cycle of the ivory trade, but I do argue that the acquisition or donation of confiscated materials from African and Asian countries is a continuation of the historical role that museums play in colonization. I question the journey of the ivory from customs to the V&A more than the conservators use of the material.

⁸ Damien Zane, "Kenya's ivory inferno: Does burning elephant tusks destroy them?," last modified 29 April 2016, <http://www.bbc.com/news/world-africa-34313745>.



Nigel Bamforth and cabinet in the Furniture Conservation department at V&A, 2018

Ivory is only a part of what is available for Nigel to use in conserving furniture at the V&A. The cabinet also includes bones, turtle shells, rhino horn, ebony, mother of pearl, as well as the ivory – from elephants, narwhal, and mammoth. The ivory pieces exist both in their raw, uncut form but also carved into “tourist art”⁹ with images of elephants and faces with diverse African features. Nigel’s consciousness towards elephant endangerment only comes to the forefront when interacting with these carved works, saying “how horrible it is that they slaughter the poor sods for something so diabolical, these rubbish, hideous carvings – not even 18th century beautiful carvings like before.”

The furniture which Nigel is conserving, as well as all the other objects in museum collections across the world are imbued with a certain privilege. Not only is the object “saved,” but its history – the culture it emulates or represents – is conserved, even if it was not its makers’ intent.¹⁰

⁹ “Tourist art” being carvings made by locals or natives for selling to tourists. “Other collectable – mass-produced commodities, “tourist art”, curios, and so on – have been less systematically valued; at best they find a place in exhibits of “technology” or “folklore”. Clifford, *The Predicament of Culture*, 222.

¹⁰ When interviewed about the disintegrating Tacoma Totem Pole and whether it should be preserved or not, artist and member of the Puyallup Tribe, Shaun Peterson, or Qwalsius, said “In those territories, it’s sort of understood that poles have a life span... They’re left to return to the earth and the idea is to replace them.” “Historic Tacoma Totem Pole in Danger of Falling,” Seattle Times, last modified May 2, 2013, <https://www.seattletimes.com/seattle-news/historic-tacoma-totem-pole-in-danger-of-falling/>.



Nigel Bamforth holding tortoise shells, 2018

While in Belem, State of Pará, Brazil at the Museu Paraense Emílio Goeldi I came across the practice of replicas as a form of conservation.

An hour north of Belem in the district of Icoaraci, most inhabitants have worked as ceramicists for centuries. In the 1990's there was an upsurge of ceramic making after they had come across photographs of ceramics from both the local Marajó Island and European pottery.¹¹ The photographs usually only showed one side of the object and did not include measurements; therefore, the ceramic copies were representative of one angle, but not the whole. In May 2017, the archaeologists Helena Lima and Cristiana Barreto started a program at the museum that invited ceramicists from Icoaraci into the archive to select works to replicate. They produced two reproductions, one for the museum for educational purposes and the other kept by the ceramicists to then sell as accurate, more costly replicas.

When the replica artist or conservator is in close proximity, interacting with the object they are copying, they enter a process of embodiment – becoming, for that moment, a manifestation of the artist. In the case of book binding conservators, not only do they have to be trained as conservators but also as book binders themselves.¹²

Plaster is the standard material used for producing museum replicas with the technique of casting that allows the replicas to be economical and easily reproducible. By using the original, higher quality, more costly material of (in this case) clay, and by making each object individually, by eye, these replicas are closer to the original both in the process of making, and in their materiality.

¹¹ Pereira, Edithe, “The Goeldi Museum and Archaeological Research: An Overview of the Past Seventeen Years (1991-2008),” *Bol. Mus. Para. Emílio Goeldi. Ciências Humanas*, Belém, v.4, n. 1, p.171-190, (jan.- abr. 2009).

¹² When meeting with book conservators Jana Dambrogio and Ayako Letizia at Wunch Conservation Lab at MIT they were both wearing purple sweaters.



Anisio Artesanato Ceramicists sculpting replicas at Museu Paraense Emilio Goeldi, 2017



Luís at Anisio Artesanato, Paracuri, Icoaraci, 2017

Another example of the conservator embodying the artist is through the writing of technical papers. At the Straus Centre for Conservation and Technical Studies, Harvard Art Museums, the conservators scrutinize the object by both looking with different technologies and physically mimicking the material process to understand how the artist created the work. From this they write incredibly detailed reports outlining their research and their conclusions on how to best conserve the object. For instance, the conservator describes what part of the finger was used by the artist to build the clay away or towards them.¹³

Nineteenth-century French architect Eugène-Emmanuel Viollet-Le-Duc who had a radical view on conservation, believed that restoration was imitation. He saw restoration as a practice that would “reestablish it [an edifice] in a finished state, which may in fact never have actually existed at any given time.” When undergoing the process of restoration, he believed that “the best thing to do is to try and put oneself in the place of the original architect and try to imagine what he would do if he returned to earth and was handed the same kind of programs as have been given to us. Now, that sort of proceeding requires that the restorer be in possession of all the same resources as the original master – and that he proceeds as the original master did.”¹⁴

This point of view today is mostly seen as outdated. Although conservators do not take on such invasive approaches - any changes they make to an object should be reversible - there is still an embodiment process that takes place: in the case of Viollet-Le-Duc, the conservator entered an imagined space and re-created it. Today conservators are in an existing space where they embody the artist through what is in front of them, both materially and historically.

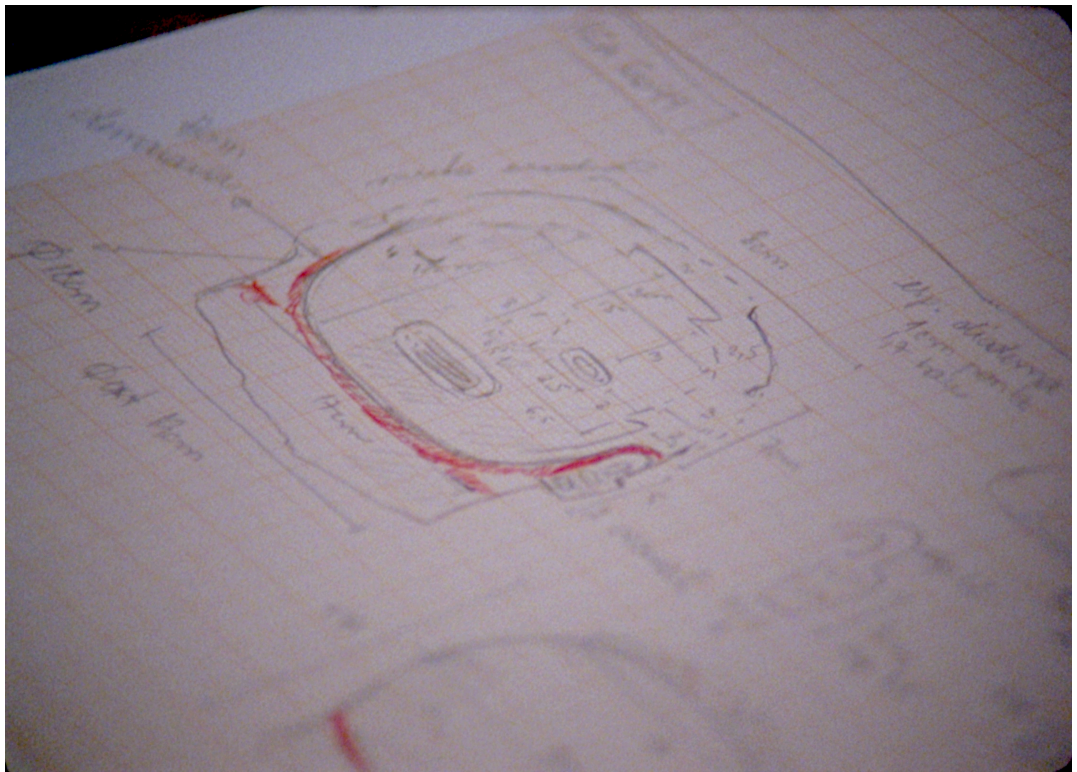
¹³ Anthony B. Sigel, “The Clay Modelling Techniques of Gian Lorenzo Bernini,” *Harvard University Art Museums Bulletin* - VOL. VI, NO. 3, (Spring 1999).

¹⁴ Eugène-Emmanuel Viollet-Le-Duc, “Restoration” in *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, ed Nicholas Stanley Price, M. Kirby Tally Jr., Alessandra Melucco Vaccaro, (The Getty Conservation Institute Los Angeles, 1996), 314.



Erândira Oliveira tracing um at MAE, 2017

At the Museo de Ethnographia e Archeologia (MAE) in São Paulo archaeologist Erêndira Oliveira studies diverse patterns of Amazonian funerary urns by physically tracing the markings. She wraps several layers of cling film carefully around an urn. Wearing dark purple nail varnish, she delicately traces the details. She then lays out the cling film and together with precise measurements she has taken from the urn, she draws it out. She has chosen to use her hands, cling film, and measuring tape as tools to learn, rather than more advanced technologies. From conversations with her, it is clear that it is integral for her to feel a spiritual closeness to the artist when she is working with such a powerful object which once held human remains. Here, again, Erêndira is embodying the artist. Although she is not a conservator, the work of an archaeologist undergoing these practices could be seen as forming part of the highly collaborative and interdisciplinary process of conservation.



Erêndira Oliveira's diagrams at MAE, 2017

Non-human agents also play an important collaborative role in conserving archaeological artefacts, including the worm. Charles Darwin notes that “archaeologists are probably not aware how much they owe to worms for the preservation of many ancient objects. Archaeology is still a subject that is actually carried out in the realm of earthworms. Their burrows and galleries form and reform the matrix surrounding the harder materials from which we deduce whole cultures.”¹⁵

There has recently been an introduction of non-human agents, such as bacteria, as participants in the collaborative process of conserving. Conversations and collaborations between conservator, art historian, and scientist are the first stage in deciding what, if anything, should be done to the object.

Normally viewed as “playing a role in the biodeterioration process” of natural history specimens, conservator Lorraine Cornish and her team at the Natural History Museum, London carefully and rigorously cleaned away the dust from a blue whale skeleton that had accumulated while being housed in the mammal section since the 1930s, before being moved into a new exhibition space in the main museum entrance, Hinzey Hall. Whale bones accumulate dust more than other specimens due to the fact that they continue emitting oil in their exhibited state. Samples of the structure and composition of the dust were taken, as well as DNA extraction and sequencing to “help identify which microbial species had been living on the specimen, and their relative abundance.”¹⁶ Although the final decision was taken to rid the skeleton entirely of dust, there was some hesitation at the beginning as there may have been some positive aspects to it being there: the dust particles may have been holding cracked parts of the bone together.

In recent studies, microbiologist Giancarlo Caligaris, argues that particular kinds of microbes can be used to repair objects of cultural heritage in a process called “bio restoration.”¹⁷ In the case of Lina Arpesani’s 1921 funerary monument *Neera*, microbiologists used bacteria to remove a sulfate-based black crust caused by pollution to reveal the original marble by applying the bacterium *Desulfovibrio* who have the ability to discriminate between materials.¹⁸

This multispecies collaboration could be an interesting method to introduce to ethnographic museums. For indigenous communities who chose to allow their ancestral subjects¹⁹ to live within museums, this multispecies collaboration could be a progressive move towards museums working with subjects that have been made with the intent of interacting with living organisms.²⁰

¹⁵ Charles Darwin, *The Formation of Vegetable Mould: Through the Action of Worms with Observation on their Habitats Mould* (John Murray, 1904), Chapter IV.

¹⁶ Arianna Lea Bernucci, Lorraine Cornish, Chery Lynn, “A modern approach to dismantling and redisplaying a historic blue whale skeleton” *ICOM-CC 18th Triennial Conference, Natural History Collections*, (2017).

¹⁷ Grace Kim, “Putting Microbes to Work: Using Biotechnology to Restore Architecture & Art in Italy” *Thresholds*, 44 (March 8 2016): 171 - 181.

¹⁸ Kim, 171 - 181.

