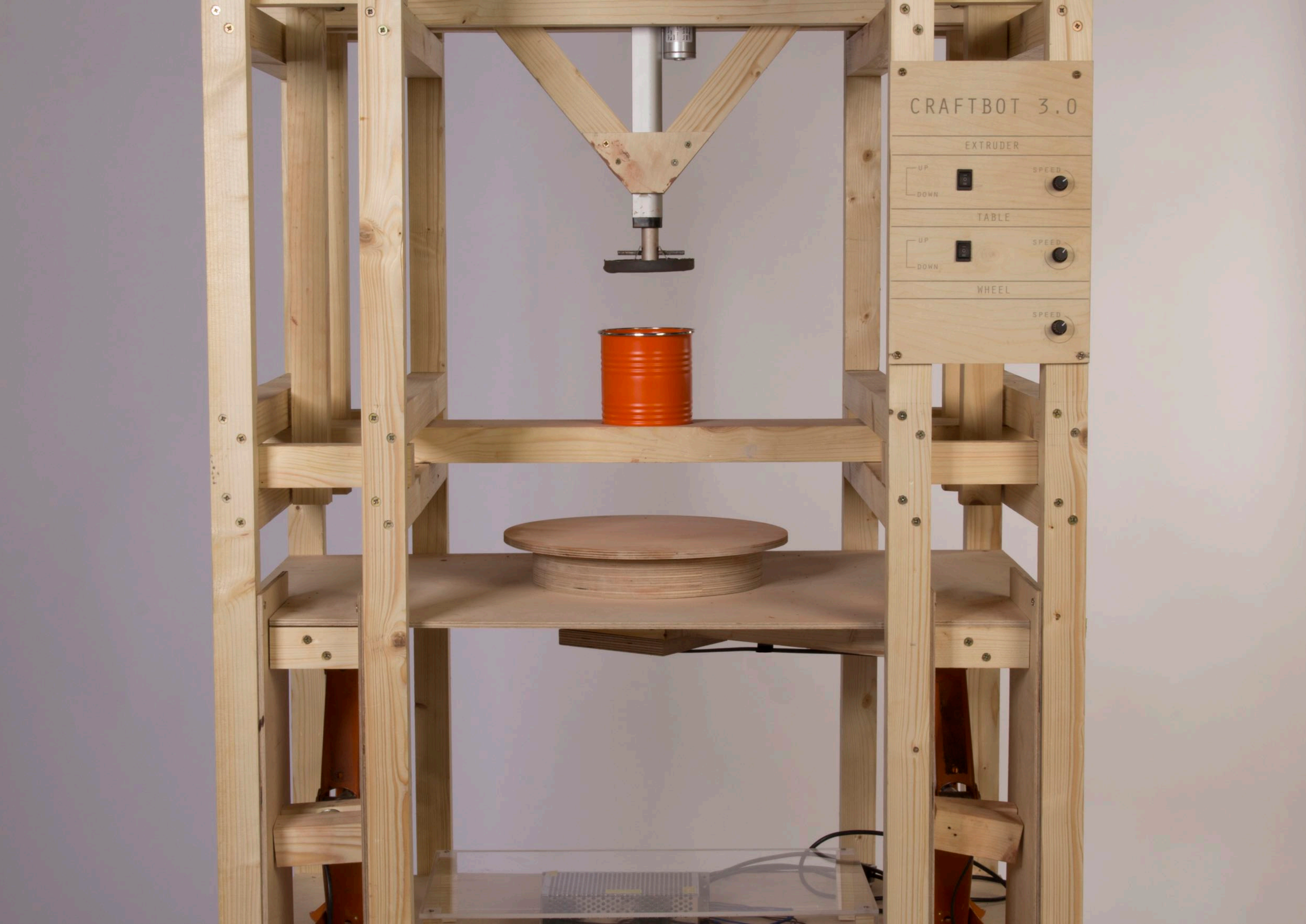
CRAFTBOT

THE MECHANICAL CRAFTSMAN

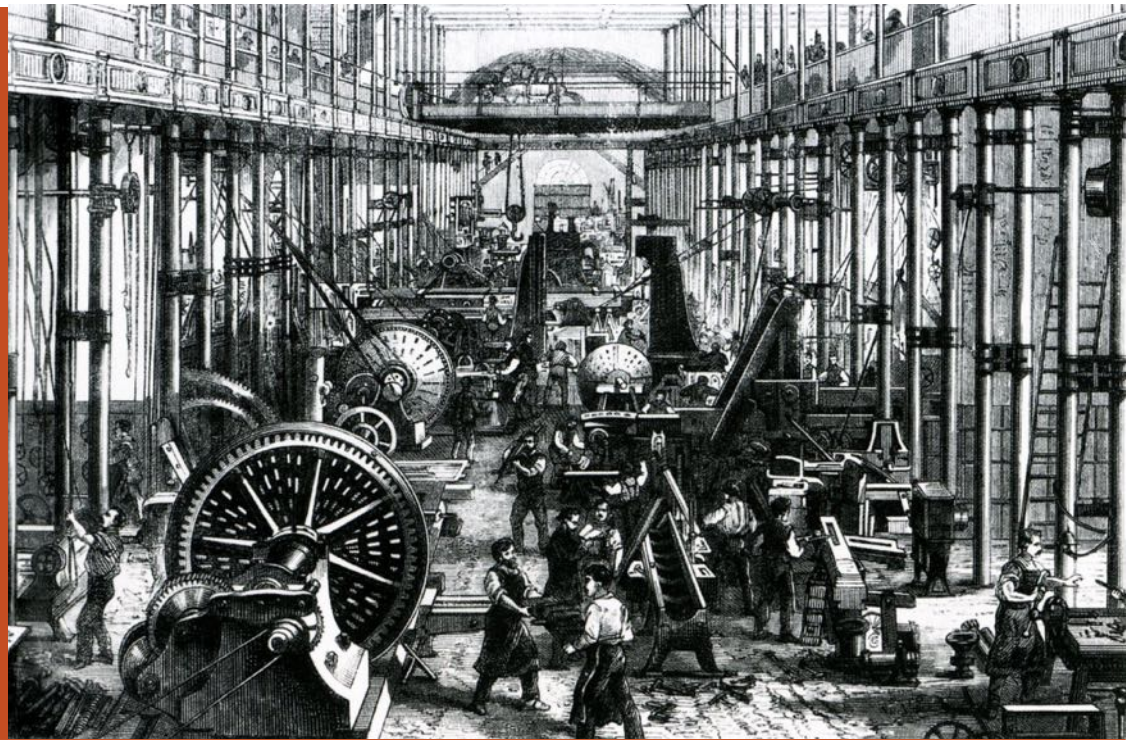

CRAFTBOT 3.0
EXTRUDER
UP
DOWN
SPEED
TABLE
UP
DOWN
SPEED
WHEEL
SPEED

CONTENTS

THE CRAFTSMAN

richard sennett

“ The craftsman summons an immediate image.
Peering through a window into a carpenter’s shop,
You see inside an elderly man surrounded by his apprentices and his tools.
Order reigns within,
Parts of chairs are clamped neatly together,
The fresh smell of wood shavings fills the room,
The carpenter bends over his bench to make a fine incision for marquetry.
The shop is menaced by a furniture factory down the road. ”



Manufacture and factory
Production in the industrial revolution.

In 2017 we are entering a 4th Industrial Revolution; the fourth major industrial era since the initial Industrial Revolution of the 18th century. Marked by developing technological breakthroughs including Robotics, Artificial intelligence and 3D Printing, technology is becoming embedded in our society.[1] The House of Lords Committee of Digital Skills published a report analysing this 'second machine age' and how it is transforming the world with a series of profound technological changes, stating 'over the next two decades some economists have estimated that 35% of current jobs in the UK could become automated.[2]

As open-source design becomes more popular along with rapid prototyping technologies, production has become both more efficient and economic; the image of the traditional craftsman as described by Richard Sennett is undoubtedly changing. A term defined as "a skill in making things by hand", the process of craft could be questioned with regard to the involvement of both the maker and machines used in the production process. What does the threat of machine automation mean for the process of craft?

