WELLBEING IS NO OBJECT

Exploring the role of object-based practices to support conversations for mental health and wellbeing

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MASTER OF RESEARCH 2024

PORTFOLIO OF PRACTICE COMPONENT

The Glasgow School of Art

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STATEMENT OF PRACTICE

This MRes project has re-connected me with my creative practice. I graduated from Jewellery and Metal Design at Duncan of Jordanstone College of Art in 2013. I spent my degree working with alternative materials and combining these with metal. I think I frustrated every workshop technician at the College - knocking on their doors, desperate to learn yet another technique or process.

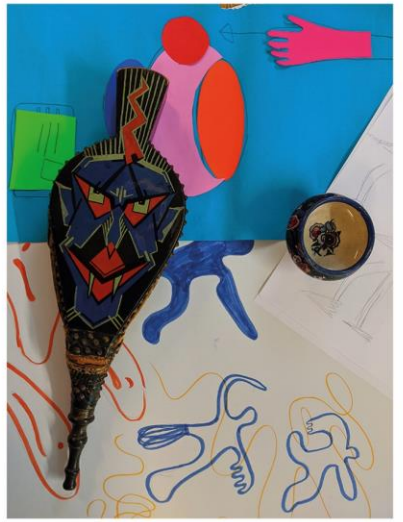
In the years that followed, I changed the course of my career completely and fell into the archives and museums sector with the intention of using my creative skills to attract new audiences. Working at The Glasgow School of Art Archives and Collections for six years, I took the initiative to design and deliver a broad range of engagement activities to open up archives and museum collections to creative practitioners. This opened my eyes to the power of objects as conversation and learning tools. I really enjoyed designing new workshops and reflecting on their success. But something was missing. Despite multiple years working in this sector, I always felt out of place. I never felt like an archivist or a curator – I felt like a creative practitioner.

I got the opportunity to reflect on all of this when I undertook a Postgraduate Certificate in Learning and Teaching at GSA. This course introduced me to action research, and I immediately felt at home in the cyclical loops of reflecting, planning, acting and observing that define this process. It felt very similar to the experimental and reflective way that I originally approached my creative practice. I realised that maybe I didn't need to mold myself to any one idea of creative practice. Maybe experimentation was a valid part of my process. Maybe it was ok not to want to mass produce commercial jewellery. Maybe I was a practice-based researcher.

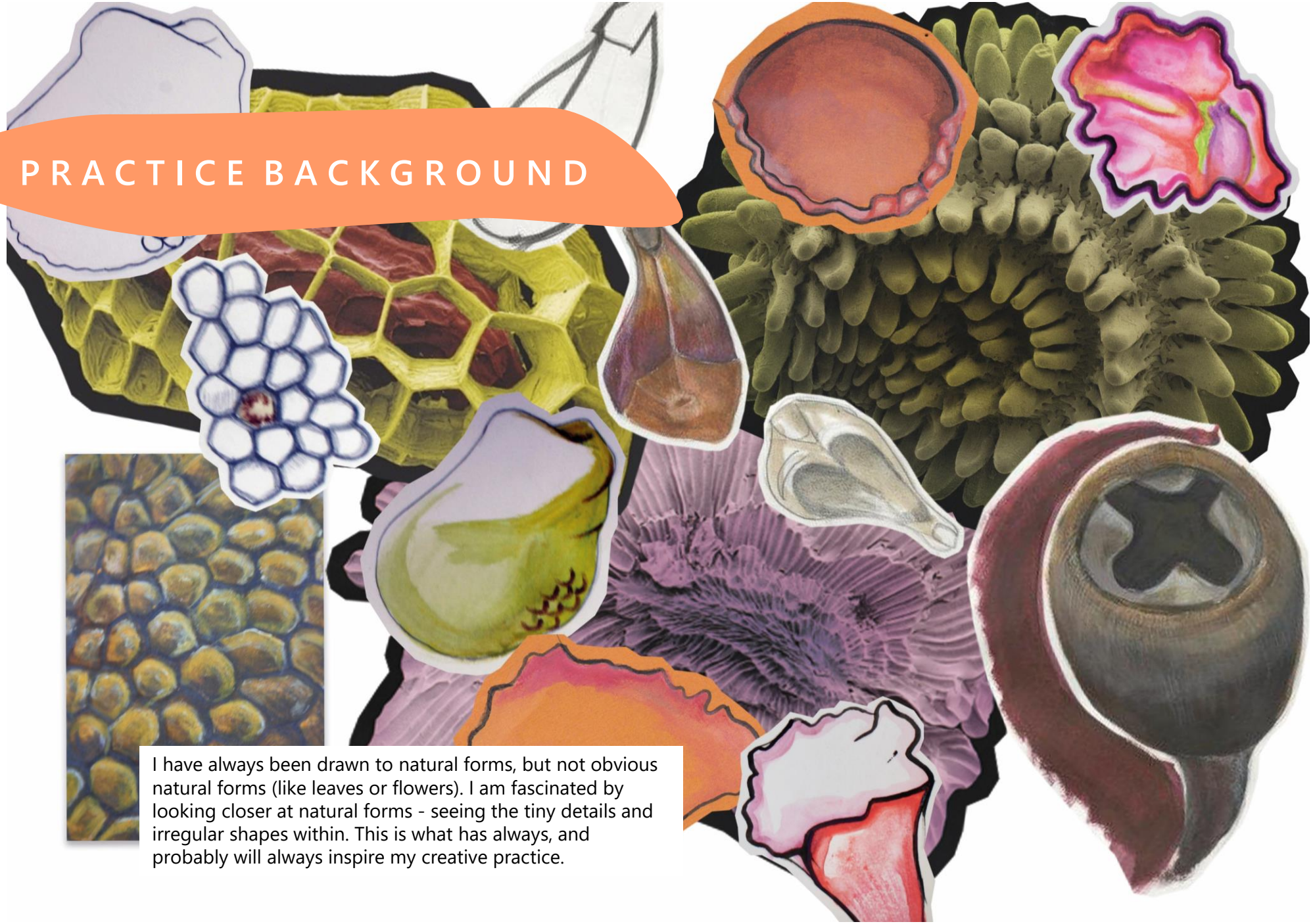
Now I can see that stepping back allowed me to deeply reflect on the purpose of my practice whilst building a breadth of other professional and personal skills to enhance it further. If I hadn't taken a detour, I wouldn't have discovered Participatory Action Research or realised the power of objects in mental health and opening up conversations. This MRes truly has been a journey back to my creative practice, my career path and myself.

MUSEUMS

I spent 7 years working in archives and museums, mostly at GSA Archives and Collections. This was where I developed ideas for some of the object-based learning and wellbeing practices that have informed my MRes.



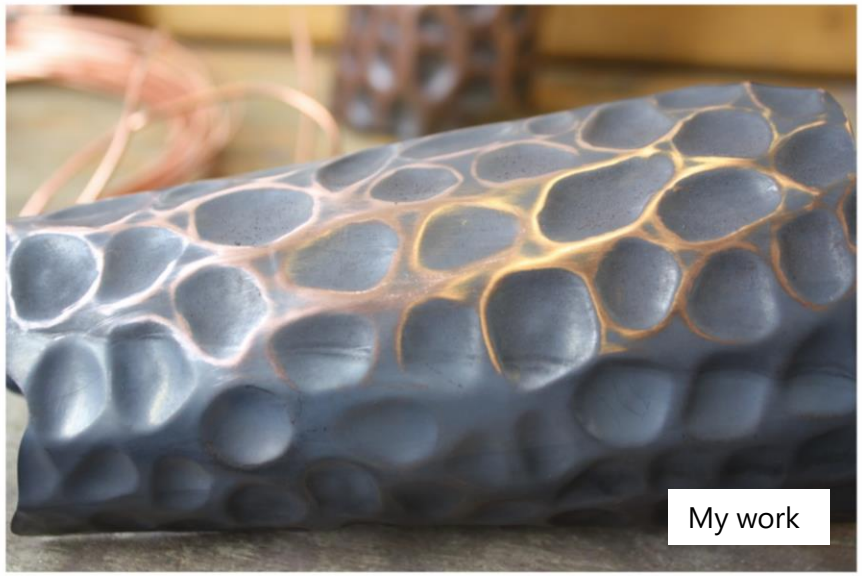
PRACTICE BACKGROUND



I have always been drawn to natural forms, but not obvious natural forms (like leaves or flowers). I am fascinated by looking closer at natural forms - seeing the tiny details and irregular shapes within. This is what has always, and probably will always inspire my creative practice.

COPPER FORMING


Jeremy Maronpot


My work

Copper is my favourite material because it does exactly what you tell it. It's so versatile - you can create such beautiful organic forms with it. The work on the left is by Jeremy Maronpot, who I am hugely inspired by. He creates these amazing large scale copper sculptures which are painstakingly formed through raising, chasing and repousse. My work is on the right - I use a lot of press molds where I hammer the annealed copper through the die to create particular impressions.

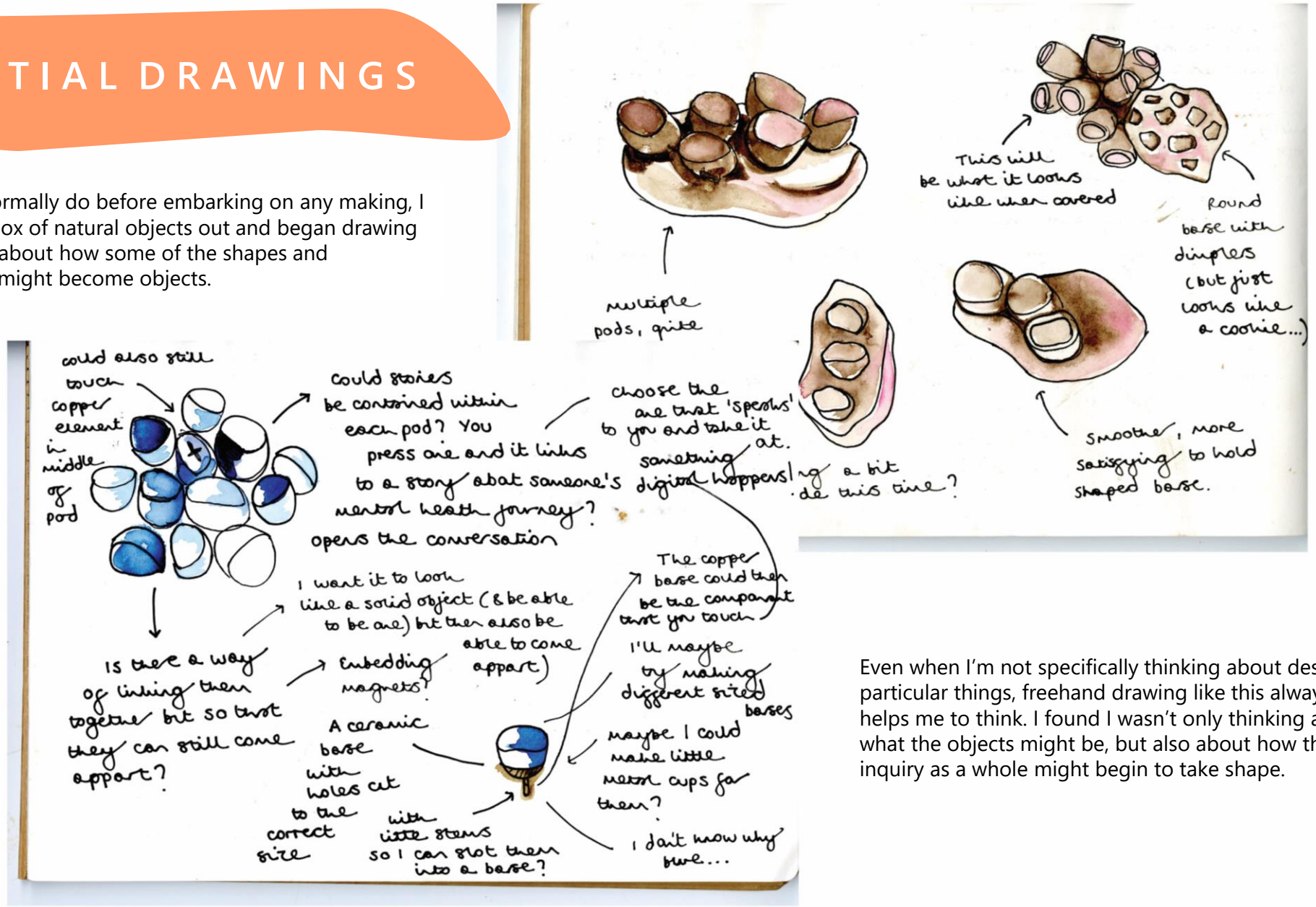
1. PHASE ONE: PRACTICE AS METHOD

FOUND OBJECTS

It seemed appropriate that this project should begin with my own collection of found objects! The collection grows every year and I'm always foraging for interesting natural forms to inspire my 3D making. Reflecting on this in line with this project, I've realised I collect these objects because they "speak" to me in a similar way to how I hope objects will speak to participants during object-based practices for mental health and wellbeing.

INITIAL DRAWINGS

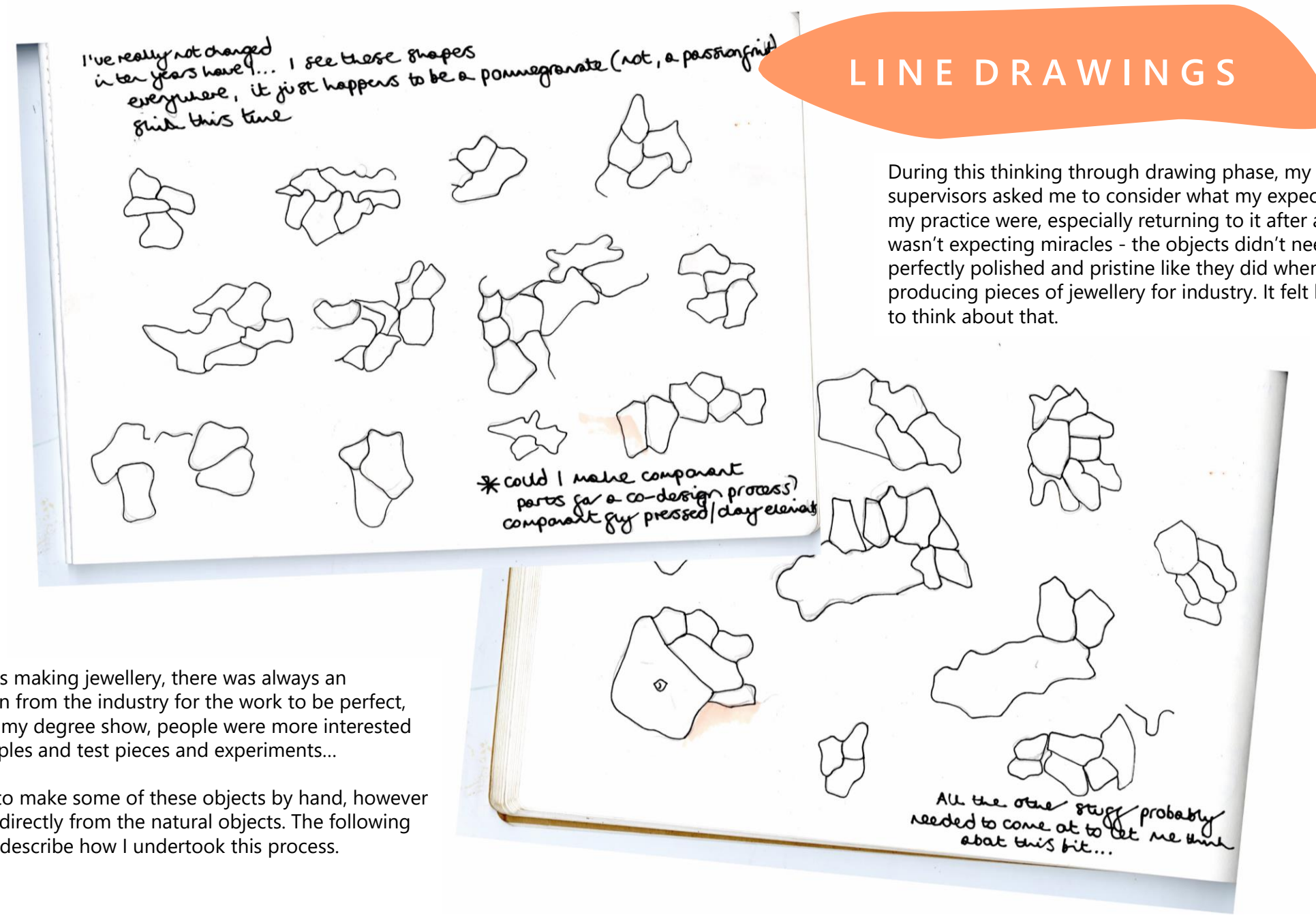
As I would normally do before embarking on any making, I first got my box of natural objects out and began drawing and thinking about how some of the shapes and components might become objects.



Even when I'm not specifically thinking about designing particular things, freehand drawing like this always helps me to think. I found I wasn't only thinking about what the objects might be, but also about how the inquiry as a whole might begin to take shape.

LINE DRAWINGS

During this thinking through drawing phase, my supervisors asked me to consider what my expectations of my practice were, especially returning to it after a break. I wasn't expecting miracles - the objects didn't need to be perfectly polished and pristine like they did when I was producing pieces of jewellery for industry. It felt liberating to think about that.



When I was making jewellery, there was always an expectation from the industry for the work to be perfect, and yet at my degree show, people were more interested in my samples and test pieces and experiments...

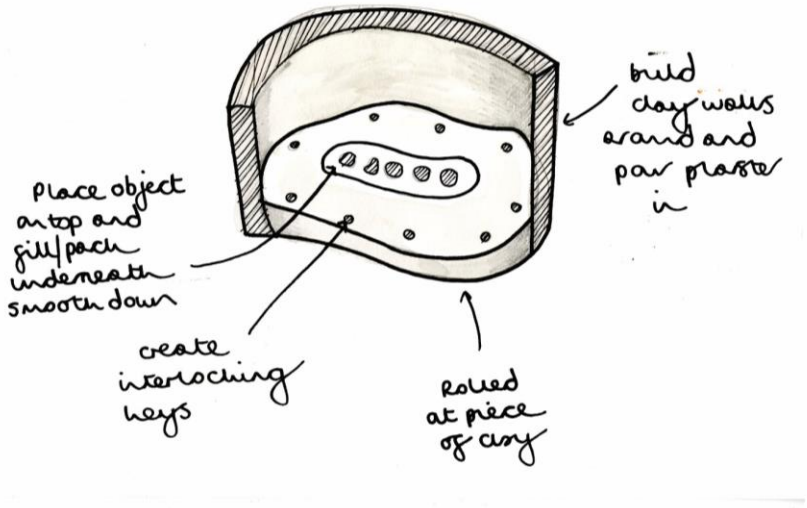
I planned to make some of these objects by hand, however I also cast directly from the natural objects. The following pages will describe how I undertook this process.

