

H u n t e r -
G a t h e r e r
i n t h e



A N T H R O P O C E N E

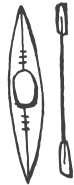


C o n t e n t s

Introduction



Initial Research



Kayak & Paddle



Clothing



Tools



Cultural Objects



National Geographic Article

Exhibition



H u n t e r - G a t h e r e r

i n t h e A n t h r o p o c e n e

This body of work presents a speculative narrative of a hunter-gatherer living within a 'world of the Anthropocene'. Here the Anthropocene is explored both in materiality and as a theoretical reality.

The hunter gatherer is a character acutely attuned to the materials and resources available in their surroundings - developing highly specialised skills and techniques for survival.

The objects developed are responses to the unique threats posed by the 'world of the Anthropocene'. The projects address three disconnects that characterise this epoch:

- An abundance of waste materials that exist outside of natural ecosystems;
- The loss of practical resourcefulness caused by over-dependency on technology;
- Loss of cultural narratives caused by the global standardisation of our material world and homogenised archeologies.

To explore these, five projects have been developed providing critical, experimental and speculative insights into evolving human relationships with the natural environment. These are: kayak, clothing, tools, cultural objects and an anthropological narrative.

The Anthropocene

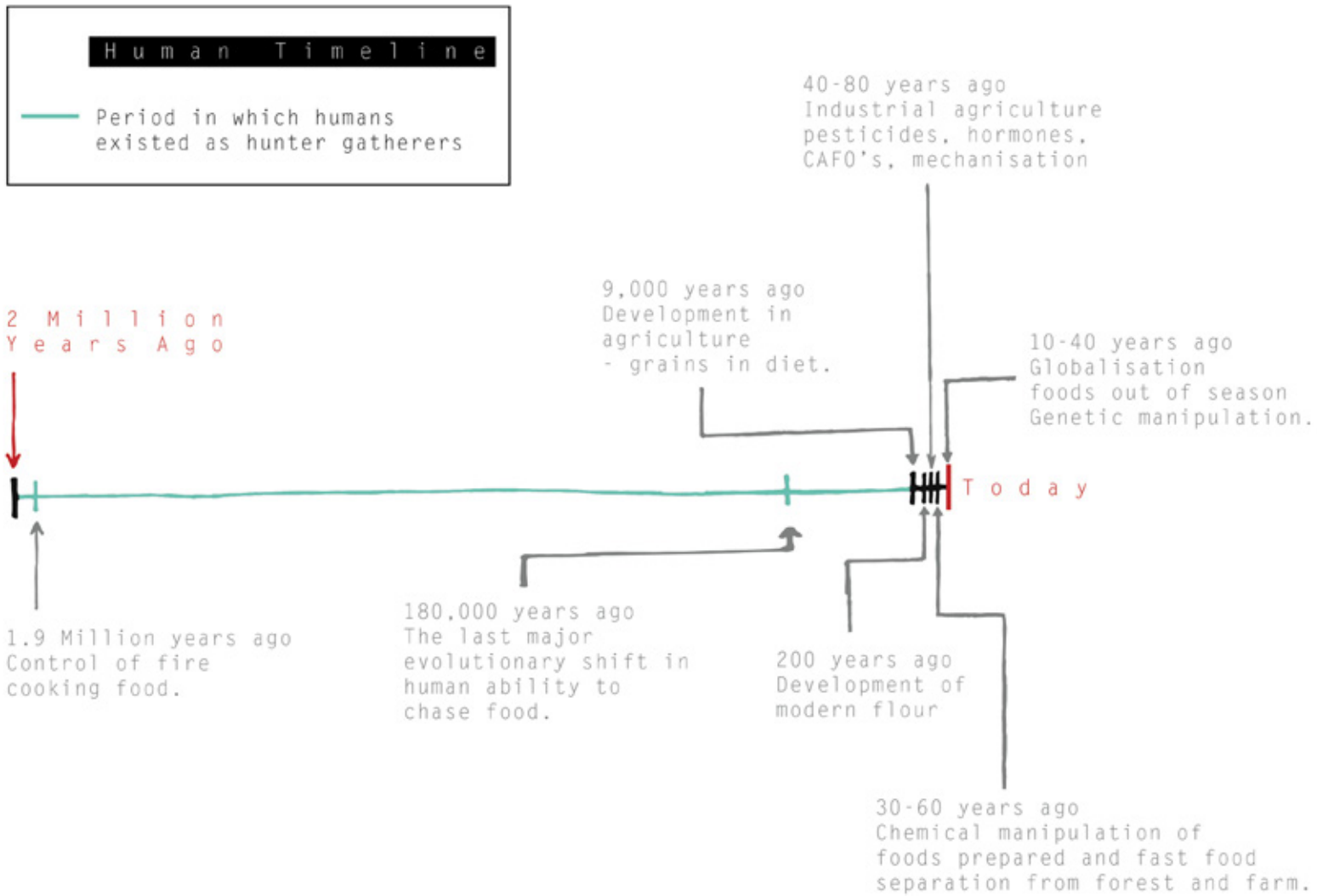
Defines Earth's most current geologic time period as being human - influenced, or anthropogenic, based on overwhelming global evidence that atmospheric, geologic, hydraulic, biospheric and other Earth system processes are now altered by humans.

	Anthropocene	
Cenozoic	Holocene	- 10,000 Years
	Pleistocene	- 1.8 ← Millions of years ago
	Pliocene	- 5.3
	Miocene	- 23 ←
	Oligocene	- 33.9
	Eocene	- 55.8
	Paleocene	- 65.5
Mesozoic	Cretaceous	- 145.5
	Jurassic	- 199.6
	Triassic	- 252.2
Paleozoic	Permian	- 299
	Pennsylvanian	- 318
	Mississippian	- 359.2
	Devonian	- 416
	Silurian	- 443
	Ordovician	- 488.3
	Cambrian	- 542
	Proterozoic	- 2.5 Billion
	Archean	

Earth forms 4.6 billion years ago

H u n t e r - G a t h e r e r

A member of a nomadic people who live chiefly by hunting, fishing and harvesting wild food. All of human kind used to be hunter - gatherers.



T h e

A r t e f a c t s



Kayak & Paddle

The Kayak is an investigation into creating a physical 'research vehicle'. Ancient methods of kayak construction native to Greenland communities such as the Inuit were used to inform the construction. Contemporary materials that have specific qualities were identified and processing techniques were developed



Clothing

The clothing and gathering bag explore how synthetic materials can take on a skin like quality. It explores the relevance of skin within the history of human craft, the unique qualities of natural materials and the decisions that go into choosing a material for a task.



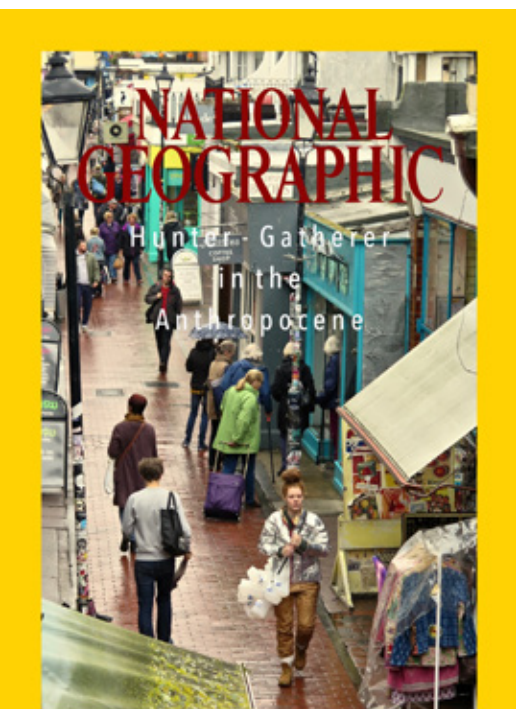
Tools

The tools investigate the potential of creating bespoke artefacts designed for specific materials within the Anthropocene, allowing the individual to effectively process the material and develop new making techniques. Within this section, i looked in to the role of tools within farming and catching food in the wild



Cultural Objects

This investigation looked at the objects that help create cultural identity. The items that are not about pure Survival but how we interpret and interact with the world and what that might look like in the era of the Anthropocene



Nat Geo Article

Here i explore the content and framework of relevant National Geographic articles and employ the techniques to construct my own anthropological article around the 'Hunter-Gatherer in the Anthropocene'. This is intended to help frame the project as a whole and give it a context.

I n i t i a l



R e s e a r c h

“Faced with an ecological crisis whose roots lie in this disengagement, in the separation of human agency and social responsibility from the sphere of our direct involvement with the non-human environment, it surely behoves us to reverse this order of priority. I began with the point that while both humans and animals have histories of their mutual relations, only humans narrate such histories. But to construct a narrative, one must already dwell in the world and, in the dwelling, enter into relationships with its constituents, both human and non-human. I am suggesting that we rewrite the history of human-animal relations, taking this condition of active engagement, of being-in-the-world, as our starting point. We might speak of it as a history of human concern with animals, insofar as this notion conveys a caring, attentive regard, a 'being with'. And I am suggesting that those of us who are 'with' animals in their day-to-day lives, most notably hunters and herdsman, can offer us some of the best possible indications of how we might proceed.”

-Tim Ingold, *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*

Initial areas of interest focused on the environmental impact of creating a society with a consumer culture that is increasingly disconnected from nature.

IN NATURE, Class, economic BACKGROUND, GENDER, SEXUALITY, ETHNICITY, ~~IT~~ IT MEANT NOTHING. NATURE IS AN EQUALIZER ON SOCIAL LEVELS.

National

Study finds one in nine children never visit the great outdoors

Young need role models to help experience nature

Low-income and minority households worst affected

Patrick Barkham

More than one in nine children in England have not set foot in a park, forest, beach or any other natural environment for at least a year, according to a two-year study funded by the government.

Children from low-income families and black, Asian and minority ethnic (BAME) households are markedly less likely than white children and those from higher income households to frequently visit urban or rural "wild places", according to the survey conducted by Natural England.

Of under-16s from BAME households 56% visited "natural" areas at least once a week compared with 74% from white households.

"There's a lack of role models," said David Lindo, a broadcaster and urban bird watcher. "In the last 10 years I've seen a slight increase in black birdwatchers but still nowhere near as much as there should be. When you look at the media, nature is still portrayed as a purely white pastime."

The study surveyed the parents of 5,179 under-16s over a year from 2013 to 2014. It included many different types of "natural environment", including nature reserves, woodlands, bridleways, coastlines, riverbanks, lake shores, canals, parks in towns and cities, playing fields, farmland, parks and open space in the countryside, and mountains and moors.

It revealed a north-south divide, with children living in the north-east enjoying the best access to natural environments (78% getting access at least once a week)

compared with 64% of children in the West Midlands and 62% in London.

Tim Hill, Natural England's chief scientist, said: "The results of this survey highlight the importance of having green space nearby to children and families - whether that's a local park or nature reserve."

The enthusiasm of parents for green spaces influenced whether children visited such environments. In households where adults were frequent visitors, most children (82%) followed their lead. In households where adults rarely or never visited natural areas the proportion of children visiting fell to 39%.

Natalie Johnson, of the Wild Network charity, said: "The problems are fear, space, tech and time, and they vary massively across the country. In the countryside the biggest barrier is busy roads. Inner city kids have genuine gang problems. In middle-class suburbia it's the parents - how do you tell parents that the time children play freely outside is as important as their French lesson, their ballet lesson, their Mandarin lesson?"

Johnson said the Wild Network aimed to provide people with the practical tools and inspiration to enjoy nature, wherever they lived. "Urban wildness is real and kids will find it themselves. What little boy

doesn't love to bash a twig against a wall? As parents, we don't have to curate experiences, we just have to give them time."

Surprisingly, mucking about with other children outdoors is not completely an aspect of a bygone era: according to the study 22% of children visited the natural environment without any adults present, 16% doing so every week.

Findlay Wilde, a wildlife blogger, said too many parents topped taking children into nature as they started secondary school, which failed to make the environment a core subject. Children might "think being interested in the natural world is uncool", he said. "Parents need to keep connection with their children and continue to take them outdoors."

He called for conservation groups to link up with secondary schools and send volunteers into schools to help support teachers and pupils in exploring nature.

The study found that just 8% of school-aged children visited natural environments from school, but conservationists suggested this figure was wrong as the study was based on interviews with parents, who might be unaware of schools' environmental work, like creating wildflower areas in school grounds.

The RSPB is offering free two-hour wildlife sessions for pupils and teachers in school grounds in 15 cities in England, Scotland and Wales, funded by the plastic bag levy of the supermarket Aldi. Suzanne Welch, the RSPB's head of education, said: "If you're going to form that emotional bond with the natural world you have to do it frequently, so it has to be local."

Lindo said he did not blame conservation charities for the lack of BAME visits to natural environments but said there was a need for more minority ethnic role models on wildlife TV.

The Natural England study was backed by Defra and the Forestry Commission.



Children were said to need more nature

14 year old conservationist.

why is this happen when nature is so far to reach near than we think.

how do we give wilderness a voice in the same way that fashion, music etc have voice

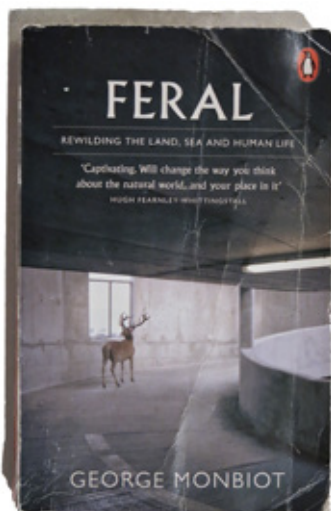
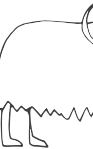
how do we get people involved?

R e - w i l d i n g & R e - e n g a g i n g

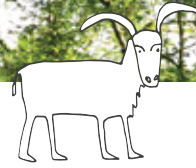


George Monbiot is a zoologist, author, Journalist for the Guardian and massive advocate for rewilding. I stumbled across his Ted talk on the subject a while back and was thrilled to find an articulate academic who not only shared my tendency to plan escapes but voiced frustrations about the way we live and our disconnection to the natural world.

Monbiot explores rewilding through the reintroduction of native animals and plants, highlighting the ancient skeletons of tigers and rhinos found where Trafalgar square now lies. He also looks at 'rewilding' human lifestyles. From both a personal and a design perspective, it was this area that really caught my attention.

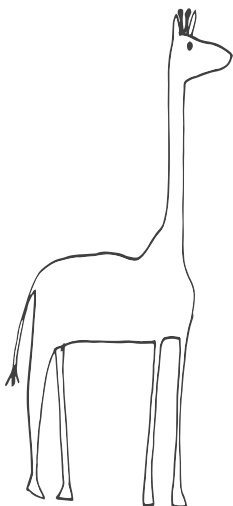
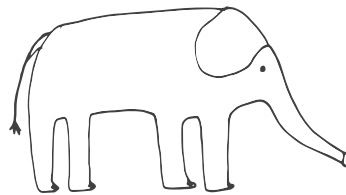


Feral: 'in a wild state, especially after escape from captivity or domestication'



'It is no longer rare to meet adults who have never swum except in a swimming pool, never slept except in a building, never run a mile or climbed a mountain, have never been stung by a bee or a wasp, broken a bone or needed stitches. Without a visceral knowledge of what it is to be hurt and healed, exhausted and resolute, freezing and ecstatic, we lose our reference points. We are separated from the world by a layer of glass. Climate change, distant wars, the erosion of democracy, the resurgence of fascism - in our temperature-controlled enclosures, all can be reduced to abstractions.'

<http://www.monbiot.com/2017/03/02/screened-out/>



URBAN WILD

The urban landscape is becoming an increasingly important and expanding part of our environment, so investigating the interplay between biodiversity and this landscape is also becoming increasingly important. Habitat modification has been identified as one of the main drivers of biodiversity loss, therefore how we manage biodiversity, and how we design the urban landscape to accommodate biodiversity, are both key questions.



- WANT TO READ MORE ABOUT REWILDING SUSSEX? -

ReDiscover – thanks to everyone involved
October 17, 2015

I Found a Spot and Sat in it and Thought
About Rewilding October 3, 2015

Re-Discover – An exhibition of urban
rewilding ideas September 17, 2015

Rediscovering Nature Exhibition Workshops

<https://wild4good.wordpress.com>

Children's knowledge of nature is dwindling, study finds

Research shows younger generations are getting less and less clued up about nature with knowledge of basic facts declining

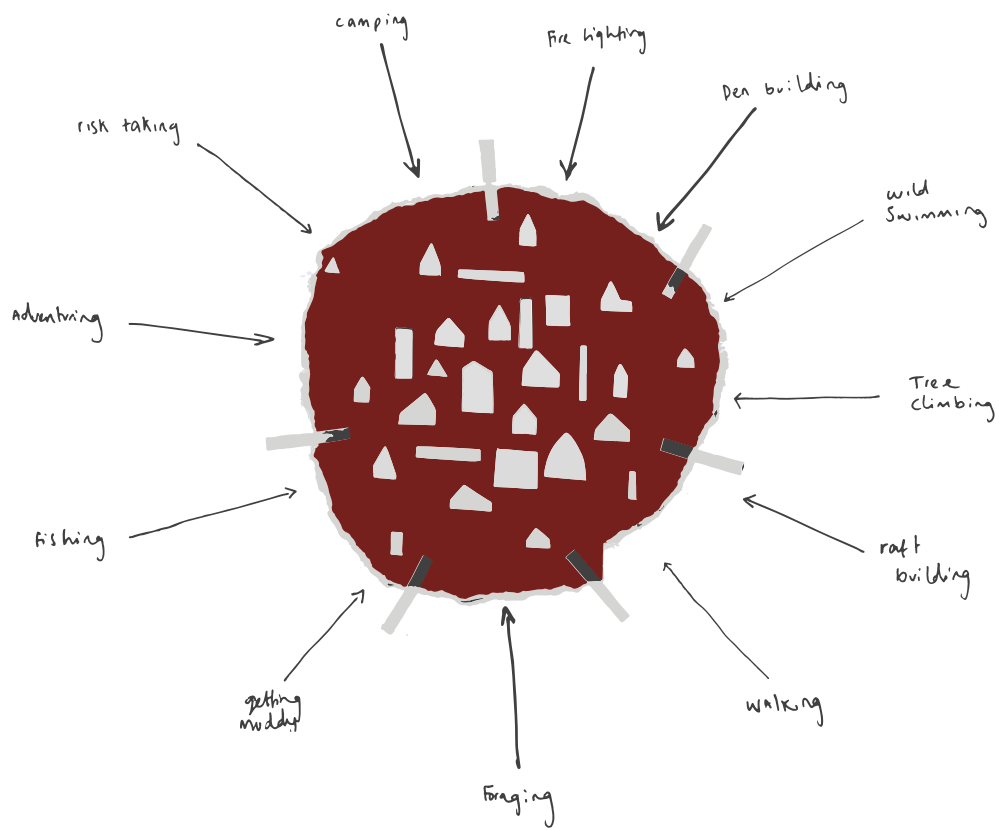


[http://www.telegraph.co.uk/news/earth/environment/11568058/](http://www.telegraph.co.uk/news/earth/environment/11568058/Childrens-knowledge-of-nature-is-dwindling-study-finds.html)

[Childrens-knowledge-of-nature-is-dwindling-study-finds.html](http://www.telegraph.co.uk/news/earth/environment/11568058/Childrens-knowledge-of-nature-is-dwindling-study-finds.html)

There are increasing numbers of articles highlighting the disconnect between humans and our natural environment, initiatives like 'The Wild Project' explore different ways to tackle this increasing disconnection. One of the main reasons is growing populations living in urban environments without sufficient access to 'the outdoors' I began to look at how the outdoors might come to the city, how rural activities could be integrated into built up areas to facilitate awareness and knowledge exchange about the importance of our planet and our connection with it

CITY



How do we make nature more accessible in an urban environment

<http://www.thewildnetwork.com>



I visited areas where communities were reclaiming urban areas and either letting them 'self-wild' or cultivating them into areas where more typically rural or 'allotment based' activities such as veg growing and bee keeping. 'LOSÆTER' Collective project - food growing and bee keeping in down town Oslo.





