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Intro

Introduce the outline topic, nature and basis of your research project(s) and / or the context or problem? Can you give it a title?

1. Introduction

This project investigates East Sussex and the naturally occurring heritage and visual identity from within. It researches the surrounding area in terms of materiality, identity and manufacturing; highlighting the aesthetic, landscape and architecture of the area which is derived from the close proximity of the material source. It celebrates the underlying elements which make up the richness of this area; to find close parallels between material resources and final object.

Local materials have been used in all elements of production. The clay has been sourced from a local brick factory. Glazes, firings and firing materials have also been found in the surrounding area of Sussex; from which many technicalities have been investigated.

Initially, through researching for my dissertation about how to make the ceramic process more sustainable, I found some interesting information about way in which we can do this considering the global climate crisis we are all facing. Discovering that 70% of the total emission from ceramic production is in the firing process, I wanted to investigate how to could find an alternative while celebrating the cultural richness of Sussex.



What?

What are you trying to find out and learn through the research ?

What are the **research questions** you are asking? What new insights or understandings are you seeking?

I sought to learn and discover about the heritage and visual identity which makes Sussex unique. I aimed to gain a far deeper understanding of the material and identify manufacturing within Sussex. I aimed to do this to bring attention to these features which perhaps go unnoticed in everyday life. This aim was achieved by me researching the surround area, seeing museums, meeting people, reading and exploring the area via foot, bike and car.

The project began to explore how, through object and material qualities, we can use ceramic objects to promote a sustainable way of living. I did this through creating a water cooler, fired once and lower than normal; this low firing adds functional benefits to the finished

object. As the clay has not been high fired it is slightly absorbent, as the water comes through the surface of the clay it begins to evaporate – this process of evaporation draws thermal energy out of the water inside – this naturally cools the water. I have created a mould for a refillable water bottle, again using material qualities naturally within the locally sourced clay.

I aimed to investigate alternatives to firing in an electric kiln. Exploring raku firing, smoke firing and saggar firing – the composable materials from which were locally sourced. Locally sourcing materials has meant that every elements of the piece are from within a small radius rather adding to the richness within the finished objects.

I aimed to find an alternative to our high and multiply firing nature of the modern ceramic practice. I have discovered the benefits of single firing and the aesthetic beauty this can bring into the work. Through thorough research of locally sourced material qualities in terms of the scientific make, I have discovered that these can be used as glazes. For examples, oyster shell is calcium carbonate CaCO_3 . Commonly known as whitening it is used material is glaze mixology. In some cases, I have used waste ash, from a saggar firing, to create a circular system within my work; saving the nutrient rich elements of this.

I strived to discover other way in which we can work to reduce our impact as practicing artists. Initially focusing on the material source, I discovered Chailey brick yard as a source of this material.



Why?

What are the aims and objectives of the research?
What are you hoping it will achieve? Why is it relevant and worth finding out and who (if anyone) might benefit or what might change as a result?

Aims and objective,

To understand and learn more about local materials and accessibility of usable material.
To minimise our impacts practising artists.
To develop my understanding of design principles and how these can influence our way of working.
To learn and investigate traditional production methods, ancient methods of storing food produce and traditional decoration method.

Achieve?

I hoped to achieve a synthesised and unique body of work to highlight and bring to together materiality, form and local aesthetic through hand crafted objects.

Why relevant:

A sense of belonging is essential to our human psyche, knowing and understanding the materials surrounding helps us to ground ourselves here.

Worth finding out.

Considering the climate crisis, it is imperative to keep materials local, showing we can still create sculpturally beautiful objects, products and artefacts without impacting the planet too greatly.

Who benefits?

What might change as result?

Ceramic artists may benefit from the technical and historical research I have done. I hope Chailey brick yard has benefited from the connection we have built. Learning about how the same materials can be used in different ways and fired in the same way yet producing a totally different outcome.



How?

