PROPERTIES AND SOCIAL IMAGINATION

EXPLORATIONS AND EXPERIMENTS WITH THE ETHNOGRAPHY COLLECTIONS IN THE DEPARTMENT OF ANTHROPOLOGY
PROPERTIES AND SOCIAL IMAGINATION

Edited by Adam Drazin, Haidy Geismar and Camilla Sundwall
Designed by Camilla Sundwall and Xiaoyue Yang

ADZE
Ludovic Coupaye
Molly Johansson
Sarah McFalls

BARKCLOTH
Emily Brennan
Haidy Geismar
Susanne Küchler
Penelope Laughton
Camilla Sundwall

SPEAR-THROWER
Adam Drazin
Yaoyao Jiang
Xiaoyue Yang
Siyu Zhu

With a contribution by
Katherine Curran
Special thanks to:

Kingsley Baird, Kura Puke, Stuart Foster, Matthijs Siljee, Jessica Payne, Julieanna Preston, and Georgiana Morison, our project partners in the School of Visual and Material Culture, Massey University, Aoteaora New Zealand.

Mark Nesbitt, curator the Economic Botany Collection at Kew, and Dr Wendy Kirk, curator at The Geology Collections at UCL.
CONTENTS

6  Introduction

11  ADZE HEAD
12  Introduction
14  Sensory experience and first encounter
20  A visit to the UCL geology collection: refocusing on the adze head
24  Making a miniature adze
28  Sound as relation
30  Sounds
31  Conclusion

33  BARKCLOTH
36  A piece of plain white barkcloth
38  Techniques
40  Mapping properties
42  Barkcloth and odour
44  Analysis of volatiles emitted from barkcloth
46  Barkcloth analysis
50  Portability
52  The Economic Botany Collection visit
56  Wearability
58  Making a barkcloth skirt
60  Folds and barkcloth

63  SPEAR-THROWER
64  Introduction
66  Method / research timeline
68  Look
72  Ask
76  Learn
80  Try
87  Conclusion
This book is the culmination of a research project called *Properties and Social Imagination* that started in September 2012 in the Material Culture section of UCL’s Department of Anthropology. The project has drawn together Masters and PhD students, staff, and a team of scholars and artists based in the College for Creative Arts at Massey University. Working within UCL’s Ethnography Collections we have explored the dynamic ways in which the formal qualities of cloth, stone and wood create new cultural sensibilities and new collaborative research practices. Our projects instantiates the dynamism of collections-based research and presents a number of visual projects inspired by these processes, demonstrating that collections are not static but continually in motion.

Housed within the Anthropology department, the Ethnography Collections is used as a teaching collection, but our understandings of what can be learnt from it have changed radically over the past few decades. The collection, comprising over 3000 artifacts, contains objects from every continent of the world, made out of every kind of material, and referencing many different cultural groups and practices. Originally part of the Henry Wellcome non-Medical collection, the collection was gifted to UCL in the early 1950s and has been periodically added to over the years through fieldwork. The collection was separated from its original catalogue and supporting documentation and arrived in UCL as essentially a series of orphaned objects. This was of less concern to anthropologists at that time, who were able to draw the collection extensively into their teaching, allowing students to handle objects as three-dimensional illustrations of the cultural groups, ethnographic data, and theories they were being taught at the time. For many decades the collection was used to exemplify ritual and artistic traditions, regional variation and specificity, and as a tool in the comparative analysis of cultural production. With the emergence in the 1990s of Material Culture Studies as a subfield within the department, the collection was increasingly recognized as a storehouse of materials – different forms with properties that themselves contributed to the cultural environments that had produced them.
We wanted to respect the unique qualities of each object in the collection, rather than subsuming their materiality to understand them as “typical” or “illustrations” of culture located elsewhere. We wanted to explore what we could learn from the objects themselves, starting first and foremost with their material properties. We chose three objects - a piece of unadorned barkcloth from Sulawesi, a greenstone adze from Papua New Guinea, and a carved wooden Aboriginal spear-thrower from Australia and breaking into small groups started to explore the objects, from their surfaces, both outwards and inwards.

Our starting questions were:

- What kinds of cultural information, context and knowledge may be found in the form of the object itself?
- What kinds of research methods can be developed from a focus on the material or physical properties of objects?
- What methods can we, as anthropologists, contribute to others (material scientists, artists, and so on) working with materials?

Working in groups we pulled apart our understanding of what the objects were, using the sensory experience of the objects and their physical forms as the starting point to engage with the cultural uses and practices that these objects inhabit. Alongside these investigations, our project partners in New Zealand worked remotely with these, and other, objects from the Ethnography Collections, making them the centerpiece of artistic explorations of form, physical encounter, and indeed loss. / HG
ADZE HEAD
This chapter chronicles the evolving relationship between a perceivably voiceless adze head and the researchers investigating its properties. We began as largely ignorant of adze and stone and then developed a physical and personal relationship to the object and its material. Over the course of this academic year we challenged our own notions and expectations of stone as a material and its properties. Like stone being transformed into a tool like the adze, our ideas of stone transformed. We used stone and the adze as a tool to discuss material expectations and how to exhibit and communicate properties in, for example, a museum setting.

Our relationship with the adze was formed through physical engagement and embodying knowledge and not by predominantly gathering knowledge in a “conventional” academic fashion. We therefore find it appropriate to try and reconstruct that path as opposed to present what is normally understood to be the “ethnographic” facts of the adze head.

The main question of the research was how one could relate to a perceivably voiceless object. This chapter follows our discoveries and starts where we started - with the sensory experience of the stone, letting the stone borrow our body and our voice. We moved onto exploring literature and museum collections, with a visit to the UCL geology collection. However, ultimately we returned to the body and sensory experiences and examined the stone’s properties through the process of making and the sounds of stone. / MJ & SM
Photos of adze head: Molly Johansson and Sarah McFalls
SENSORY EXPERIENCE AND FIRST ENCOUNTER

The adze head is ambiguous, looking at it one can easily mistake it for a simple stone, a paperweight. Similar to many museum objects it is only partly preserved, and has lost its original function. Its function was lost together with the adze handle; lost when its history was forgotten. Removal from original context and the conversion into a museum object plays a large part in the amnesia. In the beginning we perceived the “stone” as voiceless, so we decided to start the project by examining it sensorially.