‘ If we define nature as that which is untouched by humans, we won't have any left. We need to consider a new definition – one that includes not only pristine wilderness but also the untended patches of plants growing in urban spaces – and encourages us to bring our children out to touch and tinker with it, so that one day they might love and protect it.’

- Emma Marris, Environmental writer

I began to consider what ‘wild’ might look like at a micro scale. Reclaiming transient areas of cities with the idea of using the space for a temporary, interactive, ‘rewilding of urban life’.

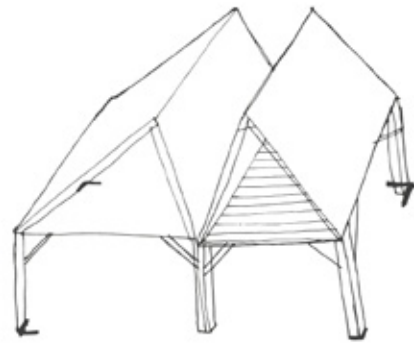
2.4 x 4.8 meters of wild



LOTS of GREEN THINGS IN A PARKING LOT.



CONCRETE STUDIO USING A MAP, BUCKET + A PAPER, LOT



GREEN WOOD WORKING IN A PARKING LOT.



R e - f r a m i n g



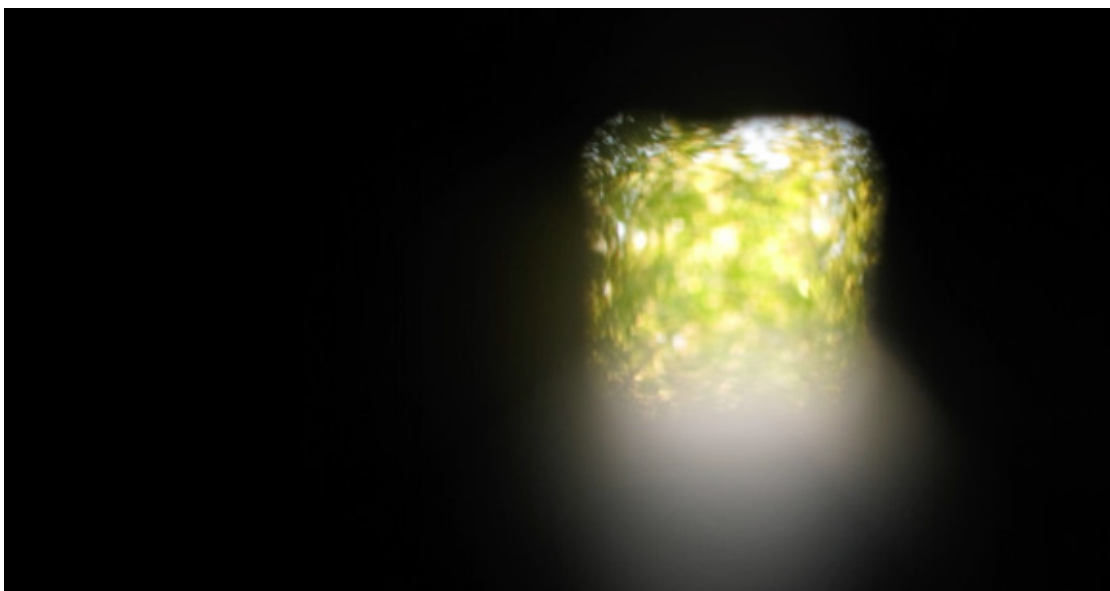
Tow path:
51°32'09.8"N
0°09'30.0"W

Canal water:
51°32'14.5"N
0°04'58.7"W

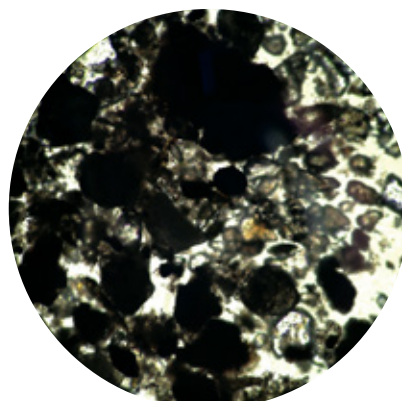
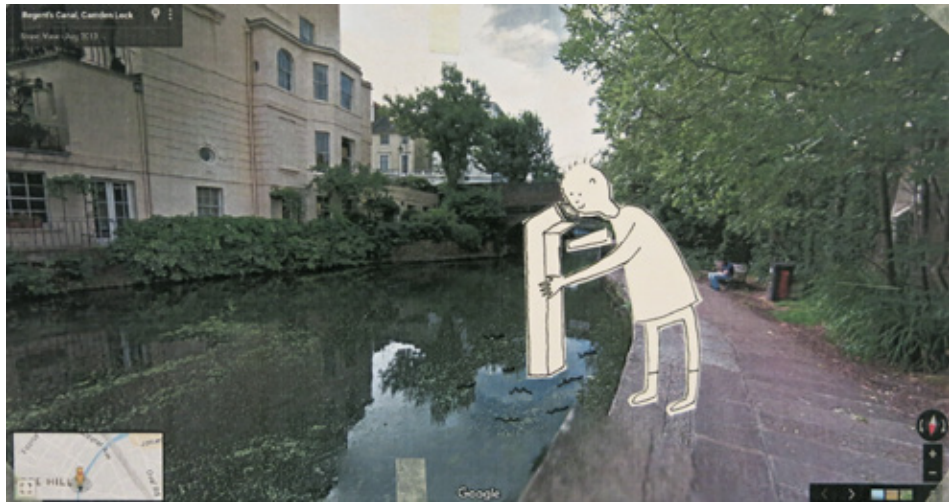


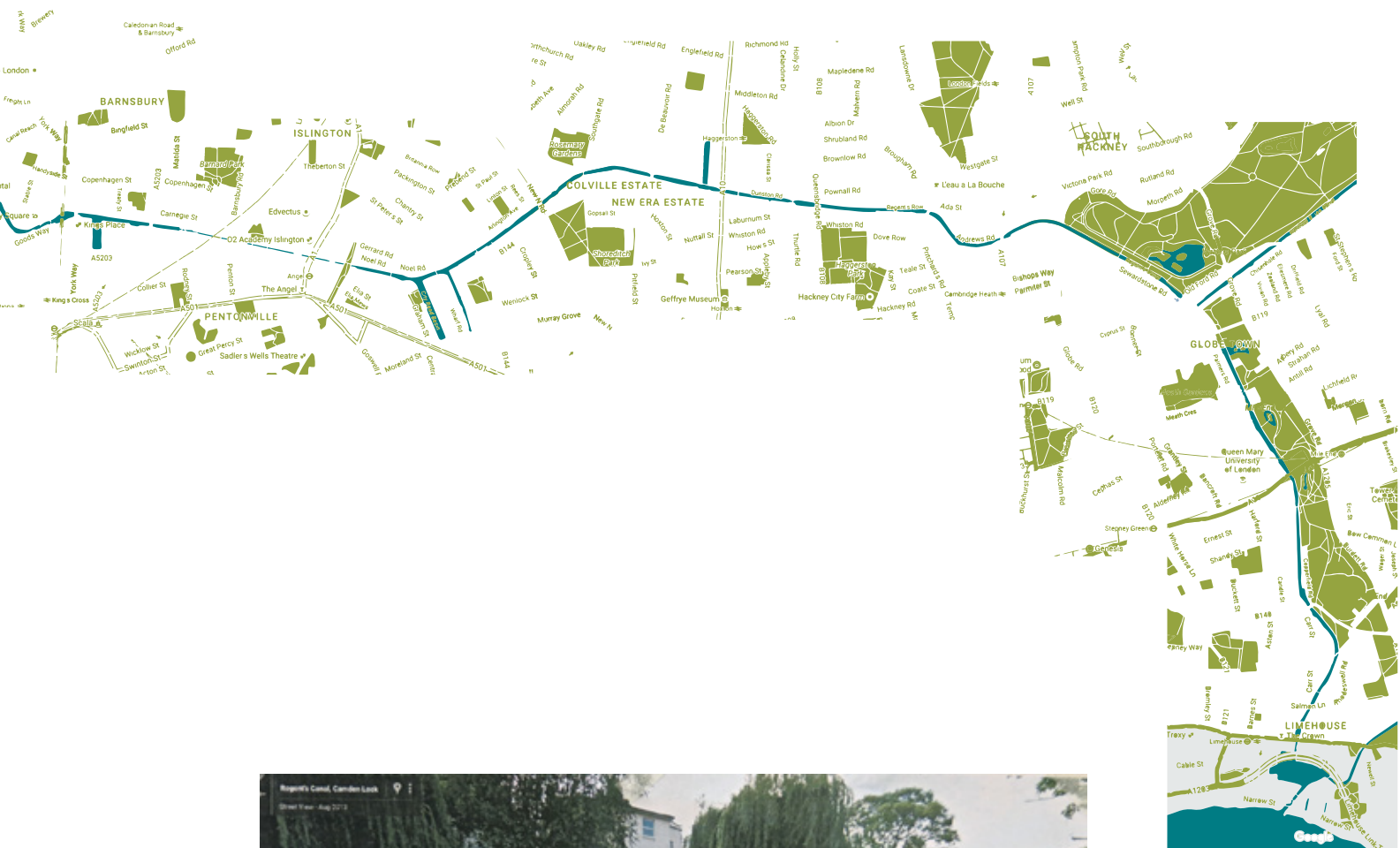
I started exploring city locations such as the London canal system, car parks and derelict sites. These urban wilderness provides opportunities for reengaging with nature through interventions. Having traversed the Regents canal on foot from Limehouse to just east of Regents park, photographing and taking notes I responded through sketching out scenarios. These sketches investigate territories, boundaries, material mapping and ways of traveling through, and seeing spaces.

By using a simple device that focuses the eye on specific areas it's possible to change an individuals perception of an environment, this re-framing device plays with the possibility of creating the illusion of wilderness even in intensely urban environments.



Regents canal: London





<https://en.wikipedia.org/wiki/B>



Urban environments are abundant with materials and resources, yet we don't engage with or utilise them. We expect that car parking spaces are for cars and cars alone, yet the space is simply rented for an allotted time. A car parking ticket doesn't stipulate that space is used to park a car in, so what else could it be used for?. We see an empty milk bottle or crisp packet and are predisposed to see waste, despite its highly waterproof versatile properties.

How do you challenge the mindset that leads to these illusions? How do you re-instill resourcefulness into society starting with the individual? A different pair of eyes are needed. Eyes that belong to a race that is adaptable and has, for thousands of years been refining the skills and developing the knowledge needed to see the Anthropocene for all the potential it has. These eyes belong to our ancestors, they belong to us. With all the excitement of industrialisation, globalisation, technology, we forgot to use them. Maybe it's time to channel our inner hunter-gatherers and start re-engaging with our planet.



What would a hunter gatherer in the Anthropocene look like?



DEFINING THE CONTEXT

- THEMES**
- CREATIVE
 - MATERIALS/SKILLS/KNOWLEDGE
 - RESISTANCE
 - RESILIENCE/RESILIENT
 - WASTE

ARTIFACTS

Human
- behavior
- ritual
- habit

that is, bring this back into my project.

CULTURE

Answers rising connecting on water, consume whole

Commercial?
a paper that provides a source to business, utilizing and teaching content. Creating based use water system

SCIENTIFIC
"IT'S AN ANIMISM EXIST?" ARTIFACTS on the Hunter gather & the culture part

school research paper
a format that engaged with individuals as the creator - knowledge relating to themes within my domain.

instilling "wild" freedom of thought
- independent thinking
- defiance
- rebellion

BIT STORY

HUNTER GATHERER IN THE ANTHROPOCENE

Some artifacts I use as all of this Hunter gatherer. This is not about a person, a single narrative but a universal story a redemptory empowerment

Can I reflect our culture back at ourselves so that we are able to see through a different lens

Speculation design making of world for my character to exist it with a culture

challenge/adventure
writing for a number of days into the bit I have created

relating users space as a place to explore feel something

Questions
- what is the purpose of these objects?
- what is the message/intention
- what influence does the artwork have on the life of the viewer why hunter gatherer.

critical 3 issues
anthropocene - human

behavior

epidemiology - intelligence of human activity.

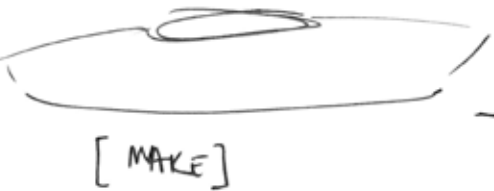
reclass protection why people

- Feed a bit of animals.

Build a custom made VEHICLE

TAKE IT ON A RESEARCH ADVENTURE

INTERVIEWS/DISCUSSIONS



[MAKE]



[MOVE]



[INTERACT]



Compile research, documentation, etc

[Compile]



Present findings + Journey to kids and adults

- ONCA - PARABOL unit gallery etc

[PRESENT]



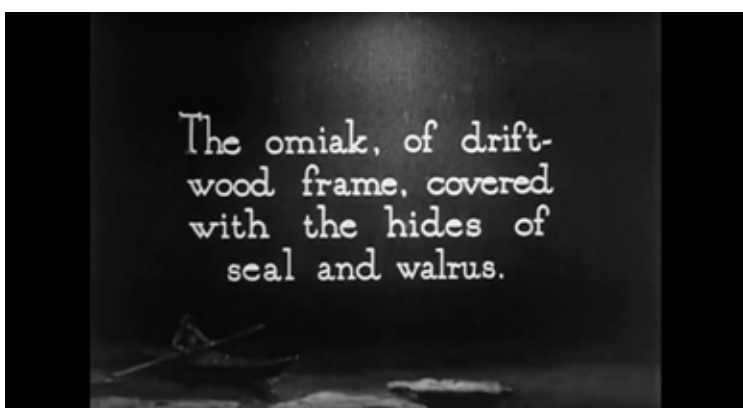
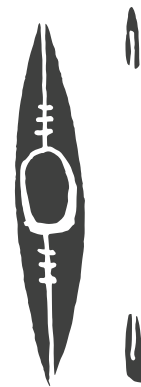
COLLABORATE ?!

'Our kayaks aren't vessels for hunting food as is the case for the Inuit, but for Research. In a way ours are more akin to 'a figure of speech. Instead we use ours to explore, and hunt for alternative solutions to the way we lead our lives in a consumerist culture. Kayaks are highly versatile, light enough to be carried by an individual and in the current scenario of global warming they will accommodate rising sea levels and thus provide a means to access fresh hunting grounds.'

Exert from National Geographical Article *'Hunter Gather in the Anthropocene'*

K a y a k &

P a d d l e



The omiak, of drift-
wood frame, covered
with the hides of
seal and walrus.

In areas of the world where wood is scarce such as the arctic, boats and smaller hunting vehicles such as canoes and kayaks were (and in some cases still are) constructed using a driftwood or bone frame with animal skins stretched over them. I would be using this way of working as a starting point for my kayak

Research around the kayak and paddle led to an exploration of the significance of skin and its importance in the history of crafting items such as clothes and boats. This led me to explore the concept of skin in the Anthropocene which continues with more historical context as I made the clothing.

In an era of endangered species and habits are threatened by climate change, urbanisation, plastic waste, deforestation and mining, what are the animals of the Anthropocene, where would one find them? How would one hunt them? What would their skins look like and how might we use them? Within the world of food production, farming has become factories and we find ourselves at a moment in time where meat can be grown in labs. Perhaps the animals of the Anthropocene aren't living and breathing animals in the traditional sense. But the multitudinous creatures that populate urban areas, a byproduct of consumerism, flocking in factory waste units, coffee shops and recycling bins. Can these animals be hunted and their skins used to produce a kayak in the same way an Inuit might hunt a seal? What can we learn from these animals and can knowledge passed down through generations still be utilised and re-imagined to create the techniques necessary to process the materials.

1 0 0 % U s e f u l

Useful is a mindset. A methodology. Within much of the western world, this has been replaced by an existence of 24/7 consumerism. When a hunter gatherer made a kill, every piece of the body has a use. Knowledge and skill are required to dissect the animal and understand the potential of each part. With much of our food grown, breed and prepared on a massive scale, out of sight, delivered in bite sized chunks, waste is inevitable. However some still live with this ethos. This will be a theme of all the artifacts that i create for this body of work, where possible, every part of the 'animal' or material will be used.



A reindeer (or caribou) on a table in the Gaspari modern kitchen in Rovaniemi, Norway. Not a lot of it will go to waste. The family harvests, skews, or dries the meat, as well as the organs, fat, blood, and even hooves. Some Sami make handicrafts using antlers and bones for tools and toys.

Reindeer for breast and joints for legs and garbets. They spend months preparing hides—scrapping, scaling, drying, and stretching the leather by hand. To sell meat commercially, reindeer transport reindeer to slaughterhouses, which butcher the meat and discard the rest.



Inside an igloo an Eskimo woman prepares and cooks the seal her husband has caught. Almost every part of the animal is used – the meat for food, the fur for clothing, the blubber for heat and light.