What methods will you use to help answer your research questions?
How are you approaching undertaking the research? What tools and / or equipment will you need?

2. How?

To help answer my research questions I used a few different methods. I initially started by looking at mineral resource's maps; these led me to discover Chailey brick yard which was the main source of my materials for this project.

Places visited

Chailey Brick factory

This was the centre point for my research and source of my material

Local clay and material expert, Brighton. I found this expert via a Facebook group. I went to his house which he was renovating and dug up some clay. He introduced me to a sustainable architecture meet up.

Sustainable architecture meet up. This was a very interesting discussion between sustainable architecture in Brighton.

Food. Bigger than your plate. exhibition at Victoria and Albert Museum.

This exhibition was very interesting and got me thinking a lot about the benefits and uses of alternative materials. Its highlighted elements of food production from waste, to farming to the plate.

Collect, London.

Collect, a high-end craft exhibition, this helped me to see where I could place myself in the world post university. It is the second time I have visited this exhibition.

Walking in Sussex area.

I love to walk and have explored a lot of the Sussex area by foot and by bike. This have given me a great understanding of the landscape of the and the gentle South Downhill that surround us.

Brighton museum.

When visiting Brighton museum, I found an example of the ancient inlaying method used in Brighton. It was great to see it in real life.

Victoria and Albert Museum

I visited the Victoria and Albert Museum in London when seeing the food exhibition. It was interesting to see such a range of ceramicware from ancient to contemporary.

St Ives September Festival. This festival, which is set across multiply different venues gave me the opportunity to see where I could place my work in the world post-graduation. I was able to see some alternative firing technique results.

Weald and Downland live museum. This museum was visited to gain a deeper understand of ancient ways of living.

South Down Heritage Museum. This museum was visited to see traditional masonry and ceramic ware created in Sussex

China Clay factory, Cornwall. I visited a china clay factory in St Austell in Cornwall after finding out it has one the largest china clay stores in the country. It was amazing to see the production and such a large area.

Glass

Potter thumb, Brighton. I visited potters' thumb after noticing a plate made of glass in the window.

London glass blowing, London. I visited the studio as I was going to incorporate glass into my work.

Rothchild, Bickers – Essex Road. I spoke over the phone with MD regarding the incorporation of glass into my work

Tools:

Kidneys:

Through creating and research over the last few months I have collected a range of materials now used as kidneys for sculpting. Two smaller kidneys have been created using found stainless steel, one with a small curved end the other serrated. The other tools are from found natural materials, Brighton beach pebbles, Cornish Granite.

Buckets:

Large buckets and trowel used to collect clay from Chailey brick factory

Blender:

Industrial blender used to thoroughly mix clay

Smoke Firing Metal Dust Bin:

Galvanised metal dust bin for firings ceramics pieces; bought from a local supplier.

Saggar and Firing materials:

Sawdust from local timber production; collected free of charge

Seaweed from Brighton beach

Copper from scrap metal department

I used local materials for this to keep my mileage low and to further add to the cultural richness of the work I was creating.

Glaze materials:

I collected wood ash from Lewis bonfire celebrations and from a couple of friend's fireplaces

Oyster shell was collected from Brighton beach

Raku:

Resist made, didn't really work

Try again with lower temp

Firing at brick kiln:

Find out if possible? Probably not considering clamp kiln used

Car

I have been using my car to get to the brick factory and various other places I have visited.

Camera

I have photographed my project using a compact digital camera, I choose to use this over an iPhone to really capture the qualities within the shot.

Coil Extruder:

A coil extruder within the ceramics workshop as used to extrude coils to create the vessels I made. This helps with the evenness of the final vessel and speeds up production

Letters:

I used a varied of different letters to create the inlay design on my vessels. I used some shop bought wooden letters. Having got to know Helen from bookbinding, she lent me a few different size sets of letter press stamps; these created very interesting results.

Plaster bat:

Plaster was integral to the processing of the clay. It absorbs moisture from the clay, allowing it to become a workable materials.