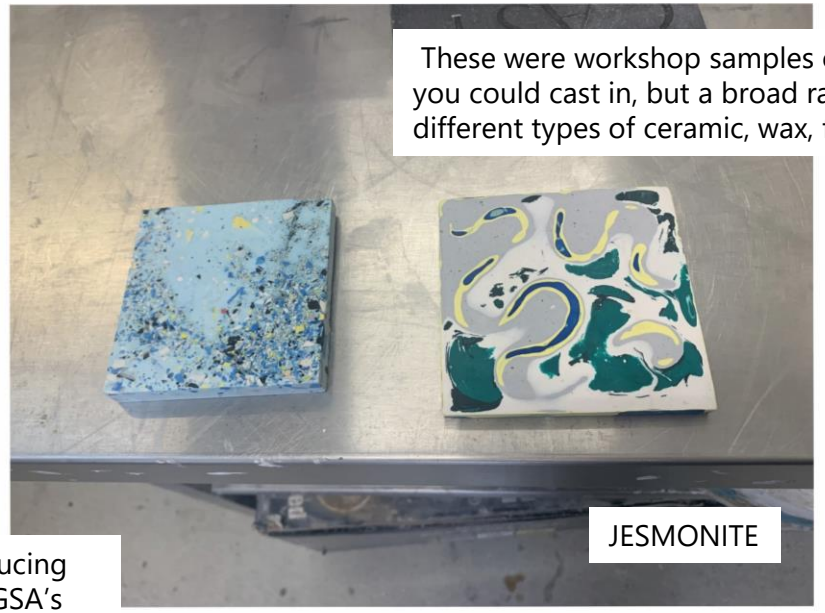
LEARNING TO CAST

Variety of casting molds

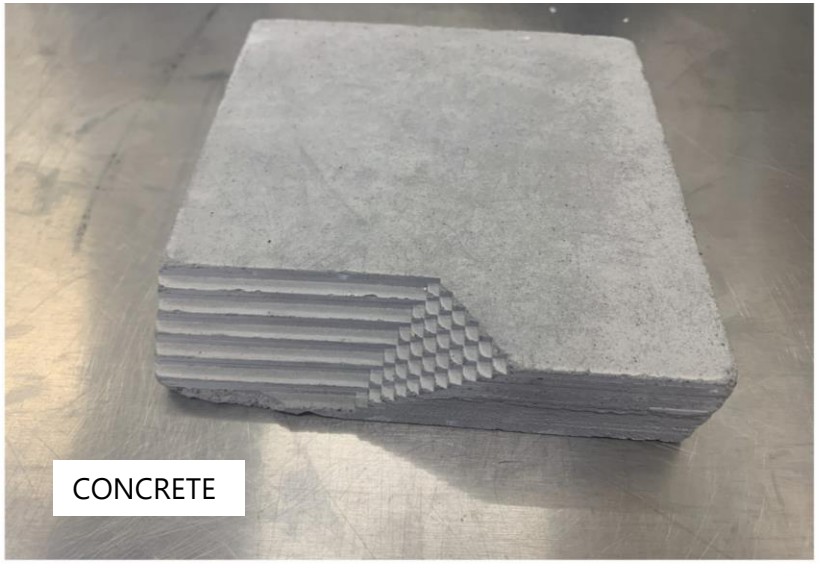
I was keen to see what possibilities casting could offer in terms of producing multiple objects in different materials in Phase 1. A casting induction introduced me to the different techniques and processes I could consider for making this work. First of all, Helen the casting technician showed me the different ways to make molds and what materials would be possible to cast in each one. This open-faced one-part mold allows the texture of an object on one side and a flat surface on the other. Plaster is used in ceramic slip casting because the porous element allows moisture to be drawn out as the piece dries and the clay "shrinks back", making it easier to get it out of the mold.

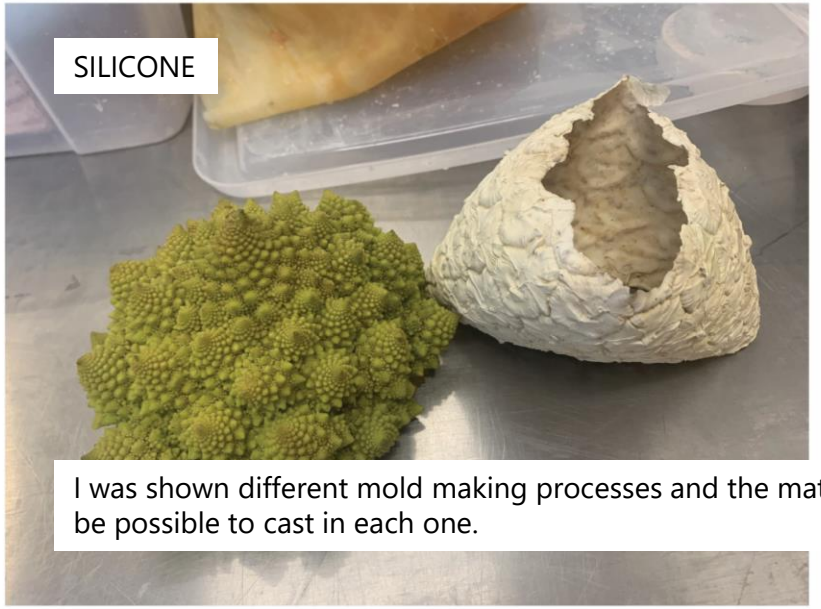
To make a two-sided object, a two-part mold is needed, with a plaster element on either side. This sounded more like what I wanted to do, as I wanted to make pieces that felt like full objects to be handled. The mock up sketch here helped me to visualise the process.



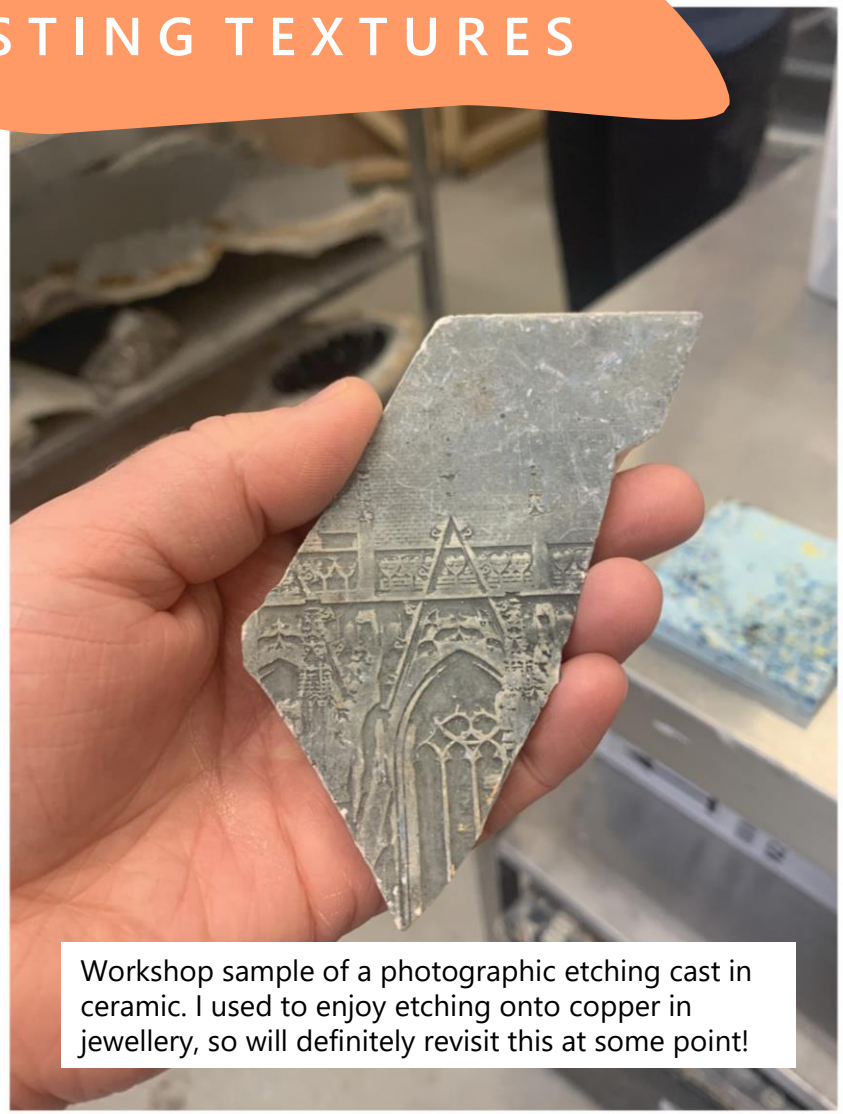


I was keen to see what possibilities casting could offer in terms of producing multiple objects in different materials. A casting induction with one of GSA's casting technicians introduced me to some new techniques and processes I could consider for this work.





CASTING TEXTURES

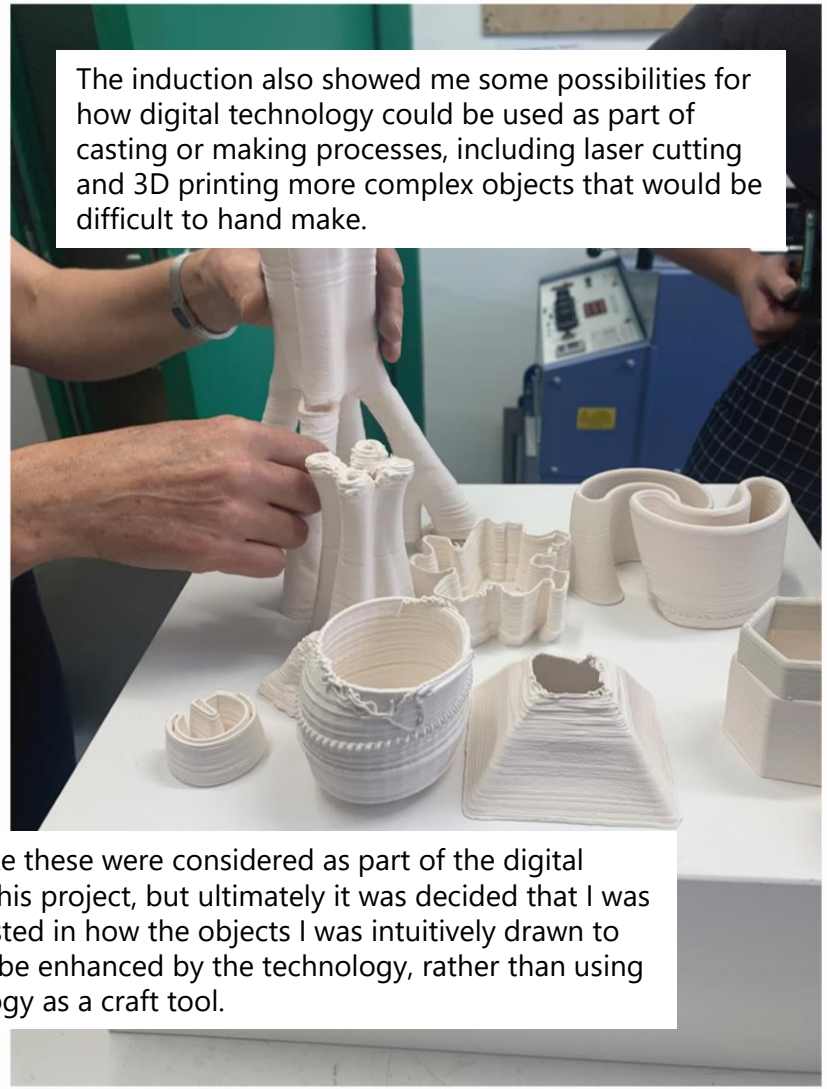


Workshop sample of a photographic etching cast in ceramic. I used to enjoy etching onto copper in jewellery, so will definitely revisit this at some point!

These are some casting workshop samples of different everyday objects (string, coins, zips and different fruit skins) that have been pressed into clay and plaster has been poured over the top to create interesting textures. I was still developing my methodology at this point in the process, and considered that this might be a simple process to do as part of a co-design workshop to co-create objects with participants.

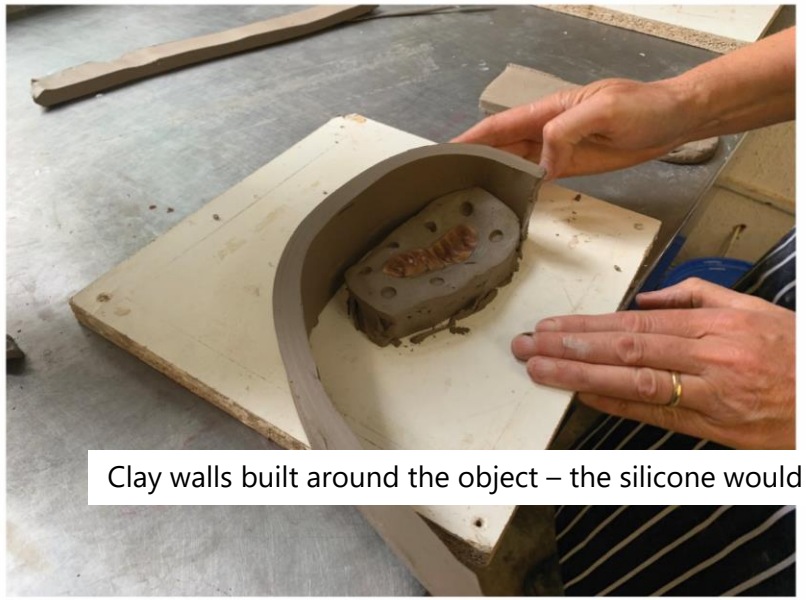
ALTERNATIVE CASTING

The induction also showed me some possibilities for how digital technology could be used as part of casting or making processes, including laser cutting and 3D printing more complex objects that would be difficult to hand make.

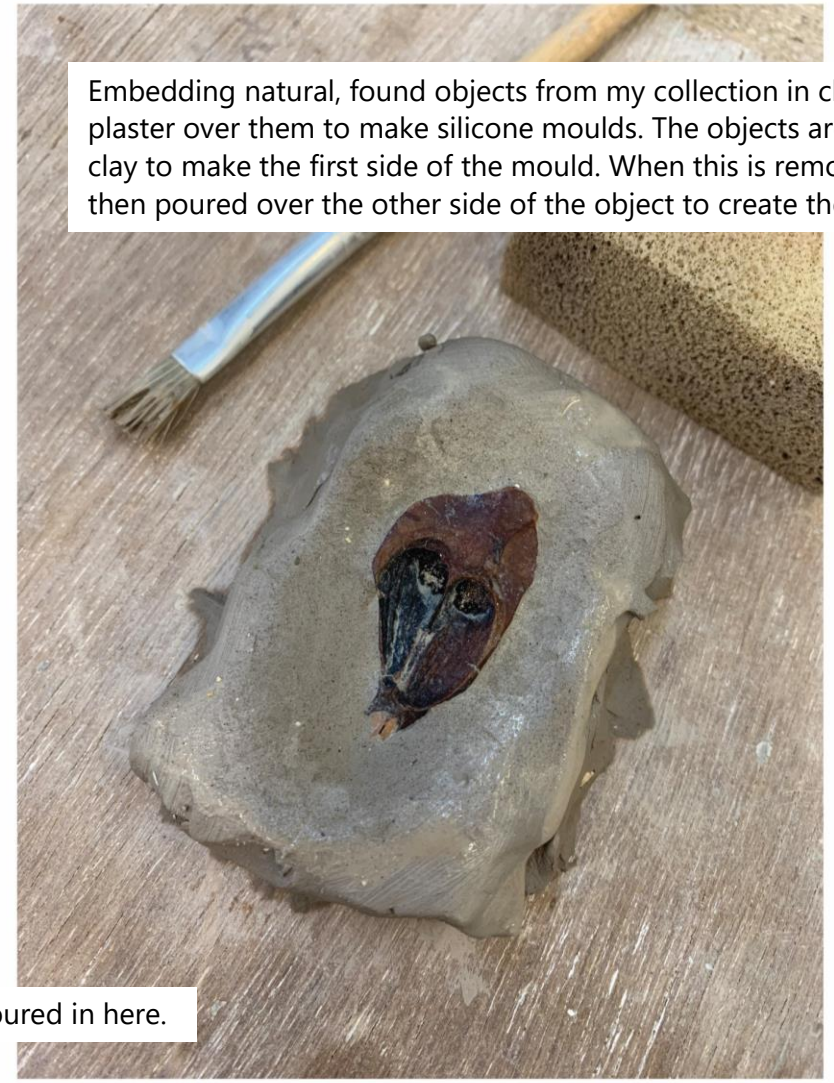


Processes like these were considered as part of the digital element of this project, but ultimately it was decided that I was more interested in how the objects I was intuitively drawn to make could be enhanced by the technology, rather than using the technology as a craft tool.

FIRST CASTINGS

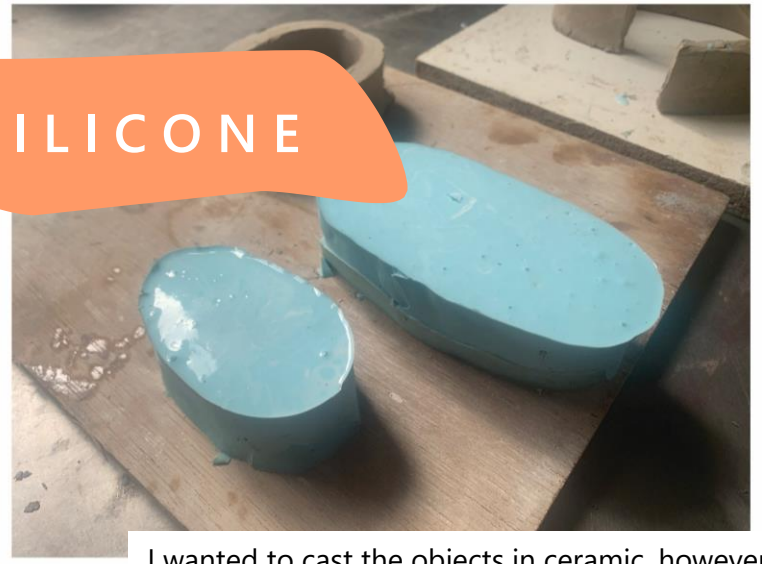


Clay walls built around the object – the silicone would be poured in here.

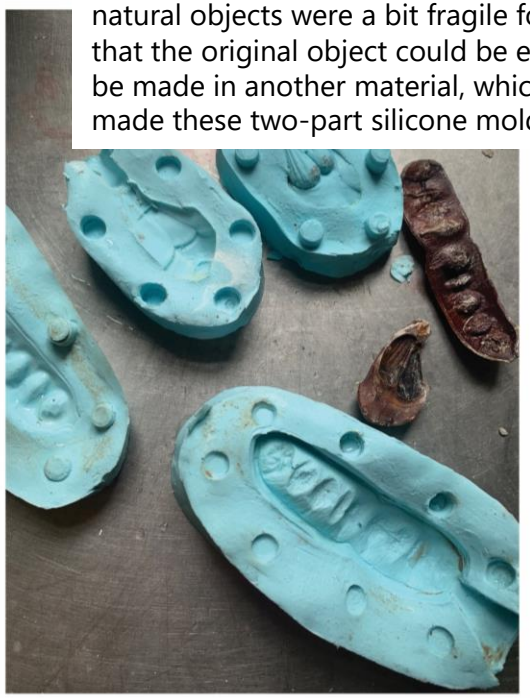


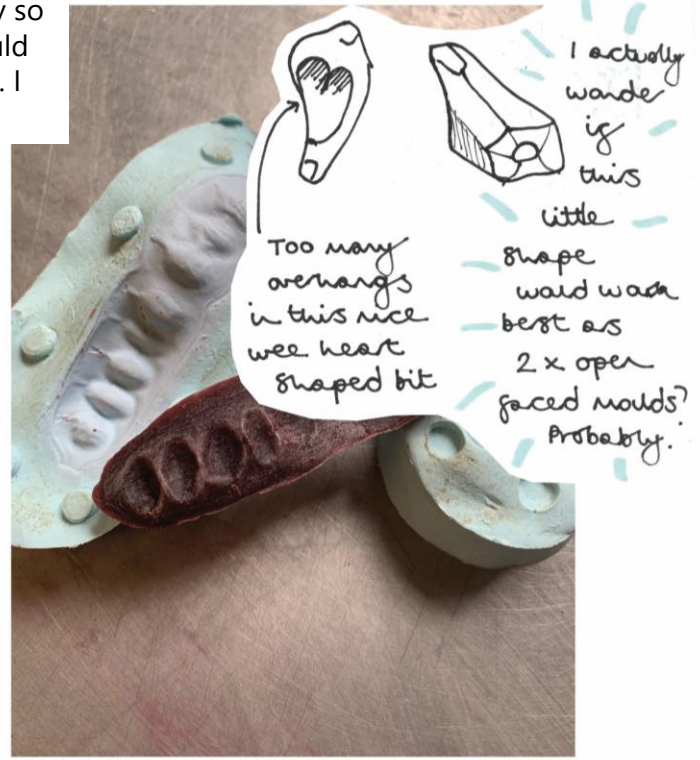
Embedding natural, found objects from my collection in clay ready to pour plaster over them to make silicone moulds. The objects are embedded in the clay to make the first side of the mould. When this is removed, the material is then poured over the other side of the object to create the second side.