¹⁹ “Should we even be referring to them as “objects” – many indigenous people reject this term as itself enacting an unlimited western dualism. Instead referring to treasured items as “subjects”, “beings”, “belongings”, “medicine”, “ancestors” or forgoing European language.” Aaron Glass at Symposium “Conserving Active Matter” at Bard Graduate Centre, <https://www.bgc.bard.edu/events/755/27-nov-2017-symposium-conserving>.

²⁰ “Historic Tacoma Totem Pole In Danger of Falling”, *Seattle Times*, last modified May 2, 2013, <https://www.seattletimes.com/seattle-news/historic-tacoma-totem-pole-in-danger-of-falling/>.

Both humans and non-humans conserve, either through unconscious, subconscious, or conscious necessity. Time is integral to this process – embodying the past and collaborating to secure a future.



Conservator instructing public on how to clean a bottlenose whale skeleton, Grant Museum, 2017

INTRODUCTION

I am not an expert, I am not an art historian, and more than anything I am not a member of the artistic establishment. It is my intention really just to try and show that the copy itself has worth in that it leads us to the original and in this way certifies its value. I believe this approach is not only valid in art. I was particularly pleased when a reader recently told me that he found in my work an invitation to self-inquiry – to a better understanding of the self. I would take the idea to its extreme and draw parallels between reproduction in art and reproduction in the human race. After all, it might be said: we are only the DNA replicas of our ancestors. The original is only a reproduction of the beauty of the girl in the picture. She is the real original.

Certified Copy (2010)
Film by Abbas Kiarostami

When reflecting on the depiction of art objects in Chris Marker, Ghislain Cloquet, and Alain Resnais' film *Statues Also Die* (1953) – a critique of the ways Western museums decontextualize and display African art objects – art historian Sophie Berrebi describes how the attributes of film – image, sound, and montage – act as revelatory devices, exposing the “other side” of an art object.²¹ The opening of the film juxtaposes images of stone sculptures with a male French voiceover describing the loss of their symbolic functions, equating it to death: “The society of statues is mortal/An object dies when the living glance trained upon it disappears.”

Berrebi's “other side” moves beyond the content of *Statues Also Die*, towards the act of filming an art object itself. The interdisciplinarity of film as a medium enables the art object to be frozen in time: one can watch the film repeatedly without the art object itself deteriorating, only the film itself has the capacity to degrade. The “other side” of an art object that film provides it with is stasis.

The museum practice of conservation can be equated with the “other side” a film gives an art object. Conservation can take on various modes, including preventative, creating an environment where an art object is not subject to the varying elements; restorative, actively changing the art object so that it appears closer to its original form; and replicative, creating a visually identical copy of the original art object that accurately resembles it.

Both the act of conserving an art object and filming it are attempts to halt its potential end.

These two forms of delaying the death of various objects such as art objects, ethnographic, archaeological, utilitarian, and specimen, and human's general necessity to conserve, are explored through a multi-layered art work of mine, *Those That, at a Distance, Resemble Ivory*, which culminates in the production of a replica ceramic elephant tusk, a film that chronicles the process of an art object coming into being, and this text.

The elephant is a long-living, seemingly immortal fragile being, tightly linked to art objects through the use of its ivory tusks. The animal is charged with the human and genealogical necessity to conserve both through ecological and museological conservation.

The ceramic tusk and film provide the source and starting point for this text, which constitutes a part of *Those That, at a Distance, Resemble Ivory*. The text does not give resolutions, instead, it registers the performance of a process – with a pluralistic understanding of the subject – through

²¹ Sophie Berrebi, *The Shape of Evidence*, (Valiz, 2014), 87.

suggestions and varieties of knowledge systems. The writing is often fragmented, similar to an “un-reconstructed fragment” of an object, both “activating myriad connections between what is and what was.”²²

The process of making the ceramic tusk replica begins with me photographing an elephant ivory tusk at the Natural History Museum, London, producing a 3D rendering, and printing a 3D plaster model. From the model I build a plaster mold, finally producing a ceramic slip cast.

Next, I insert a jarina seed, a “sustainable substitute” for ivory nicknamed “vegetable ivory,” into the hollow of the ceramic tusk.²³ The ceramic tusk is then thrown against trees and “delivered up to the Inclemencies of Sun and Winters”²⁴ so that it deteriorates significantly before various conservation methods are performed on it to study, clean, and restore the object.

The ceramic tusk replica is then donated back to the Natural History Museum - not for exhibition, but only to be stored in their archive, labelled *Ivory Tusk*, indexed, and given a collection number. The public is encouraged to request to view the object, which consequently grants them access to the museum’s archive or storage space.

In the prologue I touched upon the relationship between a conservator and the artist whose object they are conserving. I called this process a form of embodiment, referring specifically to the conservator’s act of making replicas and writing technical reports. For this project I am flipping the embodiment process around – just as the jarina seed and ceramic tusk mimic the elephant ivory tusk, I am imitating the conservator.

The entire process of creating the ceramic tusk is filmed with my hands in the film frame, undergoing each stage. I embody the conservator, re-enacting their gestures, while framing and directing each shot, gesturing to the camera operator and sound recordist, by clapping my hands so that the image and sound are in sync.

In *Expression of Hands* (1997) filmmaker Harun Farocki studies the close-up of hands in cinema. He exposes the fact that hands betray an emotion that the face tries to dissimulate and shows that hands can function as a conduit or a witness to a form of competence.²⁵ He argues that a hand has the “potential to be a stage,” a demonstrative platform.²⁶

During my research with multiple conservators from Brazil, the US and the UK, I noticed that the majority were women and that a number of them had their fingernails painted a shade of

²² David Lowenthal, “Preservation and Its Alternatives,” *Perspecta*, Vol.25 (1989): 72.

²³ Espinoza, Edgard O. and Mann, Mary-Jacque “Identification Guide for Ivory and Ivory Substitutes,” *In Co-operation with CITES*, (1999).

²⁴ Borges’ fictional writer, Suarez Miranda, suggests that today, the Empire has disappeared and become “Deserts of the West” but that its representation, in the form of a 1:1 scale map, although in “Tattered Ruins”, exists, “still today.” Although the Empire has not been conserved, its replica in the form of a map has, and in turn, the making of the replica serves as form of conservation. Jorge Luis Borges, *On Exactitude in Science*, “Collected Fictions” (Penguin Books, 1658) 325.

²⁵ Description of Harun Farocki, *Expression of Hands* (1997), <http://www.harunfarocki.de/films/1990s/1997/the-expression-of-hands.html>.

²⁶ Quote from voiceover in Harun Farocki, *Expression of Hands* (1997).

pink. Pink and purple are reoccurring colours in this text. As a way to get into character, replica nails are layered on top of my own brittle, short, pale nails, and varnished a shade of pink, becoming an extension of my working hand – a “technological prosthesis that is also a part of [my] body” that prevents me from using my fingers as I would normally, and teaches me how to use them as the female conservators would.²⁷

If a conservator were to make a replica of a raw elephant ivory tusk, they would not make it in ceramic. Thus, there is an element of absurdity to *Those That, at a Distance, Resemble Ivory*. The aim of a replica or facsimile is to have a new object that is as close to the original as possible; it would be visually identical but not made of the same material or have the same weight. (A reproduction on the other hand is made of the same material and weighs the same.)²⁸

My interest in creating a ceramic tusk has to do with durability and value – both materials (ceramic and ivory) have the ability to survive through generations and millennia. When ivory is buried it does not decay, it fossilises. Although fossilised ivory is normally found as “preserved remains” due to being frozen in glaciers, on occasion it is found as “molds and casts,” which echo the process of building the plaster mold and producing the ceramic slip cast. The ivory impregnates itself in the sediment surrounding it, dissolving to leave behind an impression of itself, which then fills with other sediment, forming a cast.²⁹

Working closely along every stage of the project, each chapter allows for the unraveling and questioning of the project itself and of what Alain Resnais calls in a segment from his film, *Toute la Mémoire du Monde* (1956) – which shows conservators working at the Bibliothèque Nationale de France – the “slow battle against death.”³⁰

²⁷ Kerry Doran, “Nail Art: From lipstick traces to digital polish,” Rhizome, last modified October 8, 2014, <http://rhizome.org/editorial/2014/oct/8/lipstick-traces-digital-polish/>.

²⁸ Mike Nielson, Facsimile Technician at British museum, conversation with author, January 2018.

²⁹ Monica Wachman, “What is a Preserved-Remains Fossil And How Are They Formed,” last modified April 24 2017, <https://sciencing.com/preservedremains-fossil-formed-5799785.html>.

³⁰ Quote from voiceover in Alain Resnais, *Toute la mémoire du monde* (1956).

CHAPTER I

An ivory tusk is carved from the skull and closed mouth of an elephant



Elephant at Münster Zoo, 2017

This soft eye is that of a forty year old one-tusked male Asian elephant at Münster Zoo, Germany in 2017. He was born in Ramat Gan Zoo (now Safari Park) in Tel Aviv, Israel before being transported to Germany.

Similar to the historical development of museums, menageries and private collections existed long before the opening of the institutionalised, public exhibition space of zoos. They also share history in that they were initially created by the wealthy as a way to show their power, then subsequently transformed into public spaces for the interest of public education. Animals, similar to museum objects, were collected from expeditions to Africa and the Americas.³¹

In 1954, the first episode of the documentary series, *Zoo Quest* (1954 – 1963) was broadcast on the BBC Television Service. This series illustrated clearly the collection of animals by British men in safari suits, and their journey from countries such as Guiana to the London Zoo (now Zoological Society London, or ZSL) where they changed into jackets and ties. For the first time, the public saw where the animals, who they visited on Sunday family outings, were coming from. It was also the first time that much-loved renowned naturalist, Sir David Attenborough appeared on screen, armed with a camera and a cage.

It was Attenborough who came up with the idea for the series, “The BBC and the London Zoo should mount a joint animal-collecting expedition. I would direct film sequences showing Jack [Lester] searching for and finally capturing a creature of particular interest. The sequence would end with a close-up of the animal in his hands. The picture would then dissolve into a similar shot of the same creature, but this time live in the studio.”³²

A clear change in Western approaches to conservation can be seen by tracking Attenborough’s documentaries up to today. Now, Attenborough sets off with a camera and a crew to bring their appropriated images of animals and wildness into people’s homes. Attenborough and his team are successful in bringing sensorial, magnificent, entertaining experiences to viewers sitting on their sofas on a Sunday evening.

Whether the series is a form of passive consumption³³ or not is an ongoing debate, but I am generally an advocate for the programme, and a fan of David Attenborough who has actively inspired children and adults to care for their shared environment. However, I am critical of various elements of the documentaries, in particular the use of music rather than noises, however silent, of or from the animals themselves, and, more importantly, the spectacle of the untouched sublime wilderness that is created through the human-free imagery as if humans were separate from nature. For instance, a number of the sequences are filmed in human-made national parks but a fence is never seen or discussed.

In my experience of filming animals, I have encountered what I call a *mutual interruption*. For instance, when filming *Y´Berá – Aguas de Luz* (2016) in the wetlands of Northern Argentina, I could get as close to smelling the hair of a capybara without a flinch, but when wanting to

³¹ The first zoological park, Tiergarten Schönbrunn in Vienna opened to the public in 1765. At the time, the Roman emperor Joseph II organized expeditions to Africa and the Americas to capture specimens for the display. (? - Zoo: A History of Zoological Gardens)

³² David Attenborough, *The Adventures of a Young Naturalist: The Zoo Quest Expeditions* (Lutterworth Press, 1980), 9.

³³ Jonathan Burt, *Animals in Film* (Reaktion Books, 2004), 48.

capture film of the animal quietly bathing in a puddle – as soon as I switched on my fairly noisy Bolex 16mm camera – she would look around confusedly or immediately scuttle away. There was something about this reaction that incurred a sense of intimacy with the creature - I was interrupting her just as she was interrupting me.