As a group we silently examined the adze and wrote down words that described our experiences. After minutes of smelling, licking, visually examining, touching, and even listening to its sounds, or lack thereof, we then cross-referenced our singular experiences with each other. Our collective experience generated a cumulative description of the adze head’s physical properties. We then compared the chosen adze head with other adze heads from Papua New Guinea that were found in the same drawer.

This sensorial experimentation hinged on us disregarding assumptions we previously made about the object. Our experiment reflected how the properties of particular materials or objects could be products of expectations and assumptions. Just like the riddle of which material weighs more, a ton of feathers or a ton of lead. We disregard the weight specification because we expect feathers to always be lighter than lead, it is an expectation of the property of materials.
During this examination process we decided that there were three main “properties” bound to the stone, which we apprehended experientially. The first was its raw physicality. The stone is heavy in the middle and quite brittle at its edges. One edge has a predominant amount of directional scratches and is chipped. It is dark green in colour, veined with a lighter colour throughout. It is also shiny and smooth to touch. It is not a responsive object as neither our touch nor its environment had any effect on its evenly cold surface. The only reactive quality it possesses is sound. When in abrupt contact with another object, usually being struck by a person, lower pitched sounds are produced from the centre and higher sounds along the edges.

The second and third properties are all products of the first. We realized that the material qualities of the stone could be separated into two categories: nature and culture. The geological properties, colour and striation, have the ability to divulge where the stone is from and what happened to it over time. Other surface clues also suggest transformation by water later in its history. There had to be some kind of human agency to create its shape, either using water or by carving. /MJ & SM
Physical Properties

- cool
- hardness
- stability of state and shape
- non-elastic
- striations, veined, marbled
- colour - grey, green, beige, brown
- tasteless
- one material
- leaves no deposit
- dense
- opaque
- keeps traces / scratches / marks of events

Natural Manipulation

- smooth
- domed
- elongated
- chipped / damaged
- shiny
- one material
- portable
- both ends squared with rounded edges, one narrower than the other
- sounds when touched, tones differ depending on thickness
- seems to absorb or hold smell
- brittle edges

Human Manipulation

- smooth
- domed
- elongated
- chipped / damaged
- shiny
- one material
- portable
- both ends squared with rounded edges, one narrower than the other
- sounds when touched, tones differ depending on thickness
- seems to absorb or hold smell
- brittle edges
A VISIT TO THE UCL GEOLOGY COLLECTION: REFOCUSING ON THE ADZE HEAD

We understood the adze head from a sensory point of view, and the collection database had informed us that the adze was made from basalt and originated from Papua New Guinea. Based on that we began researching, resulting in a clearer picture of the possible methods of construction and use of the tool, for example in digging out tree trunks to build dugout canoes. We looked at adze and basalt objects in museum collections and produced sketches of how to mount a stone on a handle to make an adze.
The adze head was still a mystery to us so we made an appointment with the University College London’s Geology department to look at their collection as see if they could tell us more about our stone.

The walls were lined with glass cabinets filled with geological rarities, and strange and pretty stone, and we watched as the curator examined our stone. She remarked on its heaviness, and pointed out the chips in the stone, calling them conchoidal fractures, as they look like conches.
Curator Dr Wendy Kirk examining adze head and drawer full of Basalt samples. Photo: Sarah McFalls
Using a magnifying glass to examine the colouring and striations she stated that it was probably not basalt. Basalt usually does not have striations; if it has any colouring at all it is usually in the shape of dots. According to the curator that was because of the polishing of the adze head. After long examination she was, to our dismay, still unsure what type of rock it was.

The visit to the geology collection made us realise that compared to the Ethnography Collections, the attitude toward the study objects was radically different. It did not matter that we did not know what stone the adze is made out of or what geological properties comes with it. We had forgotten the most important thing; our adze was not a stone anymore. The stone had gone through a transformation and we needed to understand that process better. The adze head had a story to tell all we needed to do was listen.

Through research we had learnt that one way of acquiring adze stones in Papua New Guinea was through hunting and capturing it, like prey. Certain people would have the ability to see the stones fly or hear them under ground and would dig them up (Pétrequin 2006). In a way that was what we were trying to do. We were training ourselves to be able to look/listen/smell/taste/feel a material and understand its potential as an object, and to understand the transformative process materials go through in contact with people. /MJ & SM

Making a Miniature Adze

One of the transformations our sensorial experiment had highlighted was how rock is shaped into a tool. From the research we had done we could surmise that it was a time consuming and laborious process. After finding the stone one would have to grind the stone in water against a particular grindstone in order to achieve the optimal shape.

The natural properties are transformed and for the object in the Ethnography Collections transformation can be seen as a property. A polished rock is a testament to the human/material relationship, agency apparent in the sheen on the rock face. The scratches on the surface of our rock are the result of someone’s knowledge and implementation of that knowledge, of their awareness of the material. Therefore, to fully experience the properties of the object it is important to understand how to mould the materials and try to understand the embodied movements which go into its making. The next step in our acquaintance with the adze head was to make a miniature adze and our preliminary sketches based on library and collections research formed the base for our experimentation.

We found the rocks in a creek, one to shape and one to be the grindstone. Because of time restraints we had to pick a stone that had already been shaped relatively flat and smooth by the rushing water in the creek.
Making a miniature adze. Photo: Molly Johansson
Miniature adze. Photo: Molly Johansson
Over time we learnt the soft spots of the stone and how to optimise the use of the grindstone and sensitivity to the characteristics of the stone and the process was slowly taking form. Our knuckles were scraped from the grindstone and cuticles coloured by the stone dust.

After grinding it we had to find a suitable stick to fit the shaped stone on. The stick had to have the right angle to the branches it order for the adze to have maximum impact at contact. We searched the parks and found a suitable stick; we then used dental floss to tie the stone to the stick. Dental floss has a sticky surface and therefore grips very well and ensured our adze would hold under strain.