SILICONE

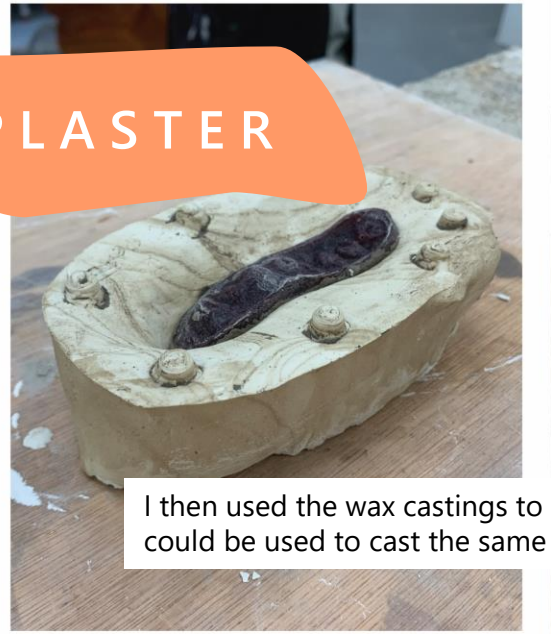


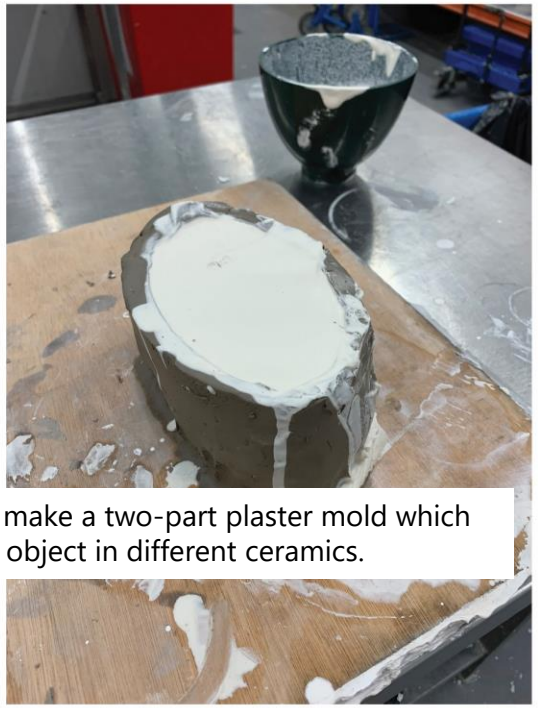
I wanted to cast the objects in ceramic, however, I was worried that some of my natural objects were a bit fragile for this. I therefore made silicone moulds initially so that the original object could be extracted more easily and a duplicate object could be made in another material, which was robust enough to create a plaster mould. I made these two-part silicone molds and cast a dummy object in wax.



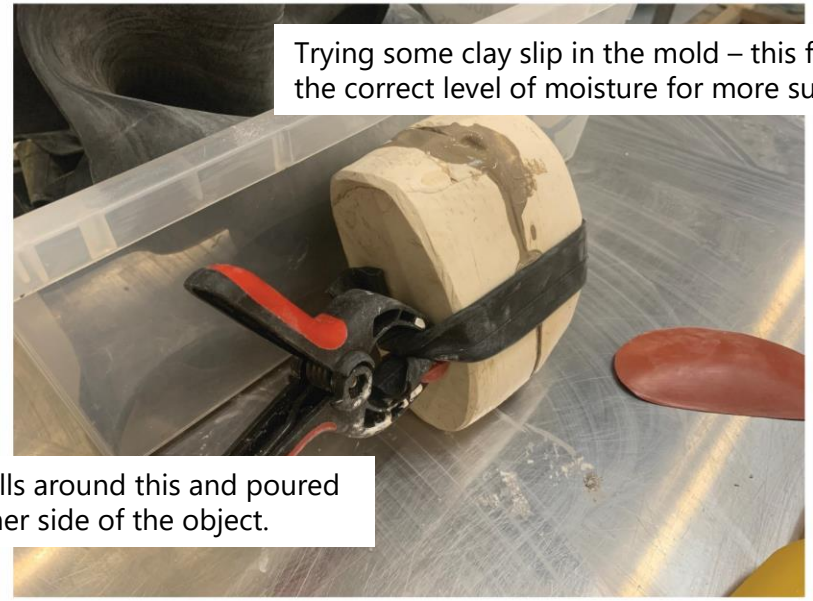


PLASTER



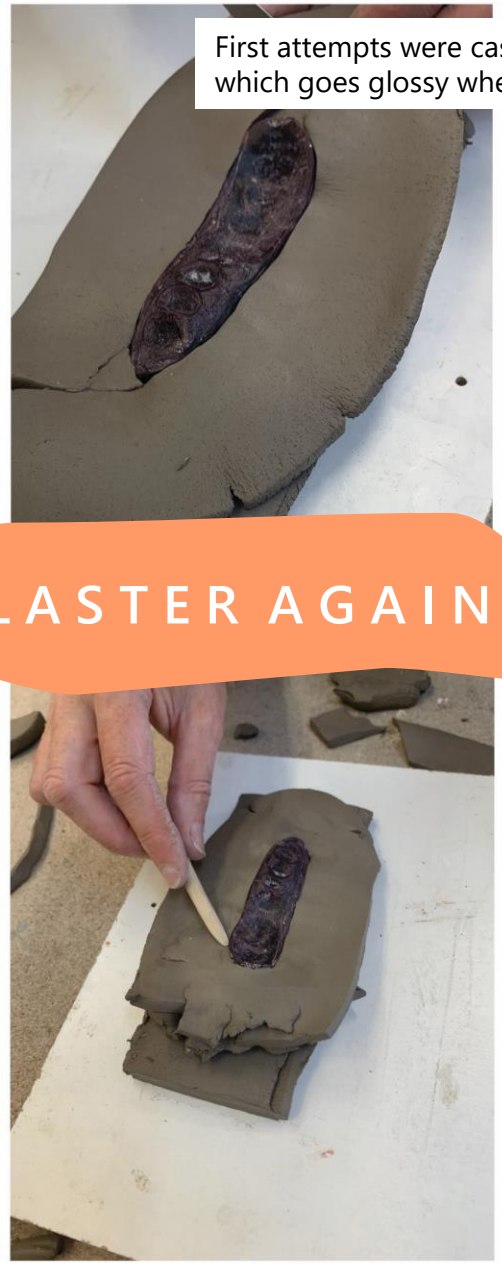


I then used the wax castings to make a two-part plaster mold which could be used to cast the same object in different ceramics.

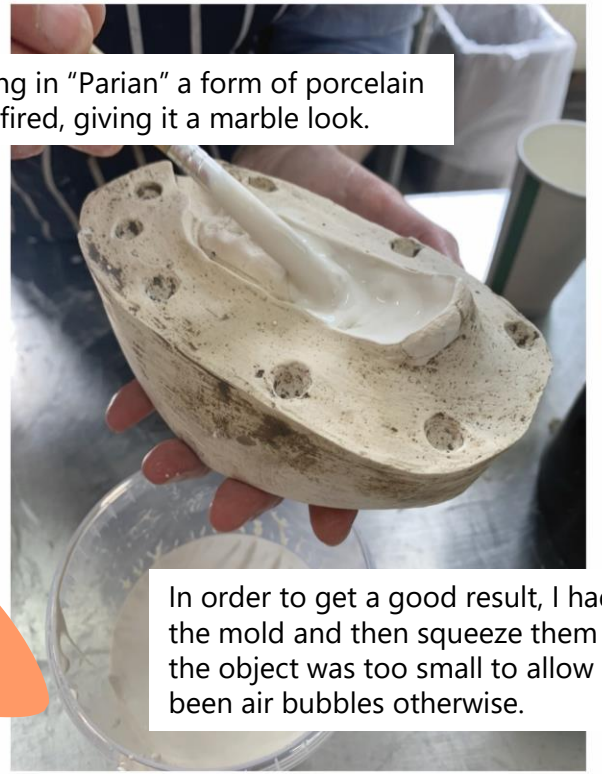


Trying some clay slip in the mold – this first pouring helps the mold to get the correct level of moisture for more successful casts afterwards.

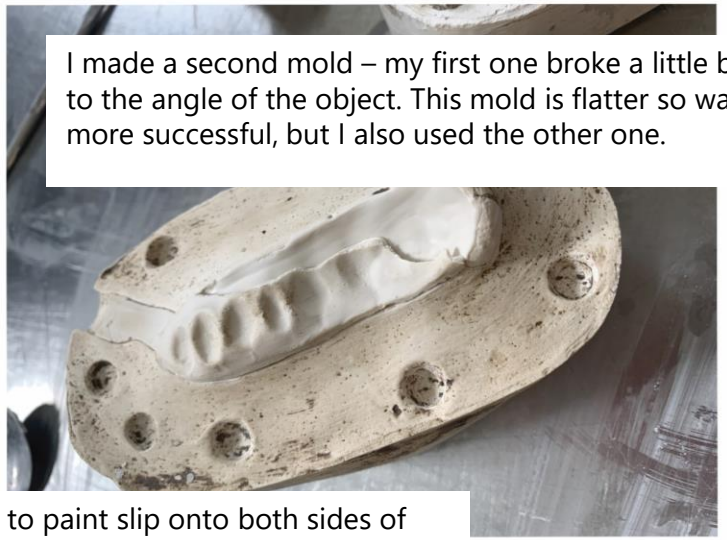
Again, built clay walls around this and poured plaster over the other side of the object.



First attempts were casting in “Parian” a form of porcelain which goes glossy when fired, giving it a marble look.



I made a second mold – my first one broke a little bit due to the angle of the object. This mold is flatter so was a bit more successful, but I also used the other one.



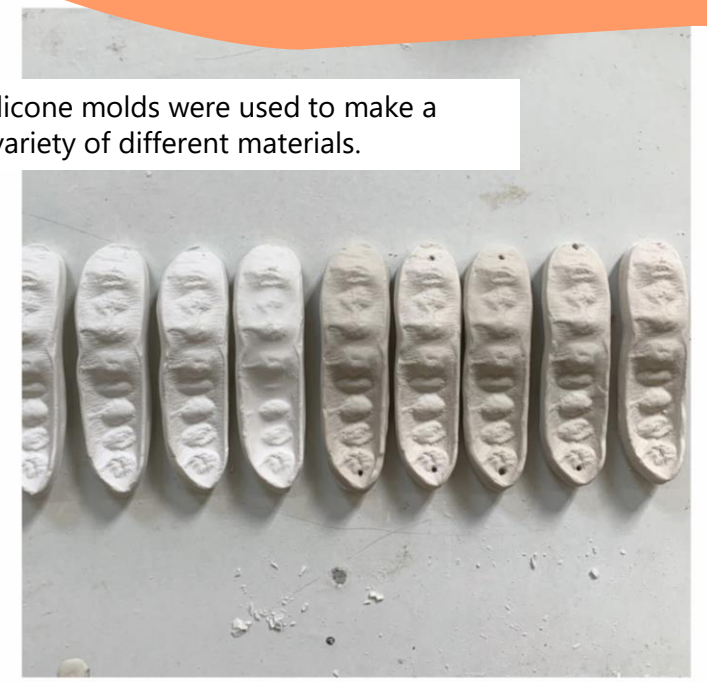
PLASTER AGAIN

In order to get a good result, I had to paint slip onto both sides of the mold and then squeeze them together quickly – this was because the object was too small to allow much air flow so there may have been air bubbles otherwise.

The first attempts were a bit patchy!

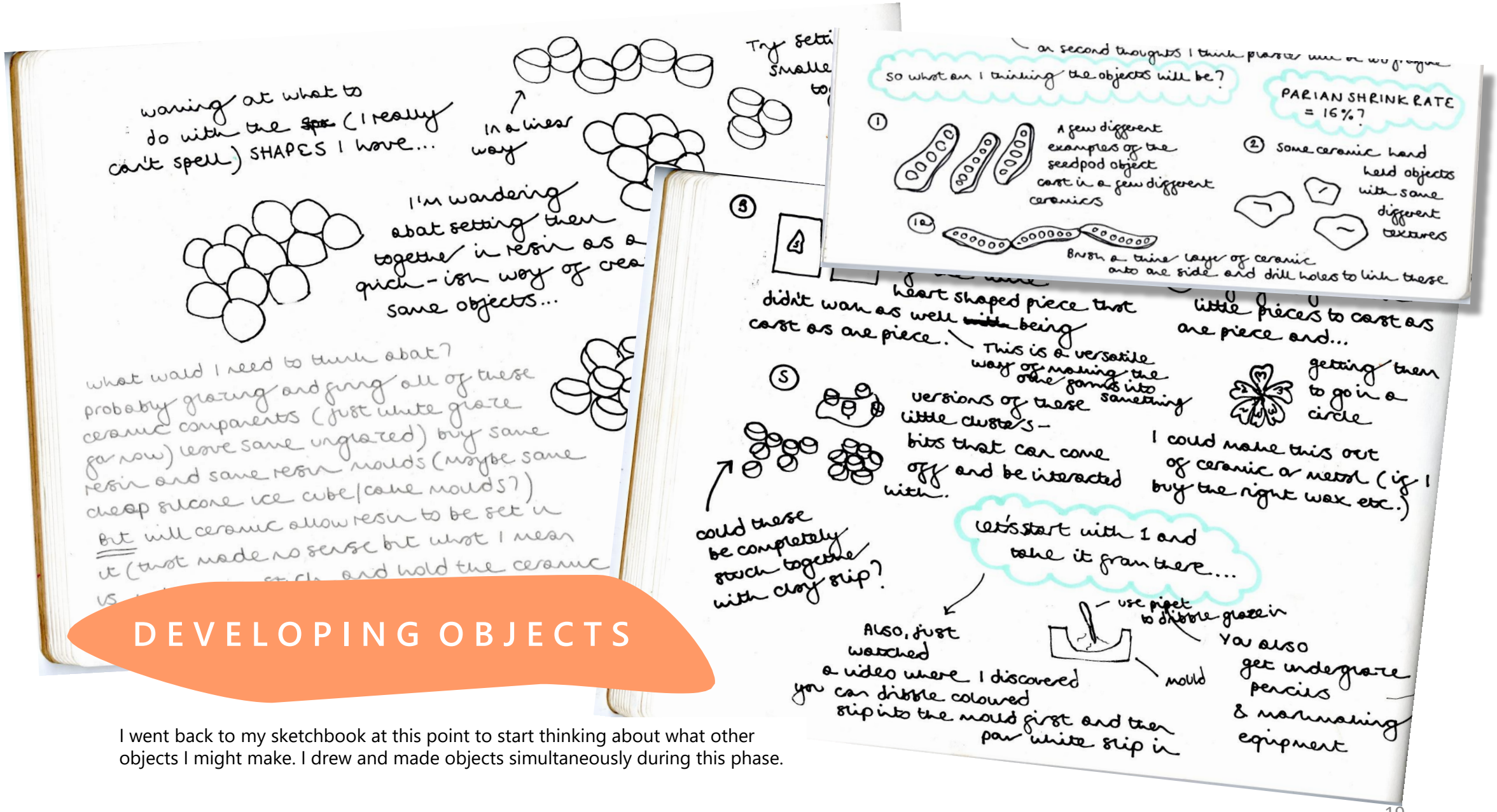
CERAMIC CASTINGS

Some were lost along the way, but they became more successful the more the mold was used, which seems the way of it in ceramic casting.



Both of these molds and the silicone molds were used to make a series of this same object in a variety of different materials.

DEVELOPING OBJECTS



I went back to my sketchbook at this point to start thinking about what other objects I might make. I drew and made objects simultaneously during this phase.

DIGITAL INTERACTION?

I added some little metal components to some of the objects was intended to invite some basic interactions to try to get participants to think about how digital technology might enhance them in Phase One of Fieldwork. Some of these could move or had little “buttons”.

HANDMAKING CERAMICS

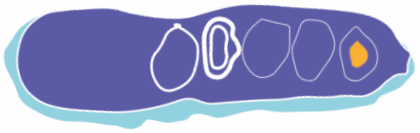
I also wanted to make some objects that weren't cast directly from existing objects to see how interactions compared between these and the cast ones. I made these objects in ceramic earthenware.

PHASE ONE OBJECTS

These are some of the finished objects that were put together in a handling box for the Phase One Semi-Structured Activity Based Interviews.

PHASE ONE FIELDWORK

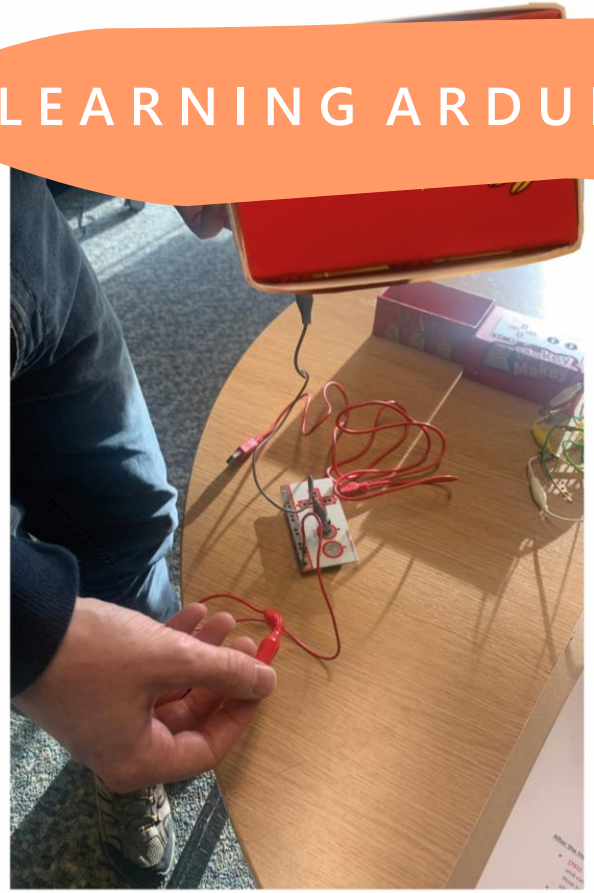
"Yeah this looks like a peapod, there we go! that's what it kind of looks like, but maybe if it had been dried, and...yeah it's got dents, it kind of fits my thumb, or different fingers in different ways, fits around my hand wherever I hold it.."