This document further explores the relationship between craft and technology, questioning what today's society means for the role of the traditional craftsman?

1. Klaus Schwab, The Fourth Industrial Revolution.
2. House of Lords, Select Committee on Digital Skill, Summary of Conclusions.

MAKER ——— MACHINE

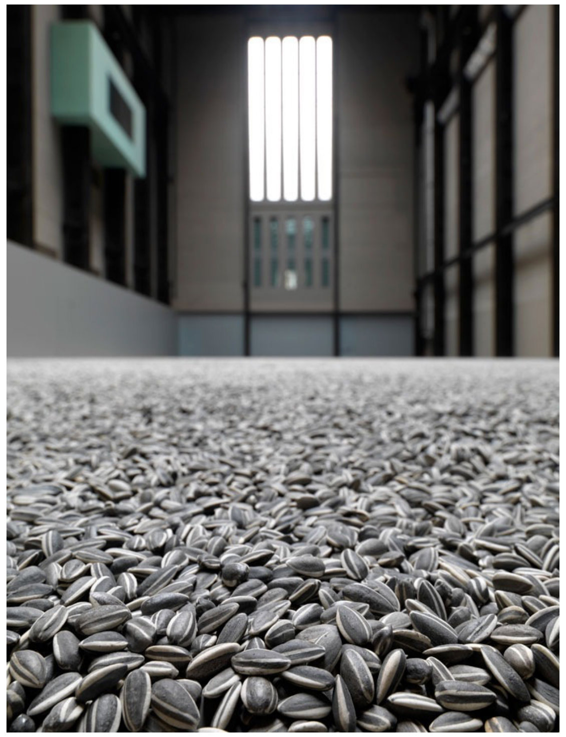
Through an analysis of several current practitioners and their work regarding machine production, I began to place each artist and their work on a scale from ‘Maker to Machine’. This scale began to highlight and assess themes of authorship, production, our relationship towards objects and the role of the designer and maker.

At one end of the spectrum is Ai Weiwei’s sunflower seeds, an installation about the mass production of craft through displaying thousands of individually hand-painted ceramic seeds. At the other end, Michael Hansmayer uses computer algorithms to replace human imagination and creativity. In evaluation there appeared to be a similar concept running throughout the scale; craftspeople attempting to achieve the machine-made and the machine-made attempting to create something with a human quality of manufacture. This parallel begins to blur the line between the Man-made and Machine-made, making the questions asked earlier of authorship, production and the role of the designer hard to define.

The main thing highlighted by this research approach is the role of technology to fund a creative process. Technology can be used at any stage from designing to making and is viewed by these artists as a tool for creation, but to what extent is the craftsman still involved?

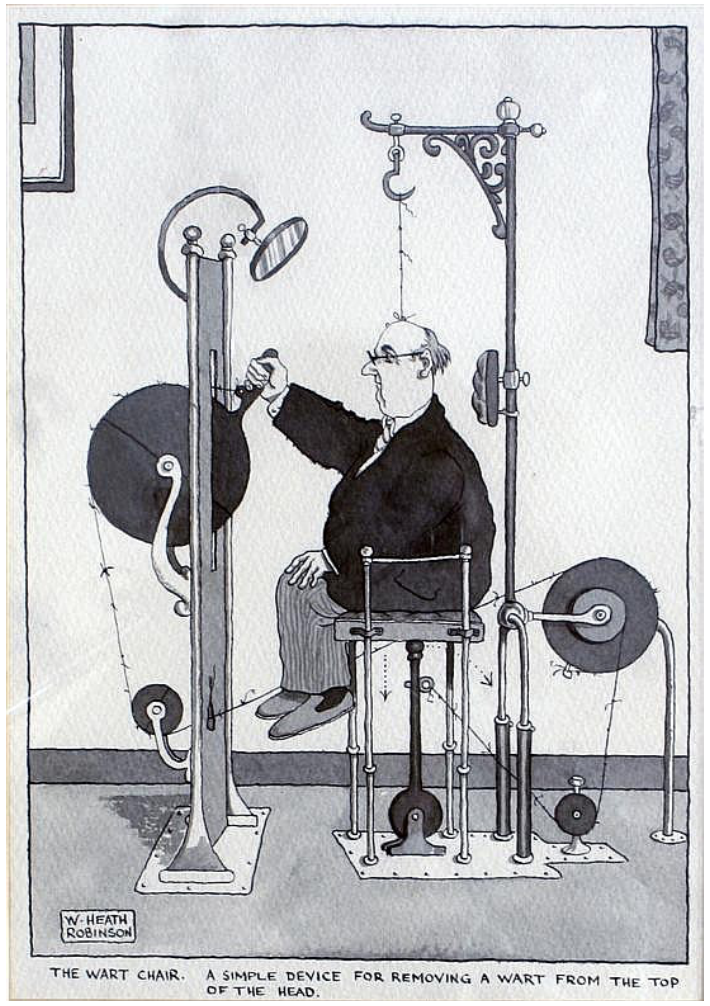
To what extent does a craftsperson still need a ‘skill in making’?
Can something produced by machine still be considered a work of craft?

What is the difference between a designer and an operative?
To what extent can an operative be a designer and vice versa?



Ai Weiwei
Sunflower Seeds

As part of his Unilever series, Weiwei approaches the idea of ‘Made in China’ with a body of work produced by thousands of artisans. Each sunflower seed is produced by hand, questioning the ideas of craft with regards to mass production. Raising questions of skill, efficiency, economy and society.



Heath Robinson
The Wart Removing Machine

Robinson's fantastical and whimsical creations hypothesise the effect of technology through a disconnection between our actions and their immediate responses.

Sooji Lee
How to Write Bodoni

Lee explores the the idea of the handmade through a machine, the interaction of the operator creating a unique result everytime despite the same process.

GT2P
Catenary Printer

The catenary printer uses variables in set up to determine the outcome of the vessel. A large amount of the process is unpredicatble questioning the idea of authorship with regards to the object produced.

Oliver Van Herpt
3D Print Ceramics

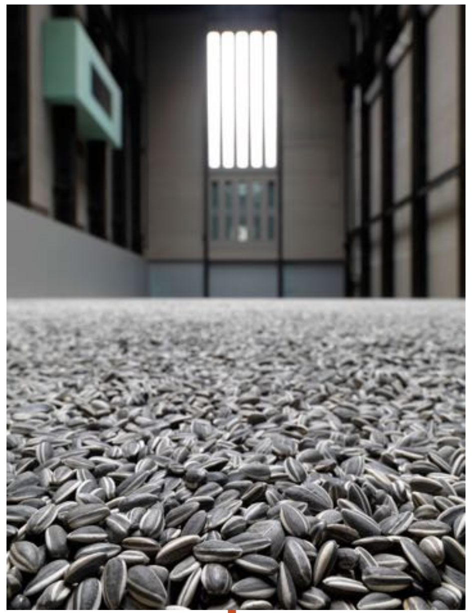
Van Herpt uses a 3D printer to create extrodinary forms in ceramics. As a tool the printer allows him to realise forms impossible by hand. The skill becomes in using the digital interface to create the renderings that the machine prints out.