Drying Cupboard

The drying cupboard became integral to the processing of the clay. As the clay from the factory did not deflocculated, the heat from the cupboard accelerated this process significantly.

Extractor

The clay needed to be crushed into a course powder in order to be process. As dry clay is very harmful to breathe in, the extractor was essential to complete this task

Face mask, goggle, ear protection

I used a high-quality facemask with p3 filters to protector myself from the harmful dust from the crushed dry clay. I wore goggles for this process to protect my eyes. I wore ear

protector for this process as the extractor is very loud and the crushing the clay, using a hammer, is also a noisy process.

Lathe

I used to plaster lathe to create a water bottle. I used the plaster lathe to create this as it best the tool to create the outcome I was looking for.

Four-part mould making

I created my first four-part mould from the piece created on the lathe. This was a complex process and the outcome was successful.

Adobe illustrator

Projecting the image of the sample test tile onto a drawing of a design idea allowed me to get a good idea of how it could look. This was done using Adobe Illustrator

New ceramics tools were order for this project

Silicon spatula

Potters knife

Sponge on a stick

Turning tool large and small

Needle

Large metal kidney

Natural sponge

Strip tool



Who?

What references relate to your subject / topic, who else is working in this area what is the precedent of work in the field? (State of the Art)

3. Who?

Through reading these books I have learnt and gained a much deeper understanding of sustainable design principles. This has broadened knowledge and shown me how we, as artists, can consider our practices.

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Artist and Theorists

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Biophilic design
<https://www.oliverheath.com/>

Sara Flynn
<https://www.saraflynnceramic.com/>

Gabriele Kock
<https://www.gabrielekoch.co.uk/>

Dan Stafford

<http://www.danstafford.co.uk/cv>

Magdalene Odundo

<http://magdaleneodundo.com/index.html>

The world's first 100% recycled ceramicware

Granbyware – 100% recycled Ceramic Dinnerware

<https://www.kickstarter.com/projects/granbyworkshop/granbyware>

Isobel Higley

Researched into sustainable ceramics

<https://isobelhigley.wordpress.com/2016/06/08/two-spirits-in-a-bowl/#more-1543>

Huski

Products created from waste corn

<https://huskihome.com/>

Mycelium lighting

<https://www.nirmeiri.com/mycelium-lights>



When?

When will you do the work, what are the planned stages and milestones?

1. When?

Summer

Surround area research:

Research of surrounding area

Dissertation work:

Detailed reading into design theories and beginning of framing understanding for dissertation

Exhibition:

I visited the food bigger than your plate exhibition in London, this inspired alternative material usage and showed methods of exhibiting work.

September

Initial research, reading and testing

Initial research around my ideas. Defining my practice for the year. Further reading for my dissertation. Initial research around Sussex.

October

Material sources

Focused of material source. Discovery of some clay deposits in Brighton via a local Facebook group. Continued to search for a workable body of clay. Discovered Chailey brick factory after thorough research and finding of mineral resources map which bought this to my attention. I visited the factory twice in October.

Firing method research

Research around alternative firing methods.

Material processing

Began to process clay from the brick factory, testing out full brick mix, adding sand and working with the pure clay.

Initial form production

Created a vessel with a gilding metal stopper in response to Mead bottle research.

November

Raku Firing

I began experimenting with alternative firings. I did a Raku firing and created some resist slip glazes for this.

Crop research

I pushed my local crop research further, learning about local crops in this area; specifically hops and flax seed.

Wood ash collection

Collected and began to process wood ash, this was collected from Lewes bonfire celebrations.

Material experimentation

I started to create sculptures with the full brick clay mix, this was not hugely successful due to the stickiness and brittleness of the clay.

Oyster Shell

Oyster shell experimentation were done, I discovered oyster shell and calcium carbonate were chemically the same. I added calcium carbonate to clay, this was not successful as, when fired, the calcium carbonate expanded causing the clay to completely collapse over a series of days.