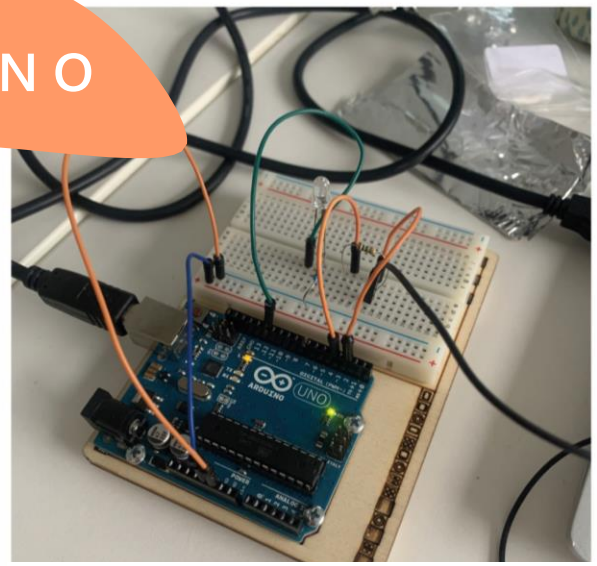
Andrew

2. PHASE TWO: PRACTICE AS METHOD

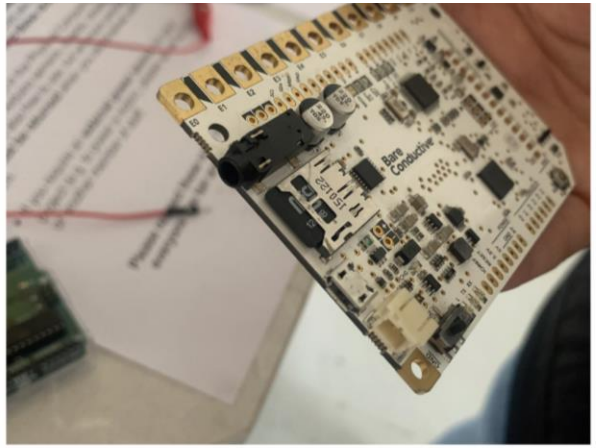
LEARNING ARDUINO



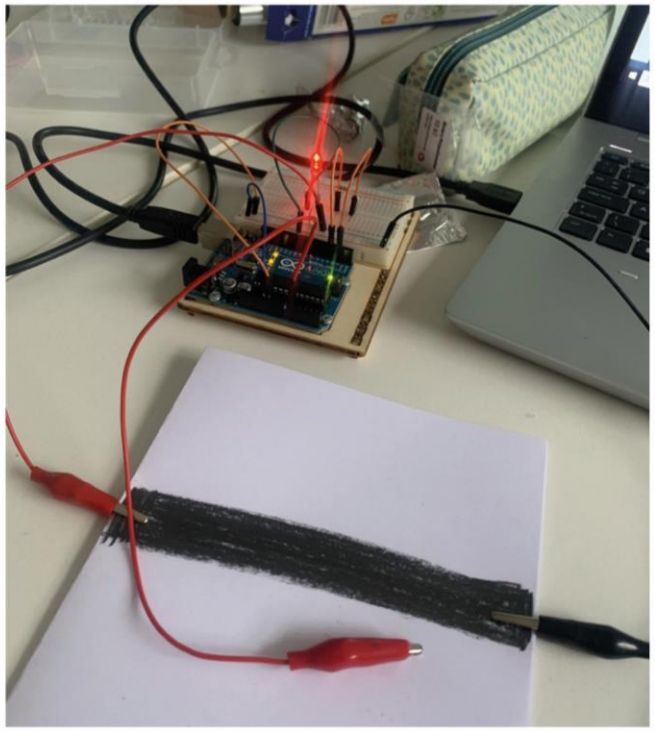
During Phase 1 of Fieldwork, one of my participants introduced me to "makey makey kits" which could allow objects to perform a function through capacitive touch (see List of Key Terms, page () of thesis). Due to the mess of wires, I thought these circuits would make my objects look really complicated for my participants. I therefore began thinking about how I could facilitate capacitive touch another way, which led me to Arduino.



I spoke to an Interaction Design tutor at GSA, showing her my objects and what I was thinking in terms of capacitive touch. She introduced me to the Arduino "Bare Conductive" board, which allowed touch to perform functions, such as turn on audio.



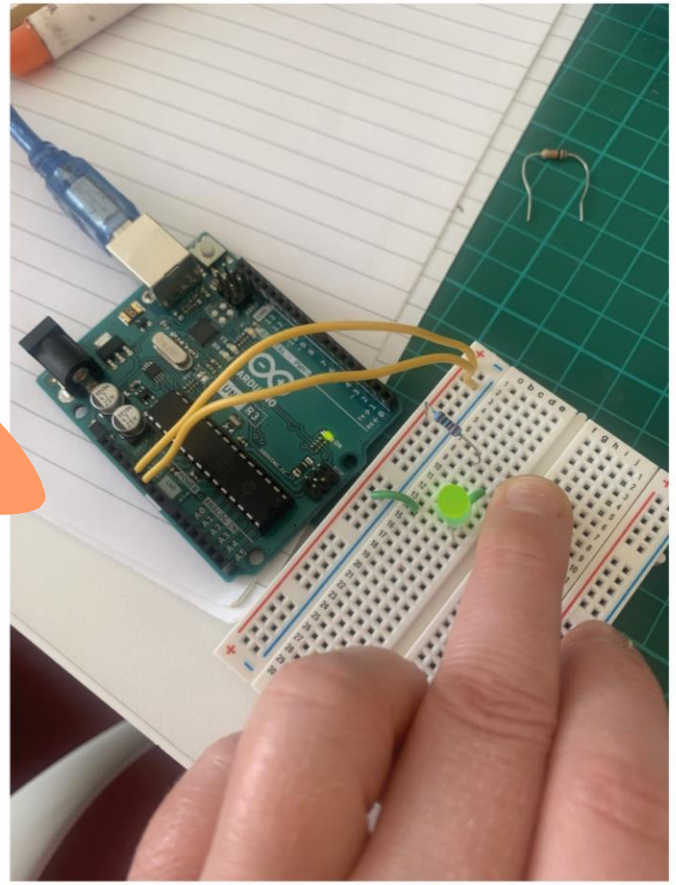
My first attempt at capacitive touch during an Arduino workshop I attended. The graphite pencil is conductive, switching on an LED. When it is touched lightly, the light is dim, when more pressure is applied, the light gets brighter. For my cultural probes, I decided I wanted to do a similar thing with varying levels of vibrotactile technology.

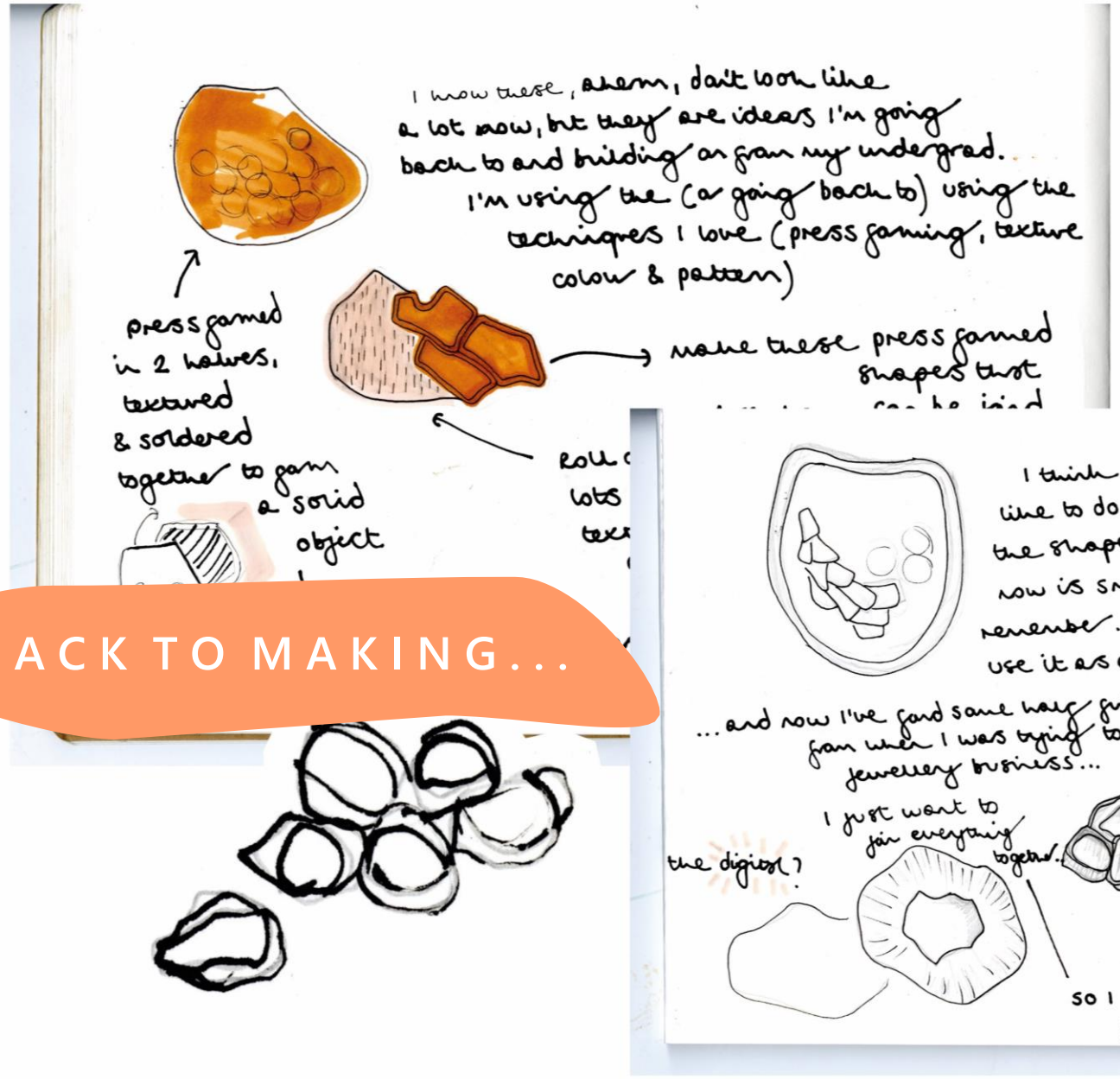


I also learned through these conversations that the objects I made in Phase One were perhaps a bit small to successfully incorporate capacitive touch technology. This gave me a better understanding of the ideal scale that would be needed for the objects that would be cultural probes.

PRACTICING ARDUINO

Following the Arduino workshop, I booked out a kit from GSA technical services and practiced getting used to the technology and doing some basic coding. I quickly realised that I wouldn't have the time to learn in detail about coding and wiring up circuits within the scope of the MRes – I would need to collaborate with someone who already had those skills.

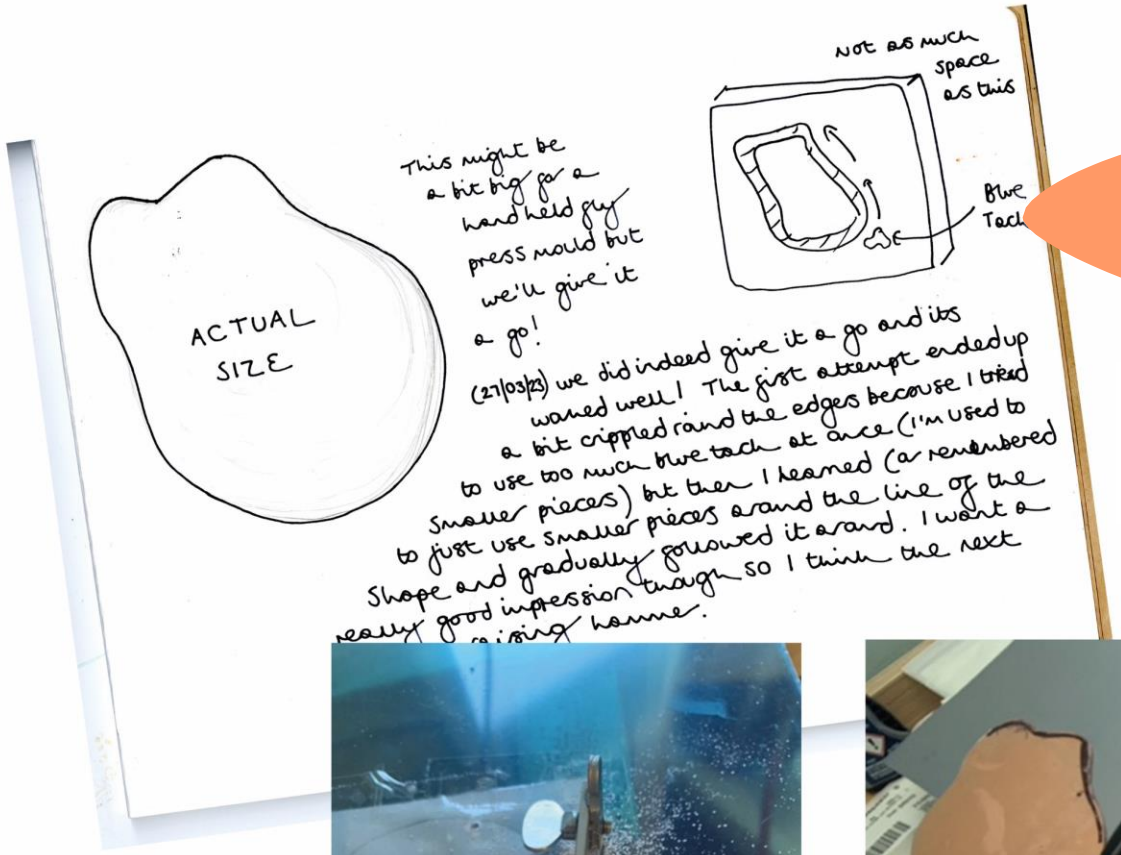




BACK TO MAKING...

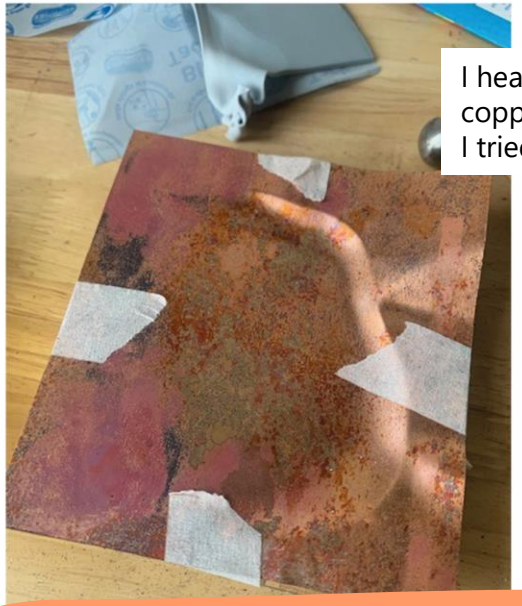
Meanwhile, I went back to working on the 3D making element. Taking some of the data from the Phase One interviews, I started thinking about the shape of the object and what materials I might use. Since participants had enjoyed the variety of shapes and textures achieved from the ceramic and metal objects, I decided to use these as materials. I also began to think about how to take scale into consideration after what I'd learned from the Arduino workshop.

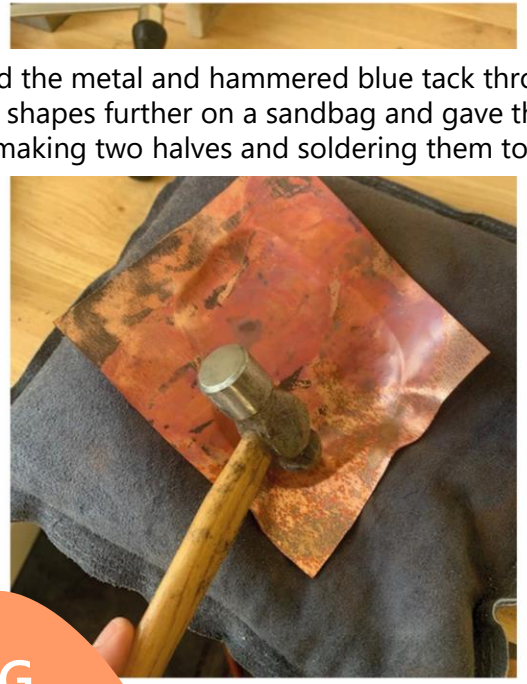
PRESS FORMING

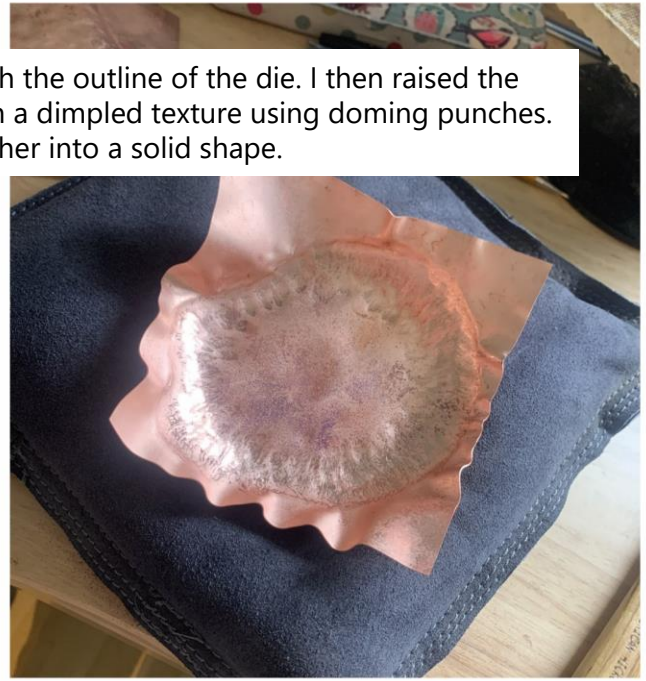


Back to my favourite technique – press forming! I started making some copper shapes using a press mold. I cut the shape into a piece of acrylic sheet and strengthened it with copper so that it would withstand being press formed.