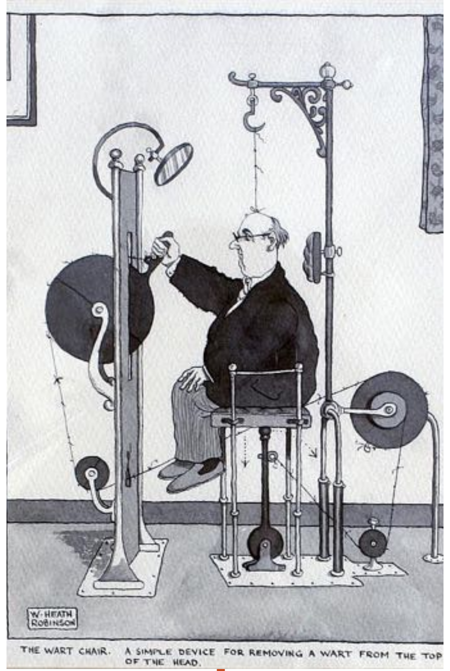
Charlotte Nordman
Humanmade

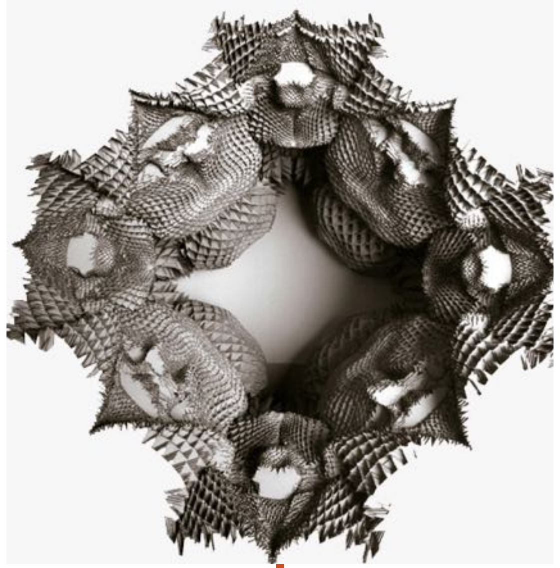
By using a robot arm to ‘throw’ a pot, Nordman removes herself from the making process once having created the code for the machine to function. The arm learns from what it has previously made and uses this to improve in the future.

Michael Hansmayer
Building Unimaginable Shapes

Hansmayer uses technoogy as a tool for creativity. By using a repeat algorithm as a process to create form, incredibly complicated columns are created that are almost impossible of human creation. A laser cutter then cuts the object layer by layer.



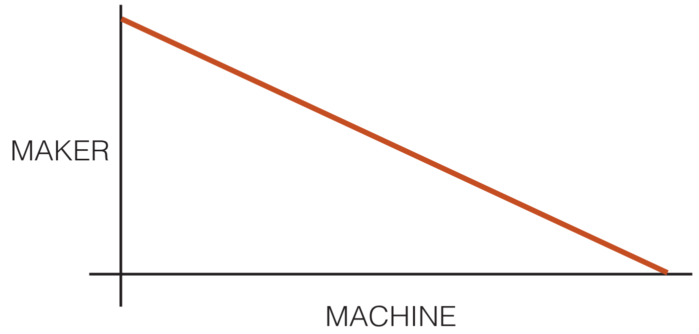


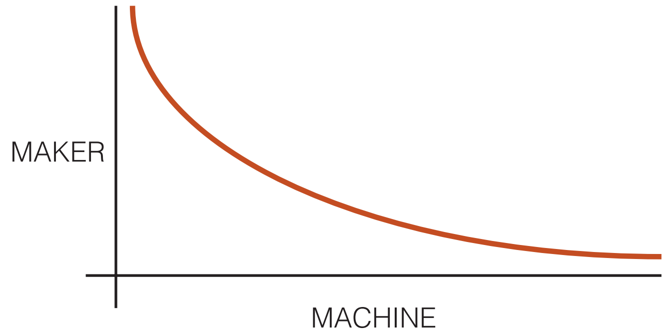


MAKER

MACHINE

At first when considering the relationship between maker and machine I had imagined it as a linear progression. Something could be 100% hand-crafted and at the other end of the spectrum 100% machine produced. However after analysing the above examples, it is hard to achieve a complete process at the extreme ends, instead forming an asymptotic curve.





The techology and machines explored function with the same intent as the simplest tool; functioning to do a specific task. As things progress along the spectrum the tools become more complicated but are still used for a particular function. There is a very strong connection between the man-made and machine-made if machine is defined as a tool. When comparing Hansmayers computer algorithm with Ai Weiwei's paintbrush used to decorate the sunflower seeds, the difference is regarding the amount of control the tool is given. The algorithm is used to produce creative outputs where as the paintbrush allows the user to input their own creativity, in both instances there is a creative action producing an object.

NATURES WAY FOODS

To further explore the idea of mechanical mass production, I visited food production and packaging factory ‘Natures Way Foods’ in Selsey, Chichester, to see how Coleslaw is made.

There are on average 12 people inside a factory producing thousands of tubs of coleslaw each day. I was shown around by line manager Matt who informed me about each machine and the specific functions they all do. For each part of the process (from chooping and washing to applying labels) there was a main control panel through which Matt was able to control certain factors such as, quantity produced, volume of coleslaw and speed of production. Once the tubs of coleslaw have gone through the 6 steps of production (see next page), the boxes are then shipped out to supermarkets. The whole process has minimal human input.

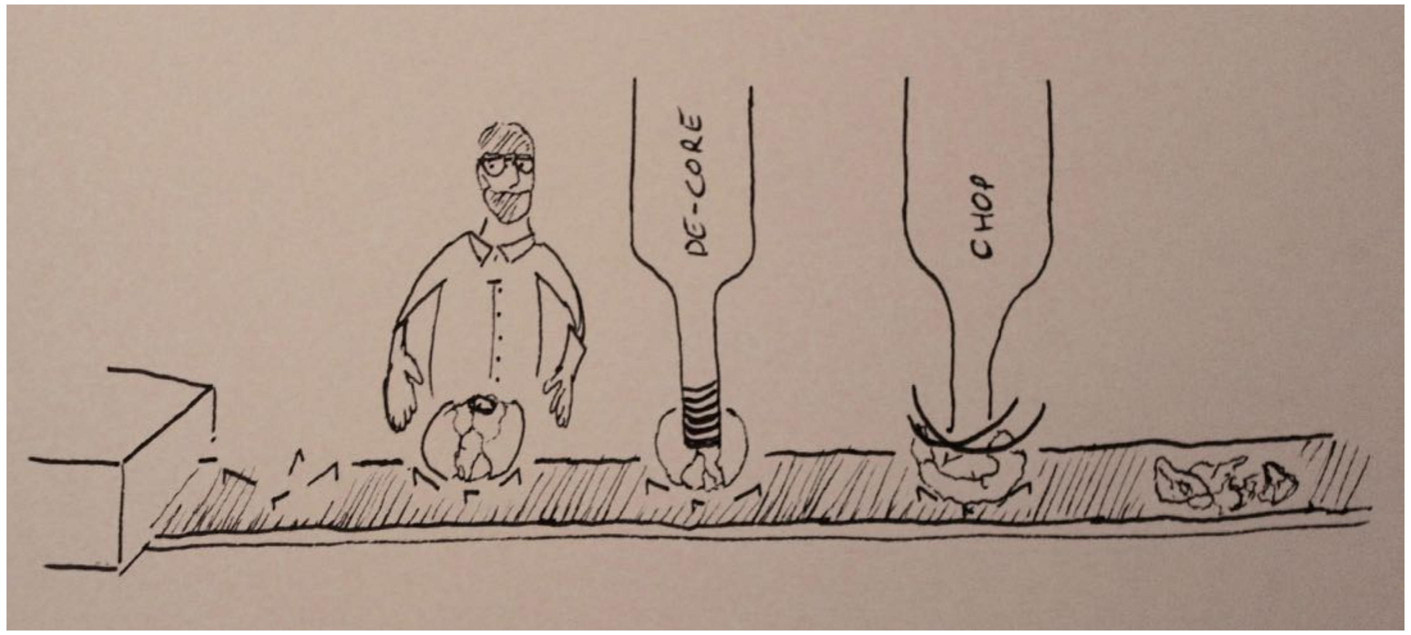
It was interesting to see how a job so easy for a human to do was still performed by a machine. For example the final part of the process, placing the tubs of coleslaw into a box, is performed by a machine efficient enough to do the job of 5 people at once, in the long term saving the company £600 a month in labour.