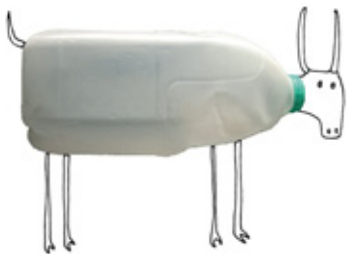
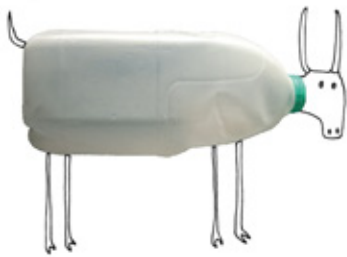
Book: Hunting with Eskimos by Henry Witney

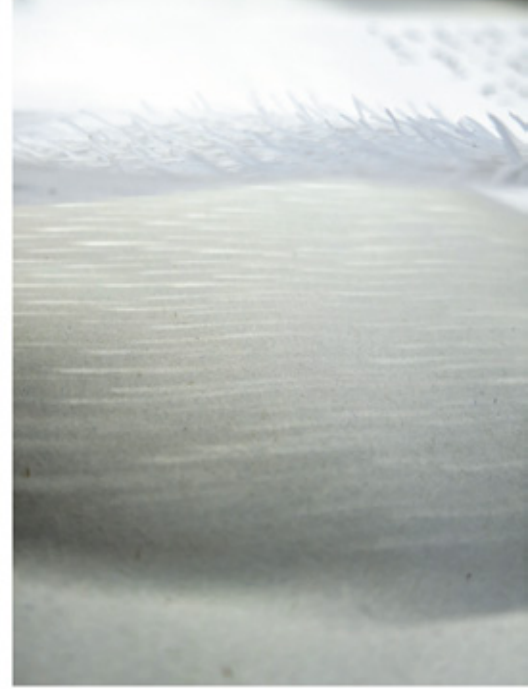
A n i m a l s

o f t h e

A n t h r o p o c e n

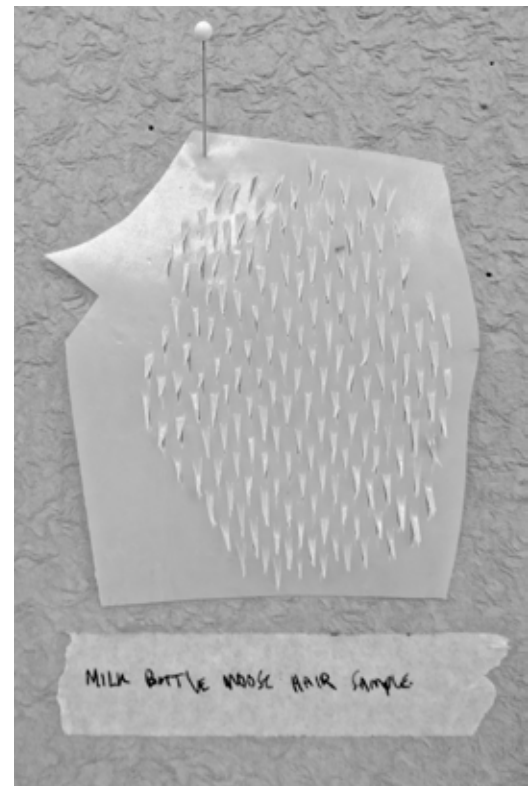
Herd of Milk Bottles:



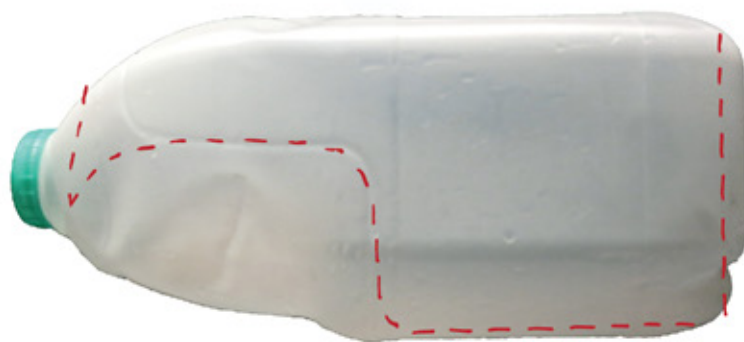
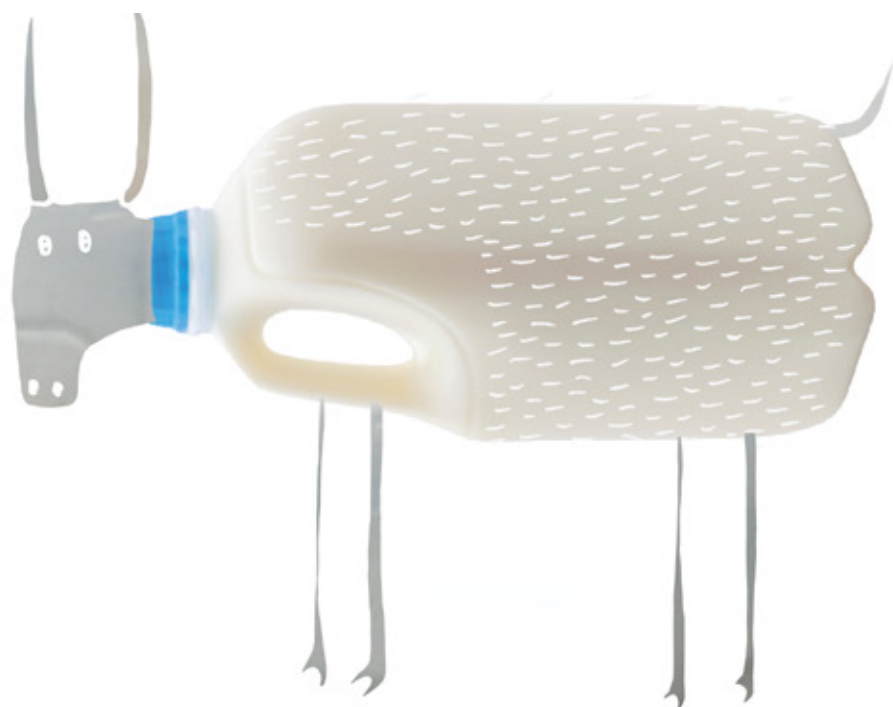


e

The Notion of Skin
Traditionally Arctic clothing was only made of skin. This is the concept, as well as the material, which underlies Arctic clothing and which leads to an understanding of its general significance. In the Inuktitut language of Igloolik, of the Iglulingmiut of the eastern Arctic, the word for human skin is *uvinik*. As an adjective *uviniktujuq* is associated with adults looking healthy, while *uvinnaqtuq* refers to fat little babies (MacDonald, personal communication, 2004; Aqqiaruk 1992). This meaning is fundamentally different to many Western understandings of skin, not merely to the speakers of contemporary English, but also to those from earlier languages. In English, skin often has negative associations, as in the phrase 'skin and bones' and the adjective 'skinny', meaning underfed and unhealthy, or 'skin deep' meaning shallow, and 'thick skinned' for insensitive. The word *skin* derives from



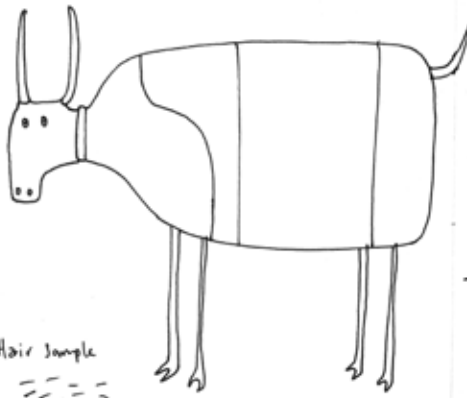
Exert from 'Arctic clothing' Edited by J.C.H King, Birgit Paukzstat and Robert



T h e H i d e

removed by the supermarket

Preparation



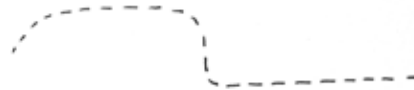
Hair sample



Milk Bottle moose

Carrying the carcass - to get the milk for the hide

The hide



The hide.

Look into THE IDEA OF

The Hunter - modern Hunter GATHERER.
- identifying particular animal elements of the anatomy of a waste animal - hunting for them, locating their territories, localities, can I build a SET OF tools, weapons - dedicated for THE HUNTING OF EACH OF THESE ANIMALS.

Modern Hunter GATHERER - PERSPECTIVE ON DISCONNECTION

For some people - THE FACTURING THAT ...

Get a ... and Prof produced it



The milk bottles in their natural environment



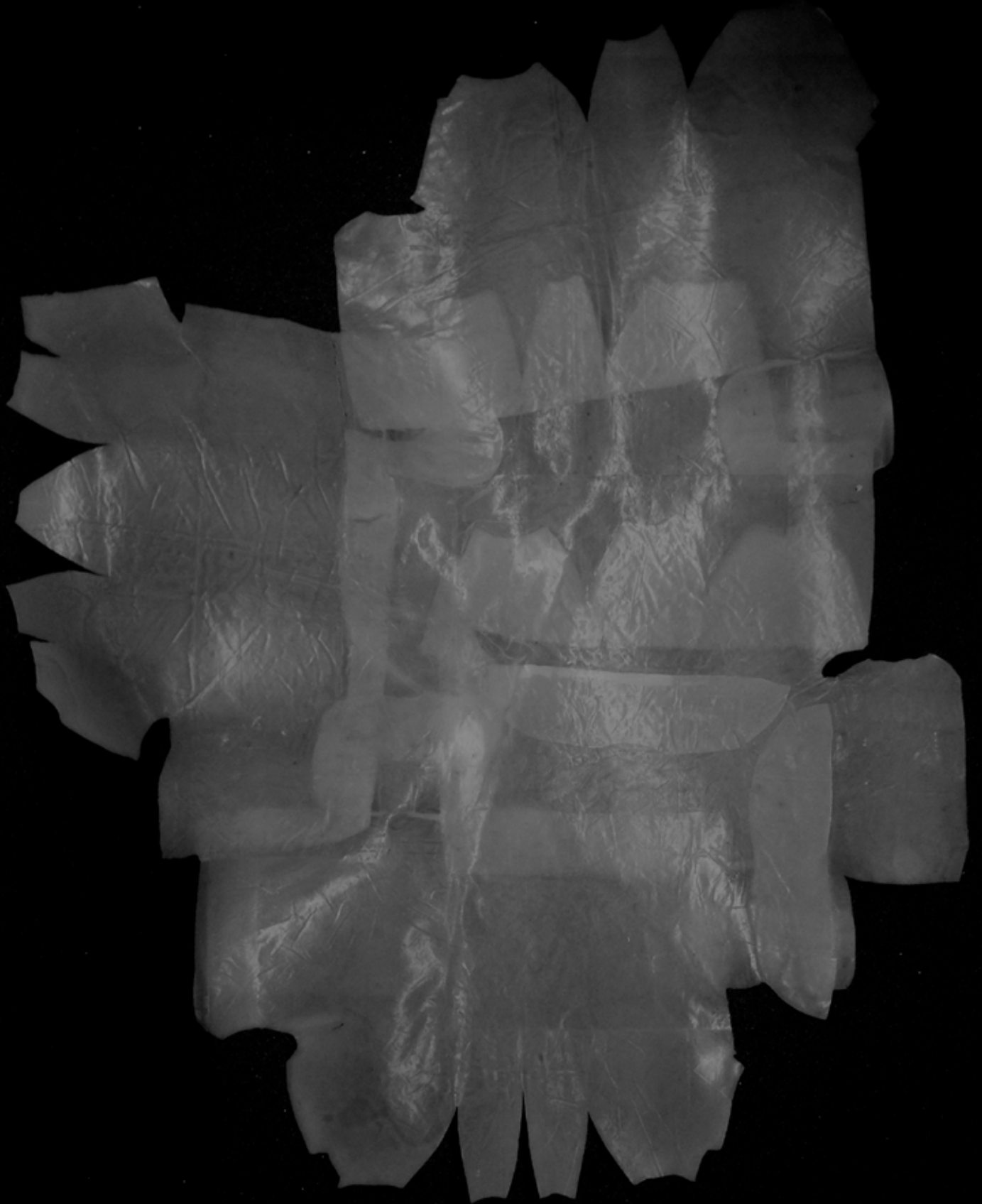
The bodies



The skins ready for Processing



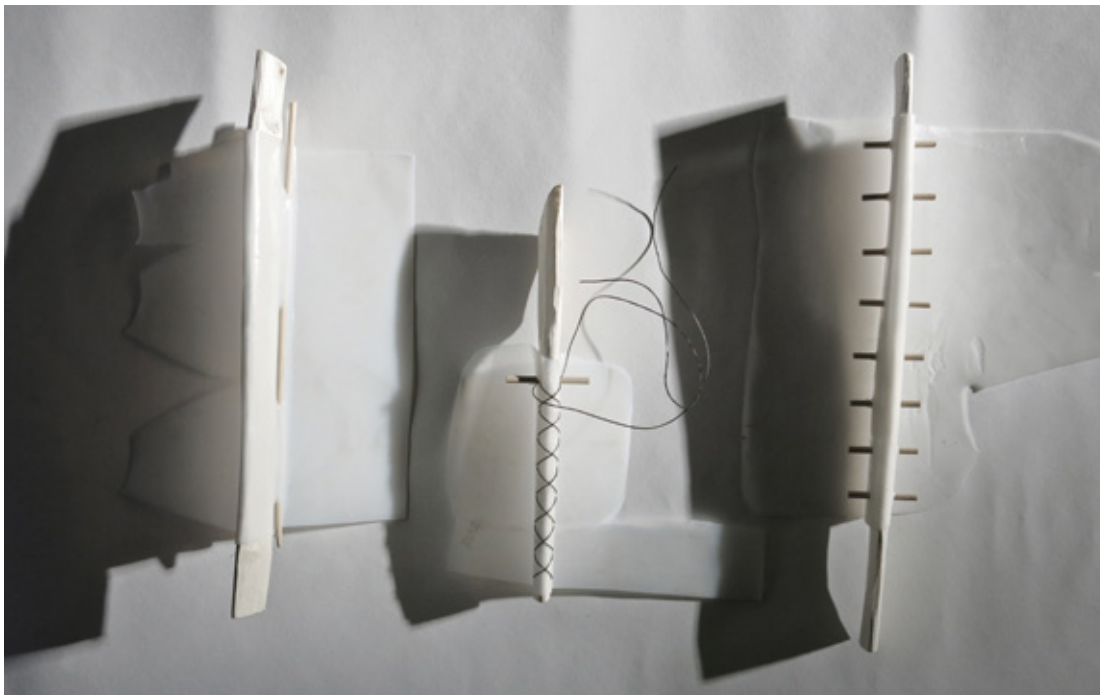
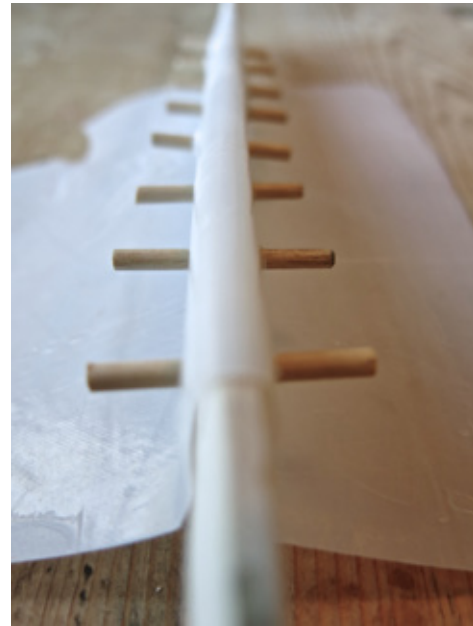
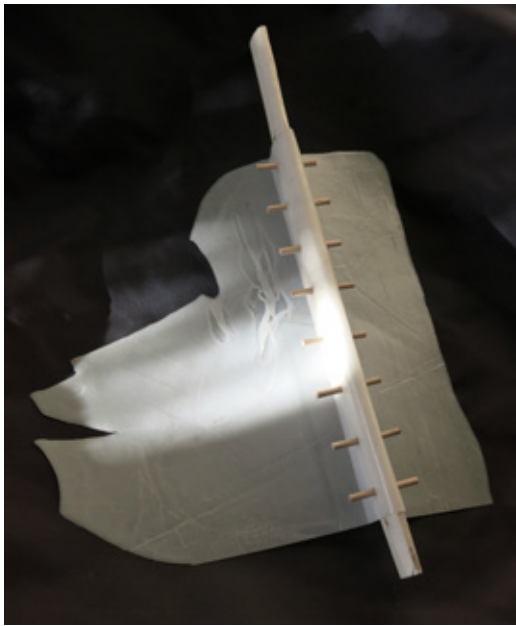
The hide following heat pressing



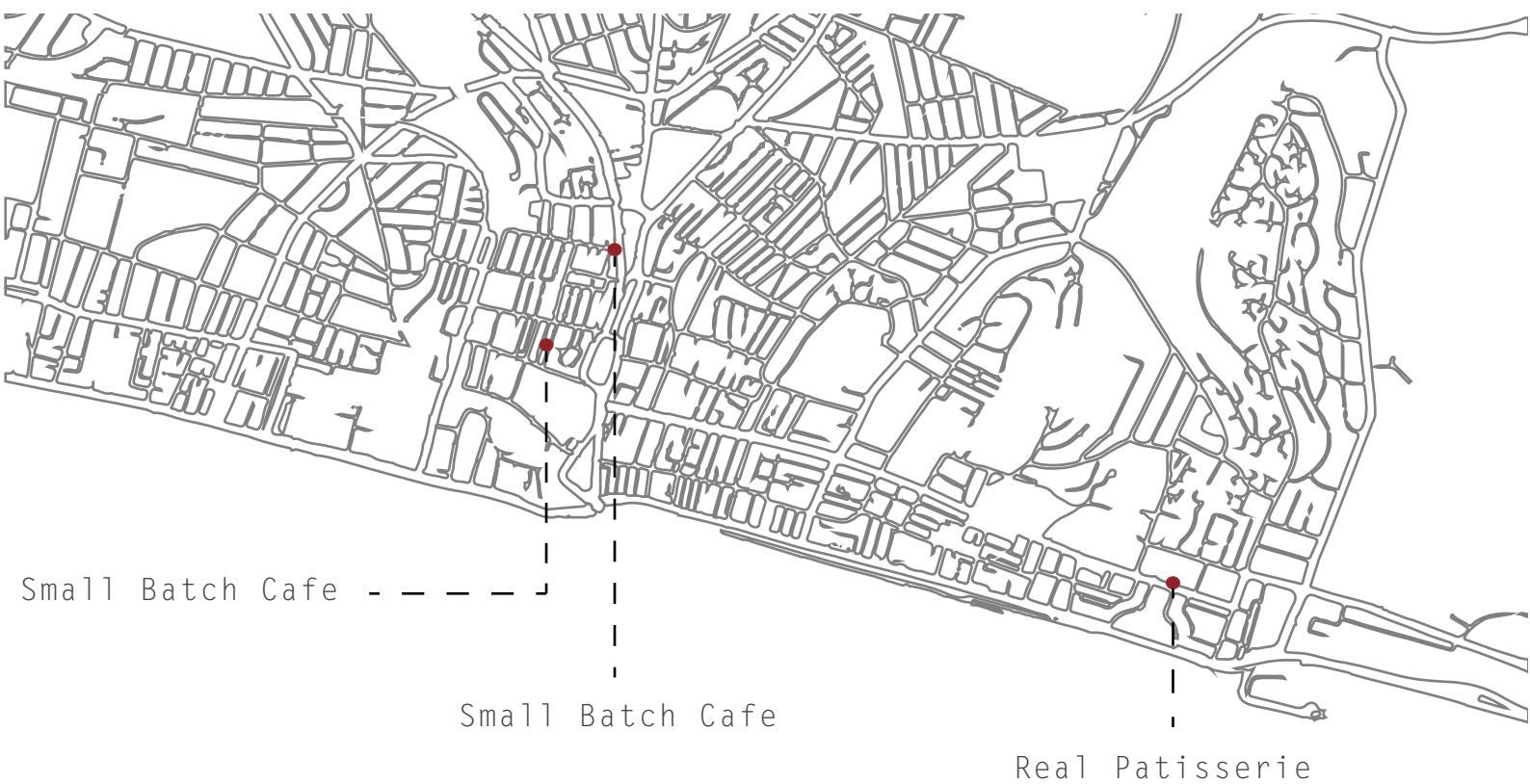
< **F**irst successful attempt at joining skins by heat pressing them together. Joins are strong and water tight. Potential problems could arise from buckling due to reheating multiple times as more skins are added. The images below show polar bear and seal skin being stretched in Alaska. Despite the synthetic nature of the milk bottle hide, the semi transparent quality and shape caused by the individual milk bottle skins results in a remarkably natural 'skin' like quality.