Time is vital to make an adze. The grinding noise is soothing, almost sedative and captivating. Our hands went around and around while our minds were occupied elsewhere, but the noise remained, like a soundtrack to our thoughts. The noise never stopped and it was ever-present. Remembering the experience it is the only feature of the process that we can fully remember. This voiceless object claimed a voice through the transformation from rock to tool. It claimed it through the work and the knowledge one gains while working with and on stone. Furthermore, the soundtrack of this transformation is also a part of the voice of the object and a property not to be forgotten. We did not expect sound to be such a strong property of the adze, but we felt it was important to highlight. We began collecting and documenting stone noises; the aim was to challenge the notion, the expectation of the stone to be quiet. The stone was not quiet in Papua New Guinea and neither was it with us in London. /MJ & SM
Over the course of the project we realised our interactions with the adze brought life to all types of stone, and subsequently also animated our surroundings. Sound and the lack thereof had been a reoccurring theme, and the properties by which we came to know the adze as more than an object. Sound defied our expectations and by doing so defined what the project meant for us.

In order to further our research on the aural properties of the adze’s material, we began collecting noises from various stone interactions. We used them to show the transformation a material and object can go through. As urban areas are to a large degree concrete and stone based, we engaged with the stones and became aware of the noises of the city in a much more acute way. Listen to a city street you no doubt will hear a plethora of stone and stone-like interactions, which has influenced our way of experiencing, and interacting with stone.

Our collection process was simple in that we tried to isolate the noises that go unnoticed in the hustle and bustle of city life. As we listened to them one by one, we came to an unexpected realisation. Although what we heard did not reveal the actual material interaction, it did enable us to sense movement. For instance, in “stone interacting with bare fingers” (link on page 30) we were able to hear the tonal shift produced while touching the adze. We challenged the assumptions and expectations about what sounds stones can make through our collection’s varied soundscape of the human-stone relation. This process exposed the complicated
human-object relationship and the fact that some properties, such as sounds, are the result of an interplay that would otherwise be silent.

As an application of the research, we challenged curatorial practice in displaying “voiceless” objects. We focused on the sound of a material, in this case stone as the focus of a museum exhibition and we presented our ideas to the Massey University and British Museum. The project aim was to display our thought and work process, as well as functioning as a thought experiment for the museum professionals. We wished to see the practice when engaging with “voiceless” object in collections, or even in everyday life to be more open to experimentation and interpretation. In the case of the museum display much of the focus was on the question of how one can display something non-ocular in a setting predominantly favouring an ocular interaction. /MJ & SM
 Youtube:
The Skipping Stones on a Frozen Lake Trick
- The unexpected noise of skipping stones on a frozen lake. The noise challenges us in our preconceived notions of what a stone can sound like. Did you know stones can sing like birds? http://www.youtube.com/watch?v=6cZ2dJEqVrE

Woodworking with a stone adze
- Several stone adzes working on a piece of fresh oak wood. The stone hitting the wood makes a deep thunking noise. So much is going on it is almost like an orchestra of adze and wood. This would be similar to the original soundscape of our adze head. http://www.youtube.com/watch?v=b3mA0v-smtY

Pinuccio Sciola - Pietre Sonore 6 Sound Stones
- A Sicilian artist who cuts vertical scores into blocks of stone and then plays them. Art is a perfect place to challenge and confront preconceived notions of properties. Stones can make beautiful sounds. http://www.youtube.com/watch?v=v7uq3q8f7zM

Our sounds:
The making of our miniature stone adze
- This is sound is from the making of our miniature adze. The stone is rubbed against the grindstone. First out of water and then they are both submerged. We focused to a large part of sound because of the experience of making an adze. The constant noise of the grinding and the shaping of stone is soothing, almost like the stone is taking over our body through its noise.

Stone interacting with a suitcase on wheels
- A suitcase being drawn back and forth over cobblestones. The suitcase is empty and the zipper is jingling. Stone is a large part of our modern landscape. However, it is easily forgotten. When was the last time you contemplated the stones in the city, the stone symphony of the urban landscape.

Stone interacting with bare fingers
- Bare fingers lightly touching the stone. We are all tuning forks, both people and stones and it is in interaction that we are made aware of each others sounds and what we sound like together. Be curious and explore what sounds you can make.

Stone interacting with jackhammer
- Living in the city we hear this noise a lot. It is a jackhammer working away at stone at a construction site in London. The noise of the rock is overshadowed by the fast mechanical rhythm.

Stone interacting with brick wall
- This is a pavement stone against a brick wall. The texture of the stone is audible, scraggily and dry. You can hear the circles being drawn.

Stone interacting with a foot
- This is the sound of the uneven pavement stone being tipped over and over again by a foot.

Find all our sounds on the Material World blog:
http://www.materialworldblog.com/2013/08/sounding-stones/
CONCLUSION

The project has given us the unique ability to connect with objects, both through their history and their properties. By engaging in a dialogue with the object we developed a sensitivity to material malleability over time and social context. Therefore, through our work process an embodied knowledge of transformation was formed.