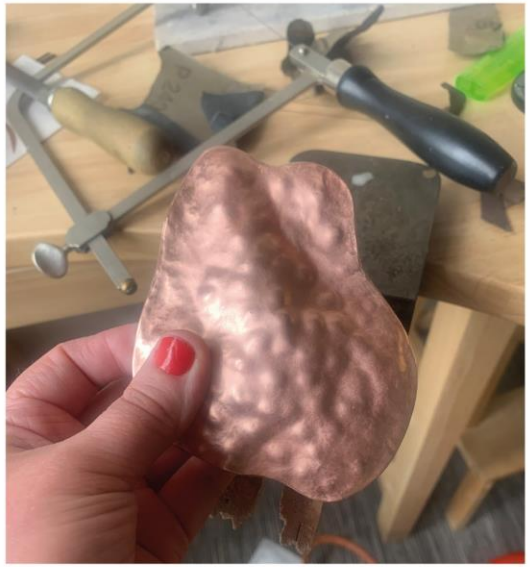
COPPER FORMING

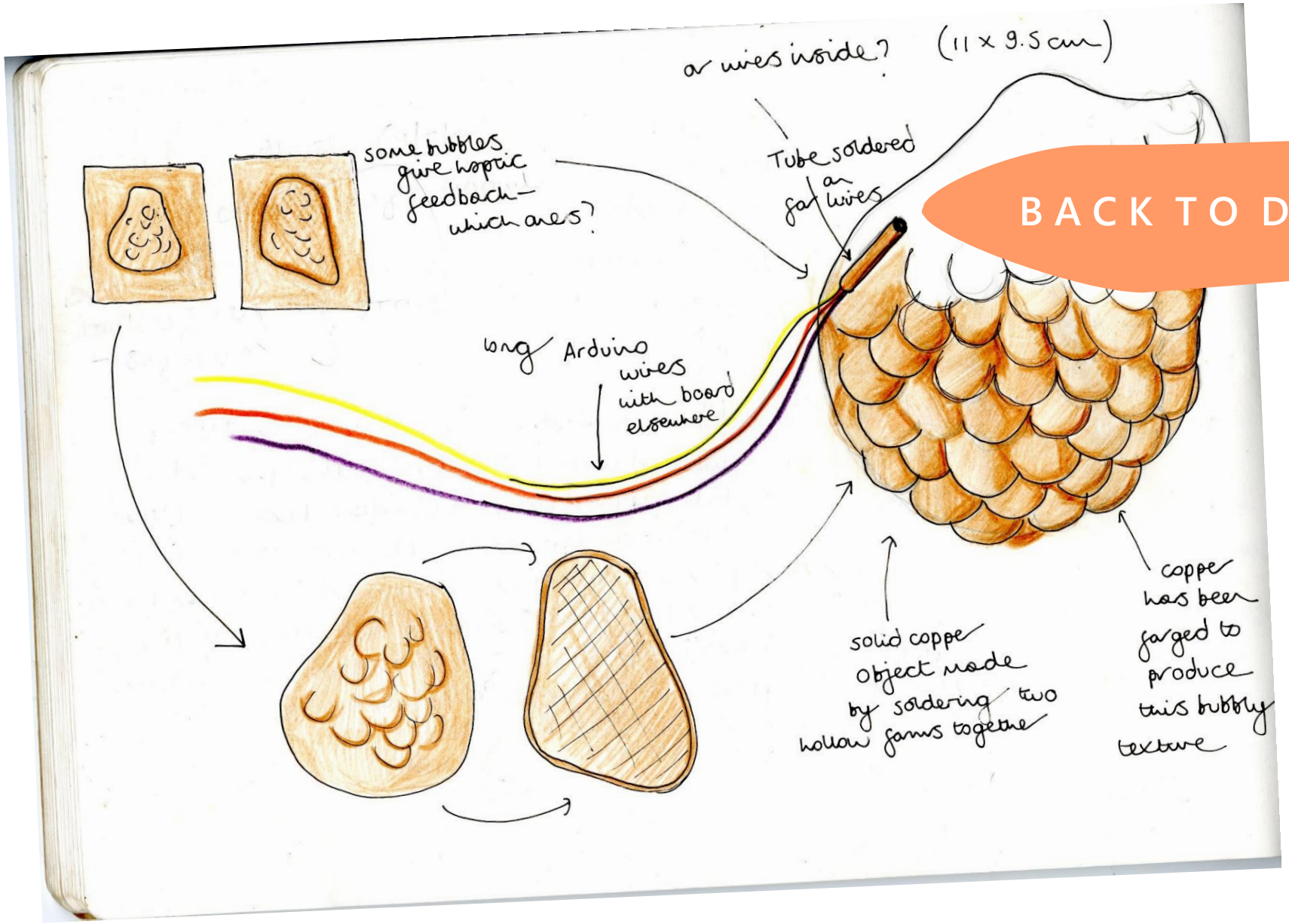






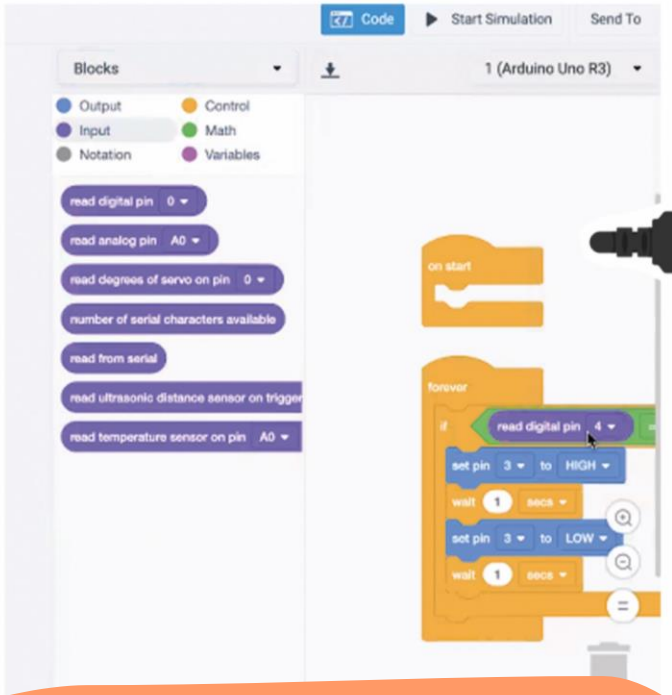
I heated the metal and hammered blue tack through the outline of the die. I then raised the copper shapes further on a sandbag and gave them a dimpled texture using doming punches. I tried making two halves and soldering them together into a solid shape.

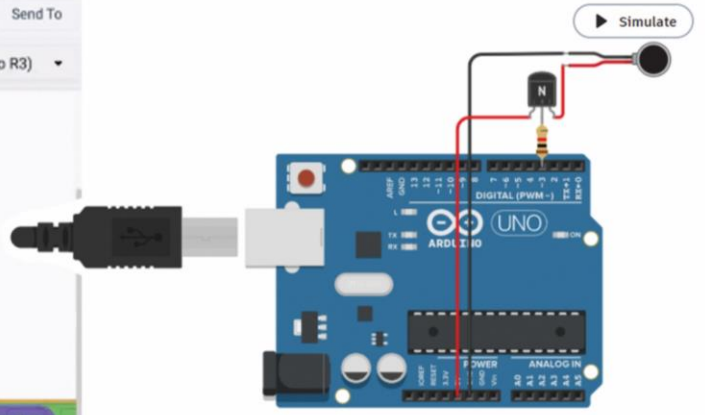


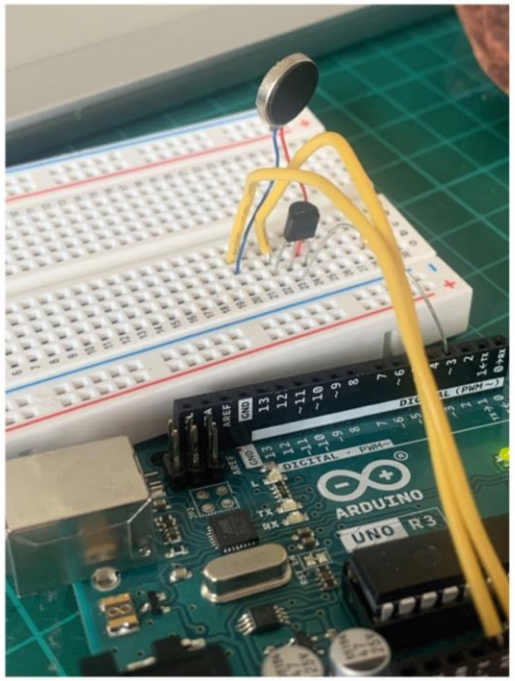


BACK TO DIGITAL...

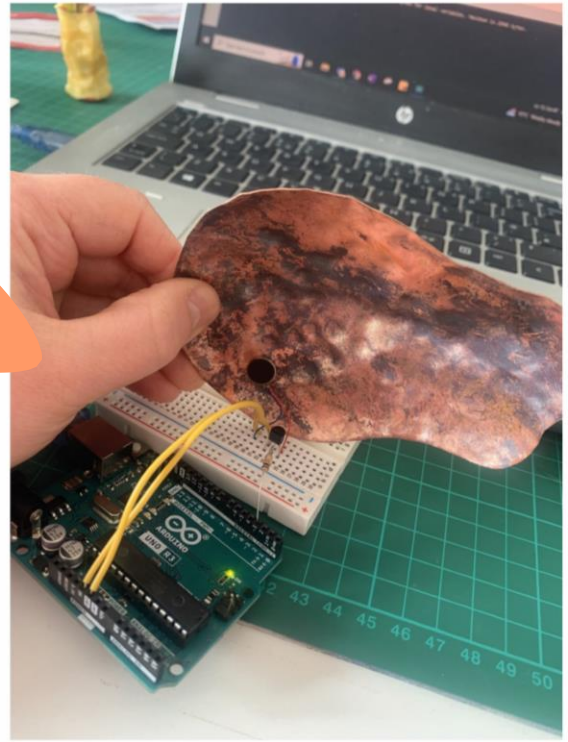
I then went back to thinking about how to incorporate the digital element into this copper object. I realised I didn't want to put the electronics inside the object, because this would give less scope for opening it back up again. Instead, I wanted to have the Arduino and circuit board outside the object with longer wires connecting the two together.

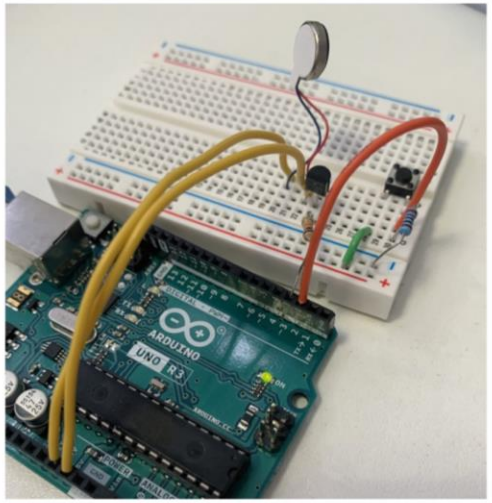






VIBROTACTILES





Coming back to Arduino, I sought help from my primary supervisor, who has a background in computer science, as well as GSA's Interactive Computing Technician. With their advice, I found a an Arduino circuit and code for a simple vibrating motor online. I built this using the Arduino kit and a breadboard. It worked, and there was a vibrotactile sensation when paired with the copper shapes I'd made, but I still couldn't get the capacitive touch element to work alongside this. I was going to need more help.

Acapacitive_touch_buzzer_code.ino

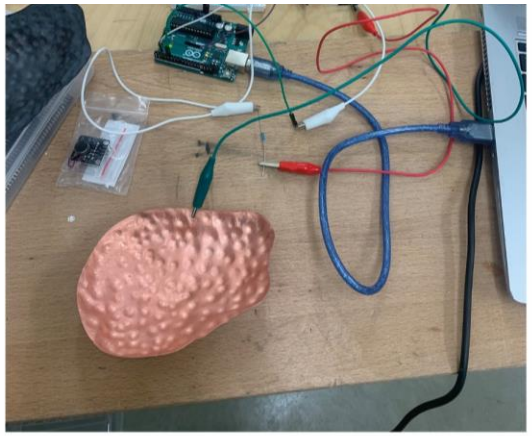
```
30
31  if(total1 >0) {
32      Serial.print(millis() - start);        // check on performance in milliseconds
33      Serial.print("\t");                    // tab character for debug window spacing
34
35      Serial.println(total1);                // print sensor output 1
36  }
37      // motor 1
38      //if (total1 > 100){
39        //digitalWrite(3,HIGH);
40      //  analogWrite(3,5);
41      //} else {
42        //digitalWrite(3,LOW);
43      //  analogWrite(3,0);
44      //}
45
46      // motor 2
47      //if (total1 > 400){
48       // digitalWrite(5,HIGH);
49        //analogWrite(3,255);
50      //} else {
51        //digitalWrite(5,LOW);
52        //analogWrite(3,0);
53      //}
54
55    if (total1 > 1400){
56        //digitalWrite(3,HIGH);
57        analogWrite(3,150);
58    } else if(total1 > 1000){
59      analogWrite(3,128);
```

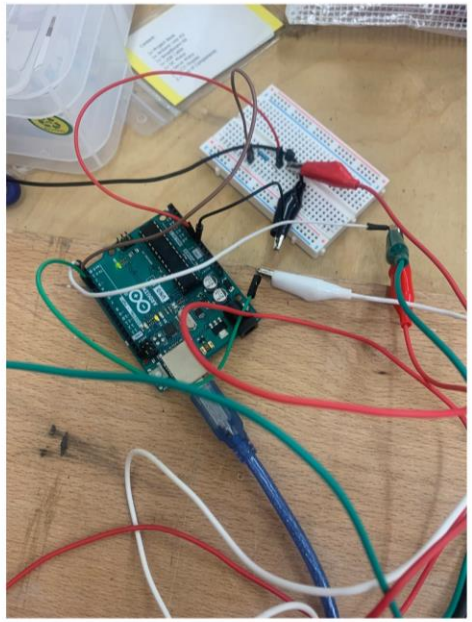
Acapacitive_touch_buzzer_code.ino

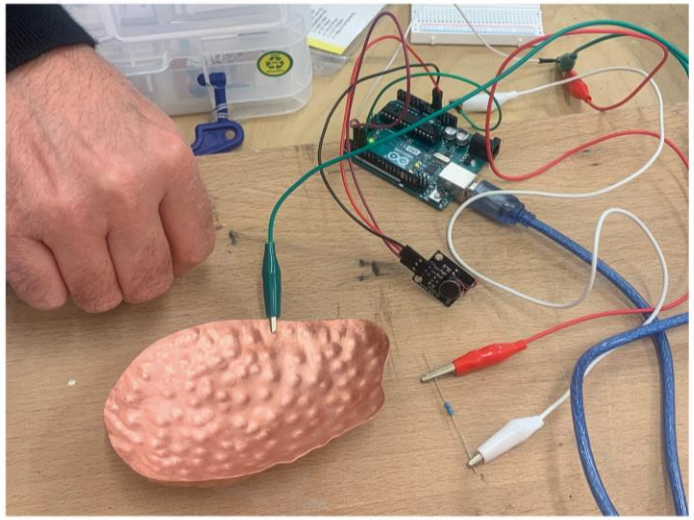
```
1   #include <CapacitiveSensor.h>
2
3   /*
4    * CapitiveSense Library Demo Sketch
5    * Paul Badger 2008
6    * Uses a high value resistor e.g. 10 megohm between send pin and
7    * Resistor effects sensitivity, experiment with values, 50 kilohm - 50 megohm. Larger resistor values yield larger sensor values.
8    * Receive pin is the sensor pin - try different amounts of foil/metal on this pin
9    * Best results are obtained if sensor foil and wire is covered with an insulator such as paper or plastic sheet
10   */
11
12
13  CapacitiveSensor   cs_4_2 = CapacitiveSensor(4,2);        // 10 megohm resistor between pins 4 & 2, pin 2 is sensor pin, add wire, foil
14
15
16  void setup()
17  {
18    pinMode(3,OUTPUT);
19    pinMode(5,OUTPUT);
20
21
22    Serial.begin(9600);
23
```

I went to the GSA Highlands and Islands campus for an intensive day working with my primary supervisor and his team, who had more specialist digital skills. We managed to get the capacitive touch working with my copper shapes. The team also helped me to write a code that would vary so that the vibration was strengthened the more the object was handled. We made the circuit on a breadboard, with a mass of wires, so I needed to make sure I had good photos and diagrams of how it worked to be able to make sense of it again later.