Exploring the qualities of the skin by applying some Inuit techniques and joins using found plastic fishing twine and coppice wood, these were aesthetically, successful however puncturing holes in the surface of the skin could be counterproductive in kayak construction. The material is not as forgiving as seal skin, therefore the waterproof stitch used by Inuits in kayak making is hard to replicate.



In order to be able to process materials and produce at the scale necessary to build a kayak i would need to study my pray, understand it's habits, learn the territories of the most viable animals and establish hunting grounds.



'I'm looking for specific qualities in my milk bottle catch. Nordic coffee attracts bottles with paper labels, significantly slowing down the skinning process, Real Patisserie, thin skinned bottles - low quality and the shape of the body makes it hard to get a good hide. Small Batch - thick skinned, easily removable label, good body shape and a busy hunting ground ensuring a good catch, they produce the perfect hide for kayak making!'

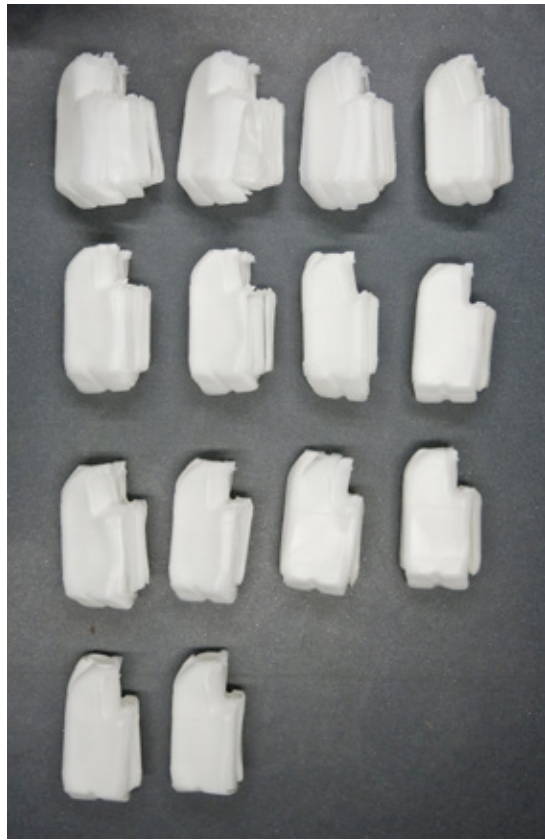
Exert from National Geographical Article 'Hunter Gather in the Anthropocene'

S c a l i n g U p

S k i n P r o d u c

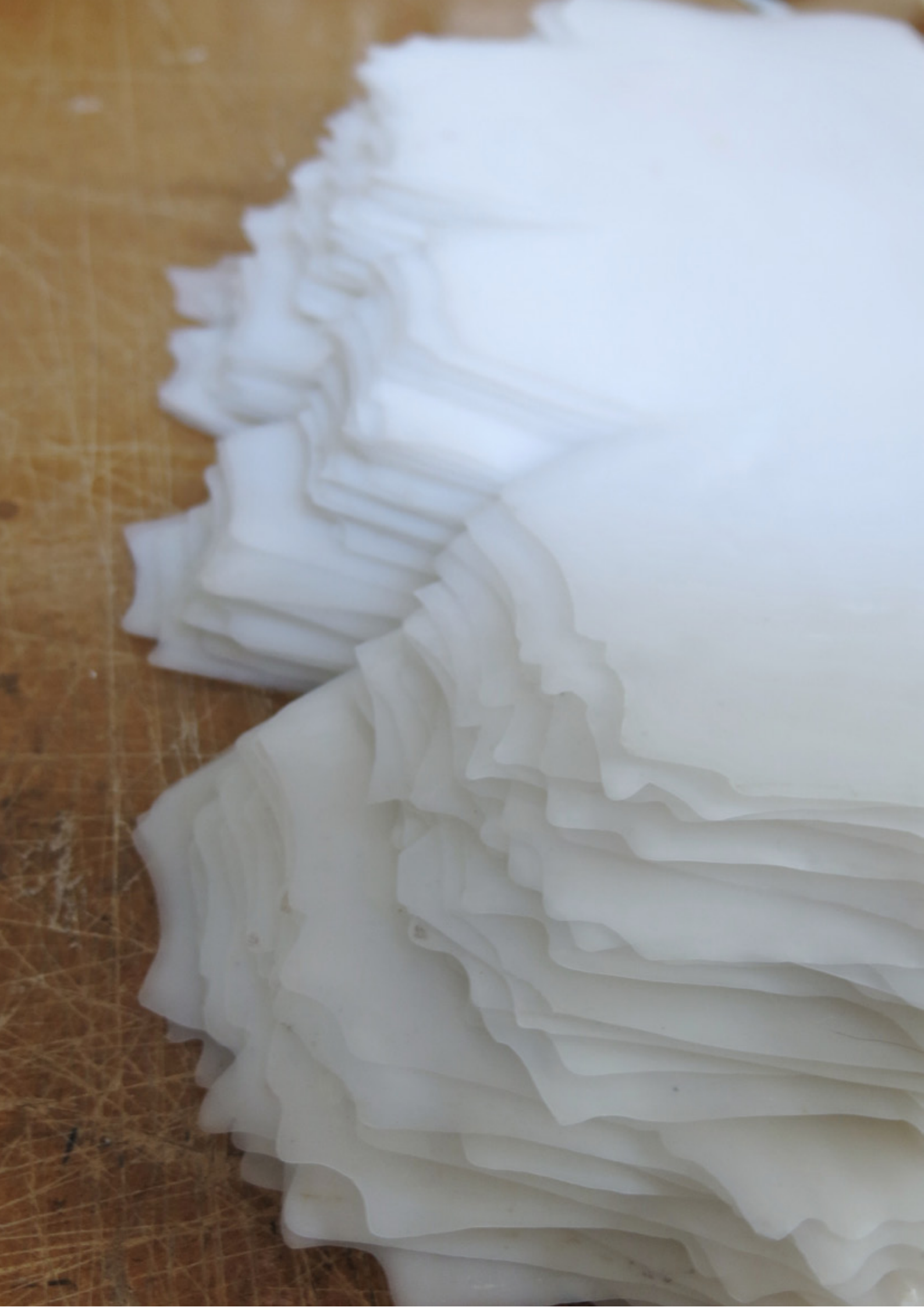


t i o n



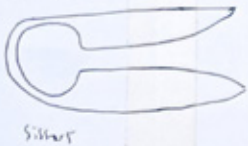
Having done multiple tests with varying thicknesses and layers of skins I decided to go for a two layer thick skin. Two layers was sturdy, but thin enough to be pliable and responded well to being scored with a knife and bent







Wilder dolls are involved in the making of their items?



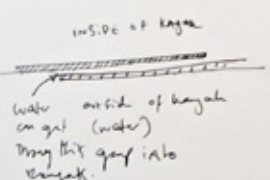
[christopher Raeburn]
fashion

NOTE TO SELF: RE INVESTIGATE THE TERM 'MAKE SHIFT'

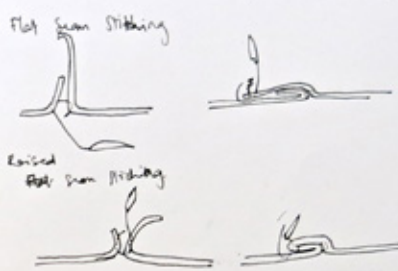
- Aspects of focus - people, culture, behaviour - objects.
- Animals, what do they look like / use
- Geology - mineralogy.

Waterproof Skin joining.

the both in of the kayak could become too thick to heat press ~~the~~ and create a seal. - alternative approach include sewing.



TRADITIONAL Inuit waterproof skin joining technique.



hammer
↓
Film.

IDEA - Go with AKGOS DESIGN IN MADE CANNING - DESIGN WITH SUTHER - CANNING.

- try make photography / film to tell narrative. (AKGOS?)

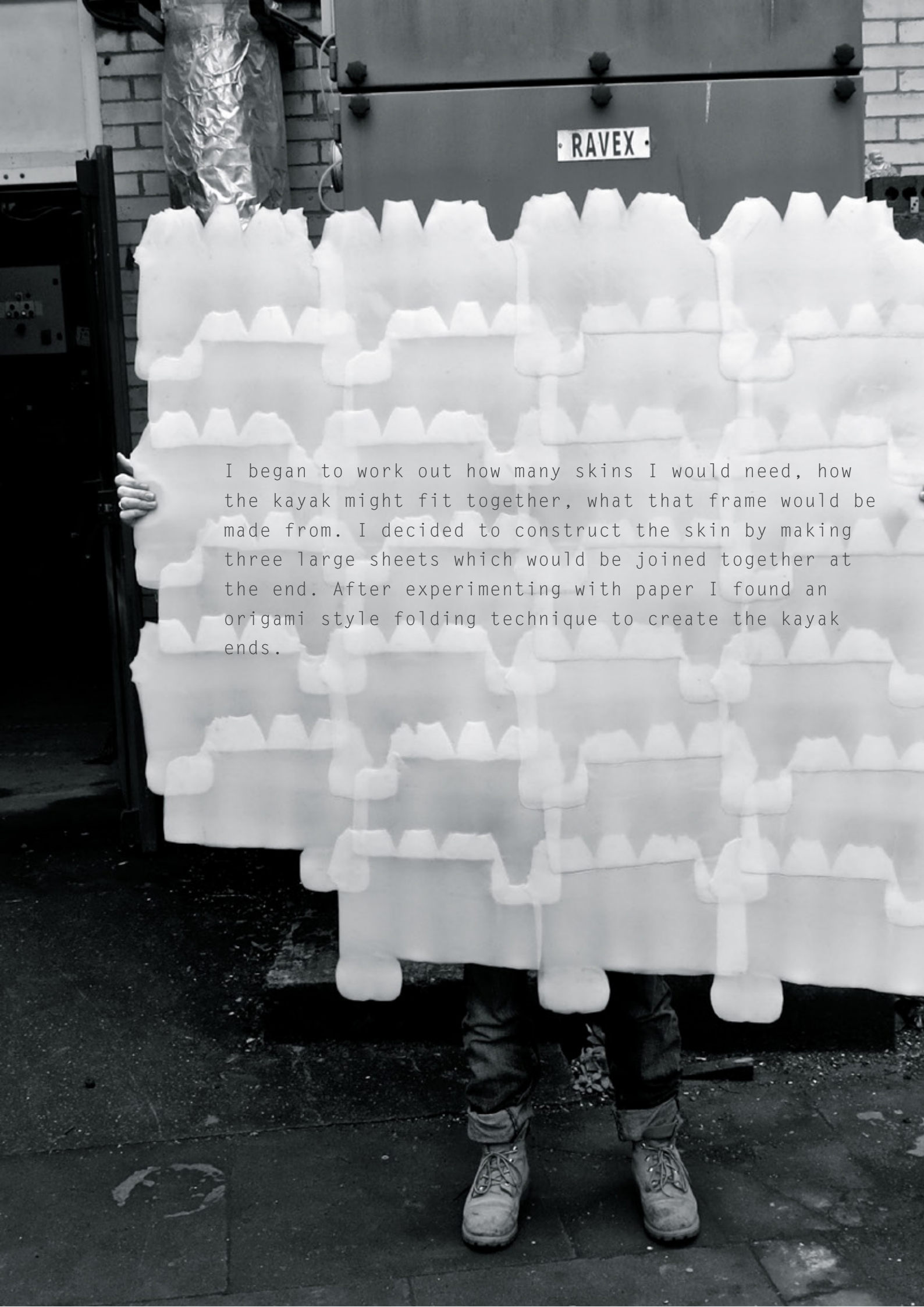
Planting knowledge.

- Use some goods. - Geology. Layers. develop? - incredible materials.

Objects of 'hand' - what are media about?

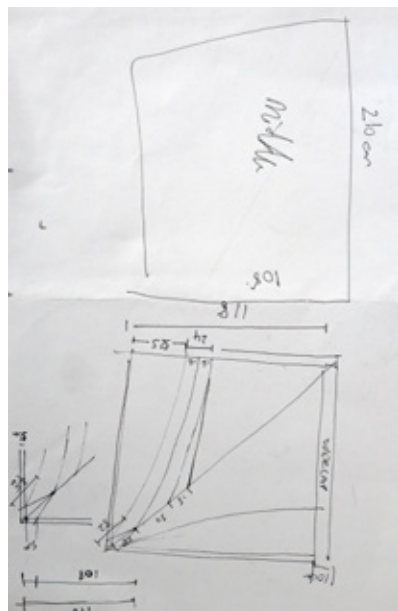
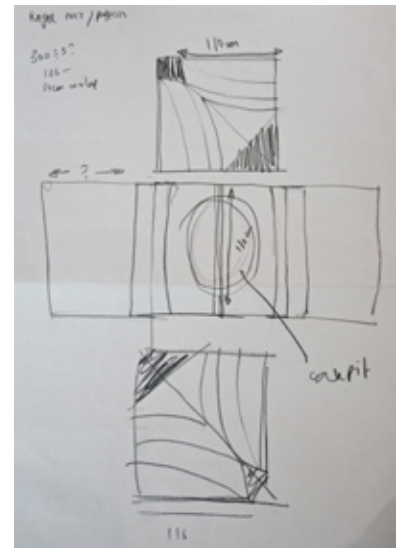
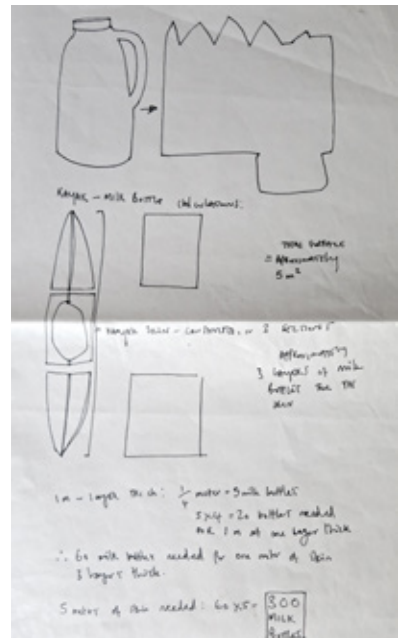
As predicted, due to repeated heating and restrictions in size dictated by the heat press and cold press beds, that material was buckling and making it almost impossible to produce large hides. I needed to apply heat in a more focused manner instead of heating the entire skin, just concentrating on the area that needed to be sealed





· RAVEX ·

I began to work out how many skins I would need, how the kayak might fit together, what that frame would be made from. I decided to construct the skin by making three large sheets which would be joined together at the end. After experimenting with paper I found an origami style folding technique to create the kayak ends.



T h e F r a m e

Research:

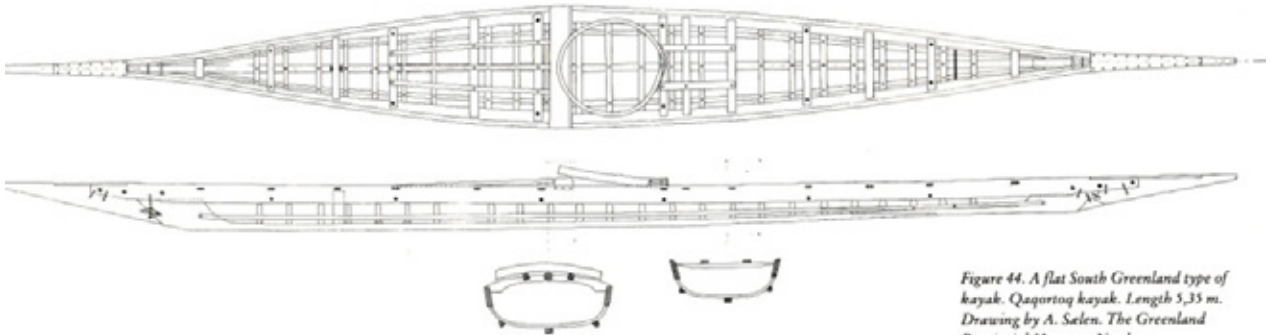
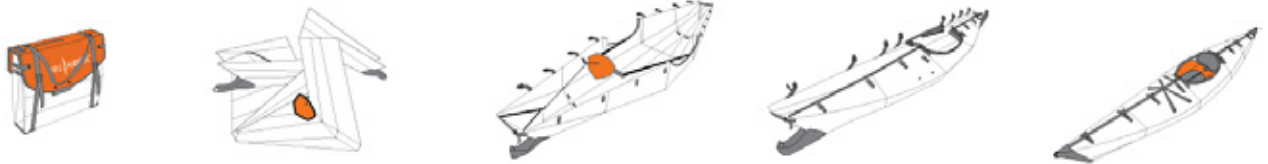


Figure 44. A flat South Greenland type of kayak. Qaqortoq kayak. Length 5,35 m. Drawing by A. Salen. The Greenland Provincial Museum, Nuuk.