Educational filmmakers Mary Field and Percy Smith spoke of similar moments in their book *Secrets of Nature* (1939), relating specifically to the use of artificial light when filming in ZSL: “you might think that the battery of lights, from which human film actors always declare they wince, might prove upsetting to the animals in the Zoo; but, on the contrary, I believe that the visits of our unit with its lamps mark high spots of enjoyment in the lives of the Zoo inmates. Under the lamps the hornbill hopped ecstatically up and down his perch and, to the joy of his keeper, and incidentally of ourselves, opened his wings wide with happiness – a very rare occurrence.” They continue to discuss various different animals and their reaction to, as they put it, “the artificial summer:” a cheetah who had not moved for four weeks opened his eyes and staggered to his feet in reaction to the crew and equipment; and a somersaulting monkey that clung onto his netting, toasting his tummy every time the lights were turned on to the frustration of the filmmakers whose aim it was to film the animal in action.³⁴

Among the many animals Field and Smith filmed at ZSL were elephants. In 2001, those elephants were moved to Whipsnade Wild Animal Park, Bedfordshire, England.³⁵ In a conversation with Head of Veterinary Services at ZSL, Nic Masters, he spoke of the filing down and shortening of broken tusks due to fear of infections, but also to prevent the animal harm to itself and other elephants, or to their environment.³⁶

In 2010 an African elephant at Birmingham Zoo in Alabama, arrived with a cracked tusk. This particular zoo would normally bind the tusk with a brass ring to stabilize it. In this instance Doctor Brian Pillay, director of University of Birmingham’s Materials Processing and Application Development Centre studied the forces exerted by tusks and designed a brace using composite fibre glass, a carbon fibre band, and resin.³⁷

In the wild, an elephant’s relationship with humans is tightly related to the value of their ivory tusk. One third of the tooth is embedded inside the elephant’s skull, therefore the tusk cannot be removed without the death of the elephant. Poachers use methods such as assault rifles, poisoning waterholes, and using poisoned spears or arrows.

Just like the elephants themselves being transported from their natural environment to zoos, elephant ivory has been exported from Africa and Asia since the fourteenth-century BCE. Throughout the colonisation of Africa, ivory was removed, often using slaves to carry the tusks,

³⁴ Mary Field, Percy Smith, *Secrets of Nature* (Scientific Book Club, 1939), 53 - 60.

³⁵ “It is argued that this action was provoked after zookeeper Jim Robson was killed by one of the elephants. Director of ZSL Michael Dixon said the move had been a long-term plan and was not connected to Mr Roberson’s death.” “Elephants leave London,” last modified November 1, 2001, http://news.bbc.co.uk/2/hi/uk_news/england/1631128.stm.

³⁶ Nic Masters, Head of Veterinary Services at ZSL conversation with author, November 2017

³⁷ Kathrine Shonsey, “UAB Engineers Develop New Method to Repair Elephant Tusk,” last modified November 17, 2015, <https://www.uab.edu/news/research/item/6748-uab-engineers-develop-new-method-to-repair-elephant-tusks>.

and carved into – used as expressions of exotic wealth. One-hundred thousand elephants, 20% of the population were killed for their ivory in Africa between 2010 and 2012. Historically, ivory has been used predominantly for carving high value works of art and for medicinal use but in the past three decades it has moved towards mass production of souvenirs and jewellery.

In 2014 the wholesale price of raw ivory reached US\$2,100 per kilo. In 2017, due to sustained global advocacy it fell to US\$730.³⁸ Although there has been a great fall in the value of ivory, elephants continue to be an endangered species.

Biologist Joyce Poole has recently been observing the increase in wild tusk-less African elephants due to poaching. Elephants born without tusks are more likely to survive and procreate. Although this is a form of un-natural selection, it can be seen as a natural effort from elephants themselves to create an equilibrium in their population.³⁹ The issue here is that although the elephant population is increasing, the tusk, which to them is an invaluable tool for living, is under threat.

There are various animal conservation-lead attempts to save tusked elephants and to prevent poaching by diminishing the value of ivory. One that has spread widely over social media is the dying of tusks pink. The procedure has not yet been attempted, but the elephant would need a sedative to apply the dye. There are many arguments against this preventative measure including from Poole who believes it is not a realistic solution. Very few arguments discuss other means of dying that avoid sedation. In conversation with director of conservation and pigment specialist at the Straus Conservation Centre, Harvard Art Museums, Narayan Khandekar, he noted that feeding elephants madder root, which stains animal bones and teeth red, would be both a humane way of “applying” the dye and would last throughout the elephants life, continuing to stain as the tusk continues to grow.

³⁸ “Dramatic Changes in China’s Ivory Trade Save the Elephants,” last modified March 29, 2017, <http://www.savetheelephants.org/about-ste/press-media/?detail=dramatic-changes-in-china-s-ivory-trade>.

³⁹ Meghan Bartles, “How an Elephant Loses its tusks,” last modified October 6, 2016, <http://nautil.us/issue/41/selection/how-an-elephant-loses-its-tusks>.

CHAPTER II

When attempting to trade the ivory tusk internationally, it is confiscated by customs



Benin Tusk in Storage Unit at Natural History Museum, London, 2017

In 1990 the Natural History Museum (NHM), London was contacted by customs about a collection of eighty-seven tusks they had confiscated from a marine context – the Benin shipwreck that went down in 1881 which had been traveling from West Africa to Liverpool, England. The Board of Trade Wreck Report for the Benin noted a crew of forty and a cargo of African “produce.”⁴⁰ In customs, the tusks were held in inflatable paddling pools filled with salt water to try and reach some equilibrium in salinity to stop the tusks from disintegrating. Pockmarks made by decades of marine invertebrates, organisms feeding and moving across the tusks and remanence of algae and other vegetation grew across the tusks. One of the tusks was carved into a West African war trumpet.

The tusks had been stored by customs and unable to enter into circulation because of the mutual treaty, Convention on International Trade in Endangered Species of Fauna and Flora (CITES,) which entered into force on 1 July 1975. The aim of CITES is to ensure that international trade of specimens does not threaten the survival of the species in the wild. It accords varying degrees of protection to more than thirty-five thousand species.

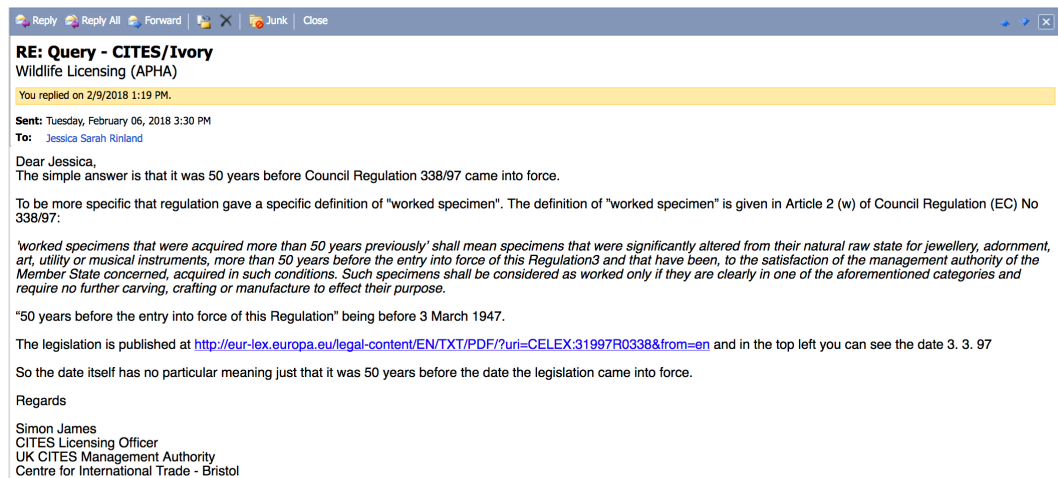
In 1997, Council Regulation 338/97 was passed, making illegal any “worked” ivory acquired later than 3 March 1947. Like the West African war trumpet, “worked specimens” specifies those that are significantly altered from their natural raw state, for example jewellery, adornment, art, utility or musical instruments. “Such specimens shall be considered as worked only if they are clearly in one of the aforementioned categories and require no further carving, crafting or manufacture to effect their purpose.”⁴¹

The worked, aged ivory is given superior value to that which remains in its raw state. Raw ivory and newly worked specimens are inferior.

It was a challenge to find out why the specific date of 3 March 1947 was the cut off point for “worked ivory.” In another conversation with Narayan, he speculated that the date may have had something to do with the human activities of nuclear weapons testing which affected the carbon-14 global levels and dramatically increased the level of carbon-14 in the atmosphere and changed the biology of the world. “It [carbon dating] is remarkably accurate for testing the age of materials made during this period of above ground nuclear tests.” Alas, the simple answer was given in an email correspondence with Simon James, from the CITES Licensing Offices, “it was 50 years before Council Regulation 338/97 came into force.”

⁴⁰ “Board of Trade Wreck Report for ‘Benin’ and ‘Duke of Buccleuch’ Board of Trade,” *The Merchant Shipping Acts*, (1845 - 1876).

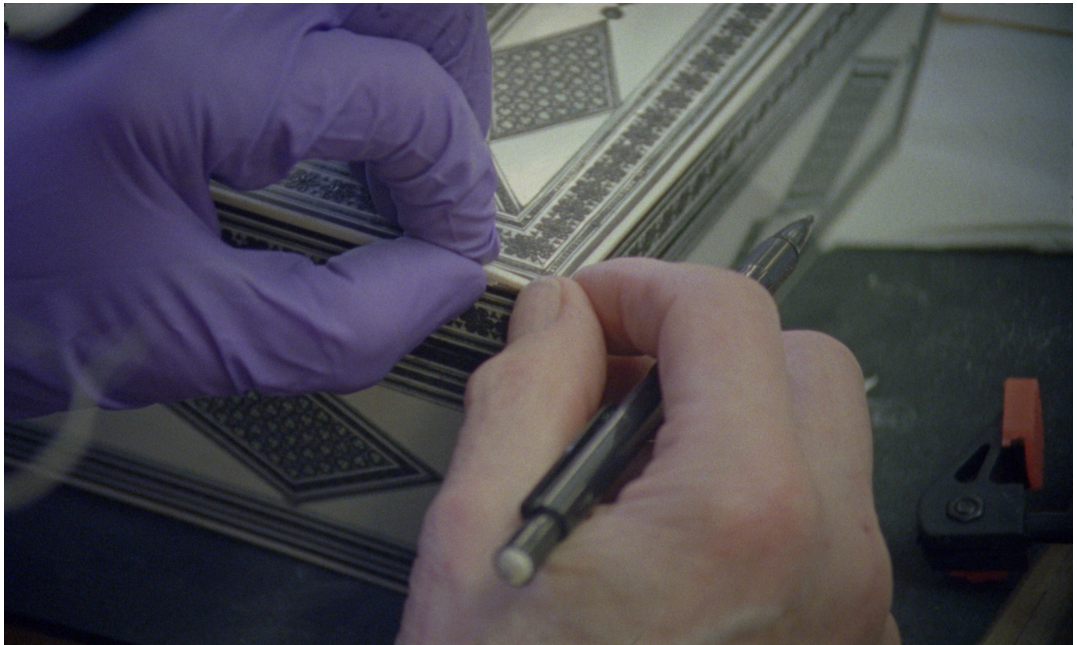
⁴¹ “Commission Notice,” *Guidance on Worked Specimens under EU Wildlife Trade Regulations*, Official Journal of the European Union (2017).