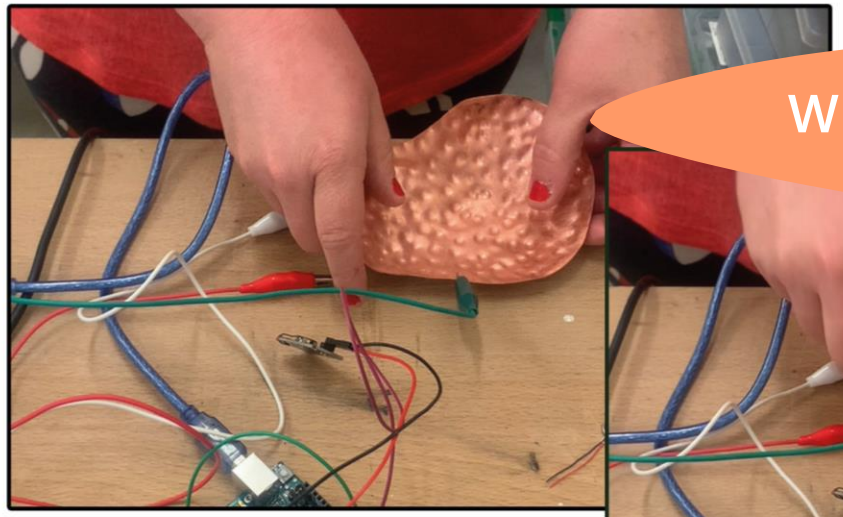
ARDUINO IN FORRES

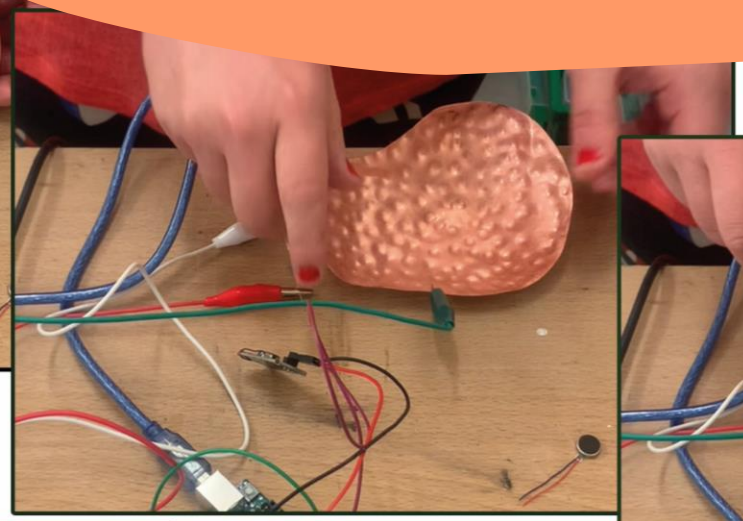


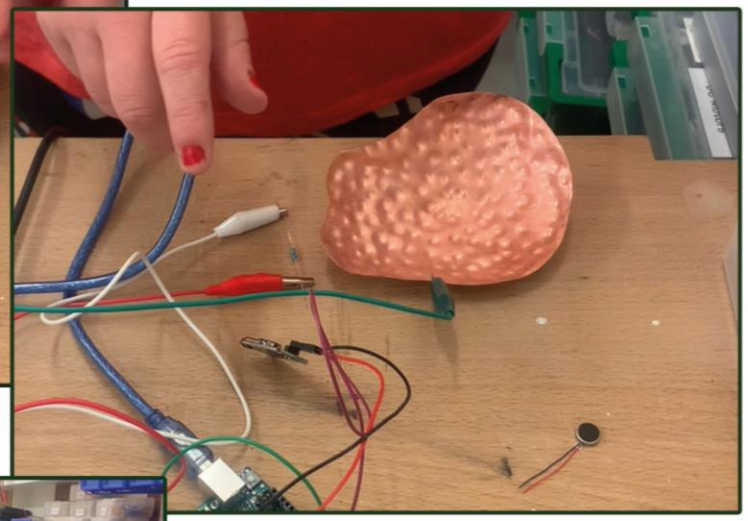




WORKING CAPACITIVE TOUCH

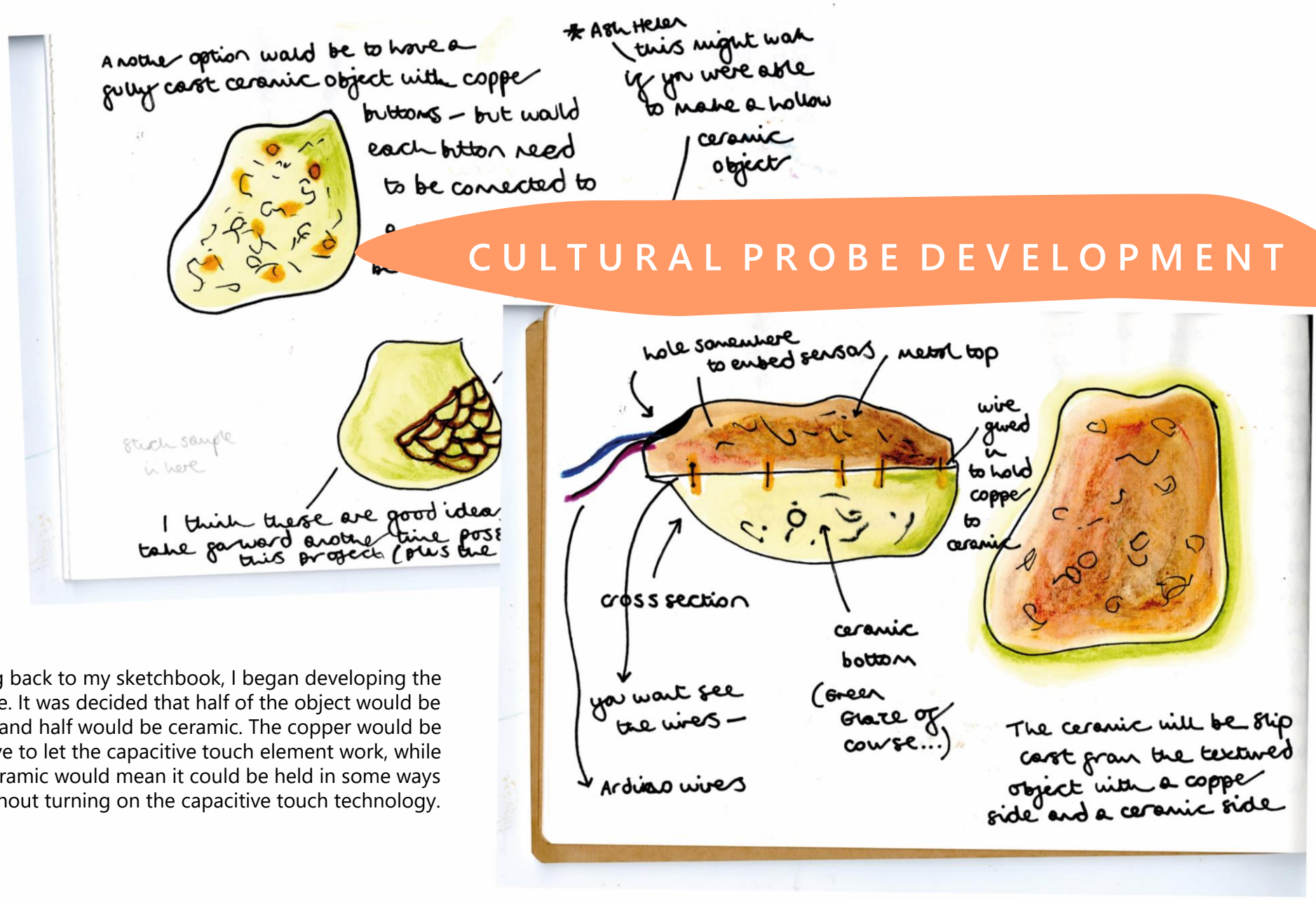






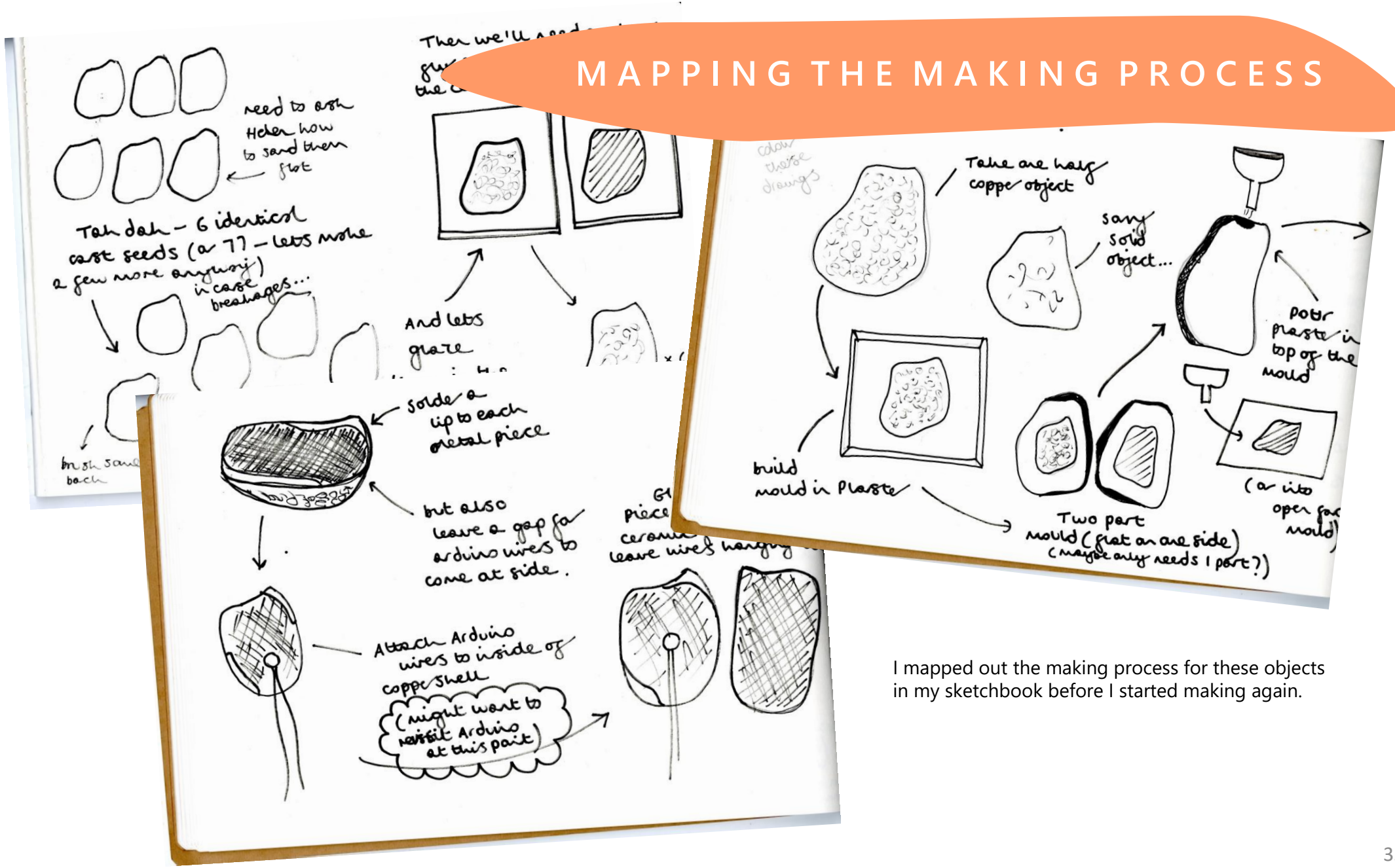
These are some stills from videos of me demonstrating the working capacitive touch.

CULTURAL PROBE DEVELOPMENT



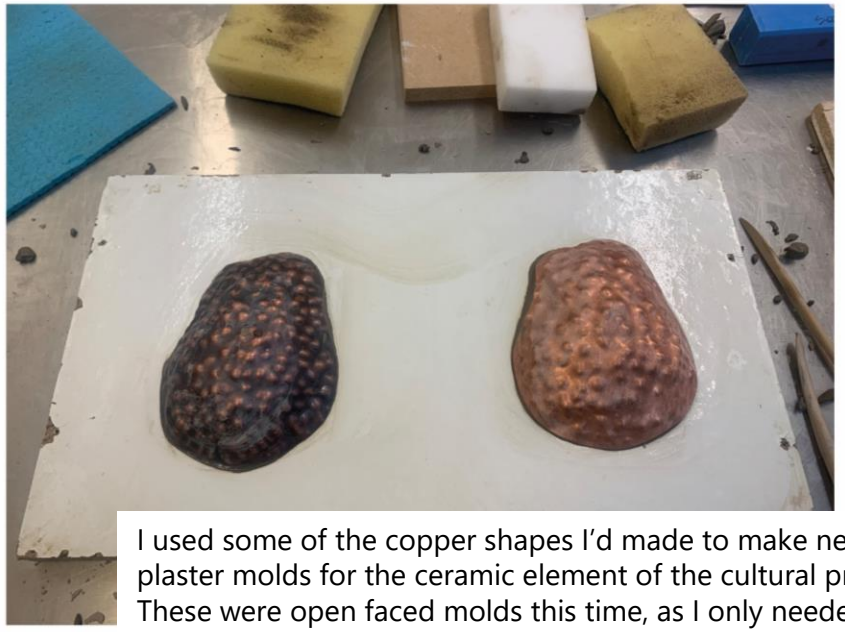
Coming back to my sketchbook, I began developing the final probe. It was decided that half of the object would be copper and half would be ceramic. The copper would be conductive to let the capacitive touch element work, while the ceramic would mean it could be held in some ways without turning on the capacitive touch technology.

MAPPING THE MAKING PROCESS



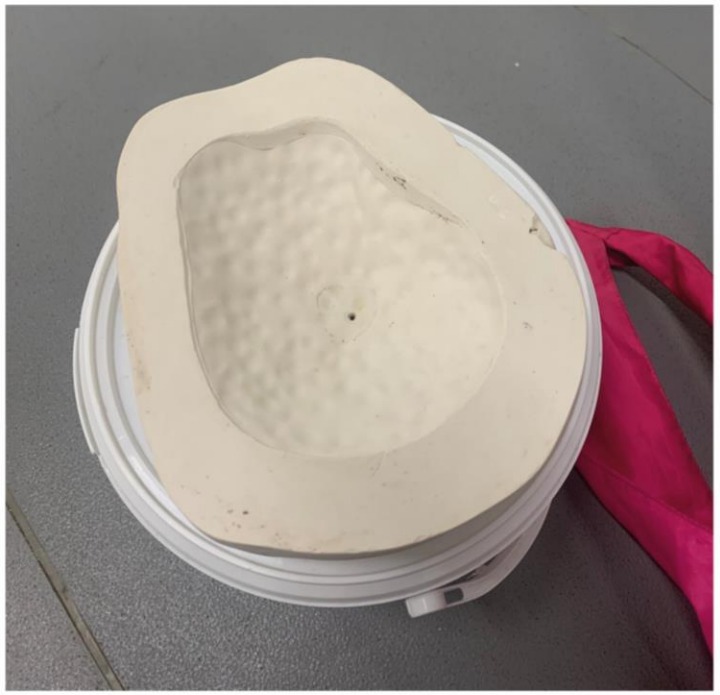
I mapped out the making process for these objects in my sketchbook before I started making again.

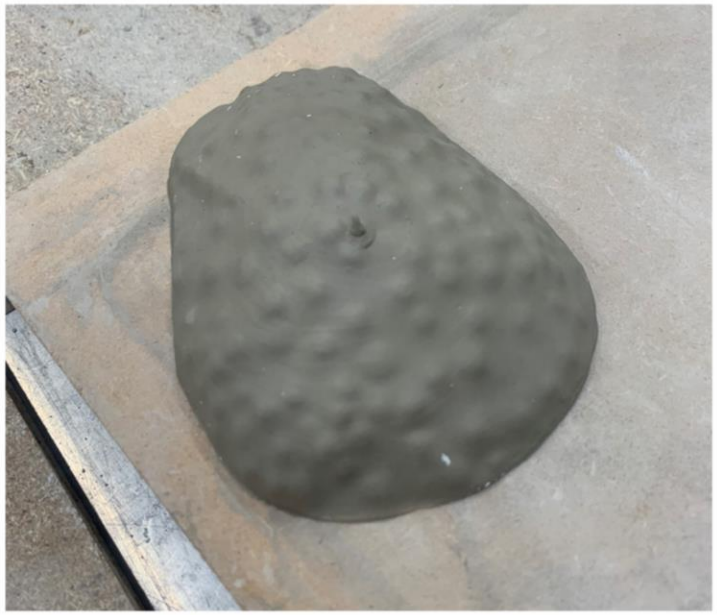
MOULD MAKING



I used some of the copper shapes I'd made to make new plaster molds for the ceramic element of the cultural probes. These were open faced molds this time, as I only needed half since the other half would be made in copper. I included two clay plugs so I could get my objects back out.

SLIP CASTING





First of all, I tried slip casting into these molds. It worked well, but the shells produced were decided to be too fragile for my purposes – they were a bit like the shells of an Easter egg. I had thought you could pour the slip in and leave it, but that would have taken a long time to dry without another side to the mold, so you need to coat the mold and pour the slip back out, leaving this shell behind.

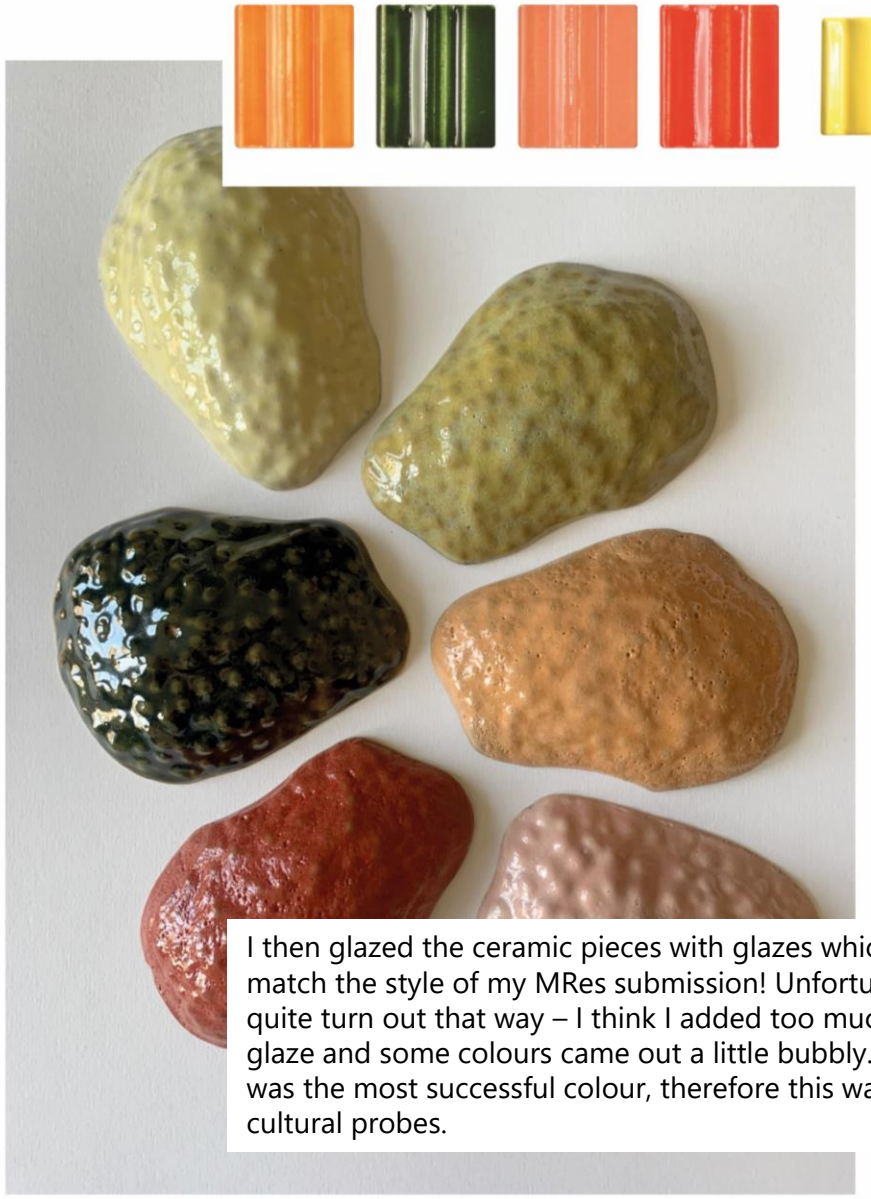
SLAB CASTING

The Stow Casting Technician showed me another technique called slab casting which involved pressing slabs of rolled out clay into the molds. I cut the slabs out before pushing them firmly into the mold so that there were no air bubbles. I then continued to add clay on top until the mold was almost full before flattening it off to give the underside as flat a texture as possible. I made quite a few, convinced some might explode in the kiln!

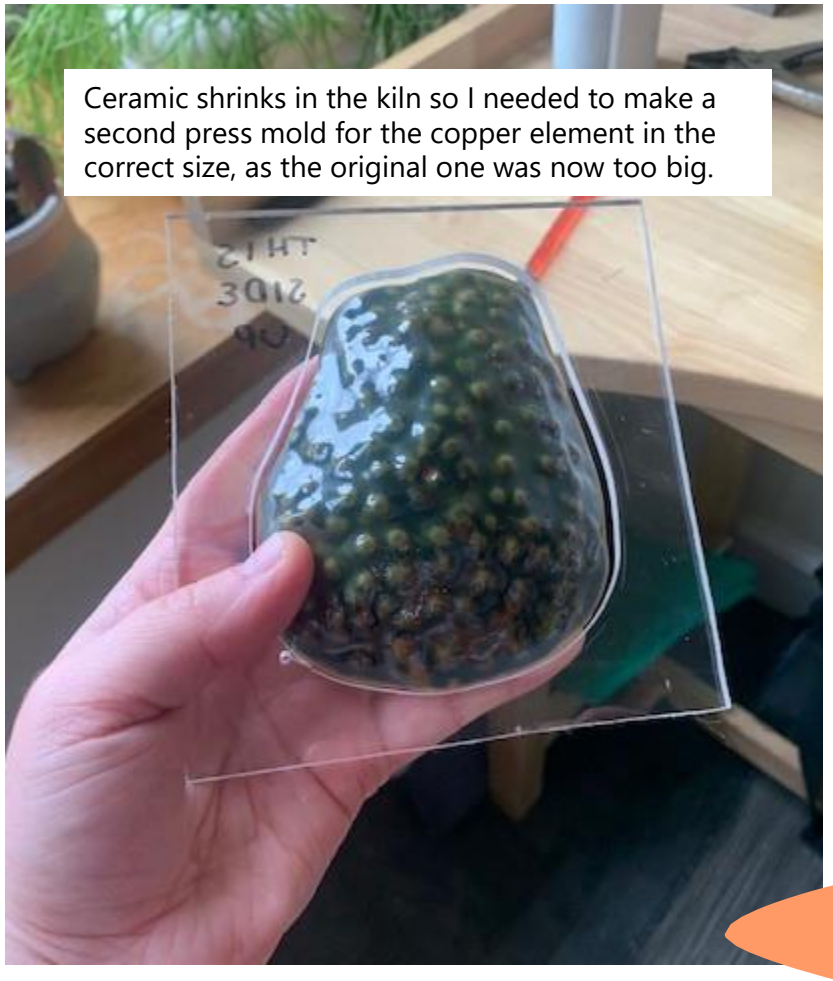
SANDING BACK

Once the pieces were fired, I sanded off the mold marks and sanded the bottoms to make them as flat as I could. This was to give them a good lip to join the copper components to.