Oru kayak

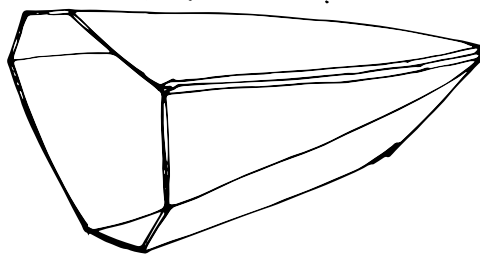


Pitt Rivers Museum



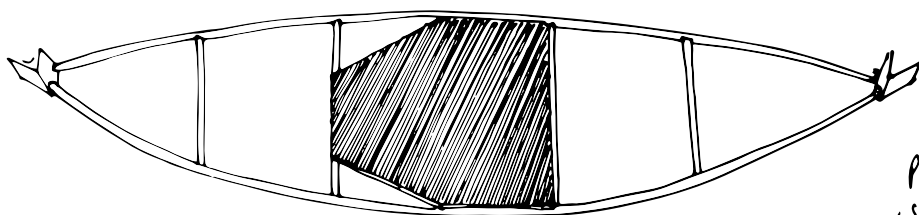


milk bottle shell -
in 3 sections?



→ contact Smith plastics?

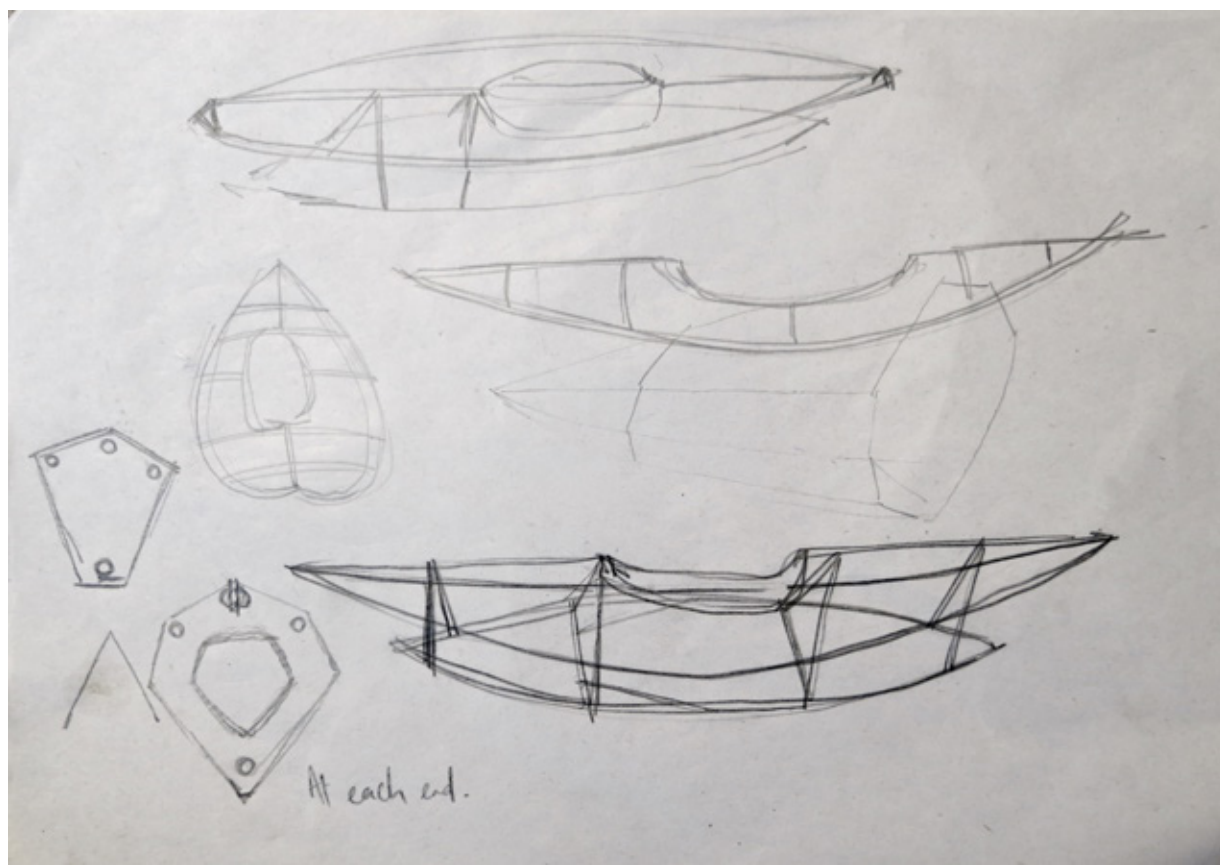
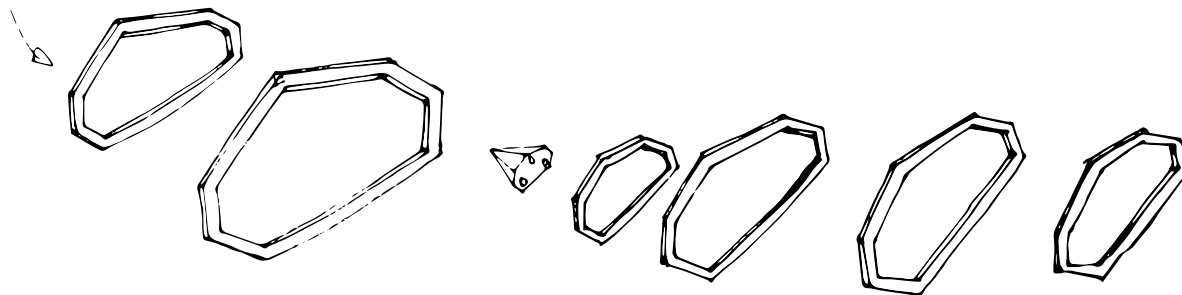
- could make molds and
ok recycled plastic?



BASE FRAME

Ply wood -
is there an
alternative

Skeleton?

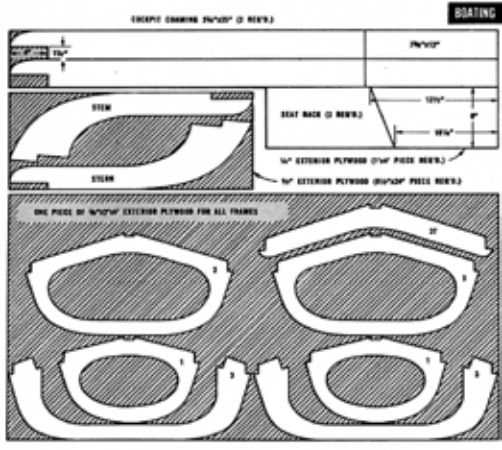


At each end.

CANVASBACK

by S. Calhoun Smith

Build this kayak with hand tools and C-clamps

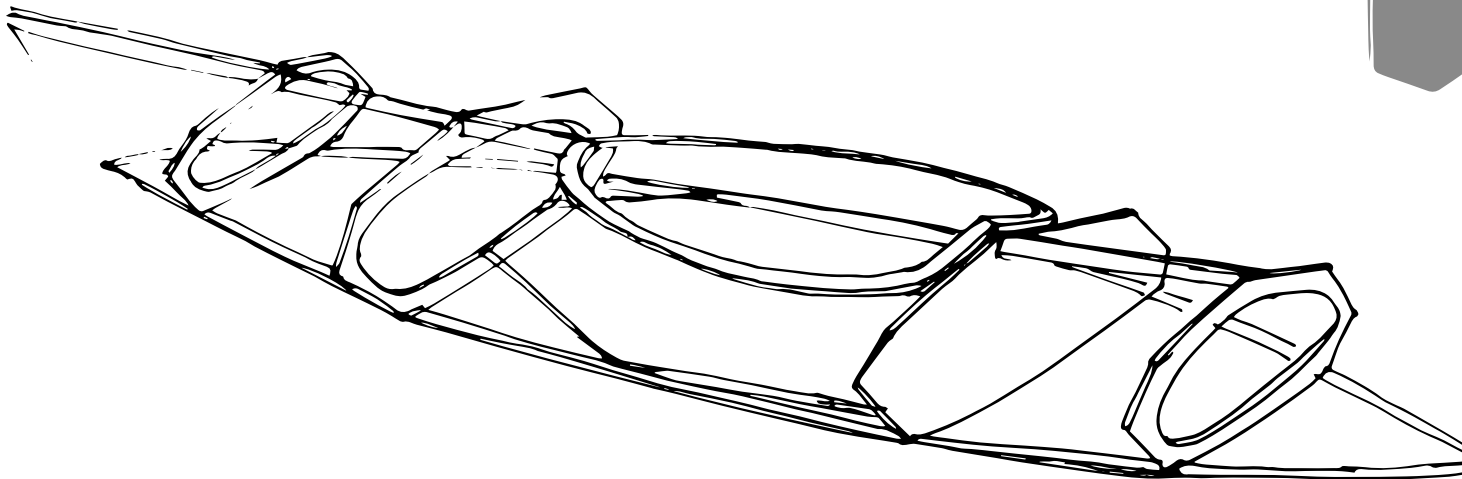
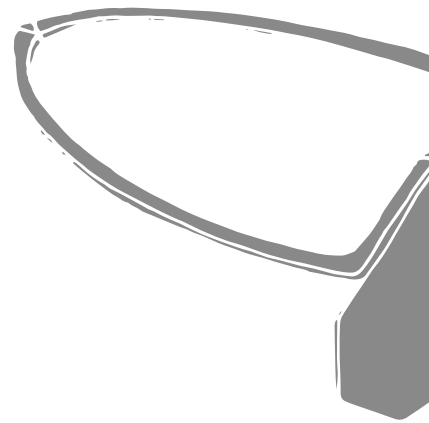
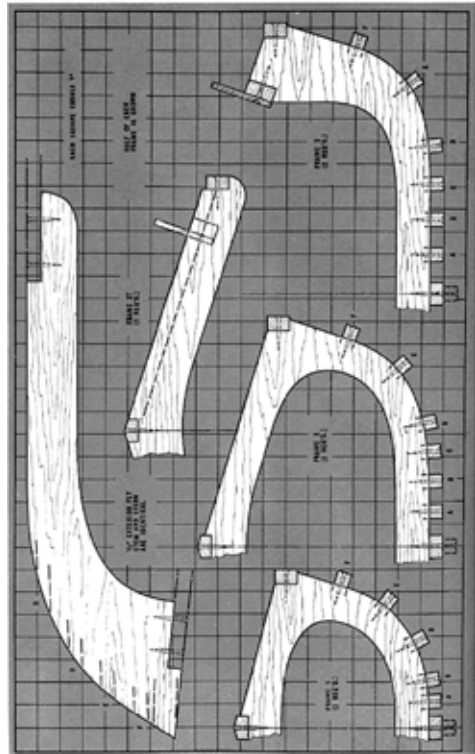


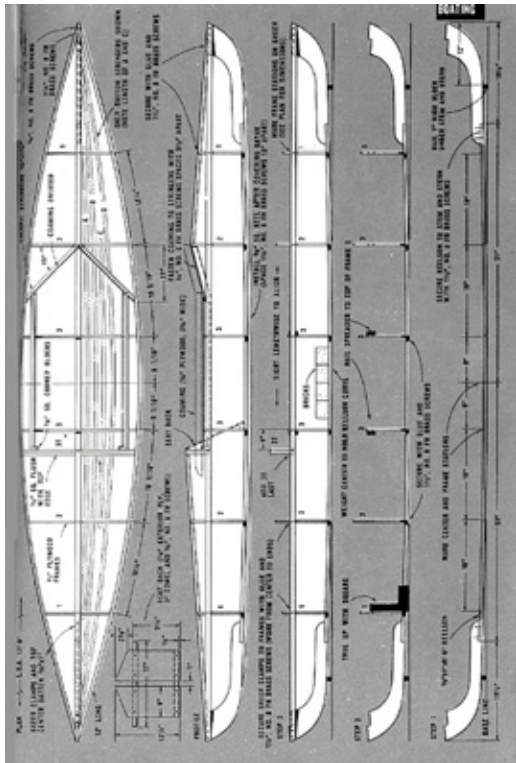
2, you add the frames, making sure they're vertical and square with the keelson. Then you nail temporary spreaders across the open tops of the two center frames. Step 3 calls for the addition of about four locks at the center to hold the curve of the keelson. Then you add the shear clamps which are exactly 12 feet long.



Before attempting to fasten the shear clamps, look at the plan drawing for the measurements which give the frame locations on the sheer. Mark each shear clamp at the center and then mark the frame locations on either side of the center mark. Next temporarily screw the shear clamps to the No. 3 frames and bend them in so that you can mark their ends for leveling where they meet the stem and stern. Be sure the No. 1 and No. 2 frames are located properly when you do this or the shear clamps will not curve correctly. After marking, remove the shear clamps, cut the bevels with a saw and sand them smooth. Then install the shear clamps permanently with glue and screws. Proceed from the center frames toward the

All edges of the completed hull frame must be planed and sanded smooth so that the canvas cover will not wear at any spots. This is important.





BILL OF MATERIALS

SPRUCE, FIR OR WHITE PINE

Bottom stringers and keel... 13— $\frac{1}{2}$ "x $\frac{1}{2}$ "x12"
 Sheer clamps, keelson and top center battens... 4— $\frac{1}{2}$ "x $\frac{1}{2}$ "x12"
 Cockpit stringers... 1— $\frac{1}{2}$ "x $\frac{1}{2}$ "x48"

EXTERIOR FIR PLYWOOD

Frames... 1— $\frac{1}{2}$ "x24"
 Stem and stern... 1— $\frac{1}{2}$ "x12"x24"
 Cockpit coaming and seat back... 1— $\frac{1}{2}$ "x12"x48"

FLATHEAD BRASS WOOD SCREWS

Stem, stern, frames to keelson and sheer clamps, top center battens to frames, cockpit stringers... 41—12", No. 8
 Stringers to stem and stern... 20—12", No. 8
 Stringers to stem and stern... 20— $\frac{1}{2}$ ", No. 8
 Stringers to frames... 12—12", No. 8
 Keel... 12—12", No. 8
 Cockpit coaming and seat back... 24— $\frac{1}{2}$ ", No. 8

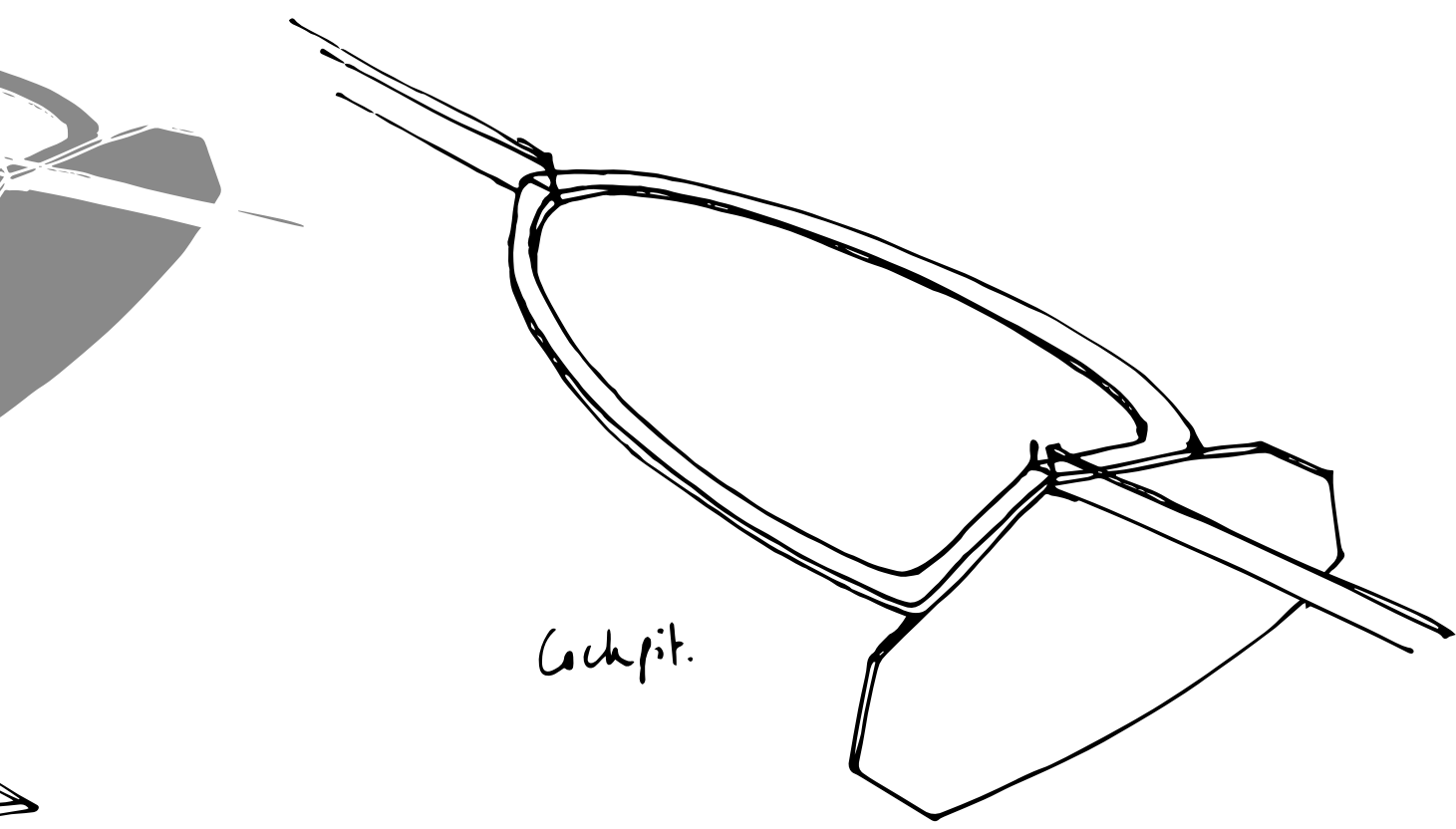
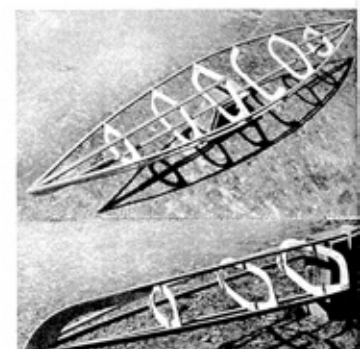
MISCELLANEOUS

Copper nails... 2 boxes—7/16", No. 10
 Waterproof glue... 2½ ounces
 10-mesh screen... 4 pieces—4" wide
 Antimold cement... large tube
 Shear wrench... 1 unit
 Oxidize enamel... 2 quarts
 Clear dope (optional)... 1 gallon

ends, fastening on alternate sides to prevent twisting of the hull frame. Drill pilot holes for the screws and clamp the plywood when boring to prevent splitting.