Email response from Simon James, CITES Licensing Officer to author, 2018

CHAPTER III

The ivory tusk is donated to the museum for restoring objects that contain ivory



Nigel Bamforth restoring an ivory jewellery box at Victoria and Albert Museum, 2018

Ivory spans across a diversity of art, ethnographic, and natural history museums as a highly valued material both in its raw and worked state. Its use for creating figurative art is argued to date back to 40,000 BP when mammoth tusks were used by the Aurignacian culture, the first *Homo sapiens* to arrive to Central and Western Europe during the Upper Palaeolithic.⁴²

Over the extended intervals of a two year period visiting furniture conservator Nigel Bamforth at the Victoria and Albert Museum (V&A), London, we discussed the material properties of ivory:

When looking at a cross section of ivory you can see its structure. The age can be determined by schreger lines – layers of ivory which show as rings. As the tusk develops the dentine fills up the anterior of the pulp cavity. The solid portion thus formed pushes forward and the pulp cavity decreases. As the elephant is maturing, the solid increases. Within the structure the lines cross hatch each other – although the growth lines are in rings there are also concentric lines that go in different angles. The tusk has three parts – the hollow part, the central part and the point. When tusks are removed from the elephant they have a covering like a bark, called rind. This is scraped off to reveal the full identity, the full glory of the ivory.⁴³

Reasons for the use of ivory as a material for carving, include its incredible durability, fine grain, creamy light colour, smooth texture, and soft lustre. Previous to the mechanical revolution, ivory carvers used tools such as an ax, adz, or chisel for removing the rind; a bucksaw or bow saw for cutting the trunk of the tusk into sections; a special tool called a float for preparing the surface; and hand chisels, fretsaws, and gauges for carving the piece.⁴⁴

The ivory that is used at the Victoria and Albert Museum (V&A) for restoring furniture was being donated by customs up until approximately twenty years ago. The primary reason for the halt in donation is that there is more than a sufficient amount of ivory in storage, as conservators tend to use it to fix small, minimal broken fragments of furniture and other artefacts.⁴⁵ Multiple museums including the British Museum, London and Peabody Essex, Massachusetts still hold ivory that was donated to them by customs for restoration purposes but decide not to use it for “ethical reasons.”⁴⁶

In my last visit to see V&A Furniture Conservator Nigel Bamforth, he simulated the process of using contemporary elephant ivory to restore a jewellery box with ivory inlays.

After exhaustive conversations between museum curator and I, a decision is made whether the losses should be replaced or the object left in its original state.

⁴² Leif Steguweit “Rotten ivory as raw material source in European Upper Palaeolithic” *Quaternary International*, Elsevier (January 13, 2015): 361, 616e218.

⁴³ Nigel Bamforth, Furniture Conservator at V&A, conversation with author, January 2018.

⁴⁴ “Ivory Carving” *Encyclopaedia Britannica*, accessed March 17, 2018, <https://www.britannica.com/art/ivory-carving>.

⁴⁵ Nigel Bamforth, conversation with author, January 2018.

⁴⁶ Mimi Leveque, Conservator at Peabody Essex, conversation with author, May 2017. Mike Nielson, Facsimile Technician at the British Museum, conversation with author, January 2018.

If the losses affect the overall look of the object the process for replacing would be as follows:

I would get a piece of ivory – either raw or carved. [The example Nigel showed me was of a “very poor east African carving although the ivory itself is of good quality.”]

The ivory is sliced first with a band saw. If the sliced piece is very thin, I glue it to some paper, then a piece of wood so that when I put it through the machine I have something to hold on to. With a little moisture the plate of ivory can be removed from the paper.

I trace the missing part of the object with tracing paper and draw the outline of the loss to replicate the original, and then I cut it out and glue it onto the piece of wood. Now I saw it using a jewellers saw with a very thin blade. I then sandpaper the edges with very fine sand paper to take off any knobbly bits or undulations. Then the piece is prepared for inlaying into the casket, fitting into the loss part. If it needs any trimming I would use the sandpaper again to file away the edges of the ivory. Depending on the object, the ivory is inserted back into the object with the same adhesive that was used originally – in this case hide glue, animal glue, most probably a cow glue. With Indian and other certain countries you have to be aware of religion – cows are sacred in India so we would not use a bovine but a rabbit or another animal glue. If the repair was necessarily reversible I would use Paraloid b72 – a transparent acrylic adhesive which takes 12 hours to dry and can be removed easily with acetone.

If the object is not being exhibited it would then go into storage with a stable environment that is air-conditioned.⁴⁷

Objects containing ivory have been donated to museums since their inception. “In 2006, almost 70 per cent of museums and galleries reported that the most common method of developing their collections over the preceding five years had been through donations and bequests; by 2010 that figure had fallen to 60 per cent, but it was still the case that most of them were passively receiving art and objects rather than actively or strategically acquiring them.”⁴⁸

Donations range from private collectors to other museums or institutions. Although historically, museum collecting has had a direct link to colonialism (the withdrawal of artefacts, art objects, human remains, and furniture from colonised countries including those in Africa and Asia, used for preserving, interpreting, and displaying items of artistic, cultural, or scientific significance for the education of the public), donation is a more nuanced, grey area.

The donation of contemporary ivory poached from African and Asian countries attempting to enter the UK, confiscated by customs because of CITES, and consequently donated to museums

⁴⁷ The customs ivory at the V&A is stored haphazardly. The pieces are piled on top of one another, easily accessible in Nigel’s Furniture Conservation studio inside a grey metallic cabinet.

⁴⁸ David Cannadine, *Why Collect? A Report on Museum Collecting Today* (Art Fund 2018), 33.

for the restoration of objects containing ivory is embedded in this grey area in a more complex way. When an object has significant importance, a cultural value, it has the potential of being repatriated or reclaimed by the original owner, whether or not it was collected or donated. In the case of raw ivory, it does not have this privilege of being fought for.

In regards to the safety of the endangered elephant, this contemporary ivory should not be entering into any form of economic circulation. The aim is for it be static – either through destruction or disuse.

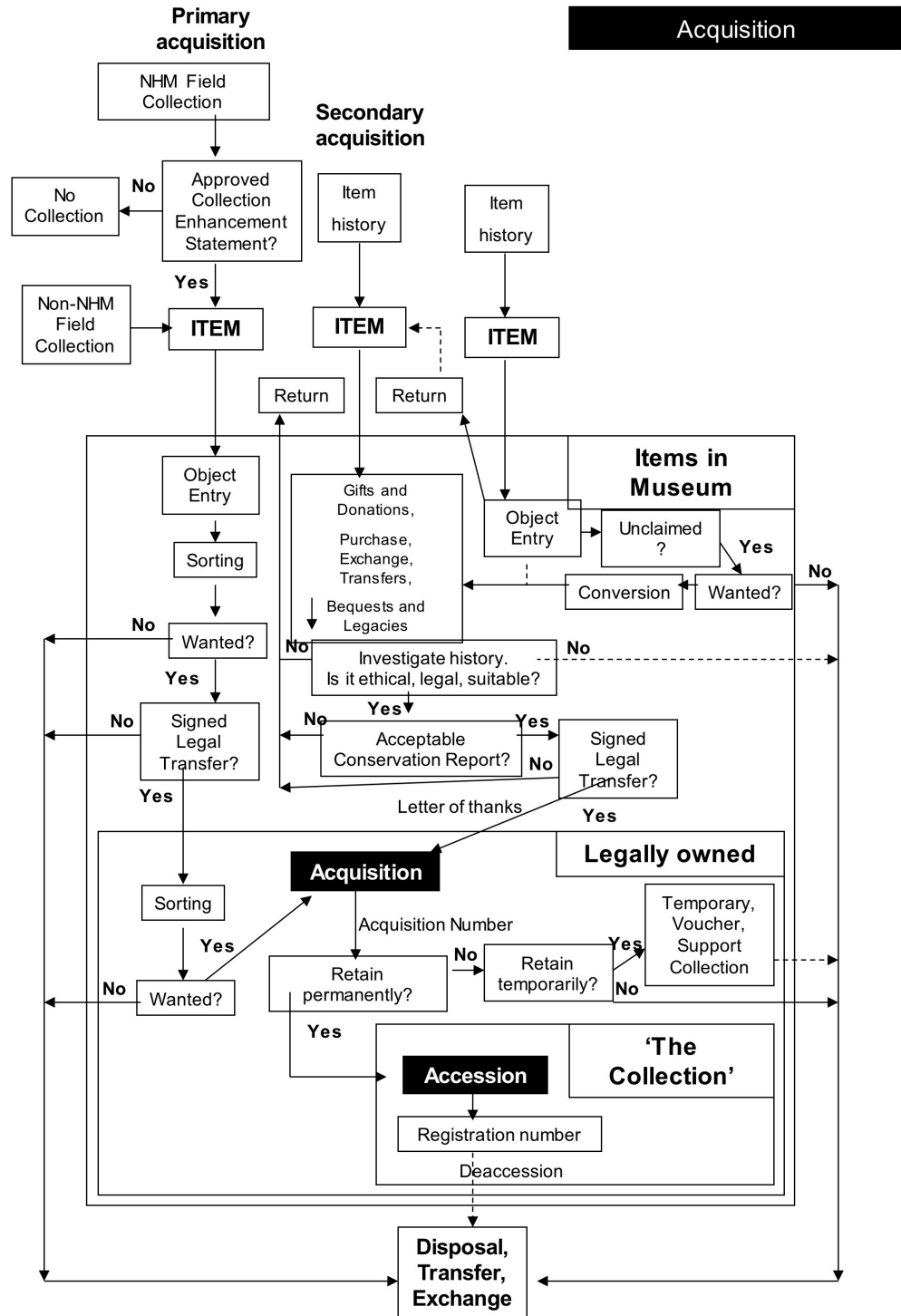
Arguments are made often about countries of origin not having the structure in place to look after their objects of cultural value, but as this raw contemporary ivory is not seen as being of cultural value, it does not fall into these discussions.⁴⁹

I do not necessarily agree with the destruction of this ivory to demonstrate lack of value, and I am neither against its material use in restoration, but perhaps it could be used to restore objects in its country of origin rather than, again being appropriated by the West.⁵⁰

There is an interesting paradox between the fragility of the elephant population and the longevity of its ivory tusk which is so durable that if left lying in a puddle under a Mopane tree for ten thousand years, it would eventually fossilise. If all human access to ivory is denied, a strong statement would be to create an elephant ivory-only land fill across locations in Africa and Asia where all raw confiscated ivory is brought back and left to become part of the ecosystem.

⁴⁹ Ongoing conflict between Greece and the UK with the Elgin Marbles which are currently housed at the British Museum. In response to this excuse the Greek government invested in building the Acropolis Museum specially to house the works. The discussion continues.

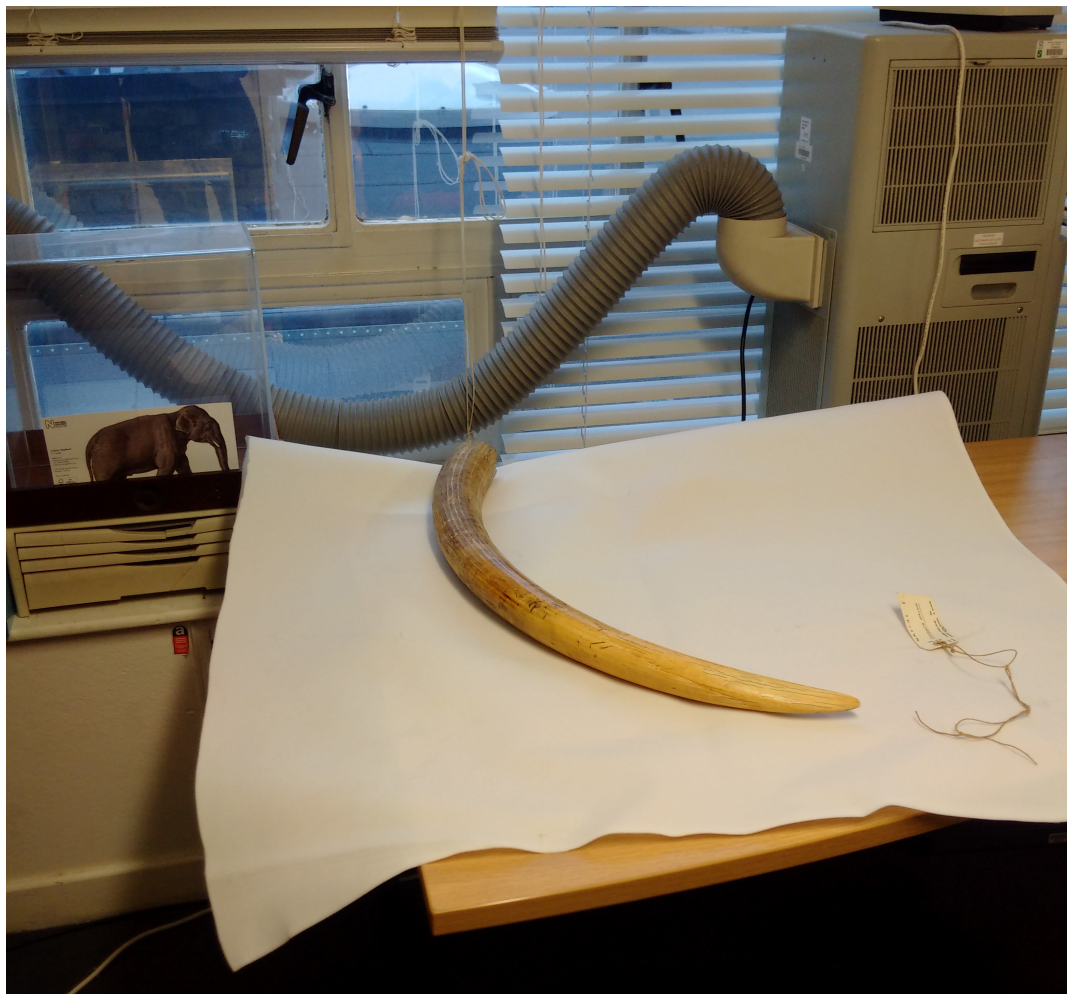
⁵⁰ In her extensive project *BREACH*, artist Courtney M. Leonard asks the crucial question whether “a culture can sustain itself when it no longer has access to the environment that fashions that culture.” She is specifically talking about indigenous communities, including her own, who are prevented from a “symbiotic relationship to their environment.” She cites communities in Africa who are denied access to elephant material, and her own coastal water community, The Shinnecock Nation who continue to struggle with access to material of whales. In response to this continuing violent suppression of her people she made *BREACH #2* – forty-nine ceramic teeth representing the lower jaw of one sperm whale piled on top of a pallet, echoing visuals seen across social media of the burning piles of ivory.