The sounds we captured on tape or found on the Internet challenged our preconceived notion of what sounds stone makes. The way we saw and heard stone changed. Time gave us a relationship with a particular stone adze head, a relationship framed by properties, both physical and imagined. We expected the stone to remain silent, but we came to realise that stone is not as quiet as it seems, but that we had lost the ability to relate to it. The properties we discovered, through our investigation on one stone adze head, were the properties of a relationship with stone in general, as well as a relationship to the adze head. Sound for us during this work process has become that relation, both a manifestation of where our investigation started and where it took us. /MJ & SM
BARKCLOTH
In the printed version of this publication, we have included a sample of barkcloth similar to the one we worked with in the UCL Ethnography Collections.
In a simply textual narrative our object is a large tube of undyed barkcloth. Its label specifies that it was part of the Wellcome Collection and that it is from Sulawesi (now part of Indonesia). Since the collection was moved into the department’s Taviton street premises the cloth has been stored rolled up, wrapped in white tissue paper. Our first encounters with the barkcloth focused on its fibrous nature. We talked about the production of barkcloth, the pounding of the bark in order to enmesh the fibres into a dense form with an embossed texture that is visible to the human eye. We listed the properties we could see, and to a lesser extent feel, and these observations led us on a number of different research trajectories. Our understanding of the portability of the barkcloth, its status as a collected and archived object, led us to explore other collections and to visit the the Economic Botany Collection at the Royal Botanic Gardens, Kew. There we linked this understanding of the barkcloth as a travelling medium to two other strands of our enquiry – the nature of barkcloth production as a process that transforms through cultural and physical activity the bark of the paper mulberry tree into a durable, absorbent, luminous wrapping material; and the nature of barkcloth as a textile.
Our research into the process of barkcloth production led us to think about the sounds of making, and the processes of transformation that sound can effect. Our interest in the property of “wearability”, in barkcloth as clothing, led us to discover not only the original way in which a tube such as this would be worn as a skirt in Sulawesi but to explore the nature of other kinds of paper clothing from tyvek to the transience of hospital scrubs and the paper dress that emerged out of 1960s Carnaby Street. This corporeal and visual perspective was later supplemented by a visit to the UCL Centre for Sustainable Heritage, which has developed sophisticated techniques for examining the nature of old paper by analyzing the chemicals omitted from their surface (their smells) and we submitted our barkcloth for analysis in their laboratory. Findings were inconclusive but seemed to suggest that the material was inert in its present state. These findings led us to think about “absorption” as a property. In turn, the measurement of the olfactory qualities of barkcloth takes us back to its status as a collection item, embedded within scopic regimes of institutional control (and possible degradation), but also to the olfactory cultures within which barkcloth is intrinsically embedded. / HG
Barkcloth is made all around the tropics from a range of tree species. The beating of the cloth forms a distinct soundscape, anchoring technique in local landscapes. Once widespread its production is now in decline where it is often supplemented by commercial woven cloth. Tools vary whilst on observation the physical techniques used to produce the cloth appear to be comparable. Observation alone does not reveal local perceptions of technical efficacy which vary dramatically. In Central Sulawesi barkcloth was made by women, and the bark cooked, dusted with ashes and fermented prior to beating (Aragon 1990). On the third day of beating, ends were fused to make a tube shape (Ibid.), a process which is also unusual and helped to confirm the origins of our piece. / EB


Tool for pattern making.
Above: Map showing the distribution of the trees that are used in barkcloth production (Pole and Doyal 2004: 19)


Left: The final beating of a piece of barkcloth in the Tobaku region of Central Sulawesi (Aragon 1990: 39)

We started by mapping all the physical properties we experienced through examining our piece of barkcloth. This then led to the identification of five main over-arching properties we decided to focus on.
Portability was explored through the Economic Botany Collection in Kew, Wearability through other clothing expressions of paper and Tyvek, and Absorbability through barkcloth’s close link to odour. / CS
Anyone who has been to a store of ethnographic objects knows that artefacts have a distinct smell long after they have been collected. Wooden sculptures of Malanggan from an island west of New Guinea which allegedly came to replace a long standing barkcloth tradition on the island were famous even among neighbouring islands for their penetrating odour.

Odour, according to an early paper by the anthropologist Alfred Gell (1977:27), is defined by formlessness, indefinability, and lack of clear articulation, and yet it is seized upon by the collective imagination across cultures (Classen 1993). As something that is noted only as it escapes its container, odour is the vehicle of transition and boundary crossing par excellence and is thus, as David Howes argued, ‘ideally suited to expressing the notion of contagion or action at a distance.’ (1987:394) Ritual exploits this capacity of odour to unite momentarily the domains of the visible and the invisible to achieve its transfiguring effects in the phenomenal world, triggering associative thought and remembering long after the trace of odour has evaporated. Its dependence upon a perishable and permeable container renders odour a vehicle for mnemosyne, enabling the spontaneous recollection of that with which it is associated by affinity.

The supreme role played by olfaction in rituals of transition could lead us to assume that its amplification in the cultural imaginary and its strategic deployment in social processes would be a Maussian ‘total social phenomenon’, and yet this is not the case. There are societies among whom odour is not marked as significant and where olfaction is not ritually deployed. In a formidable example of comparative analysis, the Canadian anthropologist David Howes (1987) has examined the correlation of the presence or absence of the amplification of odour with other cultural variable to do with the practices and ideas surrounding the deposition of the body after death and the management of social memory and genealogical
connections. His comparative ethnographic study focused in on island Indonesia, where odour is particularly marked, and a region of island New Guinea known as the Massim, where odour and olfaction are considered insignificant. Howes found a surprising correlation, one that holds up in extended comparison, between the amplification of odour and the practice of separating the dead from the living by sending them ritually to an location far removed from the living, and the converse correlation of the lack of amplification of odour with the practice of co-presencing the dead within the realm of the living.

The interesting question we can pose in relation to barkcloth is whether it is associated with one or other practice of managing vital resources. As permeable and perishable shroud, travelling, as the French anthropologist Alain Babadzan has intimated in his work on ancient Tahiti, ‘in the reverse’, it is a feasible hypothesis that barkcloth is uniquely associated with societies that practice rituals of transition at ‘a distance.’ Indeed, eastern Polynesian barkcloth produced in the societies of ancient Tahiti and the Cook Islands are renowned for having perfumed their cloth. To this day, no comparative study has been conducted, using existing ethnographic data, on the triage of barkcloth, ritual and odour, testing Howes’s intriguing hypothesis of a correlation of a cultural sensitivity toward permeable materials and a cultural imaginary and practice that seeks to extend itself beyond the here and now. /SK

ANALYSIS OF VOLATILES EMITTED FROM BARKCLOTH

Katherine Curran, UCL Heritage Science Laboratory

Emissions of volatile organic compounds from barkcloth were analysed using solid-phase microextraction. This is an analytical sampling technique developed in the early 1990s that can be used to measure small quantities (sometimes as low as one molecule in a trillion) of volatiles in the air surrounding an object (Arthur & Pawliszyn, 1990). Volatiles are first absorbed onto a coated (‘solid-phase’) fibre, before injection into a chromatograph, in which they are desorbed from the fibre at high temperature. Using gas chromatography we then separate mixtures of volatiles into individual components and with mass spectrometry we identify individual components. Since in the course of analysis, no material samples are required or even destroyed, the described analytical technique is non-destructive.