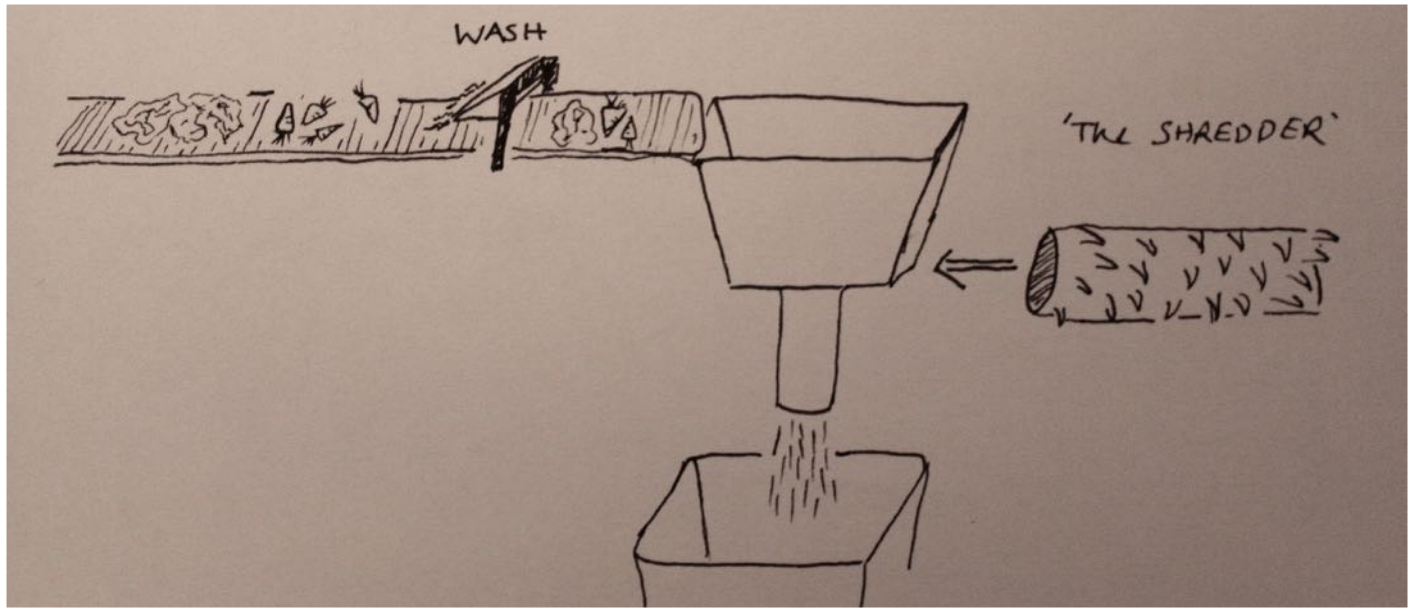
Is it possible to apply these values of efficency and production to craft processes ?

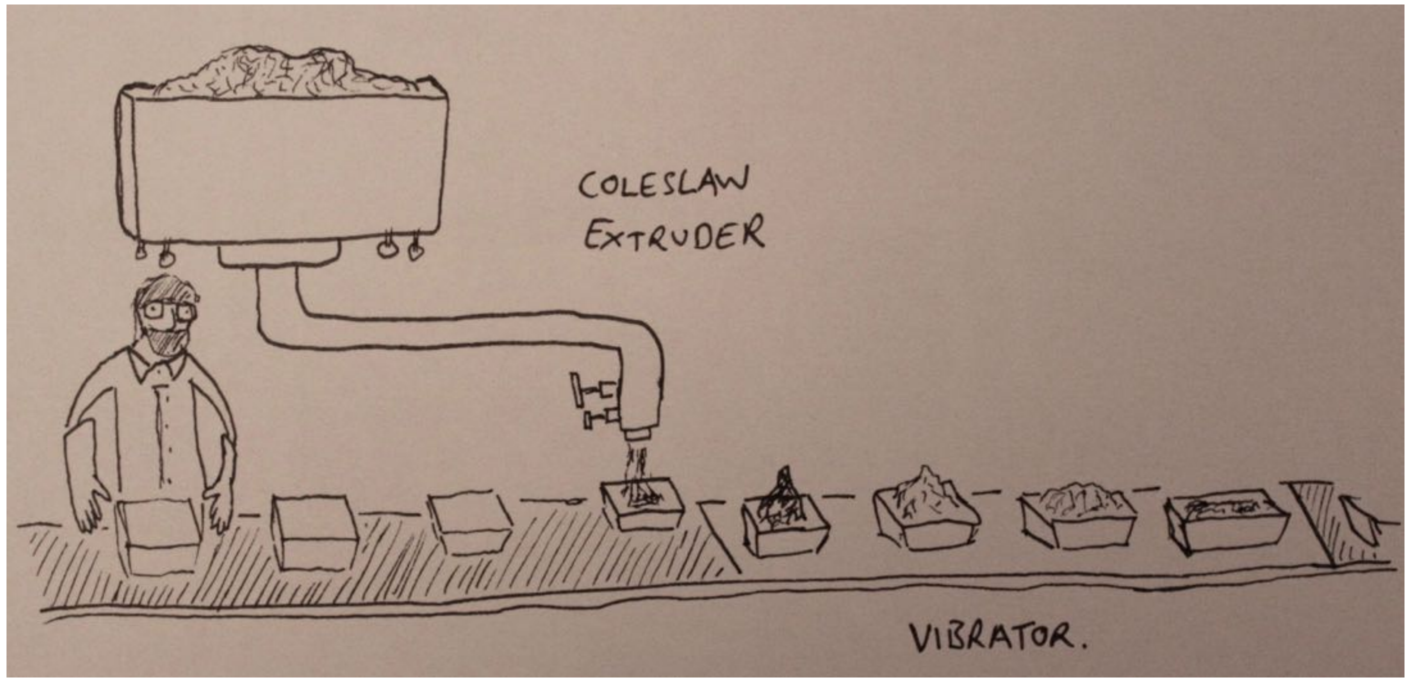
The process of making coleslaw raised several questions applicable to the spectrum of Maker to Machine. Matt was controlling the process using only a handful of varible inputs, so who is therefore responsible for making the coleslaw, Matt or the Machine?