Acquisition process at NHM

CHAPTER IV

Before the ivory is cut and used for restoring another object at the museum, I photograph the raw tusk numerous times from multiple angles to create a 3D rendering



Photograph of 1900 ivory tusk in Richard Sabin's office at NHM, 2017

When beginning the process of replicating the elephant ivory tusk, I was granted special permission from the NHM to gather data from a single elephant tusk of a female elephant “encountered at the upper Shire River in Malawi, southeast Africa, donated from a Mr. A. Sharpe in July 1900” to the museum and currently housed in their storage collections on a dark green metal shelf, on a thin sheet of black plastazote foam next to a range of other items used for material identification work.⁵¹

I photographed more than one hundred and fifty sides of the tusk to capture details through a procedure called Photogrammetry.⁵² It was then accurately reproduced in 3D by using KeyShot, a rendering and animation software, and ZBrush, a digital sculpting tool to replicate the texture and colour.

At the NHM, electronic reproductions of specimens or their data are called Digital Surrogate Specimens. They include scans, photographs and any other electronic capturing. They serve the purpose of “reducing the need for repeated handling of the physical object, hence facilitating its preservation; reducing the need for sending the physical object out on research loan or public display; acting as a back-up in case of loss or damage of the original; allowing the museum to use digital specimen data for research purposes (allows us to share specimens and their associated data with the public and research colleagues through our Data Portal); and allows for the creation of 3D-printed replicas for research and exhibition purposes (plus retail, of course).”⁵³

Throughout her book *The Shape of Evidence* (2014), art historian Sophie Berrebi makes clear the distinction between museum digital reproductions for public consumption, and an artist’s reproduction of another art work. Her hierarchy makes me wonder what the practice of conservation would be like if carefully selected artists were *always* commissioned to be part of the collaborative team conserving objects, rather than it being solely a museum practice. Not just “documenting the art works,” which artist Man Ray declared as being “repugnant, beneath my dignity as an artist,”⁵⁴ but a more rounded, deeper engagement with the collections – a creative rather than passive conservation.⁵⁵

In a way, *Those That, at a Distance, Resemble Ivory* explores this question. Although I was not commissioned directly by the museum to conserve this work, the object, film, and writings are inadvertently adding to the museum’s data as Digital Surrogate Specimens.

This is not a radical idea I am proposing. It has already been thoroughly explored by artists including Oliver Laric who, as part of the 2012 Contemporary Art Society Annual Award, which partners museums with artists, made 3D scans of objects from The Collection & Usher Gallery in Lincoln, England, offering them as accessible STL files free online.⁵⁶ The term *experimental preservation* coined by artist, architect, and preservationist Jorge Otero-Pailos, perfectly encapsulates what I am proposing. His book by the same name, edited in collaboration Erik

⁵¹ Richard Sabin, Principal Curator of Mammals at Natural History Museum London, email correspondence between author, 14 March 2018.

⁵² Photogrammetry is the use of photography in surveying and mapping to measure distances between objects.

⁵³ Richard Sabin, email correspondence with author, 19 February 2018.

⁵⁴ David Campana, *A Handful of Dust from the Cosmic to the Domestic* (Le Bal/Mack, 2016), 7.

⁵⁵ Lowenthal, *Material Preservation and Its Alternatives*, 73.

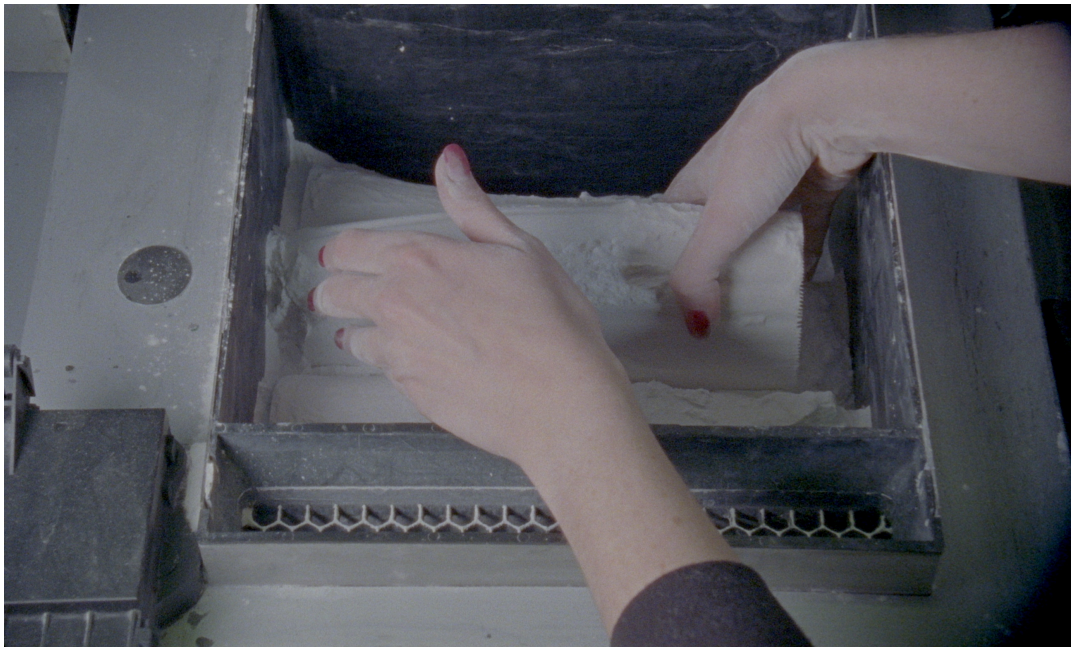
⁵⁶ Webpage for Oliver Laric, *Lincoln 3D Scans* (2013), <http://lincoln3dscans.co.uk/>.

Langdalen and Thordis Arrhenius, examines experimental engagements with the conservation of culturally charged objects, “rejecting the perception that preservation is the post-factum protection of culture. Instead exploring preservation as a new form of cultural production in itself.”⁵⁷

⁵⁷ Jorge Otero-Pailos, Erik Langdalen, Thordis Arrhenius, *Experimental Preservation* (Lars Müller Publishers, 2016), 9.

CHAPTER V

I print a 3D model using a bed of powder made of plaster, vinyl polymer, sulfate salt, and a liquid binding resin, which selectively deposits onto the powder creating the shape of the tusk which I then excavate



Excavating five piece tusk from a 3D ZCorp printer at MIT, 2018

My careful excavation of the five-part 3D printed tusk from a ZCorp printer began with vacuuming the surface layers of powder, a delicate hand lifting, brush strokes along the grain of the surface and interior, and finally blowing air softly away from the solid object to push away the remaining small particles of powder. The tools used and my slow hand motions were akin to an archaeologist's.

An archaeologist uncovering an Amazonian funerary urn is uncovering an artefact that is in its context, it is within its dirt as its maker intended it to be. The urn may have been under ground for two-thousand years, and even if it were deteriorating, it was decaying with intent, although most likely it would have reached an equilibrium within the soil.⁵⁸ The object is taken out of its earth by human hands. As it is exposed to the elements above ground, it enters a second life, one that ends in death. The artefact is now mortal.

There are two lives to a worked object: its transformation from raw material, a conception by the artist's or maker's hand, allowing it to breathe in; and its slow outward breath when it is exposed and entered into the museum. Conservation is there to disguise the perishability of an object, to conceal its mortality and at the same time to reveal its "other side," presenting different types of knowledge from it.

A film prop is made with the intention to appear on screen, taking its first breath on set. Once the film has been shot, the prop is discarded, or kept in storage for potential re-use in another film. After the filming of Cecil B DeMille's *The Ten Commandments* (1956) the prop-Sphinx was deliberately buried in an act of money-saving expediency under the dunes of the Southern California desert. In this case, when the object was buried and taken out of its intended environment, it exhaled. In Patrick Hough's film *And if in a Thousand Years* (2017), the prop-Sphinx is unearthed. As she appears on screen we hear her gasp for air. This is the inward breath of her re-appearing in her space and consequently being given a voice where she speaks her thoughts and concerns, her journey through life and questions about originality and authenticity: her "other side."

Another film which invites the cyclical breath of an object is *Who We Are* (2006) by artist Nicholas Galanin.⁵⁹ The fifteen minute looped film is made up of hundreds of single frame images of Pacific Northwest Coast Indigenous-made objects from museum collections worldwide. We are taken through a dizzying, inaccessible cycle, unable to register an object individually. Rather than revealing the "other side" of an individual object, Galanin is interested in context: revealing the "other side" of the museological practice, of collecting, disposition, and appropriation. In a way, he is inviting the objects to inhale once again.

⁵⁸ "Porous archaeological artifacts such as ceramics, stone, bone, and ivory often contain soluble salts. Ground water and seawater can carry these salts into the pores of the artefact during burial leaving them behind when the water evaporates. After excavation, these salts can crystallize at or just below the surface of the artefact, causing damage." *Soluble Salts and Deterioration of Archaeological Materials*, Conserve O Gram, National Park Service, 1998.

⁵⁹ *Who We Are* (2006), Available to view online: <https://www.youtube.com/watch?v=1F49l7S6FyM&t=40s>.

The human hand is primary to both the inward and outward breath of the object. Even if the fingerprint is not physically seen embedded in the object, or a hand is not visibly moving it in and out of the film's frame, the hand is always present. It is what guides the object to the surface.⁶⁰

⁶⁰ Yu Araki observes a sculpture student with pink painted fingernails from Athens School of Fine Arts making a mold of her own hand in his film *Penelope's Hand* (2010). When studying how to make molds students often use their own hands to learn the process. Both in my undergraduate and graduate art studio there was often multiple molds of a student's hand lying around.

CHAPTER VI

I form a plaster mold from the model and pour ceramic slip into it to make a ceramic tusk



Constructing plaster mold form 3D print positive of tusk, 2018

The technique of making a plaster mold was historically used to replicate sculptures in museums. A plaster mold permits an accurate negative impression to be taken from an object. Plaster is inexpensive and hardens quickly, precisely tracing the surface of an object, which is why it has been the dominant method for creating replicas in museums.

To create the negative mold of the tusk, we placed the 3D printed tusk model in a bed of clay surrounded by a wooden box.⁶¹ Due to its size being 109cm long, 10cm wide, and because of its texture and ridges, we made the mold in five parts. The first part we outlined with clay and poured in 01 Potters Plaster dissolved in water, filling the fragment. Once dry the same was done for the four remaining parts until the entire surface of the 3D positive was covered.