GLAZING

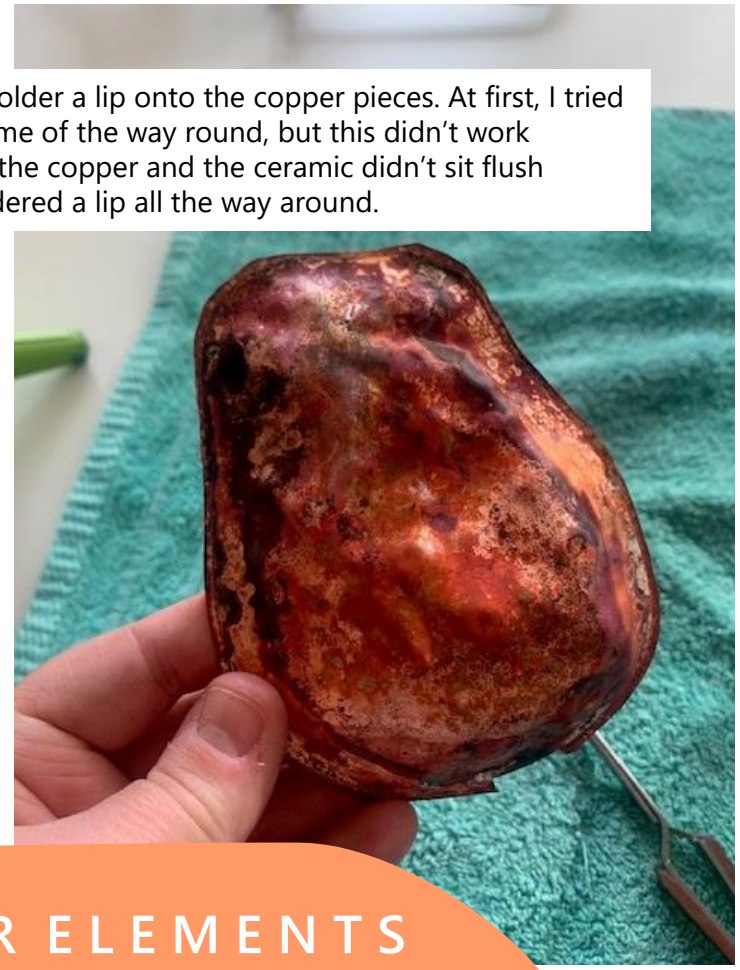


I then glazed the ceramic pieces with glazes which I hoped would match the style of my MRes submission! Unfortunately they didn't quite turn out that way – I think I added too much water to the glaze and some colours came out a little bubbly. The dark green was the most successful colour, therefore this was used for the cultural probes.



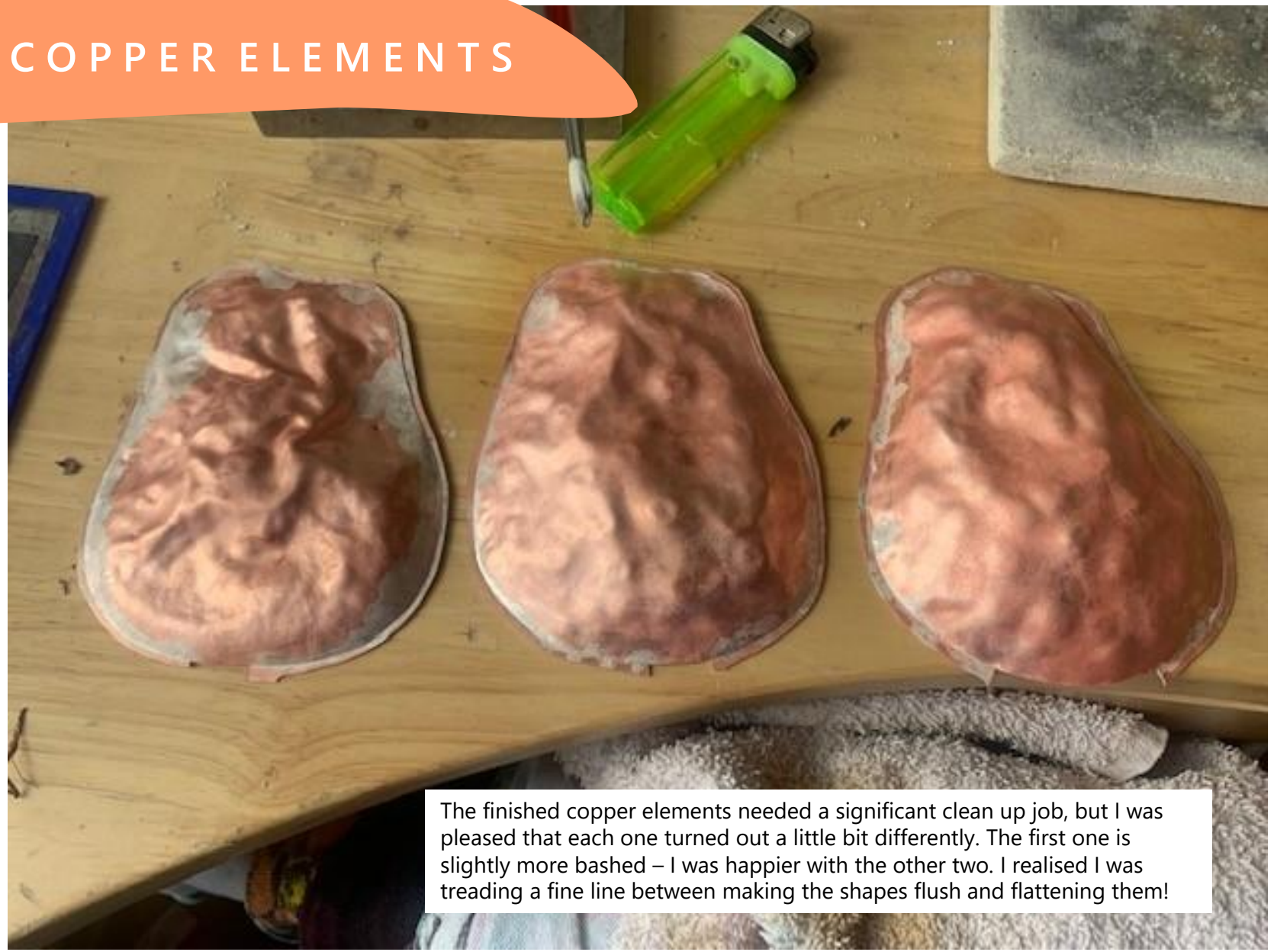
Ceramic shrinks in the kiln so I needed to make a second press mold for the copper element in the correct size, as the original one was now too big.

I also needed to solder a lip onto the copper pieces. At first, I tried to do this only some of the way round, but this didn't work because it meant the copper and the ceramic didn't sit flush together. So I soldered a lip all the way around.



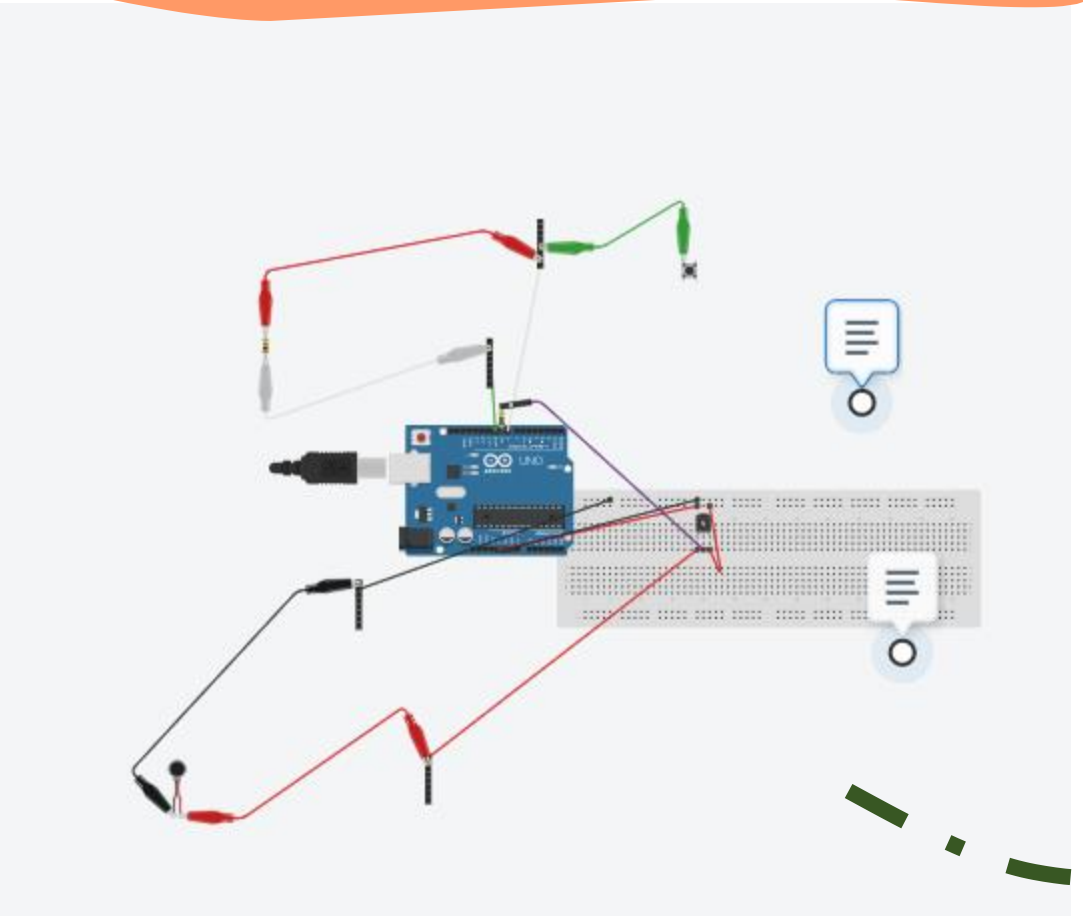
MAKING THE COPPER ELEMENTS

MAKING THE COPPER ELEMENTS

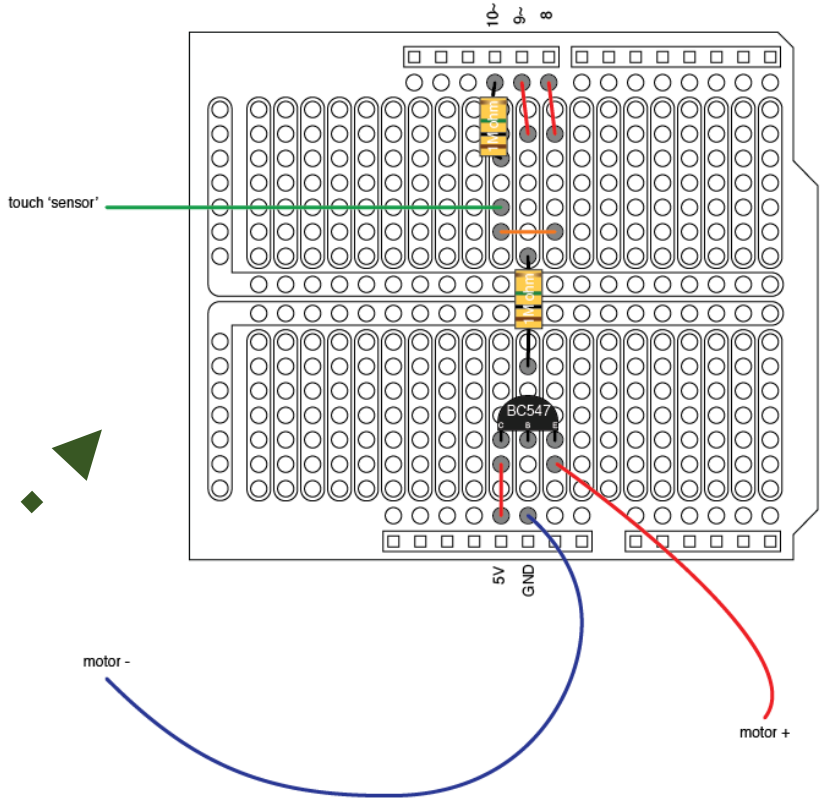


The finished copper elements needed a significant clean up job, but I was pleased that each one turned out a little bit differently. The first one is slightly more bashed – I was happier with the other two. I realised I was treading a fine line between making the shapes flush and flattening them!

FINALISING THE DIGITAL

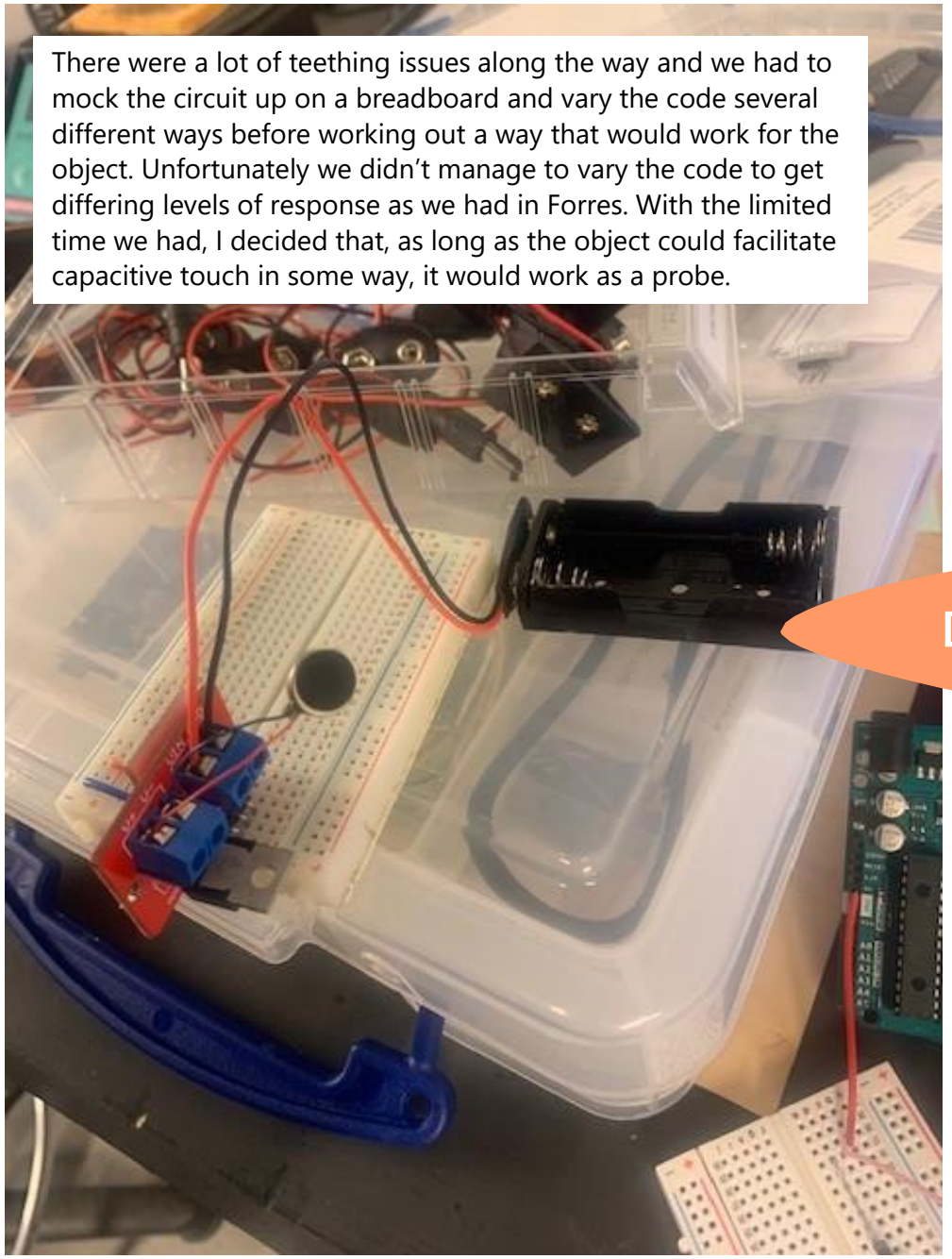


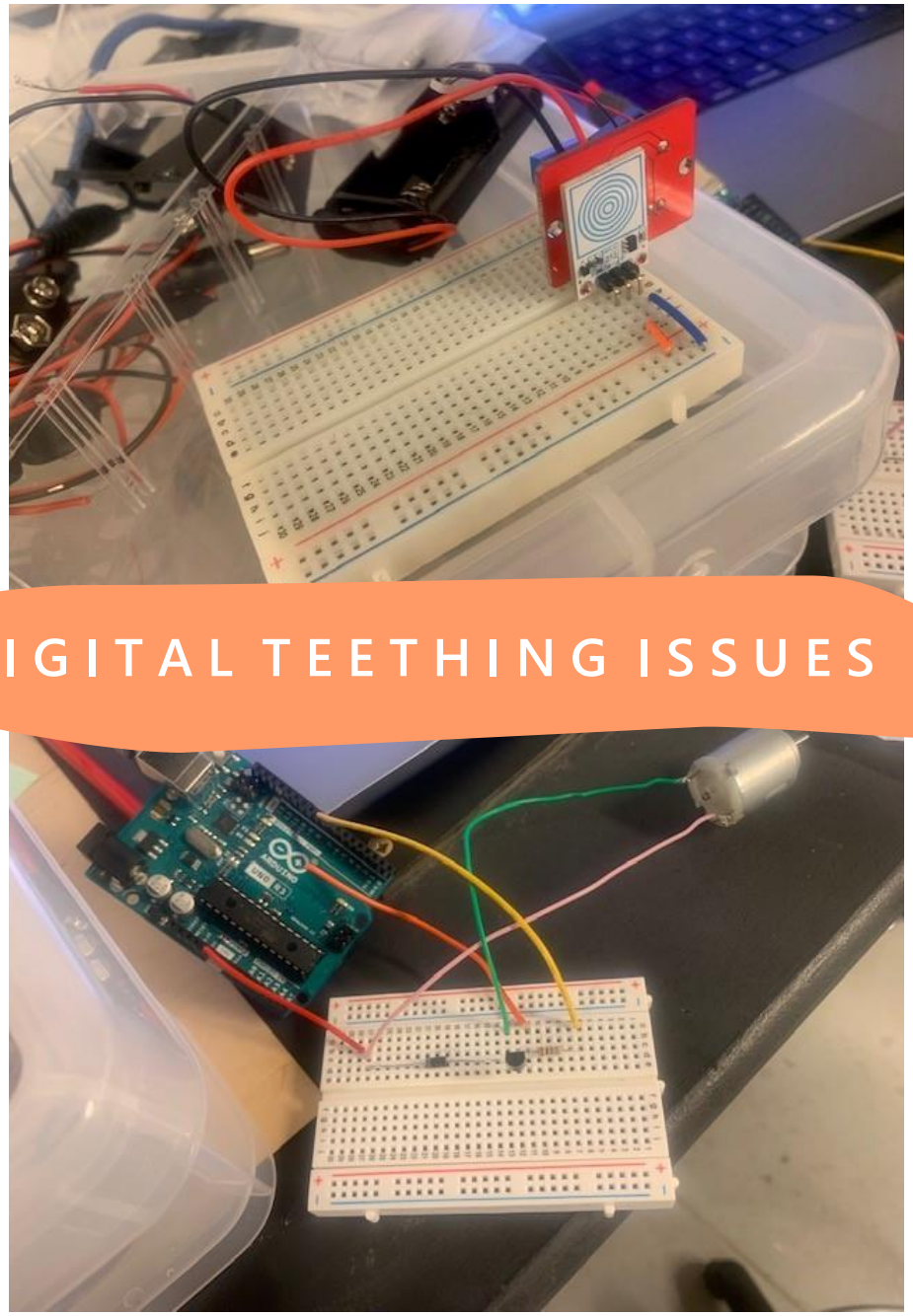
Coming back to Arduino after a couple of months of making and writing proved a bit challenging. I mocked up the circuit board that we produced in Forres and took it, along with the code, back to GSA's Interactive Computing Technician (a new one this time, the other one had left). It turned out it was more difficult than I had thought for Arduino code written by another person to be interpreted by someone different. Code writing is another form of craft in itself. Therefore, the technician and I spent quite a bit of time working out a new way of building the circuit and code for the capacitive touch element, which we mocked up on illustrator to help us build the circuit.