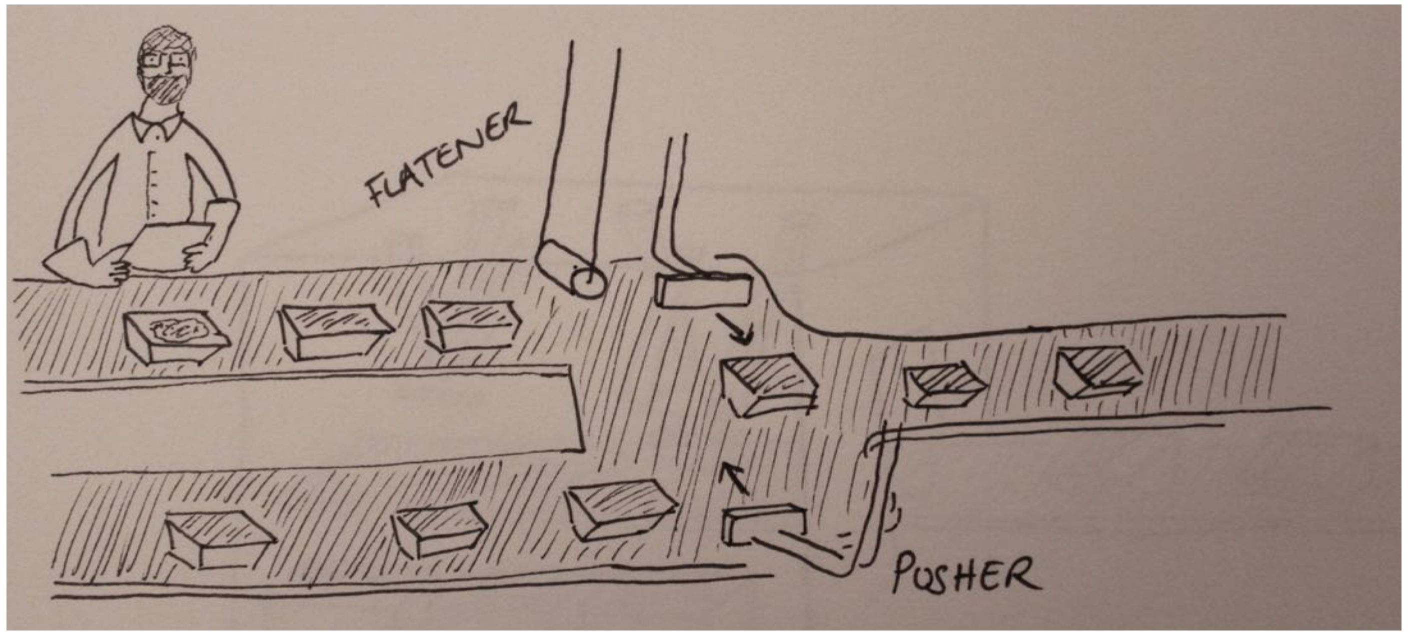
It also raised questions of being a specialist. It made me think about being a chef compared to making food. What constitutes a chef? I can follow a recipe, does this make me a chef? This machine is producing food, is it a chef? If I am controlling the machine are we both chefs?

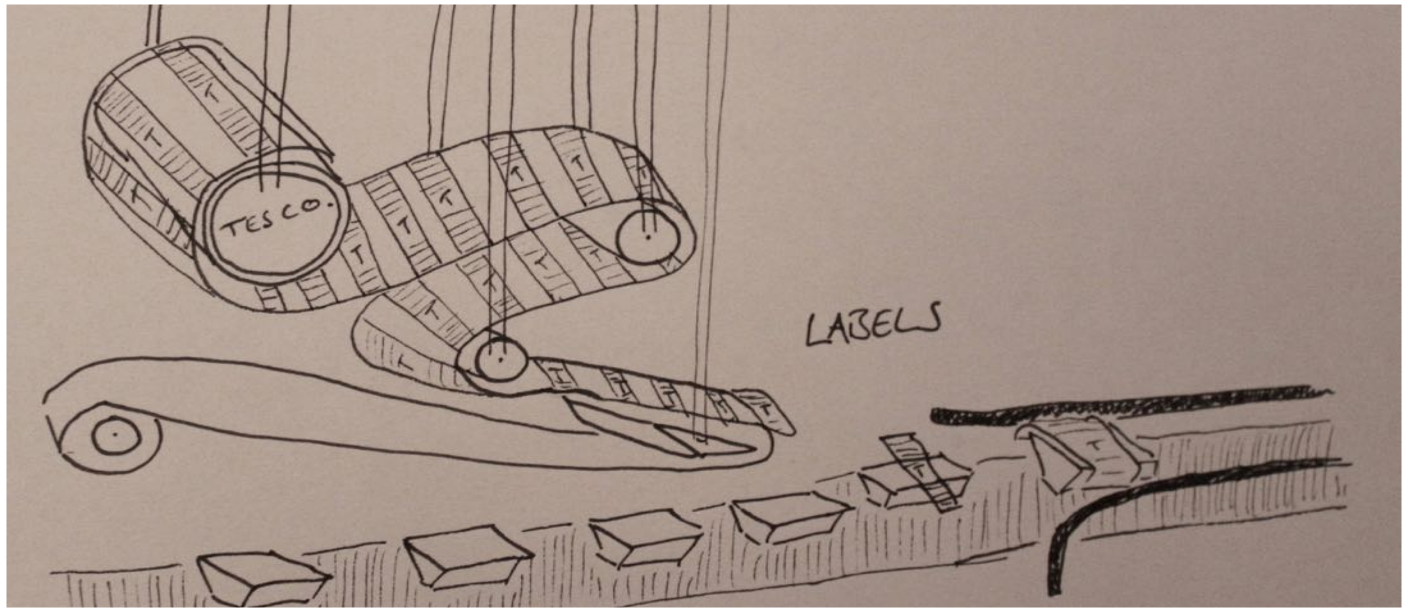
Can these same principals be applied to craft... What constitutes a craftsman? If I make something am I a craftsman? If a 3D printer produces an object does that make it a craftsman? If I am controlling the 3D printer are we both craftsmen?

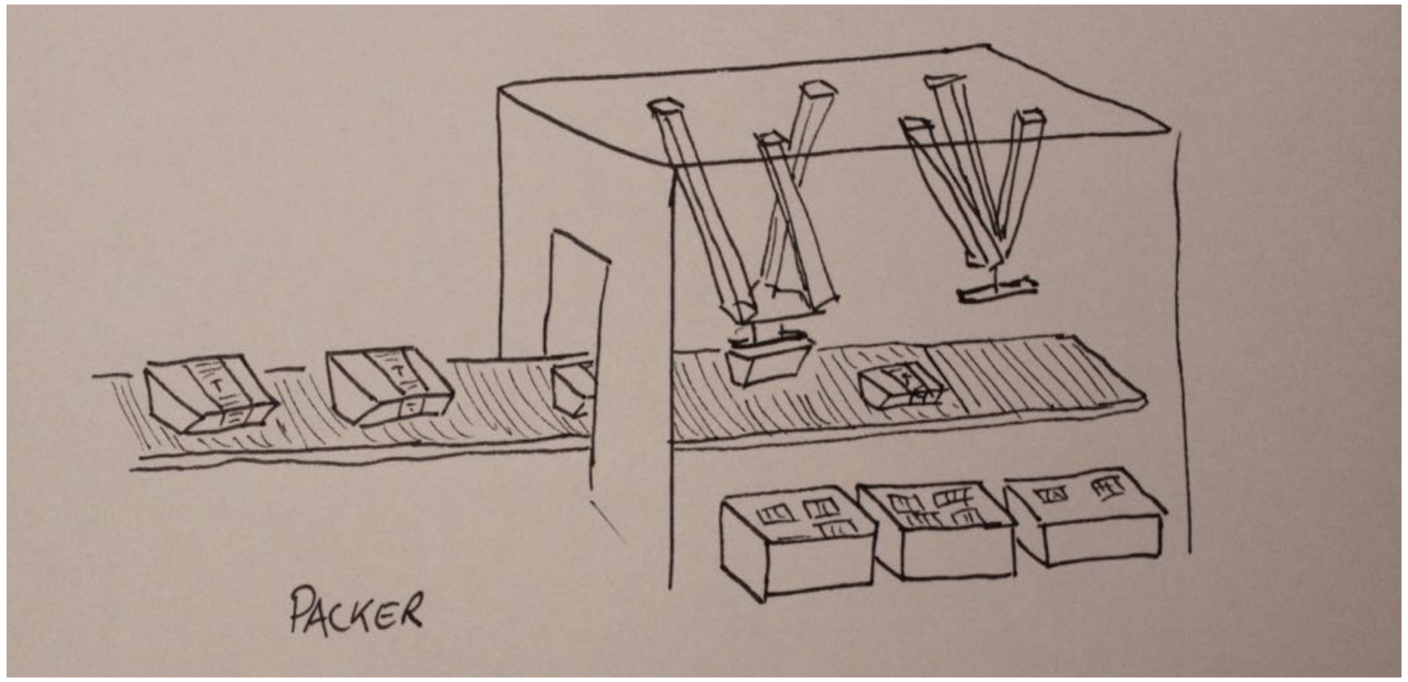

DE-CORE
CHOP


WASH
'THE SHREDDER'


COLESLAW
EXTRUDER
VIBRATOR.