When the sheer clamps are fastened, deck frame No. 3T is installed. Glue and nail a $\frac{1}{2}$ -inch square strip flush with the top edge of this member before fastening it between the sheer clamps. You will note a difference between the first three photos and the plans in regard to the location of frame 3T. Originally, this member was attached directly to frame No. 3. However, it was later moved four inches aft for better back slant and body weight location; so, follow the plans when you install it.

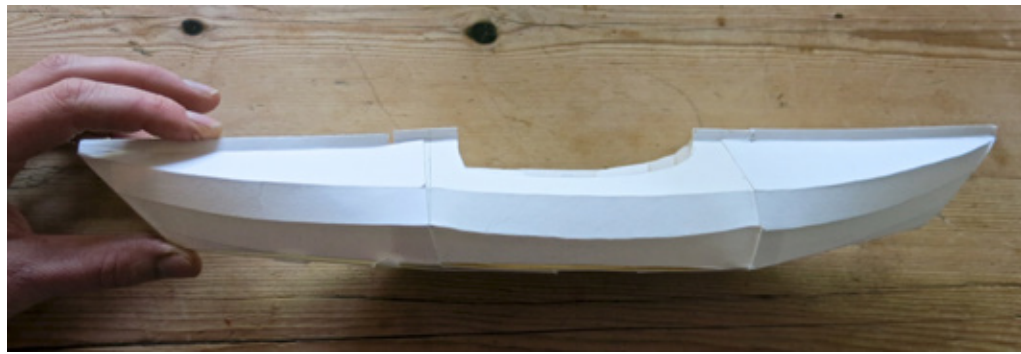
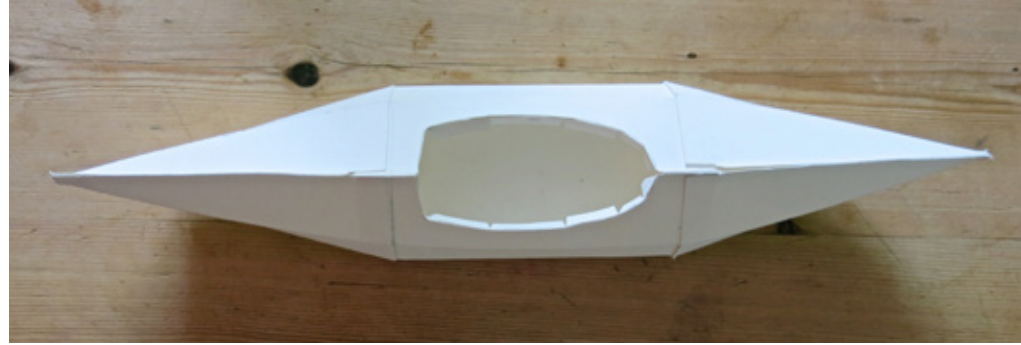
The top center battens go in next and then the stringers. The fastening points for the stringers are shown on the frame drawings. Attach stringer B first and then fasten its duplicate on the other side of the keelson. Then do D, E and F. This method prevents any twist in the hull frame that might occur if all the stringers were fastened on one side first. Note that stringers A and C, which go in last, do not extend the full length of the hull; all the others do. Naturally, the ends which butt against the stem and stern must be beveled and the ends of A and C should be rounded off. Sand all the sharp edges smooth so





Prototyping:





As I mocked up some frame prototypes I began to experience the problem of trying to create structurally sound kayak, whilst keeping to my hunter - gatherer guidelines, using relevant materials. The first model i created looked like a CNC cut, while i didn't have such a problem with the aesthetics i couldn't justify using plywood for my frame, it would not normally be a material accessible to my hunter-gatherer. It also began to look like a product prototype, something i was very keen to avoid as this project is not about suggesting a future where all kayaks are made from milk bottles!

I decided to look to more traditional forms of frame making, there were an abundance of sycamore saplings in a nearby woodland, If i could form the green wood it would provide a study frame, sycamore is a solid choice off wood as it grows like a weed in the UK, unlike trees like the Ash which are on the decline.



Construction:







As Making in green wood was a real challenge, it had certain about of 'give' but at the beginning the pieces i was choosing were too thin and i had a lot of breakages



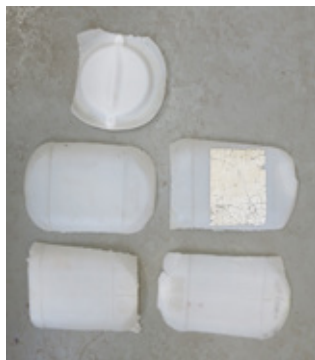




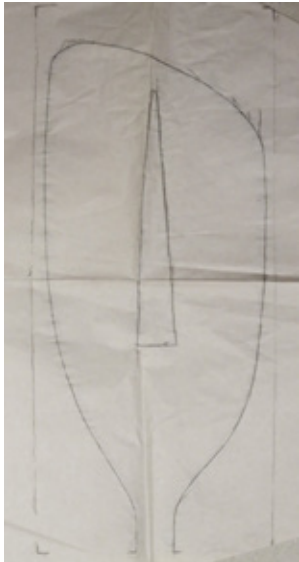


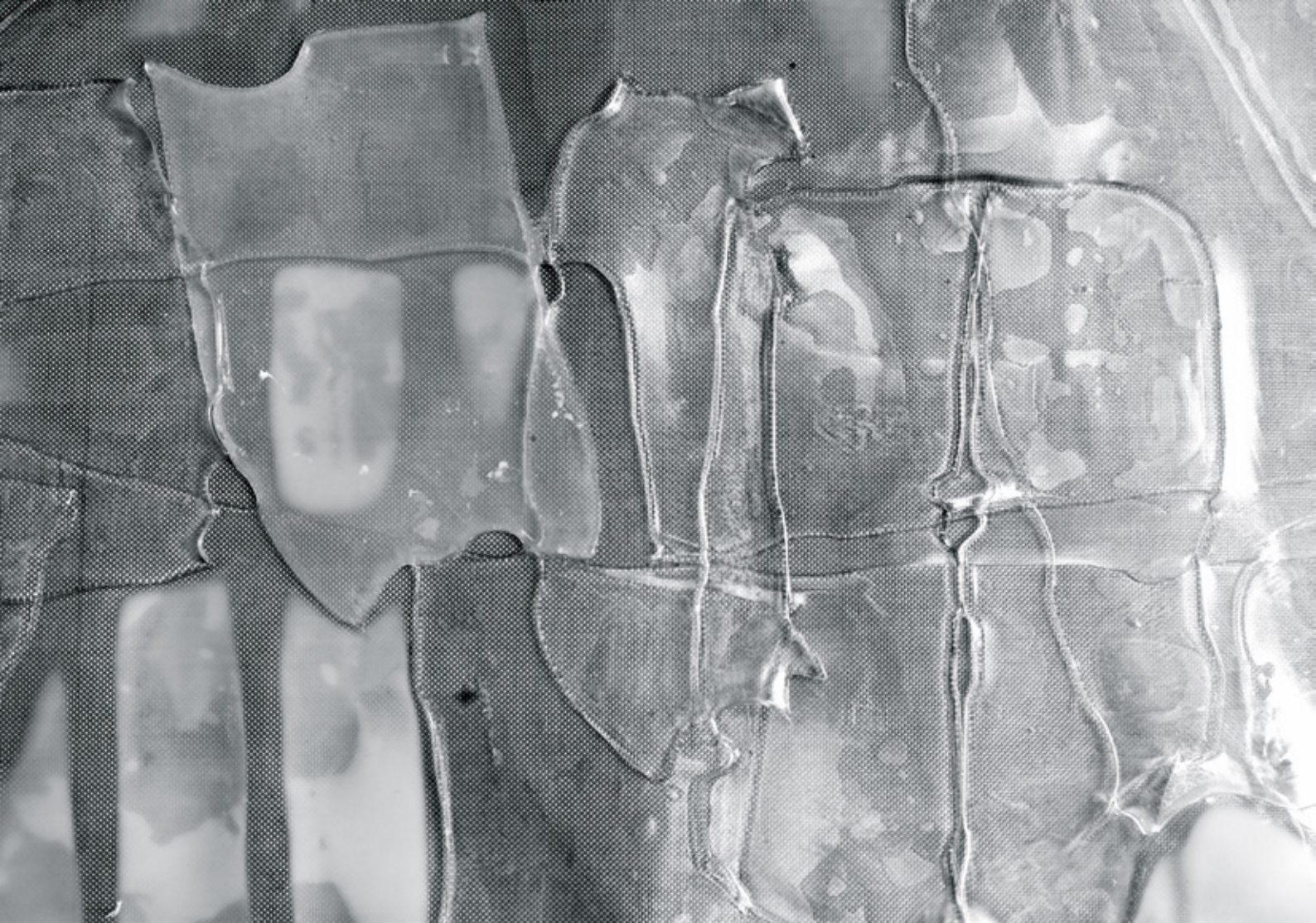
The Paddle

I created a two part hand carved wood mold hoping to be able to put the whole thing in the oven with the plastic in it forming a solid paddle blade, however it soon became apparent that putting wood in the oven could cause the wood to distort or worse still - catch fire. So instead the plastic was heated on a Teflon sheet and then cast into half of the mold and put under the press. Initial tests with recycled HDPE tubs (the same plastic as milk bottles.) These were put through the plastic chipper,



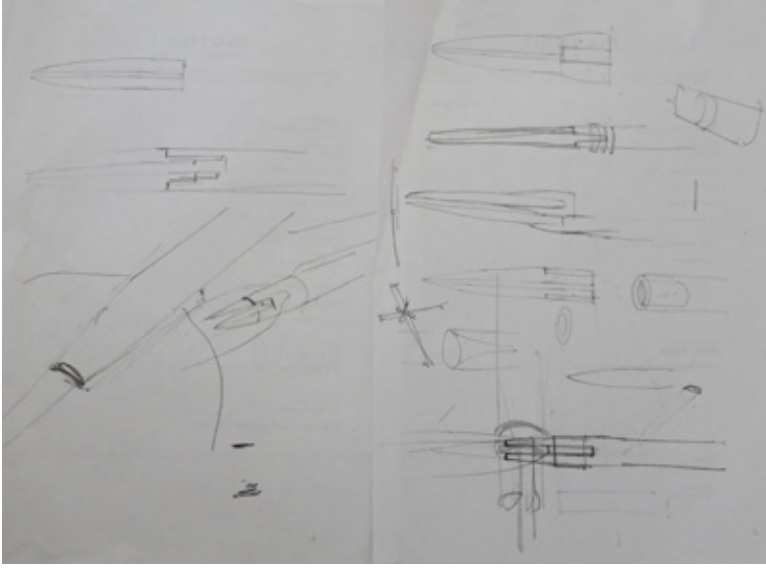
Having tested out this material i found the it could be hard to heat the chippings to get them to bond together, you could still see the individual chippings in the sample, This would affect the strength of the paddle. I decided to test the left over bits from the milk bottles that couldn't be used in the kayak skin - the lid rims and handles. This was much more successful, producing strong, solid paddle blades. I found as I did more casts and the wood mold was repeatedly in contact with hot plastic areas of wood started to come break of as i removed the paddle blade, this tended to discolor the plastic meaning the surface needed cleaning up with a Stanly knife blade.







With the paddle blades cast I had to find a way to joining the two parts together, I considered sewing but found I could seal the two parts using a strip of milk bottle plastic and ‘soldering’ the paddle together using the soldering iron. I decided to use coppice wood for the handle as it would be in keeping with the kayak frame. I experimented with a variety of ways of fixing the blades to the paddle shaft, from binding to heat shrinking plastic but decided to use dowel pegs as this is a feature already seen in the kayak frame.



C l o t h i n g



I think first of the clothing. Winter clothing was almost always made from caribou skin. The fur of arctic fox and, in the western Arctic, Dall sheep, was warmer, but those skins were too delicate. Caribou hair is not hollow the way polar bear hair is—it consists of large, multichambered cells—but the effect is the same: excellent lightweight insulation. The skins of adult cows, taken early in the fall, before their winter coats got too thick, provided the best combination of warmth and lightness. (Late-fall cow skins, like those of bull caribou or of muskoxen, were too heavy to be comfortable but made excellent bedding.) Caribou calf skins were used for underclothing and boot liners. The skins of the caribou's forelegs were used for boot uppers and in the palms of mittens because they resisted abrasion. The ruff of the parka was of wolverine or wolf, furs that easily shed the ice crystals that form there from breathing. The tightly spaced stitch-

...

Eskimo clothing required daily attention—sewing, softening, and drying—because it was somewhat fragile. It was lighter and warmer, however, than any clothing Western explorers brought with them to the Arctic, and after several fatal lessons, expedition leaders began to insist on Eskimo clothing for everyone. In some respects it remains superior for general use to modern Western expeditionary clothing.

Exert from Arctic Dreams by Barry



A. Caribou skin dicky from Cape Chidley.
B. Man's walrus skin dicky from Cape Wankarem.
Division of Anthropology, Museum No. IV B 283, 288.
Collected by E. W. Hawkes.

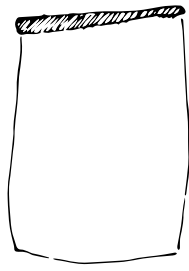
Skins and furs were once part of a living and breathing animal, this gives it remarkable qualities and requires specific knowledge around the preparation and working of the material. Unlike the homogeneous fabrics that can be created by today's machinery, the qualities of skins are unique and demand respect.

Many companies producing outdoor/adventure clothing attempt to mimic the versatile qualities of natural animal skins. An Inuit parker made from intestines for example: the intestine is specifically designed to let specific molecules pass-through its wall, so the animal can filter the nutrients and water out of its food. When the intestine is cut out of the body it doesn't lose these properties, so the coat is made out of a material that is both waterproof and breathable by ecological design. There are modern technologies out there such as GORE-TEX that try to achieve these qualities. A quest for the ultimate synthetic skin.

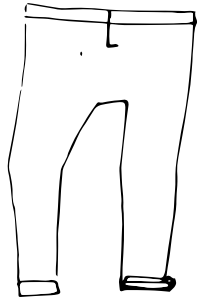
The clothing that the hunter - gatherer of the Anthropocene wears needs to be kayak worthy - waterproof and flexible enough to move about in. When looking to make these items of clothes I hunted for materials with specific qualities.



UTILITY TROUSERS... OR GO BIGGER?
 RE THE ANTIKIPPOURNE HUNTER LANTIER



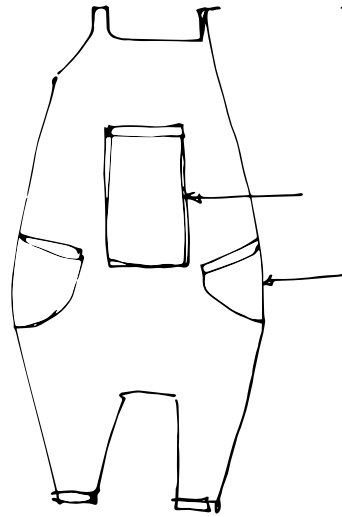
25kg Flour bags



TROUSERS

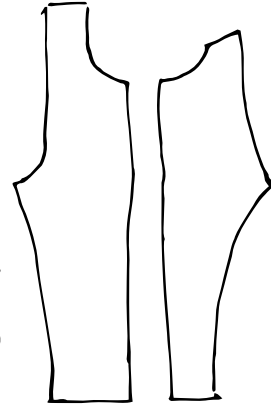
(important trousers) -

- Functional -
- Frayed Lobes
- WATERPROOF if pos.
- CHIC lining for strength?
- POCKET & GATHERERS

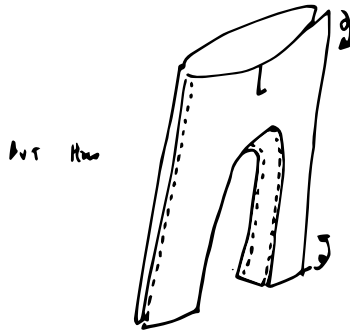


LARGE POCKET RE GATHERERS.

HUMBLE/FLEA-MARK WEARS?

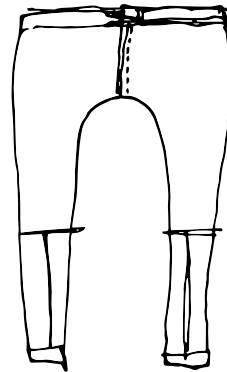


LARGE PATTERN



But How

?



CHIC

TEST WITH CALICO

work downwards:



Collection trousers



FD Do VIST - Contact b. + binder?

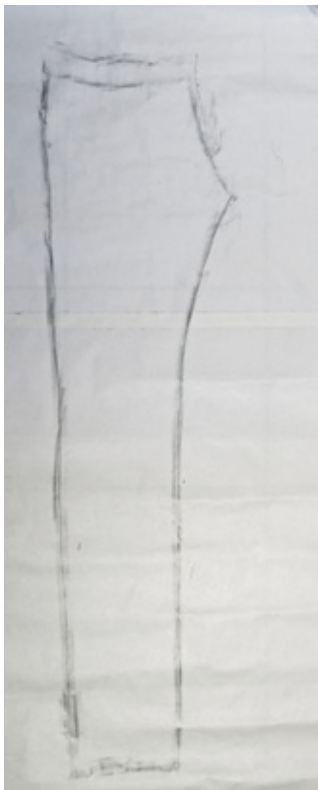


coffee grime ink





Test in thin fabric



The flour bag produces a light-weight material that is warm to the touch, it is fairly tough, and doesn't restrict movement. Though not naturally waterproof it can be waxed which is done using an iron. This material is easy to sew and perfect for making trousers as it moves easily with the body. Visually the waxed material resembles oil skin and the way it creases and ages means it is easily mistaken for a natural animal skin.

Grand Siècle

Grand Siècle
Campaillette

Grand Siècle
Campaillette
ARTISAN BOULANGER
pour pain de tradition française
Farine de blé
100%

T130

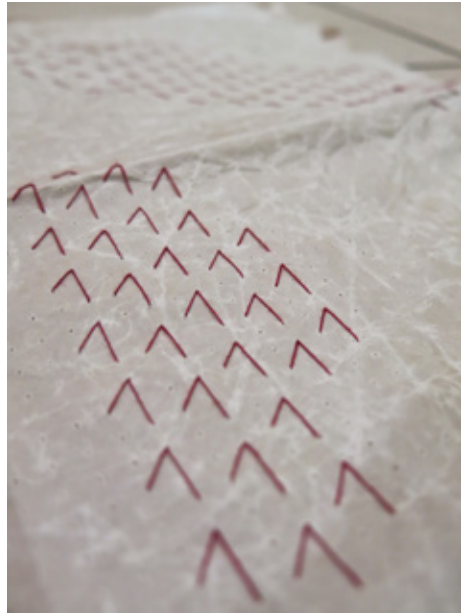


GRANDS MOULINS DE PARIS
100% BLÉ DUR
100% FARINE
100% TRADITION
100% ARTISANAL
100% FRANÇAIS

N°1 25 kg



Stitching tests



Buttons from milk bottle lids and coppice wood



The coffee-bag skin was chosen for the jacket as it is durable, waterproof and retains heat, it is slightly less flexible than the flour bags but more resilient. It can also be joined using heat which means creating water tight seams is possible.