A plaster mold can be filled with a variety of materials to make a replica positive cast, including clay slip, or plaster. Since the fifteenth century, plaster casts have formed part of private collections, museums, and academies, and have been integral to pedagogy – used by artists to study human anatomy. The soft white color of the plaster offers the right combination of highlight, halftone, and shadow resulting in studies featuring chiaroscuro, an effect produced by sharp contrasts between light and shadow.⁶² These plaster replicas were also, and still are, used to fill in gaps in museum collections, or for placing in vitrines when items are on loan⁶³ - “replicas could be configured so as to provide a full impression of the culture of any era or the relationships between styles separated by oceans and centuries.”⁶⁴

⁶¹ For creating the mold and cast I worked under the wing of Colombian-American sculptor Joel Seidner.

⁶² Andrea Felice, “Making Plaster Casts”, accessed March 17, 2018, <https://www.sightsize.com/articles/making-plaster-casts/>.

⁶³ Mike Nielson, Facsimile Technician at British Museum, mostly makes replicas as ‘stand ins’ for pieces that have gone on loan. A large quantity of objects on exhibition at the British Museum were made by him and his predecessors.

⁶⁴ Alexander Provan, “Unknown Makers” *Art in America*, issue October 2016.



Cleaning plaster mold of tusk, 2018

In the nineteenth century, plaster casts were no longer given artistic value and became associated with death (white ghosts), “deemed morally and aesthetically suspect, flushing them out of major museums into storage and oblivion.”⁶⁵ Author Marcel Proust did not share this opposition to casts: “the copy is perfect and unalterable, the original is the victim of time and reality.”⁶⁶ Architectural theorist and historian Mari Lending describes a scene from Proust’s *Remembrance of Things Past* (1908) that highlights the importance of the architectural replica “over time, the original work is constantly being degraded, while the perfectly preserved copy in the museum belongs forever to the imagination.”⁶⁷ The material of plaster seems to be a contradiction to the idea of surviving into posterity. Only in a protected environment such as a museum could a plaster object survive; if it were to be treated like its original, left out in the elements, it would be almost instantly destroyed.

Although the replica mimics the original, it is an object in its own right, whether brought to life by a technician or an artist, it inhales when it comes to be. The intent of a replica is to be exhibited within the museum walls, therefore it has the potential to never exhale – unless it is taken into storage.

By choosing to fill the plaster mold with a more costly, durable material such as ceramic – with the process of slip casting – my replica has the potential to live as long as the original raw ivory tusk, whether inside or outside the museum. Conservationists across Africa have been burning ivory to demonstrate its lack of value, whereas in the Middle Ages fossilised mastodon ivory was deliberately heated above 600°C to turn it a turquoise-blue, called odontolite used to decorate reliquary objects.⁶⁸ On the other hand, for the ceramic tusk to begin its life, it requires firing.

Slip casting allows for the precise manufacturing of multiple ceramic objects. Its invention came approximately two thousand years ago in ancient Peru where it was applied to the precision manufacturing of panpipes. The practice began in Europe, in France and the UK, between 1730 and 1750, a century before photography.⁶⁹

We poured White Wear ceramic slip, clay suspended in water, into the absorbent plaster mold through a pour spout built at the widest end of the tusk, the part which would be connected to the elephant’s mouth. Water drew by capillary action out of the slip into the pores of the plaster mold forming a shell of hardened clay on the inner surface of the mold.⁷⁰ After forty minutes, when the shell of clay reached a thickness of approximately 6mm, we poured the remaining slip out, and left the shell to dry enough to shrink and pull away from the mold. This process was the most challenging. Due to the length and curved shape of the mold, during the pouring out of the excess slip, the last fifteen centimeters of the tip of the tusk collapsed due to compressed air. We

⁶⁵ Mari Lending, “Proust and Plaster” *Architectural Association School of Architecture*, AA Files, No. 67 (2013): 46-48.

⁶⁶ Lending, “Proust and Plaster,” 46-48.

⁶⁷ “Our age is infected with a mania for showing things in the environment that properly belongs to them, thereby suppressing the essential thing, the act of the mind which isolated them from that environment.” Quoting Marcel Proust, *Remembrance of Things Past* in Lending, “Proust and Plaster,” 46-48.

⁶⁸ Ina Reiche, et al, “From Mastodon Ivory to Gemstone: The Origin of Turquoise Color in Odontolite,” *American Mineralogist*, Volume 86, (2001): 1519-1527.

⁶⁹ Lawrence E. Dawson, “Slip Casting: A Ceramic Technique Invented in Ancient Peru” *Ñawpa Pacha: Journal of Andean Archaeology*, No. 2 (1964): 107-111.

⁷⁰ Dawson, “Slip Casting,” 107.

went through five attempts trying strategies such as pumping air into the mold during the pouring out, and turning the mold upside down when drying (neither worked). Finally, we pierced a hole where it was flattening, near the tip of the mold through the hardened edges of the slip, to let air in while pouring the slip out. When the excess liquid slip trickled out, the tusk inhaled through its new hole – an extended gasp for air that allowed it to stay whole.



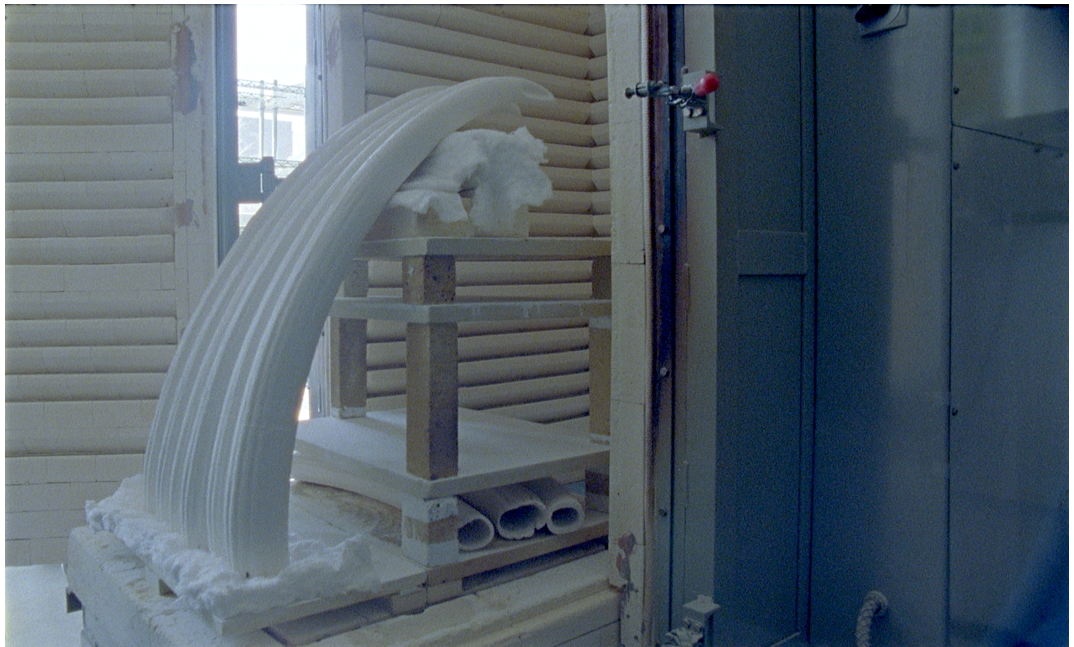
Mixing slip, 2018



Removing ceramic slip cast of tusk from plaster mold, 2018

We then separated the five-part mold to reveal the ceramic cast and fired it at cone 06, 998°C. The slip, which is grey, turned a bright chalky white after firing. Although White Wear has minimal shrinkage rate after firing, other slips can reduce in size up to 12% after being in the kiln. This is similar to what happens when animal bones are stored in varying temperatures - they go through “dimensional change,” either swelling or shrinking.⁷¹ Once fired, the ceramic tusk reduced to the exact size of the ivory tusk at the NHM, from which it was modelled.

⁷¹ Richard Sabin conversation with author, January 2018



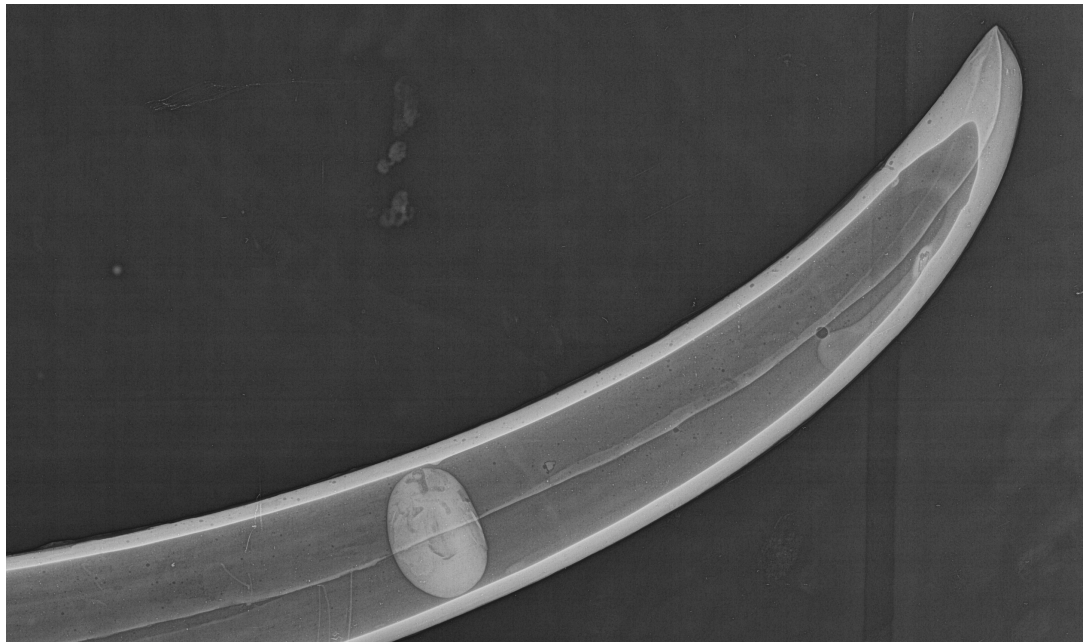
Removing ceramic tusks from kiln at Harvard Ceramics Studio, 2018

CHAPTER VII

*I insert a jarina seed, also known as vegetable ivory – the endosperm derived from a species in the genus *Phytelephas* used as a replacement for ivory and celluloid – into the hollow ceramic tusk*



Nigel Bamforth restoring ivory jewelry box at V&A with three Jarina Seeds gifted by author, 2018



X-ray of Jarina Seed in ceramic tusk taken by Angela Chang at Harvard Art Museums, 2018

Perhaps one of the oldest field tests for differentiating vegetable ivory from real ivory is the addition of sulfuric acid to the item to be examined. Sulfuric acid applied to vegetable ivory causes an irreversible pink colouring in about twelve minutes. Genuine ivory should not stain. CAUTION: Due to the irreversible nature of this test, only a minute dot of acid should be applied to the object in question.⁷²

Vegetable ivory, also known as jarina seed or tagua nut, is the endosperm of a seed from *Phyttelephas*, an Amazonian Palm tree. The seed has been studied as a sustainable substitute for ivory in contrast to its other alternative, celluloid.

The seed comes in varying sizes averaging at around five centimetres. This makes it a challenging task to replicate a raw elephant ivory tusk out of the seeds. They are used mostly for making jewelry and smaller objects. Jarina seeds could, therefore, be used for replacing small parts and breakages in furniture conservation at the V&A. When I last visited Nigel, I gifted him three jarina seeds, proposing him to use them for one of his next restorations. Of course, the use of this material as a substitute is dangerous - although it is sustainable in comparison with elephant ivory – there is always a fear that the material would be exploited and harm its place of origin through, for example, excessive farming. The same can be said of the manufacturing of celluloid.

The four materials - ivory, jarina seed, celluloid, and ceramic – are intrinsically linked in *Those That, at a Distance, Resemble Ivory*. The ivory tusk being replicated in ceramic with a jarina seed inserted inside of it, and 16mm celluloid film capturing images of the process.