FLATENER
PUSHER


TESCO.
LABELS


PACKER

DRAWING MACHINES

CRAFT: A SKILL IN MAKING THINGS BY HAND

With aims to explore some of the questions outlined in my research I set about creating some of my own machines. I based the machines on the definition of craft, playing on the idea of both ‘a skill’ and the ‘hand-made’. To what extent could I remove these factors and still create a unique piece of work that could be considered ‘crafted’? This investigation was further exploring the relationship between maker and machine, allowing me to question first hand the role of each in the process of making.

A lot of the processes were interesting to explore with regards to my initial understandings of what would be produced and what was actually produced. With my first machine the Pantograph, a systematic exploration of changing two control variables allowed me to predict what may be produced as the machine developed. Although I was able to estimate what the finished thing may look like, there was still a large amount of the process unknown to me. I personally felt removed from the design process and that even despite setting up the machine, as I didnt know what was going to be produced, the machine was the creator of the work. As I learnt more about the machine and began to understand how my actions affected what was produced, I felt more involved in the creation process - perhaps I was becoming a craftsman of the machine. This ideology became relevant for my other drawing machines (Meal Drawing Machine, Wind Drawing Machine, and Coded Drawing Machine) as well. For the first production, despite creating the the machine I felt removed from the making process as I was unable to predict what it would make. After a few uses however I began to understand the machine and would be able to set it up to produce a different result. For example by changing input variables for the Meal Drawing Machine of food type and amount of people consuming, I was able to create different outputs from the machine.

An evaluation would define these drawing machines as translation tools. They work by translating an input of data into a visual output. Intially when I applied little skill to the machine, I was simply an operative of the tool. However as I learnt more about the process and applied this knowledge to the making, I felt I became a craftsman, not of the drawing but of the machine. Journalist Malcolm Gladwell states that 10,000 hours of practise will make you a craftsman.[3] The three participants; maker of machine, machine and the operator question how this idea of practise and skill is applied to machine use in order to create a work of craft. Can an operator be considered a craftsman if the machine is providing the skill and construction of the craft object, or does this make the machine the craftsman? I aim to explore how these relationships are changing with the development of technology.