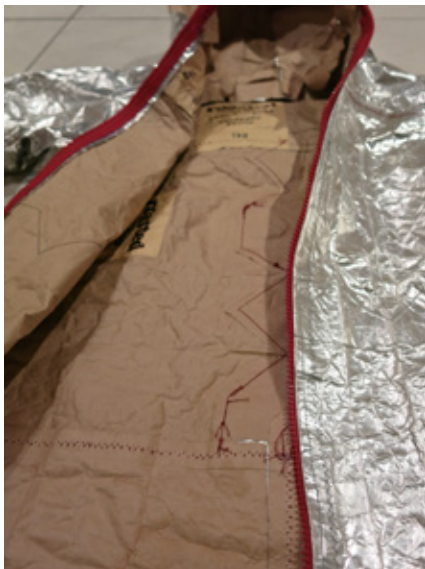
Coffee Bag Mountains



Attempt at puffer jacket material - too bulky



Jacket body -Work in progress

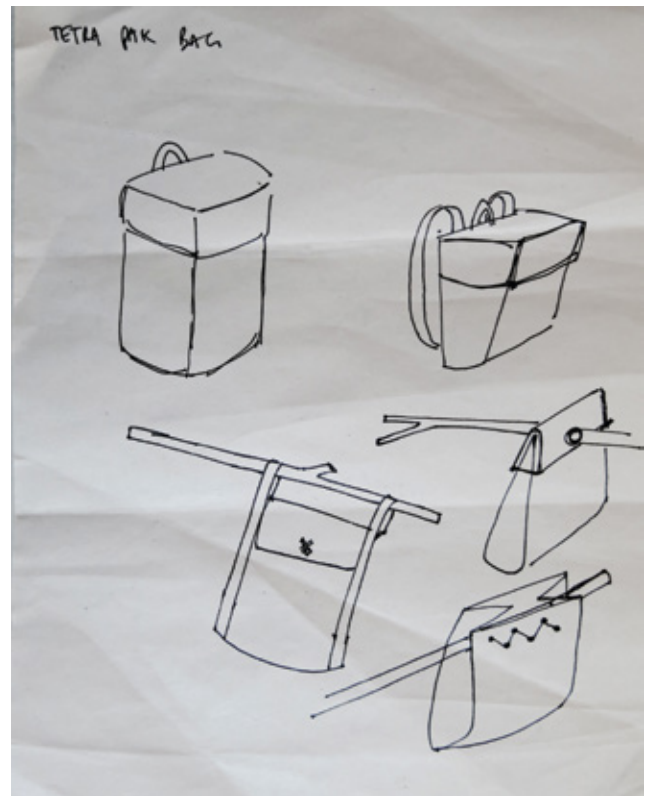
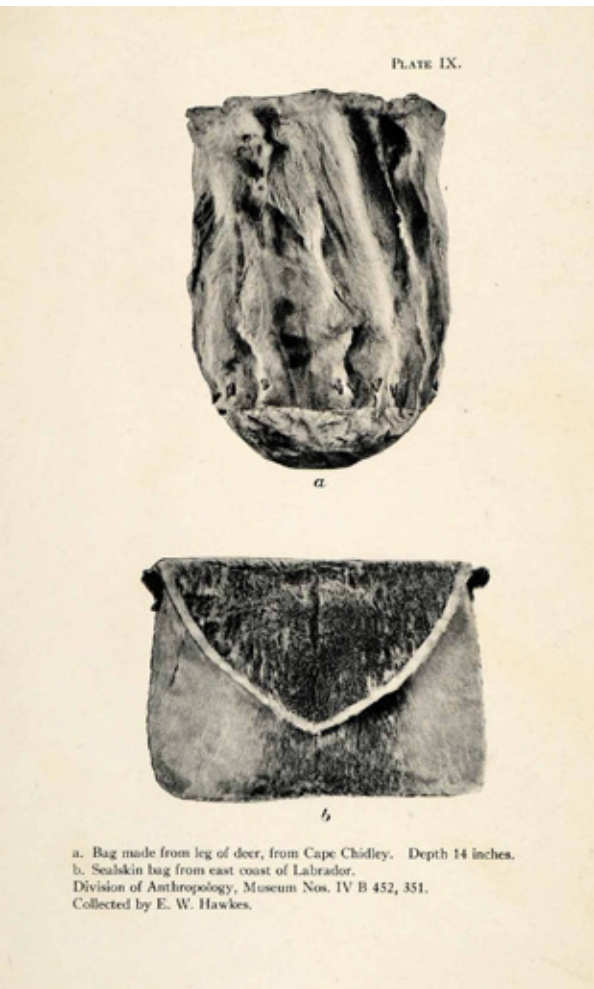




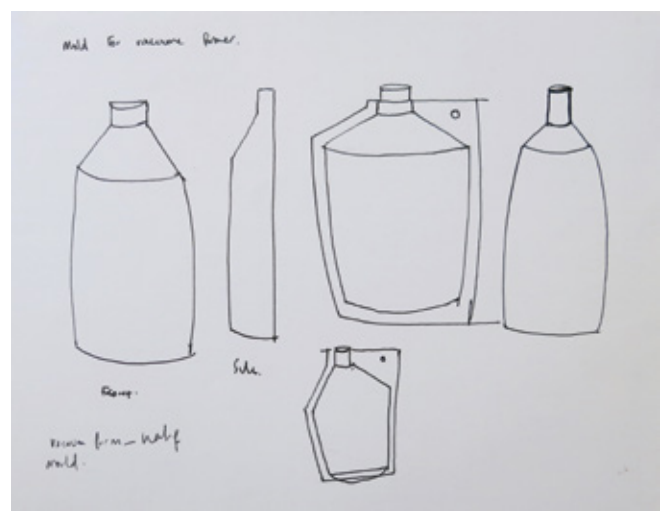
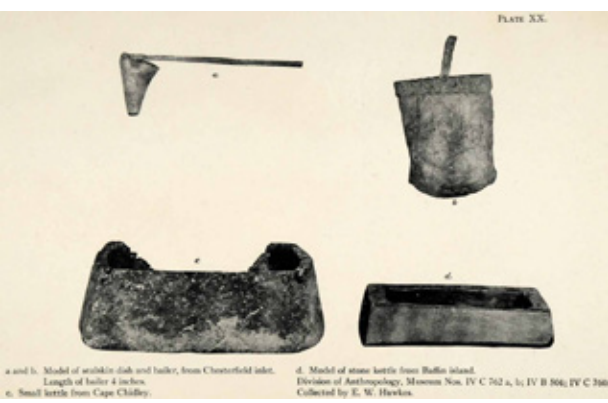
G a t h e r i n g

B a g

Ba bag or vessel to carry belongings and found items in is a hunter gatherer essential, it assists a life on the move. I was keen to create a hard wearing waterproof 'shell' that would protect the knives better than fabric



Pitt River Museum



HERITAGES of THE POSTAPOCALYPTIC. [old + new in a specific site? location / environment]

CONCEPT / CONCEPTS.

ENVIRONMENTAL & THE POSTAPOCALYPTIC

HERITAGES of THE POSTAPOCALYPTIC

DESPIRE RAPIDLY CHANGES in LIFESTYLES BASIC NEEDS REMAIN THE SAME.

RETAIN IDEAS

DIFFER? SELF BEHAVIOR. WHAT WOULD THIS LOOK LIKE in the context of a Society. basic livelihood?

- what is the journey for? Why? what is the intention?

KAYAK → FLOODING?

vacuum FORMED WATER BOTTLE container.

what does hunting look like in the postapocalypse? we have animal weighting.

water / water

THE AGE of the most AGRICULTURAL waste.

WAX IN THE POSTAPOCALYPTIC.

THEMES:

POSTAPOCALYPTIC. POSTEXISTING. RESISTANCE. JOURNEY. FLOOD. MIGRATION? HARVESTING

DOCUMENTATION

EXPERIMENT.

21st CENTURY ISSUES?

the Culture of The Postapocalypse

what would be hunter gatherer of the postapocalypse built with?

what does a meal in the postapocalypse look like?

CONCEPT

A Day with a hunter gatherer from the postapocalypse

POST APOCALYPTIC? how would a hunter gatherer see the London 2012?

what is the driver story behind these artifacts?

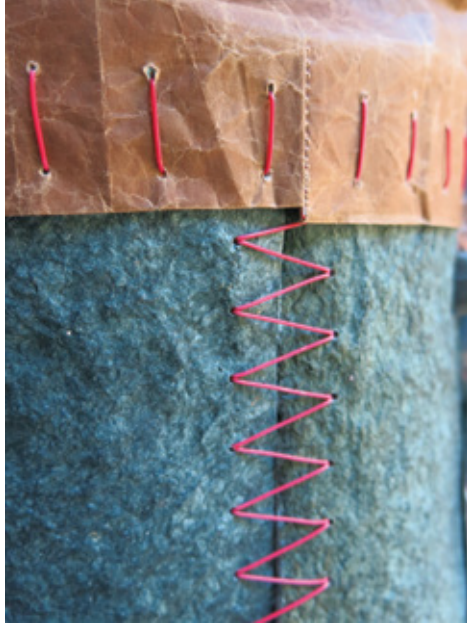
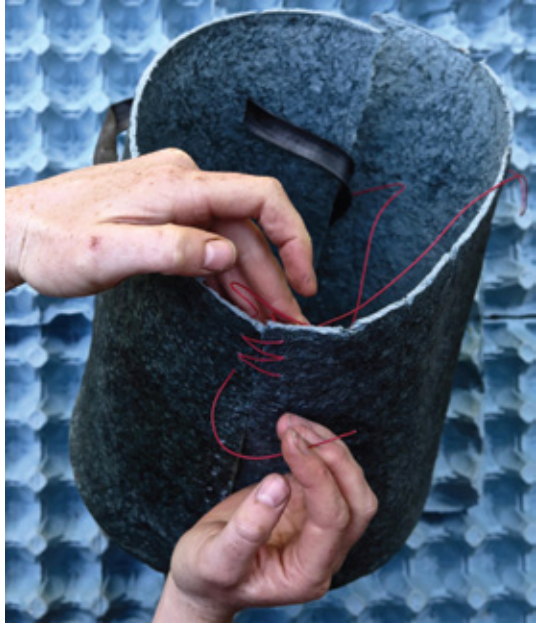
trapping - artifacts.

DESIGNER - ART? NOW OR. FOR.



Initial experiments included vacuum forming milk bottle plastic, this didn't work well due to the irregularities in the material. By experiments with egg trays i found i could produce a durable, lightweight material that could be waxed to make it waterproof. I experimented with making a binder from flour and water, varying the qualities, consistency and egg tray colours. This was then dried out, The mixture had the appearance of meat before the drying process





The bag was finished off with a waxed flour bag top, a strap made from inner bicycle tubing and electrical wiring for the stitching. Having carried milk bottle from small batch for weeks on end i realised the they were far to chunky to fit in any gathering bag, the best way to carry them would be with a rope through the handle.



Tools



Flækkeredskaber

Flækkens kanter er knivskarpe, og med en enkel tilhugning kan den videreforarbejdes til forskellige redskaber.

Flækken sættes ind i et skaft af træ eller hjortetak eller omvikles med et stykke beskyttende skind.

Undersøgelser af flintredskabernes slid viser, at de ofte er brugt til flere forskellige slags arbejde, f.eks. skrabning og savning.

Blade tools

The edges of the blade are razor sharp, and with simple working it can be made into a range of tools.

The blade is either mounted in a wooden or antler handle or wound with a protective piece of hide.

Analyses of the wear on flint tools show that they are often used for several different kinds of work, for example scraping and sawing.

Flækkeredskaber

Ringkloster, Østjylland. 5.400-4.000 f.Kr.

Blade tools

Ringkloster, eastern Jutland. 5400-4000 BC.



Stemmejern
Burin

Bor
Borer

Kniv/høvl
Knife/plane

Skraber
Scraper

Kniv
Knife

Sav
Denticulate
blade

Blok
Core



Forarbejder
Small blades



Tværpile
Transverse arrowheads

Pilespidser

Ertebøllejægerens pile har en bred, skarp og tværstillet flintspids monteret på skaftet. Disse tværpile er lavet af små flækker og flintafslag hugget fra specielle blokke.

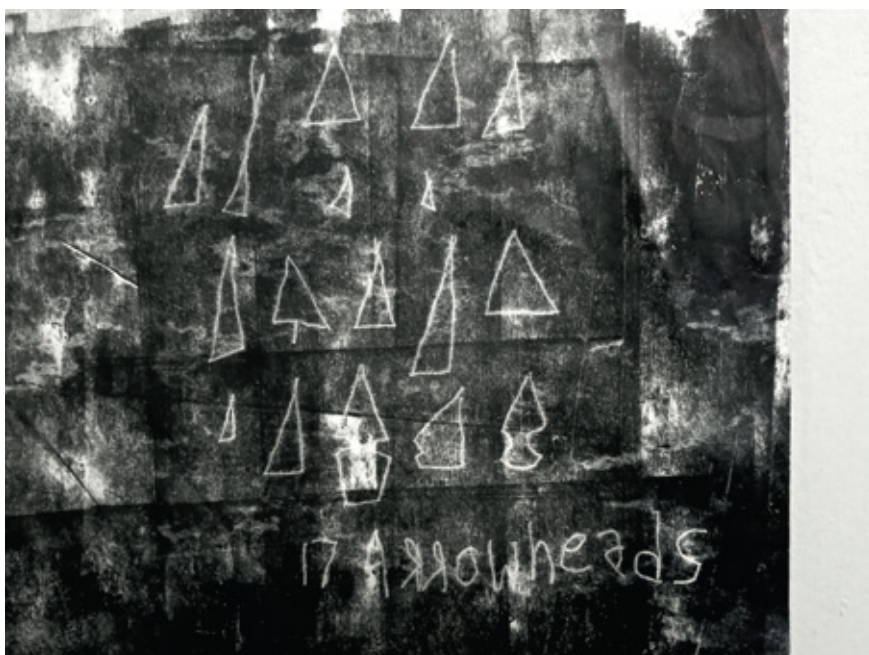
Ringkloster, Østjylland. 4.600-4.000 f.Kr.

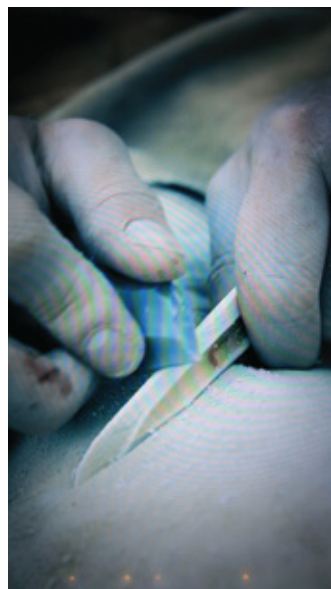
Arrowheads

The Ertebølle hunters' arrows are tipped with broad, sharp, transverse flint arrowheads. These are made from small blades and flakes, struck from special cores.

Ringkloster, eastern Jutland. 4600-4000 BC.

These are Danish arrowheads displayed in Moesgaard Museum in Aarhus. I was taken by the incredibly accurate knapping, the skill involved is astonishing, these tools were vital to survival once. Each blade or arrow head designed for a specific purpose, to pierce, or scrape or cut. This specificity of purpose defining form would guide the design process as I started making the tools of the Anthropocene. Below is a mono print study playing with the variety of arrowhead forms.





Photos taken by author at Moesgaard Museum Aarhus

T h e U l u

"The Inuit hunters have Ph.D.'s in living in nature. I think these small, remote communities can invent a sustainable future for themselves."

<http://news.nationalgeographic.com/2017/01/arctic-maps-climate-change/>

Exert from 'Arctic Dreams' by Barry Lopez.

at the people who made it. With Eskimos created a wealth of utility by ingenuity in design, specificity of material to the task.*

Among the Inuit Communities they still use an Ulu knife, it has a single blade and while not designed for specific purpose is designed for arctic life and the materials and tasks that entails. While they vary in designer and material, the principle stays the same, a rounded blade with a handle at the top. It fits snug in the hand and is passed down through generations of women.



<http://www.britishmuseum.org>



National Geographic image



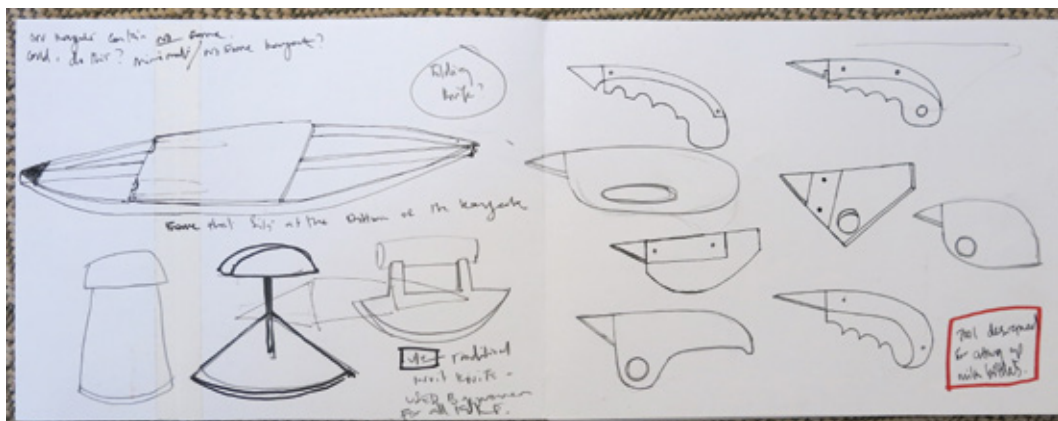
Polar research institute,
Cambridge

a minimum of materials historic
itarian implements, distinguished
of purpose, and appropriateness

M i l k B o t t l e

K n i f e

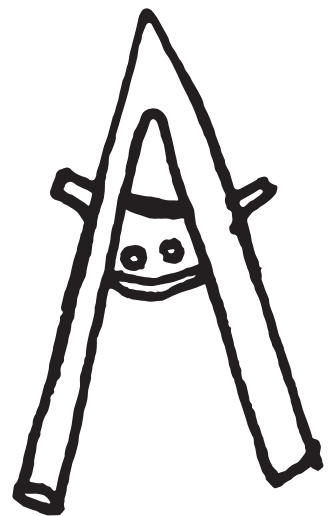
As I developed techniques and experimented with varying 'materials of the Anthropocene' including the milk bottles, i began to find that the everyday tools i was employing weren't so effective for such niche tasks, scissors and scalpel both left my hand with cramp and could be awkward to handle or control. I needed a bespoke tool that would allow processing milk bottles to happen with ease. The blade was formed from a piece of scrap steel and the handle made from the 'bones' of the milk bottle - the lid rims and handles. This was an effective way on creating a 'synthetic bone' though i the steel, despite being scrap could have been sourced in a more interesting way. The metal pins were replaced with recycled plastic ones in red - a reoccurring colour withing my project.