Anthony Gormley exhibition

Anthony Gormley's exhibition was visited, this gave me several ideas in terms of display for my exhibition. I created the flaxseed inspired vessel from pure brick clay.

Clay processing

I started processing large quantities of the brick clay, learning and discovered the unique qualities within the clay.

December

Clay processing development

Further processing material methods were undertaken to find out the most efficient and effective method.

Form production

Two large scale saggar were created to house the flaxseed inspired vessel.

Terra sigillata

Terra sigillata recipes were created to add to the surface of the mead and flax inspired vessels.

Smoke firing

I did a small-scale smoke firing.

Dissertation

The dissertation was focused on and completed during this month.

January

China clay

I visited a china clay factory in Cornwall after discovery of the large deposits in this area.

Pit firing research

I research pit firings learning about different methods and results.

Hop research and making

I created a form inspired by my hop research; the piece was sliced in two as at this point, I was exploring the possibility of lighting.

Material discoveries

I discovered that adding heat to the reclaiming process accelerated it.

Lighting and glass experimentation

The flaxseed piece cracked during firing, lending itself well to lighting, using acrylic spacers I experimented with lighting options.

Assessment

The formative assessment was held in January, this helped me to bring together my work and it was very helpful to received feedback from both tutors and other students. Having had our formative assessment I was much clear on my direction; I also spoke with the external examiner which helped to push my ideas further

Glass research

I began my research around glass, visiting the London glass blowing studio and potter thumb. I spoke over the phone with a glass expert from Rothchild and Bickers. The glass research began as I was looking at incorporating it within my ceramics work.

Natural glaze experimentation

Natural glaze experimentations were done, I experimented with locally found materials and shop bought to compare the different results these would create.

Natural dye

I began my research and experimentation into naturally dye. The natural dye was sourced from the dye garden at university and I dyed some fabric. The fabric was dyed to use as a cover to bind my books for the exhibition.

Slip density

I tested slip density to experiment if, as the material natural deflocculant, if it was castable.

Saggar firing

I did a saggar firing in January using the large-scale saggars, the compostable locally sourced materials were collected.

Smoke firing

I did a large-scale smoke firing adding in some of the earlier work I had made; the mead bottle, flax inspired and other test pieces

Brick factory visit

. I visited the brick factory again, collecting more clay and investigated the architectural features of the building. Further clay processing methods were experimented with.

February

In-depth Sussex and material quality research

I did more thorough research around Sussex and discovered the ancient art, specific to Chailey – the source of the clay, of inlaying. I researched into water refillable ceramic vessels. I discovered the process of low firing a ceramic vessel, for it to be filled with water. Due to the low firing the piece naturally cools the water, this was a very exciting discovery

Clay recipe alterations

I began testing different additives into clay, using crushed raw clay as a grogg and crushed brick also. I projected, using photoshop, my glaze tests onto a drawing of a water filter to visualise the outcome.

Weald and Downland live museum

I visited Weald and Downland live museum to further deepen my understand into the cultural richness of Sussex, I also got access their artefact store, home to over 15,000 ancient objects.

Inlay methods

I research several different inlay methods, using stamps, making plaster stamps and using natural and shop bought materials to inlay.

Form production – water refill

I created a water refill vessel.

Tool order

I order a variety of new tools to help with my making process.

Material discoveries

I discovered adding the crushed clay to boiling water allowed for a more efficient processing.

Lewes and metal reclaim yard visit

I visited Lewes to see the antique and emporium shop, this was to see more Sussex vessels and to find a tap for the water refill vessel I created. I visited a metal reclaim yard in Brighton to find a tap too.

South Down Heritage museum

I visited the South Down Heritage museum to see the architectural features made from Sussex clay.

Sussex Pottery – depth research

I finally got hold on the ‘Sussex Pottery’ book which gave me a deeper insight into the production methods of this area.