In this work, a large piece of barkcloth was placed in a glass vessel that had previously been cleaned and heated overnight at 150 °C in an oven to remove any unwanted volatiles absorbed on the walls of the vessel. The chamber was then flushed with nitrogen for 30 min and sealed. The air inside the chamber was then sampled using a microextraction fibre over a period of 6 days at room temperature. The fibre was then desorbed in the chromatograph at 250 °C. Unfortunately, the only VOCs detected were also found to be present in the empty vessel. This would suggest that the barkcloth does not emit volatiles in significant quantities.

# BARKCLOTH ANALYSIS

<table>
<thead>
<tr>
<th>Retention Time</th>
<th>Compound</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.73</td>
<td>Toluene</td>
</tr>
<tr>
<td>21.30</td>
<td>Furfural</td>
</tr>
<tr>
<td>22.21</td>
<td>Heptanal</td>
</tr>
<tr>
<td>25.68</td>
<td>Octanal</td>
</tr>
<tr>
<td>26.29</td>
<td>Benzaldehyde</td>
</tr>
<tr>
<td>27.03</td>
<td>Undecane or other linear alkane C10-C13</td>
</tr>
<tr>
<td>27.27</td>
<td>1,4-dichlorobenzene</td>
</tr>
<tr>
<td>29.02</td>
<td>Nonanal</td>
</tr>
<tr>
<td>30.22</td>
<td>Linear alkane C11-C16</td>
</tr>
<tr>
<td>32.29</td>
<td>Decanal</td>
</tr>
<tr>
<td>36.95</td>
<td>Tetradecane</td>
</tr>
</tbody>
</table>
Diagrams of chemical structures of compounds analysed from barkcloth sample

Object number: z.0087

Toluene

Furfural

Heptanal

Octanal

Benzaldehyde

Undecane

1,4-dichlorobenzene

Nonanal

Decanal

Tetradecane
Lab analysis of barkcloth. The piece was left over a weekend in the glass chamber, with a magnetic rotator to circulate the air.

The substances found were matched with a database for identification.
A second test was made for verifications. The picture to the left shows the needle, made from an extremely porous material that absorbs the molecules emitted from the barkcloth. Our specific piece was too big for the chamber so instead we chose to test a similar type of bark cloth that had been painted, as we thought this would give some interesting results.
Barkcloth can be considered as both spatially and socially portable. Its movement was encouraged by the materials unusual properties which inspired western curiosity, and by its social exchange value local to where it was made, notably in areas of the Pacific for example. This resulted in movement and change, with objects gathering multiple stories and concepts as they travelled. Barkcloth’s portability has allowed it to move across the seas through multiple people and places, with material, people and place affecting each other in these interactions along the way.

Barkcloth never seems to have been taken up in the west whilst it has been collected extensively. In parallel to any local motivations the material was propelled outwards from its places of origin by collectors’ and scientists’ mobility, and their drive in commerciality and to construct knowledge through collection and categorisation. The cloth does not seem to have had suitable material properties to have enabled it to have been incorporated into western cloth culture where it remains observed as educational or curious rather than used in dress. Whilst it can seem fixed and static in display cases or in storage this is not necessarily the case.
Our visit to the Economic Botany Collection at the Royal Botanic Gardens, Kew revealed the ongoing portability of barkcloth in the objects’ new or changing materialities. Barkcloth in the collection had originated from an array of places, was collected by a range of people, and today is amalgamated, stored, conserved, visited and displayed at Kew. If not conserved and contextualised then barkcloth artefacts remain tied with string and historicised with original collector’s notes or museum labels. These interventions and engagements by those other than the people who made the material have changed them and evidence a stream of engagements with it which are ongoing and situate the objects in flux. Our work with the piece of barkcloth in the UCL Ethnography Collections can be considered as one such activating engagement. / EB
THE ECONOMIC BOTANY COLLECTION VISIT

As part of our explorative journey, Emily organised a visit to the Economic Botany Collection at the Royal Botanic Gardens, Kew, to study the different types of barkcloth in the collection. She had mapped out the locations from where the barkcloth originated, which showed a clear concentration around the equator. We started by looking at the ones from around Sulawesi, to see if they were similar or different to our piece of barkcloth, we then moved on to look at barkcloth from further away, starting with the Pacific, finally looking at examples from India and Africa. We also looked at some of the tools used to make the cloth, such as the beaters, as well as the raw bark itself and its different stages of transformation into cloth.

All photos: Camilla Sundwall
Caption details as stated on labels.

Tapa cloth from Sandwich Islands, Broussonetia papyrifera, Collected by H.R.H. the Duke of Edinburgh, 1874
We were amazed by the different types of cloth, and also by the similarities and the fact that the process of making seemed to be very similar even in areas very far apart. Some pieces were very refined, thin and delicate, almost like paper. They would have been thoroughly beaten and the fibres of the bark almost disintegrated, which created a very even and solid piece of cloth. These examples mostly seemed to have been made from the paper mulberry tree and were off-white in colour. Others were very rough, textured, with fibres clearly visible. Some even seemed to have been stripped straight off the tree and shaped into a piece of clothing, without any beating at all. At the edges it almost seemed like solid bark. These would be much more porous and thicker, the fibres were sometimes wavy and from a distance it resembled short fur. These pieces were from fig trees or breadfruit trees.
The tools used for the beating were very heavy and made from a dense hardwood. They had a rounded handle but the beating surfaces were flat, this part was shaped to have four sides with grooves carved out. The grooves could be quite coarse or very refined, and some varied in ‘roughness’ on the different sides, perhaps indicating a stage process going from larger grooves to finer as the cloth was being worked on. These grooves seemed to have a functional value in that they make the fibres softer and more integrated in the beating process, but also seemed to have a decorative value, and/or serve as a sign of good craftsmanship.

One thing that stood out and intrigued us was that lines kept reoccurring, both in forms of the beat marks and also in stitching. The stiches could either be as decoration (with possibly some structural advantages) or be used to sew several panels together in a stripy pattern. The stitches that were more decorative did not go through the cloth, and were only visible on the exterior side. Two examples of jackets we looked at had this type of stitching, and on both the stitches took on an almost woven form, they would alternate and create a chain-like pattern.
The jacket that had the panels stitched together was also very interesting, as the stitched panels were only on the arms, and on the main body there were lines of the same pattern but instead of being stitched these were embossed as a result of what we expected was the shape of the anvil during beating. The hem at the neck and bottom had also been stitched in a way that seemed unusual for barkcloth clothing. These different features raised further questions of the relationship between woven cloth and barkcloth, and what influences Western tailoring had on these specific pieces.