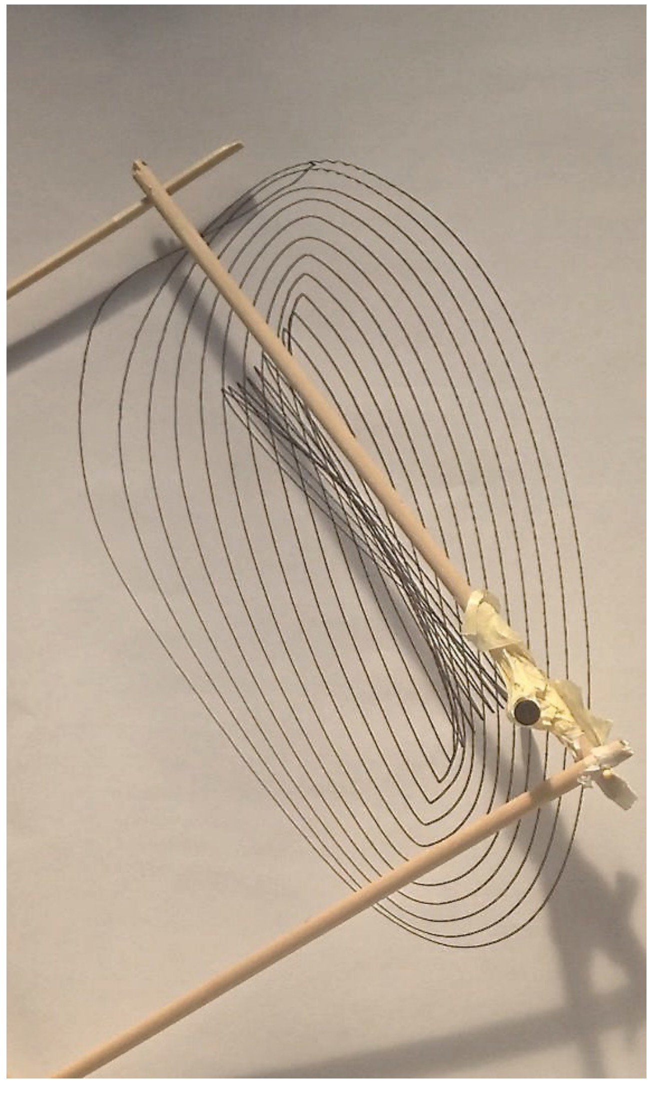
3. Malcolm Gladwell, Outliers

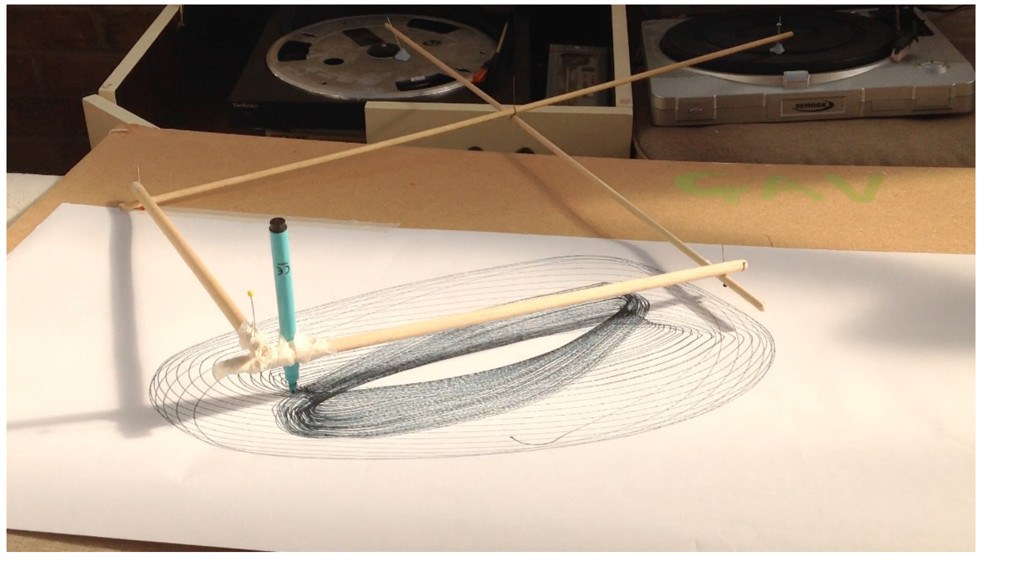
PANTOGRAPH

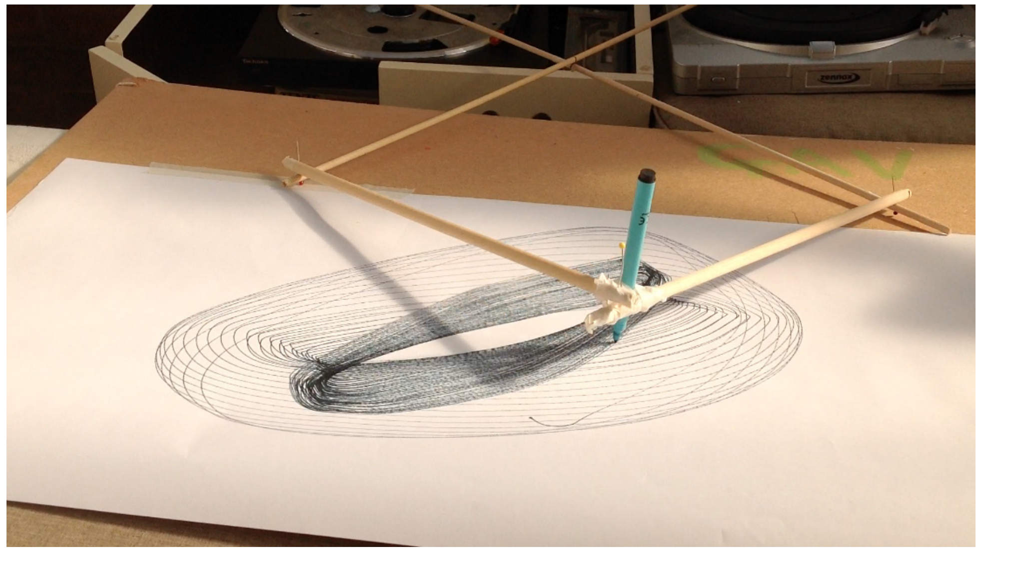
A pantograph is an old fashioned drawing machine using the algorithms of two rotational forces to create geometric patterns. Depeding on the location of the points of rotation in comparison to one another the patterns vary.

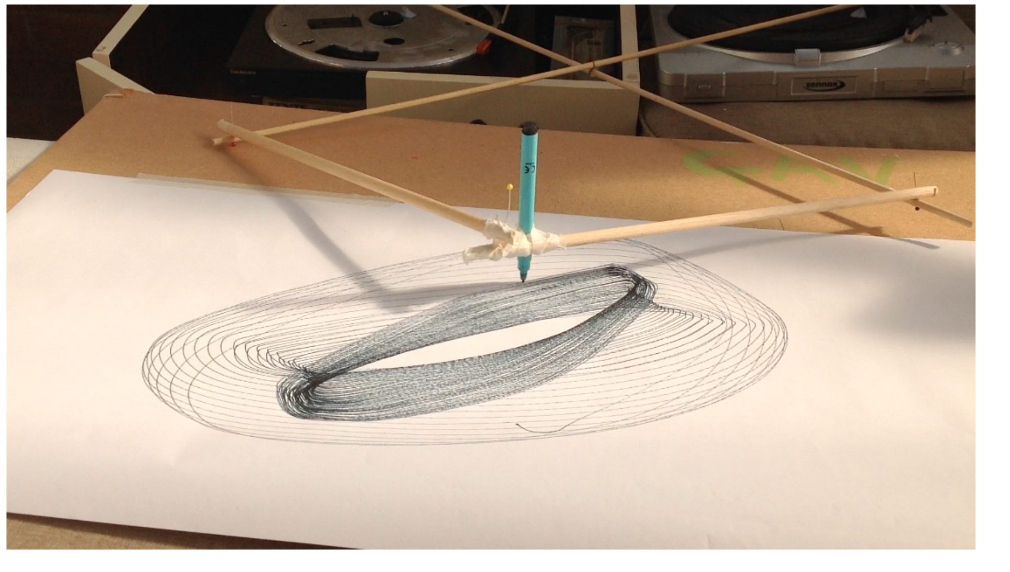
Despite my role in creating and setting up the drawing machine, I didn't know what it was going to create. After doing a few experiments I was able to estimate what may happen but due to factors such as starting and ending the drawings, kinks in its movements and the recording of the pen, the drawings were (to an extent) unpredicatable. These 'inaccuracies' displayed a quality of the hand-made juxtaposed with a precision suggesting machine creation.

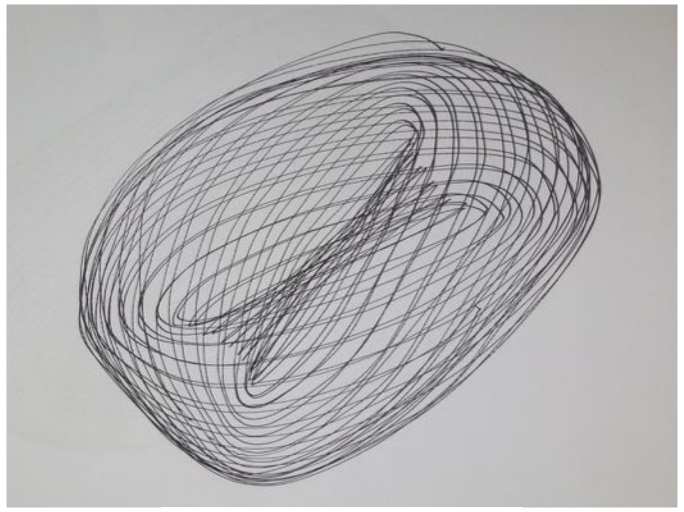
Video available at https://vimeo.com/213554058