In *Those That, at a Distance, Resemble Ivory*, neither vegetable ivory nor celluloid are seen as replacements for ivory. They are not linear progressions away from the use of ivory, rather alternatives – just as I see celluloid film as an alternative to digital, rather than a substitute. Examples of false linearity or progression can be found throughout human history, including in the “development” from hunter-gatherers to agriculture. The Parakanã indigenous tribe of the Amazon Basin were farmers. When they divided themselves into two large population blocs at the end of the nineteenth century, the population living westerly chose to oscillate back and forth between being farmers and hunter-gatherers. From the privileged position of most structuralist and evolutionary anthropologists, this is believed to be a regression and de-evolution.⁷³ This is a constructed notion of history and an unfortunate way of thinking about digital and celluloid filmmaking. I prefer to think about it in terms of choice – it is analogous to an artist selecting to work with oil paints rather than acrylics.

Film is a time-based medium. Whatever the format (whether celluloid or digital), it has the potential to stretch or compresses time. 16mm celluloid film has existed for more than a century, therefore, it pushes this notion further in being able to confuse an understanding of when the film was made. Without any context, if an ancient object were filmed and projected on 16mm celluloid film, the viewer would be unable to determine when, during the past century, the film

⁷² Edgard O. Espinoza and Mary-Jacque Mann *Identification Guide for Ivory and Ivory Substitutes*, In Co-operation with CITES (1999).

⁷³ Carlos Fausto, *Warfare and Shamanism in Amazonia* (Cambridge Latin American Studies, 2012), Chapter 2: *Images of Abandonment and Scarcity*.

was made. Digital technology is changing so rapidly with new formats every few years; therefore, if the object were to be filmed and projected on digital, the viewer would likely be able to immediately determine when the film was made and when in time the object existed. The concept of linear time is predominantly a Western principle – Australian Aborigines believe that the past is in front of them rather than behind them.⁷⁴

Not only can 16mm celluloid film confuse time, it also physically deteriorates. As the material, which includes gelatine (cow and pig fat or ground up bones), passes through a projector it accumulates scratches and dust, making the image and sound less clear each time it cycles through.⁷⁵ The object seen on film is deteriorating itself at its own speed and although a viewer experiences its “other side” through watching it at a particular stasis over and over again, the film material deteriorates, scratching as it passes through the projector and building an ecology in itself through microorganisms falling onto its surface, echoing the life of the object on screen.

⁷⁴ Nancy D. Munn, “Excluded Spaces: The Figure in the Australian Aboriginal Landscape,” *Critical Inquiry*, Vol.22, No.3 (Spring 1996): 446-467.

⁷⁵ “Gelatine is manufactured from animal skins, bones and cartilage. Different gelatins are manufactured from different compositions of animals, and each carries its own properties. In film or paper design, the properties of the gel are critical to the application so one cannot simply state that all film is made using cow bones for example. Pig bones, for example, lead to a gelatin that has greater adhesive properties vs. cow, steer or horse bones, so these gels are used for the gel-subbing applied directly onto bare acetate or Estar support in an extremely thin layer, and which photographic emulsions are then coated upon. Most photographic emulsions utilize gelatin that is manufactured using cow and steer bones, hides and cartilage.” Frederick Knauf, Industrial Films & Chemicals Division, Eastman Kodak Company, email correspondence with author, 27 March, 2018.

CHAPTER VIII

The ceramic tusk is kept in bad condition: I expose it to the elements throwing it against tree trunks and other plants



Conservator Tony Siegel breaking the ceramic tusk replica at HAM, 2018

Elephants use their tusks for defence, offense, digging, lifting objects, gathering food, and stripping bark to eat from trees.⁷⁶ The two tusks protect the sensitive trunk, which is tucked between them when the elephant charges. In a backwards motion, the trunk swings over the tusk, spreading dust over the body to protect it from insects and heat. In times of drought, the tusks are used to dig water holes in dry riverbeds using their tusks. This not only allows the elephants to survive in dry environments and during droughts, but also provides water for other animals.⁷⁷

Mike Neilson, Facsimile Technician at the British Museum, used to work as a taxidermist. He was commissioned to build tusks for the centrepiece at Ipswich Museum, UK - a mammoth. The left tusk had been split, missing its tip and with faint Russian lettering painted on one of its sides. It was being displayed within a case beside the mammoth model, too fragile to be added. The other tusk was missing. Mike modelled a right tusk from the original, with “mathematical prediction” and then the mirroring tusk – both out of fiberglass (much lighter than the original, which was “bloody heavy and awkward.”) To give it a similar “worn look” he dragged it through the snow in a nearby park to add a “patina.”⁷⁸ If Mike were to be exhibiting bones of a new specimen, such as a whale, he would bury them for a period of time, sending them through a process of skeletonization, the final stage of decomposition during which soft tissue decays and leaves only disarticulated bones.⁷⁹

“Destruction and Preservation are, in the most profound sense, bound up in a cyclical process.”⁸⁰ Conservators have expressed that it is much easier to learn about an object that has been significantly deteriorated than one in pristine condition. If it is broken or chipped they can more easily see the layers of materials and extract samples for testing without adding to the damage.⁸¹ I took the porous ceramic tusk in *Those That, at a Distance, Resemble Ivory* through various modes of manipulated, controlled deterioration, from simulating an elephant digging and removing bark from trees, to adding graphite and coal. The destruction was not sufficient for reconstruction work so conservator Tony Sigel at the Harvard Art Museums (HAM), uncomfortably took a hammer to the opening of the tusk, breaking off two fragments. He was hesitant and uneasy, repeatedly asking whether I was fine with the procedure as it was the reverse of what he was used to doing to an object.

⁷⁶ Ironic that people then pry the bark off the ivory to “reveal the ivory in full glory” quote by Nigel Bamforth, from Chapter III of this text.

⁷⁷ Jehskey Shoshani, “Elephant,” Britannica, last modified March 14, 2018, <https://www.britannica.com/animal/elephant-mammal>.

⁷⁸ Mike Nielson conservation with author, January 2018.

⁷⁹ In 1860 a bottlenose whale was killed by two pheasant hunters off the coast of Weston-Super-Mare, England. After being exhibited in an embalmed state it was buried for two years in a school yard then dug up and boiled, finally arriving at Grant Museum, University College London.

⁸⁰ Lowenthal, *Material Preservation and Its Alternatives*, 73.

⁸¹ Tony Siegel, Conservator at Harvard Art Museums, conversation with author, October, 2017.



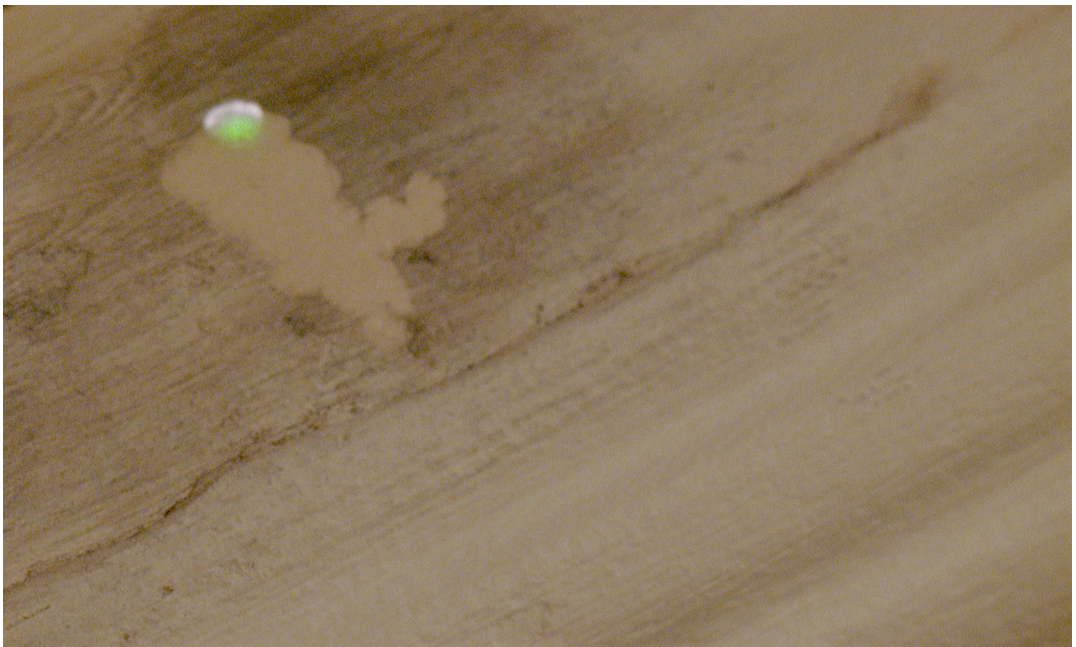
Fixing broken fragments at HAM, 2018

CHAPTER IX

I take the ceramic tusk through a process of technical analysis to determine its material component, history, whether it should be cleaned, and how it should be stored for increased longevity



Dust collected from Blue Whale Skeleton at NHM, 2017



Dirt being removed from the ceramic tusk with a laser at HAM, 2018

At the Museu Paraense Emílio Goeldi in Belem, Brazil they have a particular Amazonian ceramic funerary urn that was collected in the late nineteenth Century by naturalist Emilio Goeldi himself. He called it the “Crying Face” because the anthropomorphic character illustrated on the urn had two dots under the eye that appeared to be tear drops. The urn was in near perfect condition apart from being covered in a layer of dirt, and had never gone through any restoration. In 2013, the piece was chosen to travel and be exhibited at *Unknown Amazon: Culture in Nature in Ancient Brazil* at the British Museum.⁸² The conservators at the Museu Goeldi decided, after a hundred years, to clean the ceramic of its layers of dirt from the burial site. They left one three inch square at the back of the piece without cleaning, this, conservators call the “witness” - it shows its original condition when excavated. After cleaning took place, the archaeologists noticed that the eyes not only had two dots below them, they also had two dots above them, therefore Goeldi’s original observation that the anthropomorphic face was crying, was refuted.

20th Century critic John Ruskin advocated for the character a building accumulates during its life span (including its dust):

Its glory is in its Age, and in that deep sense of voicefulness, of stern watching, of mysterious sympathy, nay, even of approval or condemnation, which we feel in walls that have long been washed by the passing waves of humanity. It is in their lasting witness against men, in their quiet contrast with the transitional character of all things, in the strength which, through the lapse of seasons and times, and the decline and birth of dynasties, and the changing of the fact of the earth, and of the limits of the sea, maintains its sculptured shapeliness for a time insuperable, connects forgotten and following ages with each other, and half constitutes the identity, as it concentrates the sympathy of nations; it is in that golden stain of time, that we are to look for the real light, and colour, and preciousness of architecture; and it is not until a building has assumed this character, till it has been entrusted with the frame, and hallowed by the deeds of men, till its walls have been witness of suffering, and its pillars rise out of the shadows of death, that its existence, more lasting as it is than that of the natural objects of the world around it, can be gifted with even so much as these possess, of language and life.⁸³

The small cube of the witness, of layers of dirt and dust left by the conservator, invites the understanding of a particular history of the object – not only that it had lived underground, but what kind of earth it had lived in, for how long and through what environmental changes. What if the urn had not had not been exhibited and had been left without cleaning? The viewer would have never experienced its “other side” and the fictional story of the crying character would have remained.

⁸² Colin McEwan, Cristiana Barreto and Eduardo Neves, *Unknown Amazon: Culture in Nature in Ancient Brazil*, British Museum, 19 Jul 2013.

⁸³ John Ruskin, “The Lamp of Memory I” in *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, ed Nicholas Stanley Price, M. Kirby Tally Jr., Alessandra Melucco Vaccaro, (The Getty Conservation Institute Los Angeles, 1996), 42.

One of the most basic analyses a conservator undergoes to find out more about the object – whether it will be exhibited, stored, or restored – is to put the object under ultraviolet light. This shows the general conditions of the surface and provides initial information about damage and what restoration might be needed. Different materials show up as various colours including dust which shows up as a neon purple.