The visit helped us to gain a greater understanding of different types of barkcloth and the process of making, using and storing these textiles, putting our piece into perspective and allowing us to expand our thinking around it. / CS
WEARABILITY

What is considered wearable is always a social construction - clothing is never merely functional, a protector from the elements – and part of this dimension concerns how a garment feels to touch, how you dress yourself in it, and how a piece of clothing sits on, or away from, the body. Whilst considering what it would be like to wear barkcloth, we became preoccupied with making a garment similar to our Sulawesian piece.

Not having a piece of barkcloth to hand, we looked for readily available felted textiles that are analogous to the object of our investigation. Creating a tube of textile, rather than a strip, proved a challenge: how could we re-create this structure without stitching? Iron-on stiffeners (such as Vylene) offered one possibility as they have a heat sensitive surface that fuses layers of fabric in tailored clothing, a method of joining achieved in barkcloth by beating layers of fibres. But this type of textile is inherently weak when used independently and would not withstand dressing, let alone prolonged wearing.

So we turned to another felted textile, Tyvek, known for its strength and resilience. Emily showed us a sample, commonly used in conservation work, which shares some of the superficial properties of our piece of barkcloth: it is light-weight, bright and pliant, yet with a certain soft ruffling stiffness. Even though is necessary to compromise and stitch together the two ends to create the tube, we suggest using this material to make a barkcloth-style garment in London. / PL
Besoa people wearing barkcloth in the early twentieth century, Central Sulawesi (Aragon 1990: 35)

1960’s paper dresses.
**Materials required**

- piece of cloth approximately 65cm by 215cm
- needle and thread to sew cloth together
- piece of cord to hold cloth to body, 40 to 60cm longer than your waist’s circumference

**step-by-step guide to making and dressing**

- overlap the two short edges and sew together
- put the tube of cloth round your body with about one third above your waist
- tucking the cloth under your upper arms to stop it falling down, tie the string round your waist
- fold over the upper part of the cloth and arrange the folds
and experiment!

Alter the dimensions of the cloth, or the arrangement of the cord or folds, to create other types of garment, suitable for women, men and children. For example:

- a longer piece may be tied under the arms to wear after swimming, used to create a long skirt, or be folded over several times to create a fuller skirt, perhaps with the string dropped to the hips revealing the waist
- fold the cloth in the middle, tying loosely round the neck and drape over the shoulders to make a cape
- bunch the folds at the front, back or sides to alter the profile of the garment

/ PL

Illustrations: Penny Laughton
FOLDS AND BARKCLOTH

Within his abstract and mathematical discussion of folds, Deleuze considers the nature of subject and object relations, and he also has much to say about materials and materiality (1993). Cloth is central to his arguments, situated somewhere between marbled stone and vaporous clouds, and his paradigmatic materials are woven textiles and felted paper. Barkcloth is a wearable textile, which, like paper, is produced by a felting process, and so it would seem to be the paradigm of paradigms for Deleuze.

The antithesis - and nemesis - of folded clothing is structured tailoring. The figure-ground separations of Gestalt theory, denounced by Deleuze, are further suggestive of severance. Neither have a part to play in his folded fabric world, where continuity is volumetric and un-centred, rather than linear and discrete. Moving matter spills out to connect with its contiguous surroundings; the unsupported, unstructured fold is the medium for this extended and encompassing mobility which turns both inwards and outwards, towards and away from the body. With folded materials, varying in scale, the texture of textiles, is part of this connectivity: our barkcloth possesses broad folds, visible striations, microscopic layers, and, perhaps, an olfactory nano-texture.

In Deleuze’s folded world, wholes and parts are connected over time in layers to create events, which may be fleeting or may last many thousands of years. Our barkcloth may be seen as an unfolding metamorphic event that started (we do not know when) with the planting of a seed, that was itself derived from another plant, and so stretching further back. The harvested bark was beaten, the garment completed, perhaps worn, and ultimately brought to London. Chosen by Ludovic Coupaye for this project, it reanimated for a few months, centring our attention. Transported by Skype during the Massey University and UCL conference, our barkcloth is now returned to the folds of tissue, placed in a drawer, and locked in a room. Perhaps less eventful, maybe diminished, but still eventing. / PL

SPEAR-THROWER
UCL’s Ethnography Collections contains several spear throwers, but only one from South-Eastern Australia. In different ways, it is beautiful, functional, mysterious, powerful, and potentially tragic. This is an object which is intriguing, and one which we felt demanded to be worked with.

Of all the regions of Australia, the aboriginal peoples of the South-East perhaps suffered the most. A relatively large population, and rich and varied cultures were reduced over history to a few individuals. Historically, the loss of life, the loss of culture, and the injustice has been immense. There is a vibrant movement in the state of Victoria, and surrounding areas, to not only address injustices, but just as importantly to build and develop native Australian culture, art, material culture, and contemporary heritage.
We were profoundly aware of the problems of our own categories of understanding of this object, and the way they might be inappropriate. The spear thrower is in some ways a violent tool - a weapon. At the same time, it is a highly decorated artistic object, one which might never have been actually used but made for trade. Neither ‘tool’ nor ‘art’ might adequately express what this object is, or was, in native Australian terms. How could a specific piece of wood have become something so much greater, representing so many ideas? How is the wood and its properties important?

Responding to these issues, we faced some difficult lessons, and continually adapted our work process. We discovered along the route not only what we could or could not do, but also consider what we had the authority or responsibility to do. The spear-thrower is a compelling object, and we wanted to face up to, but not be overwhelmed by, its sense of history and heritage, loss, and responsibility. We aimed to appropriately build new creative work around the object, using design methods, to do justice to its ongoing life in an increasingly global world. /AD, YJ, XY & SZ
METHOD / RESEARCH TIMELINE

10/2012
LOOK

12/2012
ASK

02/2013
LEARN

04/2013
TRY
Map of the spear-thrower’s origin.
The spear-thrower, a long, thin but solid wooden object, is an aboriginal tool for hunting. It is a weapon that uses leverage to achieve greater velocity in dart-throwing. The small label only show that it is from Australia and was previously preserved by Wellcome Collection. Although there are two lines of text in navy on the central part of its flat side, they are faded and barely recognizable and readable. At the outset, we developed some initial questions. We found ourselves focussing on its origins and functions in history. At this stage, it did not occur to us to develop questions about ourselves, or about what our own understandings of the object are. Instead, we asked:

- What have been the uses and functions of the object in different historical periods?
- When, where, how, from what, and why was it made?
- What are the affordances of this kind of wood?
- How do its material properties and affordances relate to its use during the different phases of its life?