Inlaying

I inlaid the water refill vessel using wooden letters with a poem I discovered from the library, about water drinking. I borrowed a variety of different size letterings from the book binding workshop to experiment to see the aesthetic result achieved from this.

Water Bottle and mould making

I created a water bottle mould using the plaster lathe and made a four-part mould of this.

March

Beer jug

I created a beer jug and inlaid it with an old Sussex verse.

Slip density

I perfected the density of slip to pour into my water bottle mould.

Ash glaze and single firing

I discovered that you can apply ash to raw clay and single fire, this halves emissions.

Clamp kiln vessels

I created a series of vessels to be fired within the clamp kiln. I visited the brick factory to deliver these vessels for firing.

Flocculation discovery

While I was there, I learn about some of their water treatment processing; they add a flocculant to the water to allow the particles to settle, this could be vital in speeding the processing time due to the natural deflocculating of the clay.

Steining

I visited Steining and the farm shop to further build a picture of the heritage of this area.

Large scale

I created two large scale vessels, one purely sculptural, inspired by the vessels on Sussex, the other a large-scale water cooler with a base plate. I planned to inlay these vessels with lettering. Both of these were to be fired in the clamp kiln.

April / May

Photographic studios

I booked a photographic studio for two dates in April and May to professionally photograph my work ready for my books and for my personal data base of my work.

Flocculant

I planned to experiment with flocculant, having discovered it at the factory. to see if this speeds up the processing time.

Clamp kiln results

I received photographs of the pieces which were fired in the clamp kiln, these have fascinating and beautiful results. There was no impact on the bricks within this kiln. This is very exciting and something I will peruse once we are allowed to leave our homes!

For the home

I planned to create a composter, a natural clay watering device, a fermentation jar. Some of these will be glazed using the natural glaze recipes I have developed.

Large scale water cooler

I planned to create a large-scale water cooler for Chailey Brick yard, the scale would be appropriate for the 37 workers at the factory. This would mean it needs to hold 74 litres of water, I would make it larger to allow for the evaporation which naturally cools the water and to allow to shrinkage of the clay too. To allow for 12% shrinkage this would need to be 80 litres, to allow for the evaporation – I will need to experiment with this to see how much is lost due to evaporation, this will also depend on the heat. I would like to create a metal coated stand for the vessel, so it is lifted off the ground and accessible.

Clamp kiln

I planned to create further large-scale sculptural vessels to be fired in the clamp kiln.

Water bottles

I planned to create a series of cast water bottle and develop an appropriate cork stopper to use as a lid. I planned to make a series of beakers to accompany the beer jug; for this I would create a plaster master and a multi-part mould.

Hand bound books

I planned to hand bind the books for the degree show, having developed these skills during the year. I will cover these books using the naturally dyed fabric I dyed in January

Permaculture course

I planned to do a permaculture design course to help me learn further about these methods.

Large scale prints for exhibition

I planned to have printed a series of large-scale prints for my exhibition and have printed and well framed having taken inspiration for the Anthony Gormley and food bigger than your plate exhibitions visited in earlier months. This was booked to have done over the Easter break to allow time to any reprints

Exhibition

I will create a beautiful and fascinating exhibition to share all mine and peers hard work throughout this year having, hopefully, got the workshop time we missed due to COVID-19.



IF?

If you undertake this research what are the ethical implications - are you studying or involving people in your research?

N/A



Risk?

What are the health and safety risks and considerations related to your work and how will you mitigate against them?

Health and safety risk and consideration, mitigate against;
Sourcing of materials; wear appropriate PPE with as much knowledge of local area, in terms of the brick factory in Chailey the technical manager accompanied me around the area

Firing of pieces; a thorough risk assessment has been created and accepted. This will be read and understood by all involved in outdoor smoke firing. Correct PPE will be worn.

Dissertation title/topic:

Is it possible, considering the global climate crisis, to make ceramic production in the UK more sustainable?