D r a w K n i f e

The wooden frame of my kayak required the bark to be stripped off of all the saplings, these were then shaped before bent to form. Striping bark requires a draw knife. The woodland where I sourced the sycamore is located on the outskirts of Brighton, it became evident that the land had been used as a dumping ground for motorbikes and other small vehicles. This provided a harvesting opportunity, while the majority of the bike bodies were totally rusted, the break plates seemed to have stayed relatively rust free. The circular shape provided a perfect blade for a draw knife. I constructed a handle from a piece of forked coppice - milk bottle handle for a milk bottle knife, wood handle for a wood knife. The handle was then wrapped in inner tubing from a bike tyre, adding grip and reducing rubbing on the palm of the hand.





The ancient tools that I researched such as flint knives and arrow heads are relics of 'hands on' lifestyles, of physicality, of interaction, many of them are significant to providing and preparing food. Farming dramatically changed the tools needed and the larger scale it became the more the tools grew into machines and the part human hands played in the process became remote. As an area of research I decided to see if I could get 'hands on' with my food again and experiencing how tools aid this process. I helped slaughter two pigs, went fishing and visited a dairy farm.

During the slaughtering/ butchering process it was interesting to see how the skins were removed in relation to the skinning of the milk bottles. Naturally the process was entirely different, as you might expect, however the tools and hand movements were very similar, swift actions, and a steady hand.



Tools involved:
knives, saws

B u t c h e r i n g



F i s h i n g



The future of fishing in the Anthropocene:

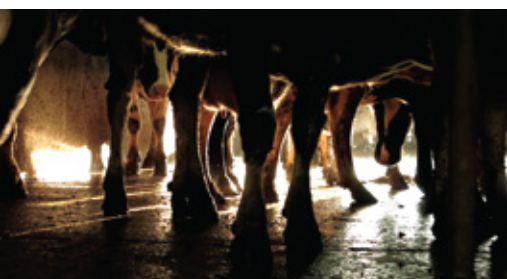
'100 MILLION plastic bottles are thrown away every day, By 2050, our oceans will have more plastic trash than fish.'

<https://secure.avaaz.org/page/en/>



Tools involved:
fishing rods,
hooks, knives,
scissors

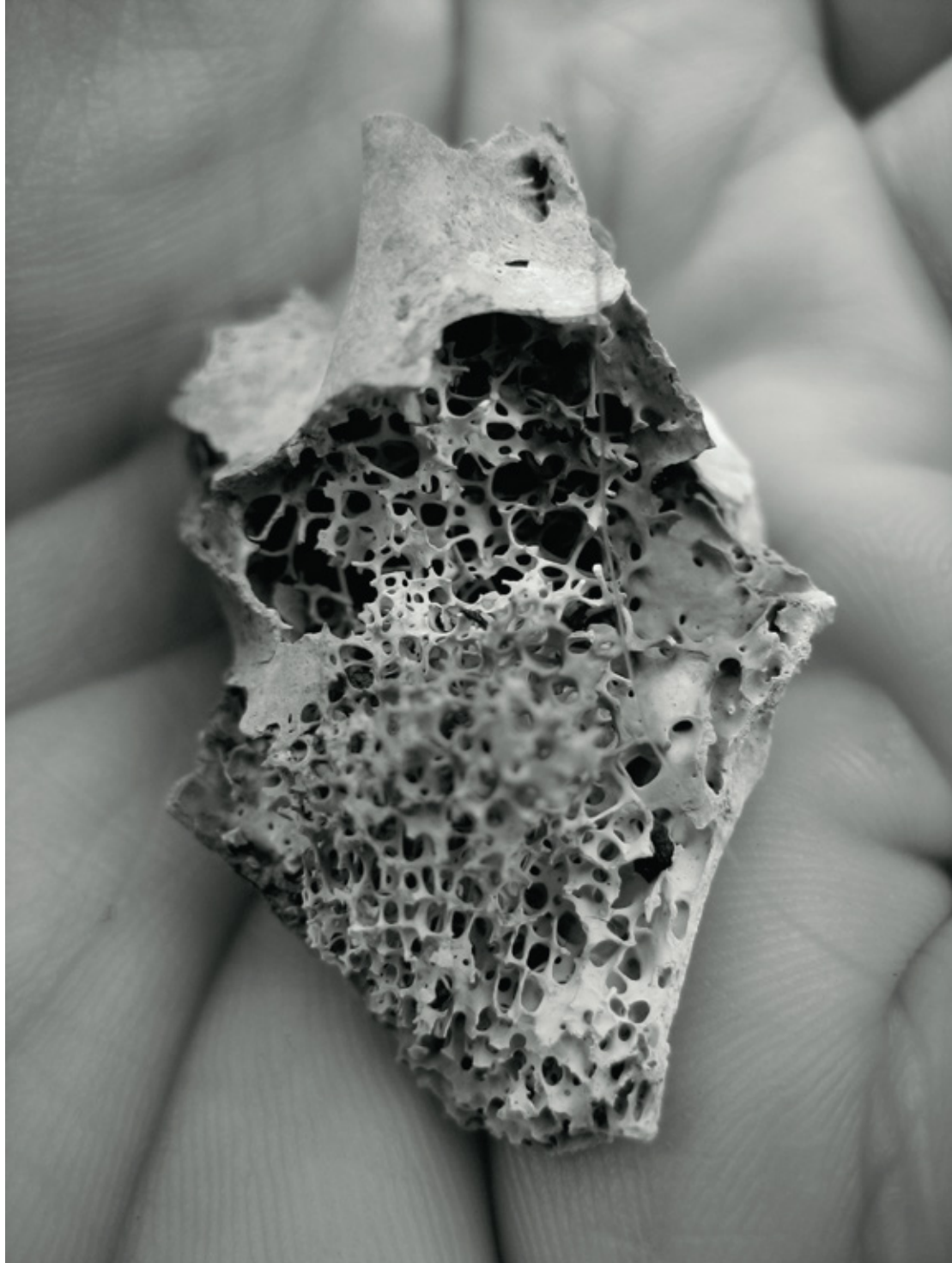
M i l k i n g



I traced the milk supplier of the cafe I collect milk bottles from to see the milk bottles doing their job and gain insight into the milking process. The farm I visited is a family run business with just 80 cows, so very different to farms that supply supermarkets. The farmer commented on the effect of increasing vegan-ism and dairy alternatives on the dairy market.



Tools involved:
sponges, thermome-
ter, rubber gloves



The ancestral Inuit tool kit employed raw materials from hunted species plus some worked stone and driftwood. Their technology depended heavily on compound tools made from several types of raw materials and incorporating several parts. A harpoon might employ a driftwood shaft, a foreshaft made from caribou antler, a socket piece from walrus (*Odobenus rosmarus*) bone, a finger rest made from walrus ivory, lashings made from caribou sinew, a head made from whale bone, a blade made from slate, a line made from walrus hide, and a sealskin float.

Bone has a history of use as within tool making, often forming handles or needles. I took a sample of the pig bone that I helped butcher and simmered off the meat to see if it could be used as a material within my tools or even kayak parts. I was unspecific in my choice of bone and would have needed to choose one with a denser makeup, after simmering the bone lost colour and was not hard or thick enough to carve.

B o n e





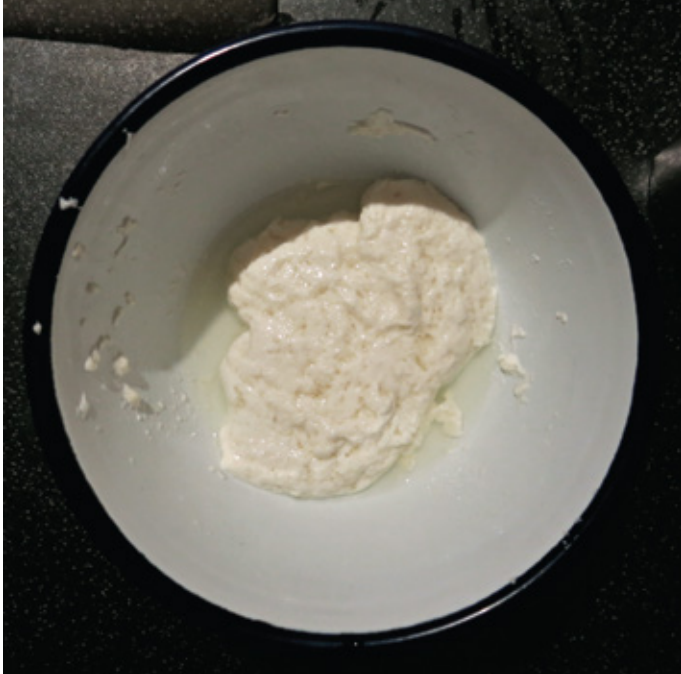
Milk in the Anthropocene

'Scientists have calculated that the 360,000 tonnes of waste milk that is poured down British drains each year creates greenhouse gases equivalent to 100,000 tonnes of carbon dioxide, which is about the same as that emitted in a year by 20,000 cars.'

<http://www.independent.co.uk/life-style/food-and-drink/news/drink-your-milk-waste-is-equal-to-gas-emissions-from-20000-cars-7743521.html>

Despite producing a range of successful casein samples, it wasn't so durable and I failed to find a use for it with in my project so they didn't develop into objects.

M i l k



Many of the techniques and processes I developed required heat, I began looking at ways of creating a portable stove that could be used to dry out the egg tray material when constructing new bags and also perhaps create a DIY soldering iron by heating using the stove to heat a shaped piece of metal. I used large cans foraged from restaurant kitchens around Brighton. It channeled air well and created a lot of heat with just small sticks. Although it worked on a practicable level aesthetically it didn't quite match with the rest of my artefacts. With the others I had manipulated the materials to a point where there was a mystery and the materials' origins, they were hides and shells and skins. The cans that made up the stove remained visibly cans and due to this had a much more makeshift appearance.



C u l t u r a l

O b j e c t s

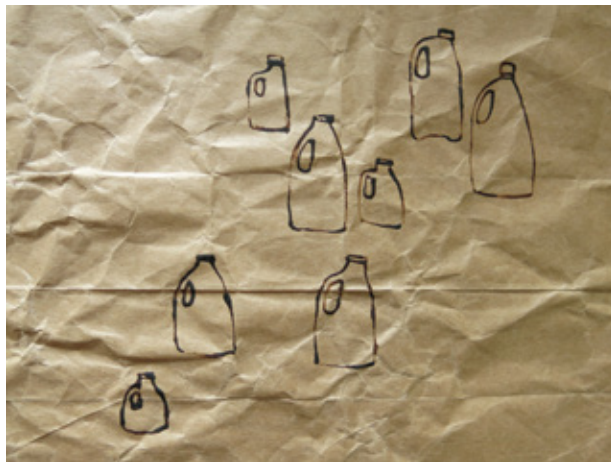


Pitt River Museum

Wherever I went I felt the loss of the Sadlermiut and so a sharper sense of gratitude toward those who once wrote down the observations of arctic peoples, described their skills, and saw to the preservation of the objects of their culture. Even if we cannot say what an object meant, we can still marvel today at what it did and at the people who made it. With a minimum of materials historic

Cultural objects might not have an obvious practicable function but they are vastly significant in defining aspects of a communities cultural identity. I looked at the objects created by Inuits, they used their local materials and often created objects that mimicked the wildlife and animals they saw around then. Using that as a framework i used the milk bottles and flour bags to create objects that were unrefined but tried to capture the essence of some common animals of the Anthropocene. It was interesting to note the impact these had in creating the 'world' of the hunter-gatherer in the Anthropocene. While the previous items were practical with obvious uses, these material animals suddenly began to say something about how these hunter gathers might view and interpret the world just as archaeological objects help us build an image of our ancestors and what their lives or routines and rituals might have been like.





With cave paintings created thousands of years ago our ancestors used local pigments to draw and paint with. I considered what the ink or pigment of Anthropocene might be. Having spent so much time hunting for materials in cafes my mind went to coffee granules and the amount chucked out everyday. On my next trip to Small batch i picked up some used coffee granules. I boiled these down with water and vinegar before filtering out the granules, and was left with a thick liquid which worked as an effective ink

The the planet has ways of conserving human artifacts for thousand of years in remarkable condition, examples of bog bodies or human remains found in deserts, this article shows the impact of human activity leading on the planet leading to the destruction of ancient artifacts.

Alaska's Thaw Reveals—and Threatens—a Culture's Artifacts

Precious items of the Yupik people, long frozen in time, are emerging as temperatures rise. Now the rush is on to save them.

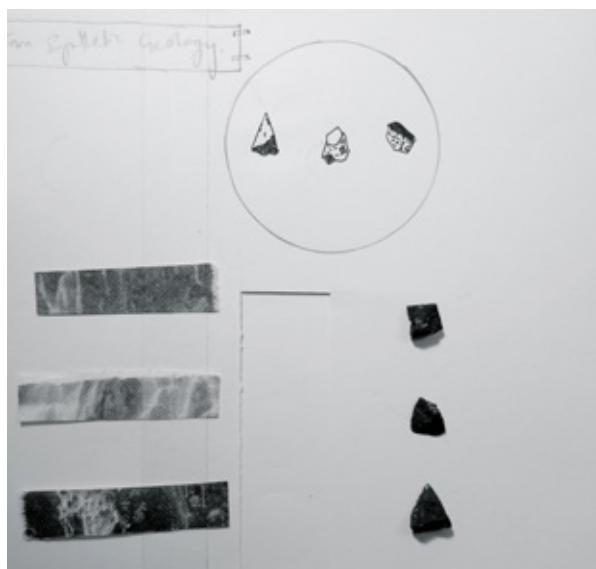
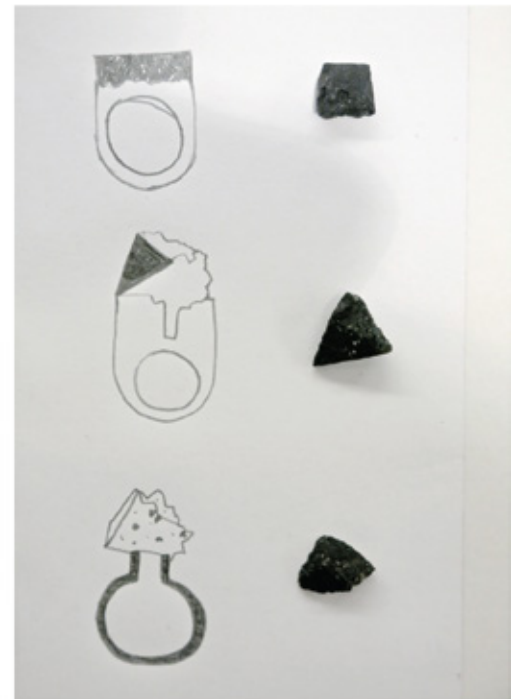


This centuries-old ulu, or cutting tool, was plucked from the thawing ground at Nunalleq. Embodying the native Yupik belief that everything is constantly in transition, the handle can be seen as either a seal or a whale.



From a traditional lookout, hunters scan the tundra for moose. Land and sea are like supermarkets for the Yupik, who know exactly what foods to search for in each season of the year. Locals' ancestors carved the life-size mask above. Part human and part walrus, it was worn in a ritual dance to ensure a safe, successful hunt. "Even now, with rifles, going after a walrus is soary," says Knecht.

With as the anthropocene is a geological era by definition it was keen to touch upon what the geology of the Anthropocene consists of and how it might be minded and utilised in the future. With the tarmac and concrete that makes up our roads running in lines almost like seams of a precious rock i played with the idea of it's minability as a precious material, set into jewelry, polished and treasured.



N a t i o n a l

G e o g r a p h i c

By reading and dissecting National Geographic articles i was able to work to their format. As a well known magazine, it has certain connotations attached, by setting my project in this context people are able to view it like a case study, hold a magnifying glass to a speculative community who's cultural identity is based on our common hunter-gatherer ancestors with a modern twist. This project uses a fictional character and culture to discuss significant issues of our times.

Communicating territories



Using National Geographic to give endangered communities a voice

Highlighting skill sets

Contemporary materials and resources applied to the ancient tradition of ice fishing. The simplicity of this is beautiful, these individuals have seen an opportunity in these thin, worthless plastic bags, they are clearly well used and carefully maintained judging by the patches. These plastic bags did not begin as an ice fishing essentials but after the discovery of their use as highly portable tent like structures they take on a new function and meaning.

Ice fishermen of



*The
People
Who
Walk
With
Reindeer*

SAMI

Ella-Li Spik of Jokkmokk, Sweden, is one of only a small percentage of Sami who grow up herding reindeer. She is part of a new generation with plans to attend college. "I want to explore the world," she says, "but I always want reindeer to be part of my life."



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Changing values, cultures

UN
CO
SE

sure future for these communities and the skills they have

Highly in tune with surroundings, environmentally and materially

Sven Skaltje was saddened to find the carcasses of two female reindeer whose antlers had become entangled during a dominance struggle in northern Sweden. He estimates it took three days for them to die of starvation. After separating the bodies, he saw from the unique ear markings that one belonged to him and the other to his cousin. Skaltje is much admired by the younger

Sami in his herding group, but he is unsure whether the skills he teaches them will endure. "Other cultures, like the Romans and the Incas, were very important, and they disappeared," he says. "That is life."

Photographer Erika Larsen has been living with a Sami community in Kautokeino, Norway, since 2006 and documenting the lives of herders in Sweden as well. Read more of her story in *The Moment*, page 160. Jessica Besko has written for *Virginia Quarterly Review* and *Harper's*.

SAMI 81

Reindeer can spook suddenly, so Nils Peder kneels calmly in the midst of the beloved herd on which his livelihood depends. He holds a lasso color-coded to indicate the temperature and season in which it works best. As he watches the animals, Nils Peder is yoking, chanting a throaty, traditional Sami song evoking his wife, Ingrid. The Lutheran pastors who converted the Sami forbade yoking, calling it devil's music. When Nils Peder was a boy, his mother disapproved of it. He learned it from his grandparents and has taught it to his children. "When I yolk," says Nils Peder, who's also a fan of Johnny Cash, "I remember what I've seen, and I remember I am not alone."



SAMI 89

Communicating territories



NATIONAL GEOGRAPHIC

Hunter-Gatherer
in the
Anthropocene