Due to limited information, we decided to start with straightforward observation. It looks like a long leaf with a stalk. It comes with a hook on one end and the other end is a handle. One side with the hook is flat while the other is ridged. Besides the handle, both sides have been divided into 5 parts by double lines and decorated with various patterns, including simple geometrical figures (straight and curved), and what appeared to us as representations taken from nature, such as fish scales and plants.
Photos: Siyu Zhu
Illustrations: Xiaoyue Yang
We developed loose questions about the physical characteristics of the thrower:

- Colour - has it been varnished by a ‘collector’?
- Shininess of surface, or varnish?
- The dark colour of the etched carvings, darker than the wood surface?
- The tops of curves each have a small ‘nick’ - with what implement were they etched?
- Is the pattern/carving a ‘property’ (like colour)? or an ‘artefact’?
- Is this pattern a ‘material property’ of this object or the ‘property’ of a social group?
- Is the carving representational? in what sense?
- Some curves contain faint crosshatching patterns, others do not?
- How is the ‘crosshatching’ comparable to the ‘fish-scale’ pattern?
- Shape - being like a leave or a fish? Is this a property?

We also began to ask about the wood itself, not certain if these were separate or similar issues to questions about the ‘design’. We considered how one might process this wood, for carving, decorating, or varnishing. At the first touch, as we tried to imitate hunting, we realized that the material, hard wood, is ideal for making a spear thrower. It is portable, hard but not heavy to carry. Its surface feels very smooth and looks shiny.

- What is the name of this kind of hardwood?
- What are properties of this wood?
- What kind of blade was used to shape it and carve patterns? At different times, stone, metal, and bone possum teeth were all used for carving.
- Hardness - do you have to dry the wood before carving, or carve it before it dries?
We realised very quickly that we simply were not equipped, or perhaps not authorised, to write ‘our’ history of this object, especially when it came to its Australian origins. There were many histories to be told, and some of them by voices other than ours. This was not a question of providing answers, but also of finding out what questions the spear-thrower might ask of our own culture and understandings. In order to begin a reflexive conversation which combined answers with finding questions about the problems with our own knowledge of this thing, we considered that art and design methodologies would work very well.

By this stage, we had been working on the artefact each week for several weeks, but had only succeeded in discovering what we could not answer. We were becoming more confident, however, that we were now more able to recognise what issues would be worthwhile pursuing. We began to try to develop core themes which might help us address these questions, and we fixed on ‘shininess’ as a property through which we might begin to think about many kinds of issues of use and aesthetics which this object relates to.

‘Shininess’ or ‘brilliance’ is well-attested in the anthropological literature, as being of recurring importance across Melanesia. The most developed sets of ideas come from Northern Australia (eg. Morphy 1989), where in art a cross-hatching pattern is one way to graphically denote ‘shiny’, and from Papua New Guinea in the work of anthropologists such as Marilyn Strathern and Gilbert Lewis. Shininess, in its various manifestations, is often said to ‘do’ things, or have effects. It may express qualities of vibrancy, of life, or in anthropological terms of agency.

Shininess is also an important quality within some aspects of global museum and collecting cultures. Collectors’ artefacts may be preserved under glass, or protected somehow beneath a shiny surface like a wrapping (Belk 1995), while wood has also been preserved historically in Britain using shiny varnishes.

Belk, R. 1995 Collecting in a Consumer Society, Routledge  
Morphy, H. 1989 ‘From Dull to Brilliant’ in Man 24: 21-40
Illustrations: Adam Drazin, Yaoyao Jiang, Xiaoyue Yang and Siyu Zhu
The spear thrower manifests ‘shininess’ in many ways, and so we developed more specific categories of shininess to interrogate, some evidenced and some speculative:

• Shininess as an obvious cross-hatching pattern on certain shapes carved on the thrower.

• Shininess as a property of this kind of wood, with its lustre.

• Shininess as occupying certain parts of the spear thrower, especially the flat front surface more than the rear parts - the shape of the thrower hence can be specifically for directed shine.

• Shininess in the landscapes of Australia - such as in seasonal rains and flooding, in the sea, and lakes.

• Shininess as echoing certain animals, plants, or rocks, and manifesting the interconnection of an ecology of materials.

• Shininess as happening in a certain moment, for example in the sudden, emergent twisting motion of a hunter when he reveals himself and casts the spear, raising the thrower up into the light.

• Shininess as a social category or group, in which certain people or families might be understood as shiny people.

• Shininess created by British collectors of the thrower, by varnishing (We thought the spear thrower was varnished, because we had difficulty conceiving of wood so naturally shiny, only to be told later it could simply be the natural lustre of the oil-rich wood).
- Shininess as the quality of ‘capturing’ the eye, or attention, of prey animals.

- Shininess as the quality of capturing an audience in a museum or in showing a collection.

- Different cultural understandings of shininess - as an ‘intrinsic’ property of an object (the originator of the shine), or as an ‘extrinsic’ one (where the object merely reflects shine originating elsewhere).

- Shininess as directed, such that only certain people see it, or as generalised.

- Shininess as a universal quality which humans everywhere, all who have eyes, may see and recognise.

- Shininess as neither intrinsic or extrinsic, but as a surface or a layer in a layered object or cosmology.

- Shininess as a sign of life.

- Shininess as a sign of the ancestors.

For us, then, the spear-thrower became a route into which we might explore many different kinds of understandings, and we began to attempt to render the thrower as a set of questions about shininess. /AD
We decided to begin to storyboard our different ideas about the spearthrower, and how we might convey our questions and understandings of shininess especially. Design commonly uses storyboarding to bring forward ideas. We were not sure if our storyboards might be the stories of how to present the object in an exhibition, of models we might build, of stories we might tell, or of facts about the thrower.