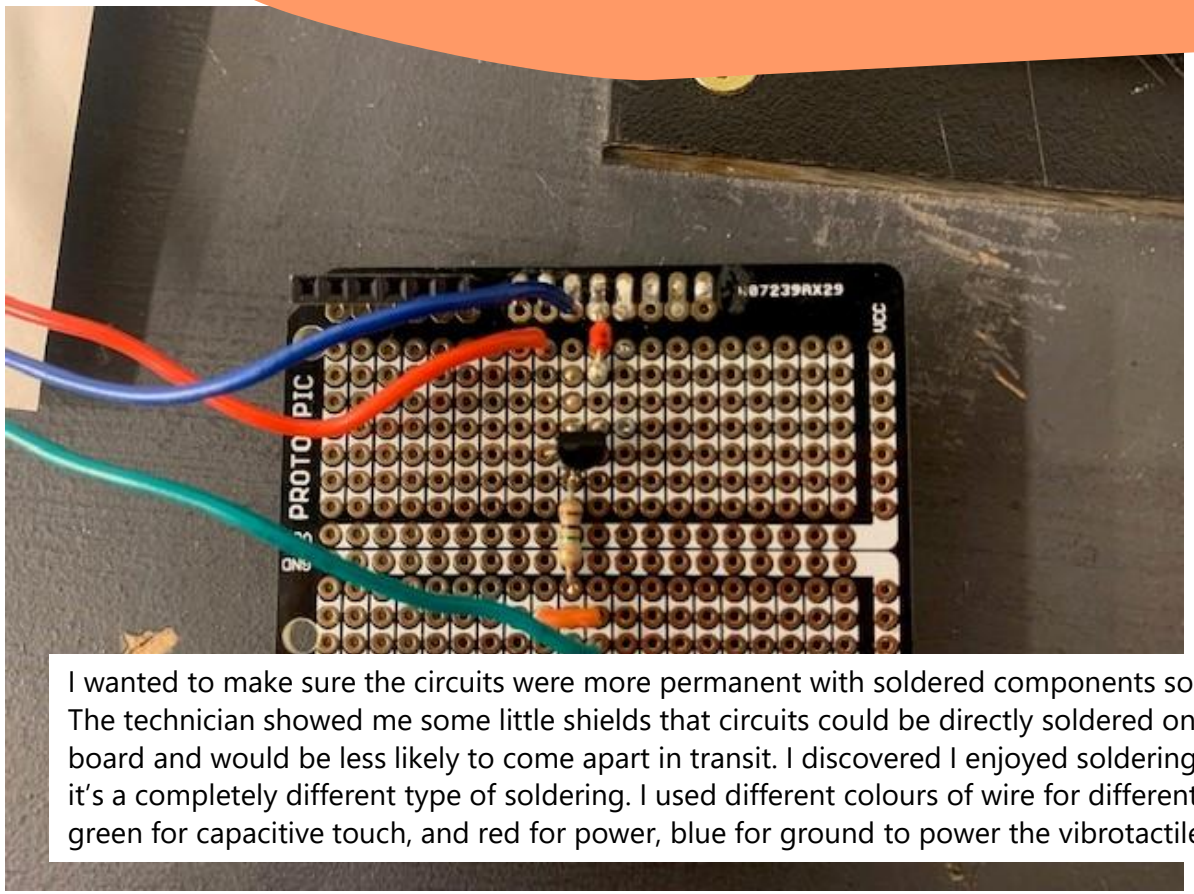
DIGITAL TEETHING ISSUES

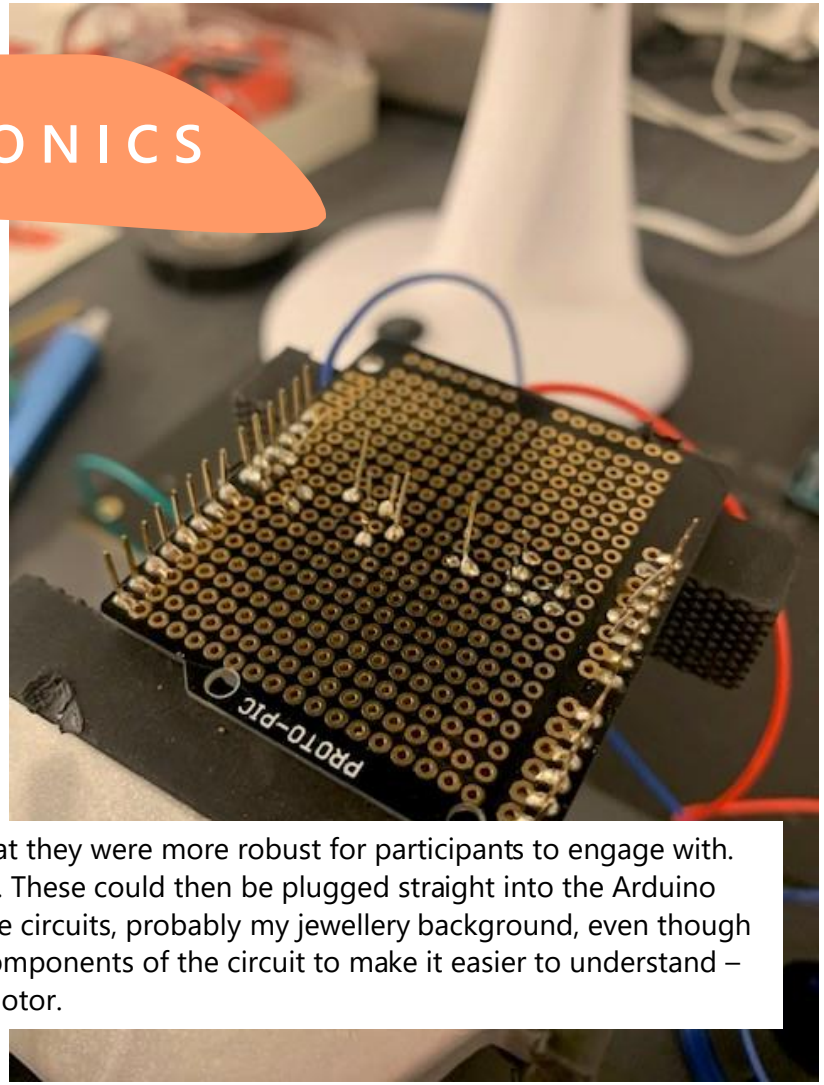
There were a lot of teething issues along the way and we had to mock the circuit up on a breadboard and vary the code several different ways before working out a way that would work for the object. Unfortunately we didn't manage to vary the code to get differing levels of response as we had in Forres. With the limited time we had, I decided that, as long as the object could facilitate capacitive touch in some way, it would work as a probe.





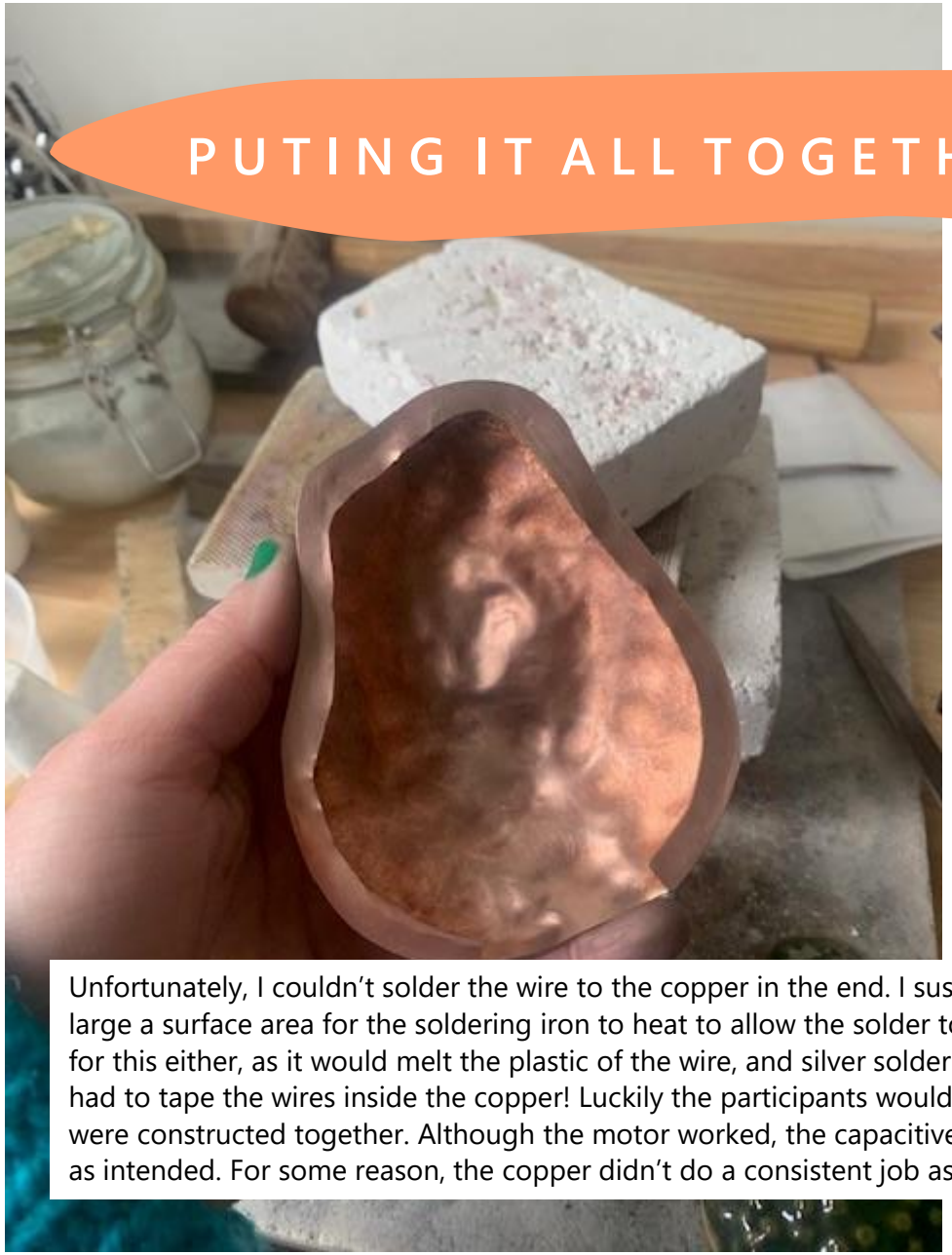
SOLDERING THE ELECTRONICS

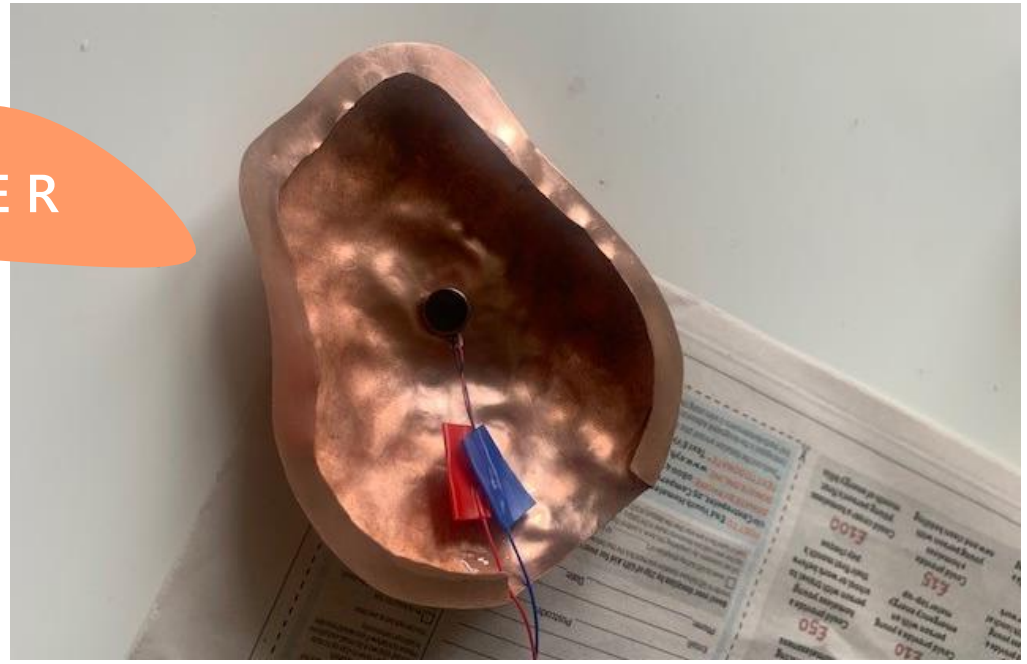


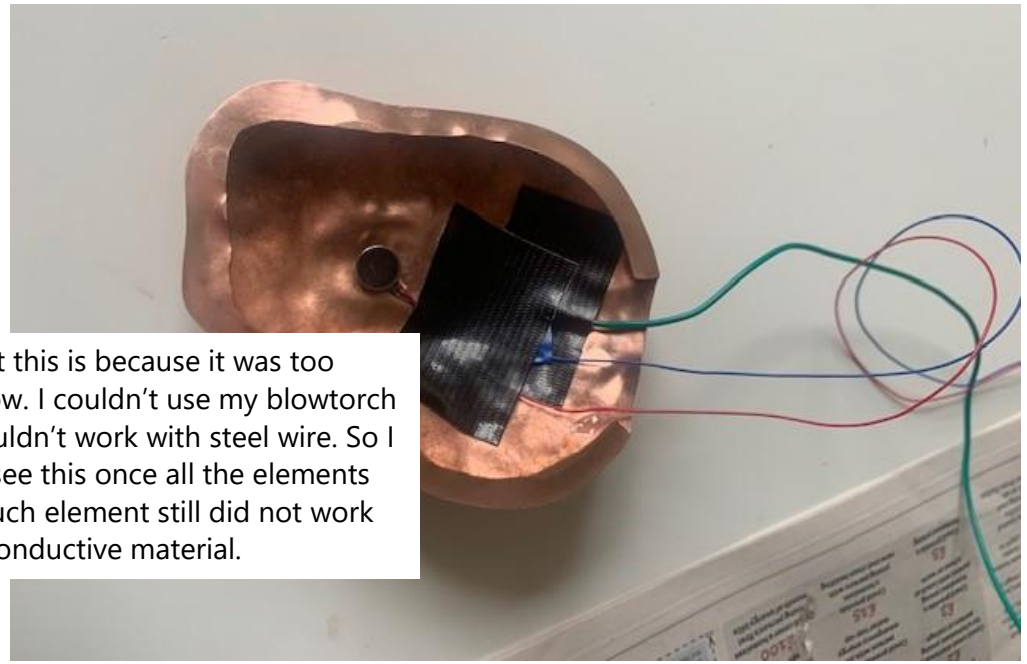


I wanted to make sure the circuits were more permanent with soldered components so that they were more robust for participants to engage with. The technician showed me some little shields that circuits could be directly soldered on to. These could then be plugged straight into the Arduino board and would be less likely to come apart in transit. I discovered I enjoyed soldering the circuits, probably my jewellery background, even though it's a completely different type of soldering. I used different colours of wire for different components of the circuit to make it easier to understand – green for capacitive touch, and red for power, blue for ground to power the vibrotactile motor.

PUTING IT ALL TOGETHER

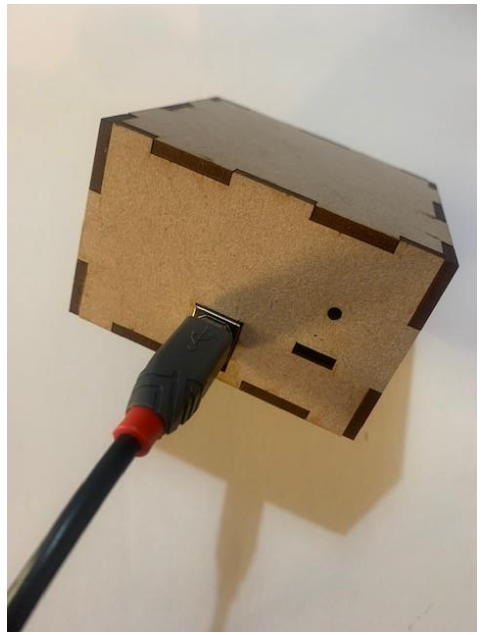






Unfortunately, I couldn't solder the wire to the copper in the end. I suspect this is because it was too large a surface area for the soldering iron to heat to allow the solder to flow. I couldn't use my blowtorch for this either, as it would melt the plastic of the wire, and silver solder wouldn't work with steel wire. So I had to tape the wires inside the copper! Luckily the participants wouldn't see this once all the elements were constructed together. Although the motor worked, the capacitive touch element still did not work as intended. For some reason, the copper didn't do a consistent job as a conductive material.

FINAL CULTURAL PROBE KIT



I worked around the capacitive touch element not working by asking participants to touch the green wire when engaging with the object. This made the capacitive touch element work and the vibrotactile technology worked as intended then. It was just a shame that it didn't work in the way it was meant to. This was the final kit sent to participants for the Phase Two cultural probe exercise. A demonstration of how it worked can be found overleaf.

CLOSING REFLECTIONS

As I hope this portfolio demonstrates, this project has allowed me to broaden my knowledge and experience of more creative processes. Reflecting on this, I realise I have applied the same experimental approach that I described in my reflections on my undergraduate practice on page 2.

I also recognise the importance of having awareness of my limitations as a practitioner, and realise that collaboration is not a failure of my abilities. This is particularly pertinent to the digital aspect of the project, and the initial concerns I had that my limited knowledge of digital practice put me at a disadvantage. Contrarily, it presented an opportunity for the development of collaborative, skill sharing networks, which I intend to continue to foster going forward.

Furthermore, my findings have revealed value in abstract, less recognisable objects. Although I would subsequently perhaps not use casting again to re-create found objects, I have recognised its value in material exploration purposes, as well as to create multiples from handmade elements.

I look forward to where my practice-based research takes me next as a creative reflective practitioner.