Natural historian Alfred Russel Wallace wrote *The Importance of Dust* (1899) where he highlights different scientific studies that have helped prove dust's importance, saying “few of the fairy tales of science are more marvellous than these recent discoveries as to the varied effects and important use of dust in the economy of nature.”⁸⁴ He also highlights the delicate balance of dust in our environment “the artificial production of dust [will] almost certainly produce some effect on our climate. It seems highly probable, therefore, that to increase the wealth of our capitalist-manufacturers we are allowing the climate of our whole country to be greatly deteriorated in a way which diminishes both its productiveness and its beauty, thus injuriously affecting the enjoyment and health of the whole population, when this fact is thoroughly realised we shall surely put a stop to such a reckless and wholly unnecessary production of injurious smoke and dust.”⁸⁵ He is speaking here from a position in the midst of the industrial revolution, anticipating climate change.

Filmmaker Georges Franju further explores the dust created by factory production in his film, *Les Poussières* (*Dust*, 1954,) which examines natural dust and that originated by man, and its effect on human health. One scene shows workers in a plate factory making traditional porcelain slip casts: “Once the plates are dry, a worker files the imperfections with a chisel, dispersing dust rich in silicon. The worker who files the most subtle imperfections is inimitable. They should feel perfectly proud that the silicone is there, detected in the X-Ray of their pulmonary alveoli.”

The second analysis undertaken by conservators is by X-Ray which reveals the inner structure of the object. In the case of the ceramic tusk, the jarina seed is seen hidden pressing against the interior ceramic walls, and a small hole is visible from where it took its first breath. “Dust shares a lot of qualities with air as well as breath – they each force us to rethink boundaries of individuality as well as space.”⁸⁶

⁸⁴ Alfred Wallace, *A Wonderful Century: Its Successes and Its Failures*, (Dodd Mead and Company, 1899), 70.

⁸⁵ Wallace, *A Wonderful Century*, 85.

⁸⁶ Jussi Parikka, *A Geology of Media* (University of Minnesota Press, 2015), 88.



Cleaning plaster mold of tusk, 2018

In *The Ethics of Dust* series (2008 – 2016), Jorge Otero-Pailos explores, akin to Ruskin, dust or pollution as part of the cultural history of an object or edifice. Rather than leaving the dust on the wall or object, he applies latex onto its surface attracting the particles. He then peels off the latex, leaving the object clean but also exhibiting the dust filled latex beside the object giving the dust agency and value, highlighting it as “our most important product as a modern civilisation.”⁸⁷

Artist Robert Filliou also forms part of the extended collaborative field of conservation and reverses the role of conservator to artist object in his work *Poussière de poussière* (*Not all dust is equal*, 1977) exhibited as part of a larger exhibition at Whitechapel Gallery, London – *A Handful of Dust* (2017), which through the motif of dust explored aerial reconnaissance, wartime destruction, natural disaster, domestic dirt, and forensics.⁸⁸ Fillou presents a simple cardboard box holding an image of himself cleaning a painting or a sculpture by artists such as Paul Klee, and a napkin filled with the dust residue from having cleaned the works of art. By doing this Filliou emphasises the gesture of the conservator (in this case, the artist’s performance as the conservator) over the fragility or perishability of the art object.

⁸⁷ ZONE Media interview with Jorge Otero- Pailos:
https://www.youtube.com/watch?time_continue=371&v=xLkTAJIqzTs.

⁸⁸ Information on exhibition: <http://www.whitechapelgallery.org/about/press/a-handful-of-dust/>.

32 Quincy Street, Cambridge, MA 02138
www.harvardartmuseums.org

Harvard
Art Museums

Fogg Museum
Busch-Reisinger Museum
Arthur M. Sackler Museum

Loan No.: TL41926
Received: 4 Apr 2018

Incoming Temporary Loan Receipt, On Deposit

The object described below has been received by the Harvard Art Museum as a loan subject to the conditions printed on the back of this receipt.

Lender: Jessica Sarah Rinland
21 Quincy Street
Somerville 02143

Purpose: Conservation/Technical Study

Via: Hand of Jessica Rinland

Received: 4 April 2018

Registrar: Francine Flynn

Loan: **TL41926**
Jessica Sarah Rinland
Tusk
Sculpture
ceramic
101.6 × 8.9 cm (40 × 3 1/2 in.)

Registrars's

Incoming Comments:

Registrar's Office TEL (617) 495-2379
FAX (617) 495-9936

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The Harvard Art Museums shall mean President and Fellows of Harvard College, a Massachusetts nonprofit educational corporation and its officers, agents, employees, affiliates, students, interns, and members of its governing boards and shall be referred to throughout the following conditions of loan as "the Museums." The Depositor understands and agrees that the Museums will not insure the Work(s) registered on this receipt and that the Museums accept no responsibility or liability for any loss or damage of any kind, regardless of cause, to the Work(s) while they are in the possession of the Museums or while in transit to or from the Museums. The Depositor agrees to indemnify, release, and hold harmless the Museums from and against any such claim for loss or damage. The Depositor understands that the indemnification and release contained in the preceding sentence may adversely affect his rights under insurance coverage on the Work(s), and agrees that if he wishes to maintain such coverage in force he will act to avoid any adverse effect.

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Printed 04/04/2018

LOAN-Incoming TL Receipt On Deposit

Incoming Temporary Loan Receipt, On Deposit: Attachment

Any information, advice, or opinion provided concerning the authorship, style, provenance, or other attribute of a Work(s) is given on the understanding that (a) the opinion requested is for the personal satisfaction of the Depositor, (b) no actions will be taken or decisions reached in reliance of the opinion, and (c) the opinion will not be used in any way, directly or indirectly, in conjunction with a commercial transaction or judicial or administrative proceedings.

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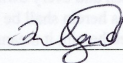
This loan is subject to the provisions of Chapter 200B, Disposition of Museum Property, of the General Laws of the Commonwealth of Massachusetts. A copy of these provisions is available at <http://www.malegislature.gov/Laws/GeneralLaws/PartI/TitleII/Chapter200B>.

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I HAVE READ THE CONDITIONS ABOVE AND ACCEPT THEM.

SIGNATURE OF DEPOSITOR



DATE

7 April 2018

Please sign and return this receipt to Collections Management, Harvard Art Museums, 32 Quincy Street, Cambridge, MA 02138.

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CHAPTER X

I donate the ceramic tusk to the museum



Detail of the ceramic tusk: breathing hole and mold ridge, 2018

In 1889 the director of the Metropolitan Museum of Art stated that “It [the museum] is intended as much for the humblest artisan as for the most refined lover of the fine arts.” But the museum was closed after work hours and on Sundays, which prevented working-class people from entering the museum. Today, most museums are open on weekends and occasional late nights but there is still an element of inaccessibility, for example through their grandiose esoteric architecture, their history,⁸⁹ and more directly through the lack of access to the majority of collections within the museum itself. What is exhibited at museums is only a minimal percentage of what in reality museums have in their archives or storage spaces. “Beethoven's quartets lie in the storerooms of the publishing house like potatoes in a cellar.”⁹⁰ Although there are exceptions, most museums only open these private spaces to allow for occasional public tours or specific researchers requests.⁹¹

The ceramic tusk replica, now imbued with history – including details of the original ivory tusk, 3D printer lines, five-part ridges from the plaster mould joins, its breathing hole, dirt marks and breakages cleaned and glued together with animal hide glue – is donated to the NHM in a dark green metal box lined with black plastazote foam, covered in a transparent conservation grade plastic bag, labelled *Ivory Tusk*. In what might seem like a radical move, I stipulate that it never be exhibited, and instead invite people to request viewing it within the storage space. They would not have to supply a reason for viewing – they would have immediate access to the ceramic replica, and to the original tusk that lives beside it, as well as everything in the storage space that surrounds them.

This is in fact a reason some museums would not accept the donation of the ceramic tusk – they would not want to take up valuable storage space for an item that would never be exhibited. I argue that this is a form of exhibition that encourages public display of storage space and items within these private spaces that have not had the privilege of being chosen, and that are kept under plastic bags, holding their breath indefinitely.

⁸⁹ “Museums, in fact, invariably have to draw on the private space that is presumably their opposite in order to renovate and thus ensure the validity of their collections. Most, if not all, state museums contain objects that had previously dwelled in private collections: if bourgeois domesticity has incorporated the museum, the museum itself is, in fact, continuously occupied in making the home public.” Jens Andermann, *The Optic State: Visuality and Power in Argentina and Brazil*, (University of Pittsburg Press, 2007), 14.

⁹⁰ Martin Heidegger, *The Origin of the Work of Art*, in “Basic Writings” (HarperCollins 1977), 145.

⁹¹ The concept of “open storage” has existed at the University of British Columbia Museum of Anthropology since 1976 where there is “transparency and access” to collections. Heather Hope Stephens, “Open Storage” *The Institute of Museum Ethics*, last modified September 5, 2009, <http://www.museumethics.org/2009/09/open-storage/>.



Department of Life Sciences

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06 February 2018

RE: Request to produce ceramic reproduction of NHM elephant tusk specimen NHMUK.1900.11.18.4

Dear Jessica,

With regard to your request to produce a ceramic reproduction of elephant tusk specimen NHMUK.1900.11.18.4, held in the Department of Life Sciences; the Natural History Museum (referred to as 'The Museum' in this document) gives you permission to create a ceramic tusk from the Data you have gathered from our specimen.

The Data is only to be used by you and must not be passed on to (or accessed by) any third parties without the prior written consent of The Museum; it must not be used for any commercial purpose without the prior written consent of The Museum; must not be published (in its entirety or in part) or otherwise released into the public domain (e.g. onto public websites) without the prior written consent of The Museum or altered without the prior written consent of The Museum and the Data must not be used in any way that is obscene, indecent, libellous or unlawful.

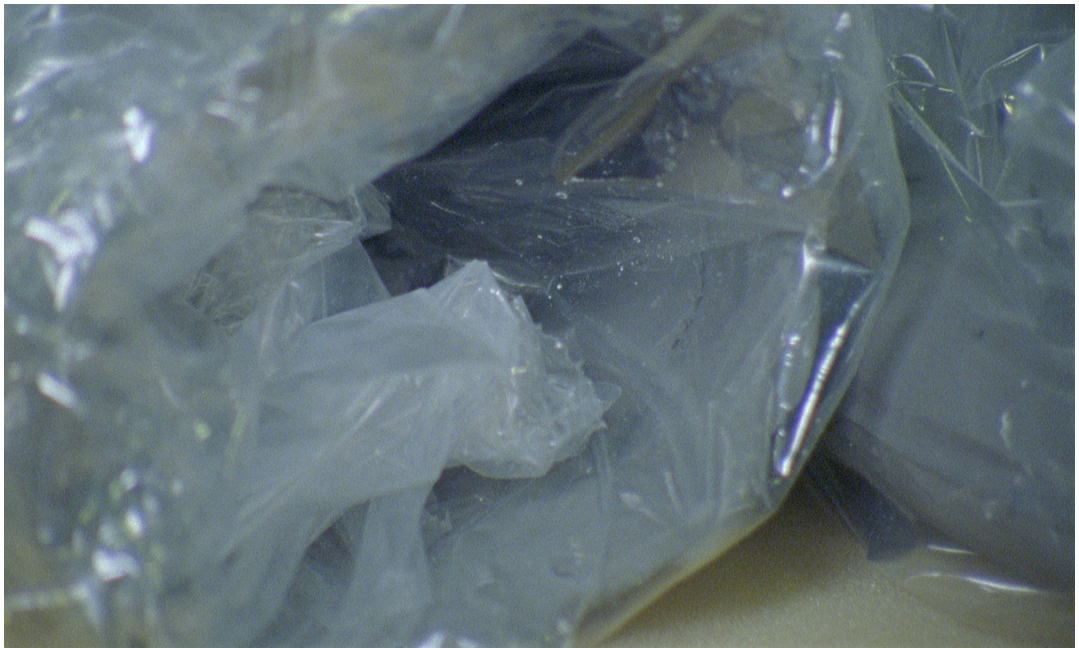
We are extremely grateful that you would like to donate the ceramic tusk to us at the close of your project.

Please do contact me directly if you have any queries relating to this matter.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'R. Sabin', written on a light-colored background.

Richard C. Sabin
Principal Curator, Mammals
Vertebrates Division
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Plastic-covered ceramic tusk before firing, 2018

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Blind Men Appraising an Elephant by Ohara Donshu (Brooklyn Museum, 1880-1850)