We immediately realised that the thrower is itself a kind of storyboard. The flat panel, divided into three sections, very likely tells a story or dreaming. In some ways, the thrower resembles also an Australian ‘message stick’, which was once used to communicate the authority of a person to carry a message or piece of information.

Having designed a storyboard template inspired by the thrower, we began to draw sketches about “shininess” in order to brainstorm the idea. We spent several afternoons getting together in the material culture room of the anthropology department at UCL, observing the spear-thrower carefully, and sketching. We threw ourselves into drawing our ideas, aware that many were poor in conception or execution, and shared views with each other. We tried to develop as many as possible, hopeful that some might be worthwhile. We soon created a series of sketches which we could group, evaluate, reject, or in some cases select.
Illustrations: Adam Drazin, Yaoyao Jiang, Xiaoyue Yang and Siyu Zhu
• Some sketches got inspiration from historical ways of living and traditional stories in Australia. For example, one storyboard recorded an aboriginal man hunting an animal with a spear-thrower, mainly presenting the shininess through the action of the flying spear-thrower.

• Some sketches aimed at describing and even enhancing the texture and shape of the spear-thrower, trying to trace back the “shininess” from the current object.

• Some sketches imagine the producing process of the spear-thrower, showing how it became ‘shiny’ or, how it was created as ‘shiny’.

• Some sketches were historical, developing the biography of the thrower. For example, one sketch envisaged modelling a spear thrower in which the layering of the modelled artefact represented stages in its life (the core tree wood, the shaping of the tool, the decoration as a ritual artefact, the wrapping or varnishing in a collection).

• Some sketches imagined a heritage exhibition, imagining the impact we might wish to have on an audience.

• Some sketches were of installation art acts to demonstrate shininess, for example, shininess as power or violence through smashing a mirror with the thrower, symbolising its power as a shiny image, able to vanquish and destroy other shiny images.

In the sketching, we began to move away from the profound sense of responsibility we felt around the object, and our sense of inadequacy in that we simply could not easily provide it with a complete history or provenance. We began to enjoy the process much more, and realise what it was we could do for the thrower, rather than what we could not.

From the assortment of sketched ideas, we selected one which we brought forward to try to model. /YJ
Although visual effects directly impress people a lot, it is not always enough to graphically represent something. Beyond images, making and experiencing necessarily play a vital role in understanding one object and its all surrounding explanatory context.

Our core idea was to attempt to restore an experience of the spear thrower’s original, vivid, impactful ‘shininess’ in line with modern times - to create an exhibition space which could show its value. We wanted to experiment with the idea of shininess as property, by taking different aspects of shininess from the spear thrower, and manifesting them in contemporary environments or spaces. By doing this, we hoped to illustrate and critique the way in which we had been looking at the artefact for ‘answers’ about the environment in which it was made. This meant an act of artistic reversal, by which the thrower could be seen to influence and critique its contemporary surroundings.

To that end, I disassembled its graphic properties into three categories: shape, texture and pattern.

- Shape means the thrower’s three-dimensional outlines. We thought that the shape, rather than being for balanced throwing, easy holding and hunting, might be more appropriate for decoration patterns, prototype units of furniture or hooks for daily use in city life.
- Texture means the surfaces and sensations of the wood. Carved real wood plays a role in stylish furniture in many homes, rather than hunting tools.
- Pattern refers to the rough and mysterious graphic images carved on both surfaces. These patterns could be transformed into modern decorative patterns to a large extent.
Illustration: Xiaoyue Yang
Mini model of Spear-Thrower. Photo: Xiaoyue Yang
By reforming these three properties, several new productions emerged within a proposed exhibition space (see illustration): the chair, the rug, the wallpaper. All of these twice-born objects manifest a re-created ‘shininess’ space - a box for the thrower. It is intended to create a kind of vivid atmosphere which could connect thought and object to deliver its ‘shininess’. Olafur Eliasson suggested that there is no empathy with an object when he, the maker, looks at it but a warm awakening empathy when someone else looks at it with him (Stafford 2007). That is to say, trying is an irreplaceable step to excavating and discovering the real value of an object as a viewer, especially a heritage artefact.

Transferring the spear-thrower’s ‘shininess’ from its apparent inward, intrinsic state, into a new, extrinsic and contextual exhibitionary capacity is what is being hypothesised and attempted in our models. /XY

Stafford, 2007 Echo Objects: the cognitive work of images, University of Chicago Press
CONCLUSION

We have a tremendous responsibility towards objects such as this spear thrower, responsibilities which are unfortunately beyond the full scope of the present project, but which the curators of the Ethnography Collections at UCL will begin to address in future. This work has only begun to break the ice which unhappily began to form on this object.

What can design techniques, such as storyboarding and modelling, do for us in an object-focussed or material-focussed inquiry? There are moments when we may encounter sets of knowledge or understanding which are so atrophied by the burdens of historical heritage, or the authority of science, that it is very difficult to unpack what is going on. Material properties are just as varied, culturally-constructed, and criticise-able, as are the historical biographies and events which lie behind objects. The shininess of a piece of wood is not something which one person, be they craftsperson or scientist, can give you a lone truth about.

Design methodologies can help us with being able to re-imagine and re-locate (Suchman 2011) the kinds of knowledge we have about artefacts such as this one.

Our work is not the end of the story. What we have developed should, we think, remain as a studio model. It is first for people other than us to begin to actually use, present and develop the patterns, forms, and textures of this spear thrower. We hope however to have begun to clarify what questions can be asked here, and shown that this artefact exists as a living question about contemporary ways of understanding, as well as a historical testament. This work has only begun to break the ice which has unhappily in recent years started to form on this object. /AD

Adze flick-book animation by Molly Johansson and Sarah McFalls
Properties and Social Imagination group presenting their work virtually to scholars at Massey University.

ADZE
Ludovic Coupaye
Molly Johansson
Sarah McFalls

BARKCLOTH
Emily Brennan
Haidy Geismar
Susanne Küchler
Penelope Laughton
Camilla Sundwall

SPEAR-THROWER
Adam Drazin
Yaoyao Jiang
Xiaoyue Yang
Siyu Zhu

Published as part of the Material World Occasional Paper Series
ISSN: 2158-5660