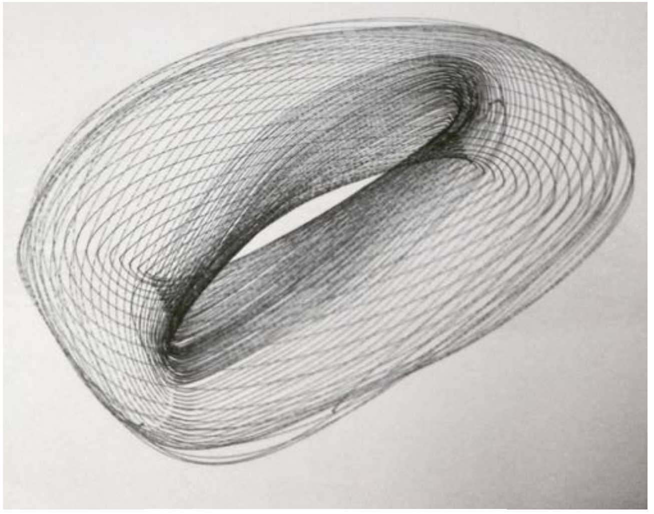




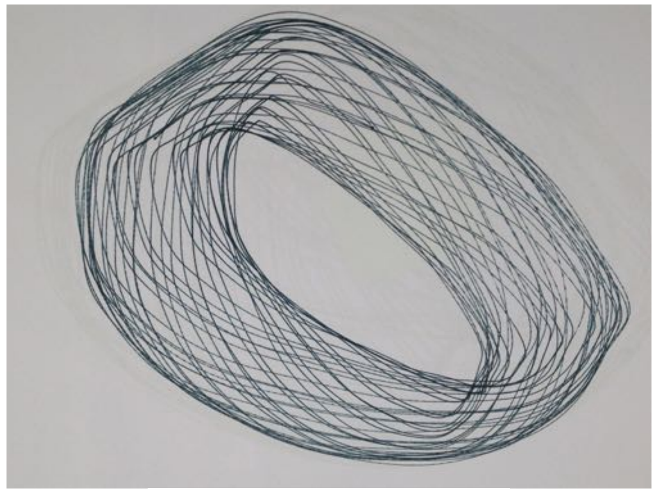




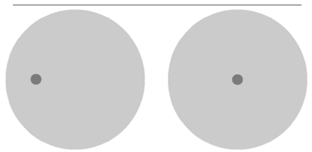
POINTS OF ROTATION

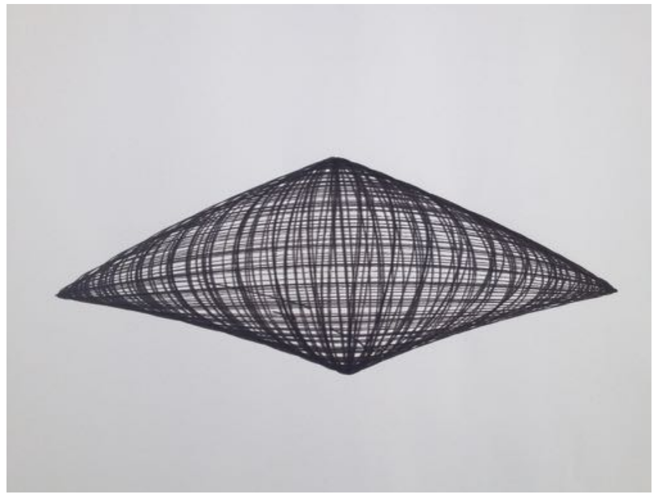


POINTS OF ROTATION

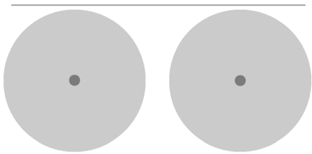


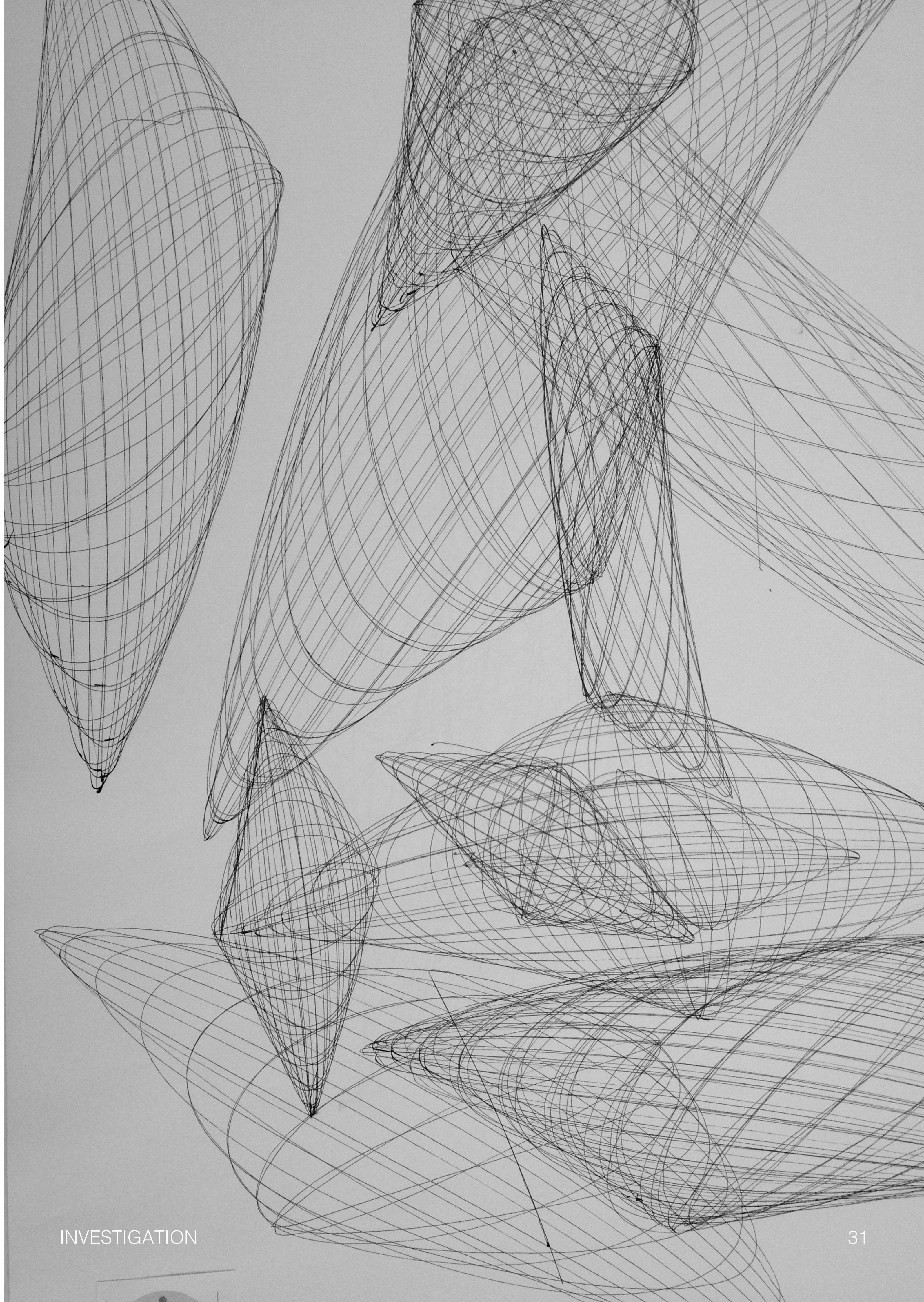
POINTS OF ROTATION





POINTS OF ROTATION

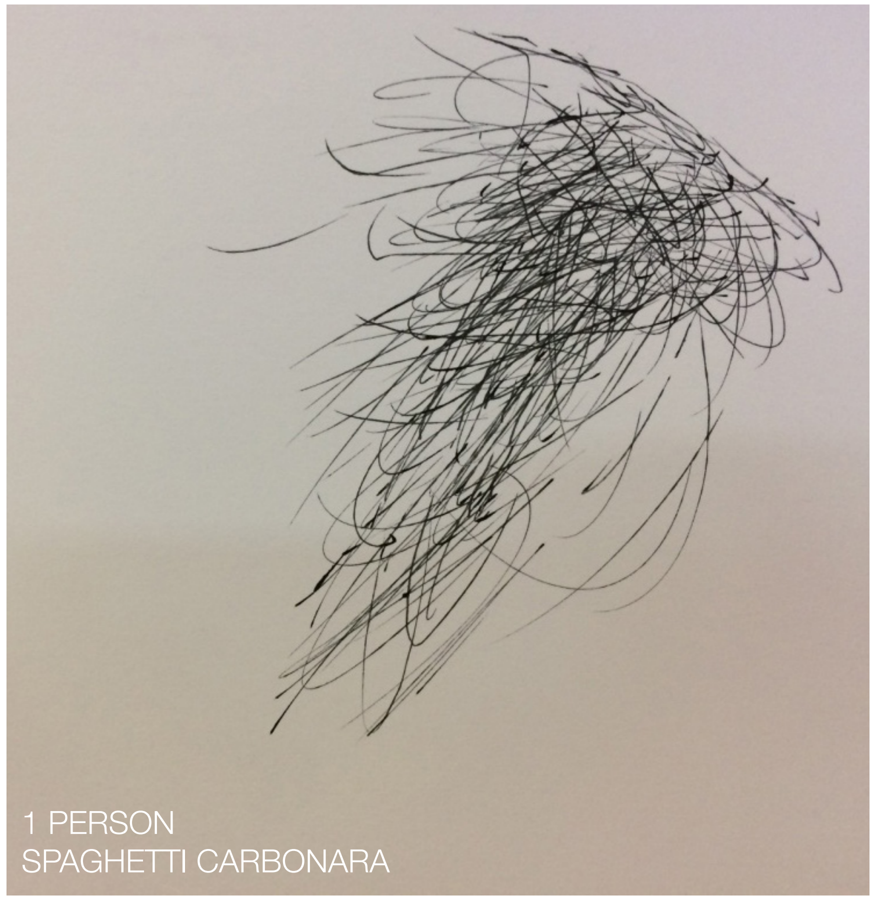




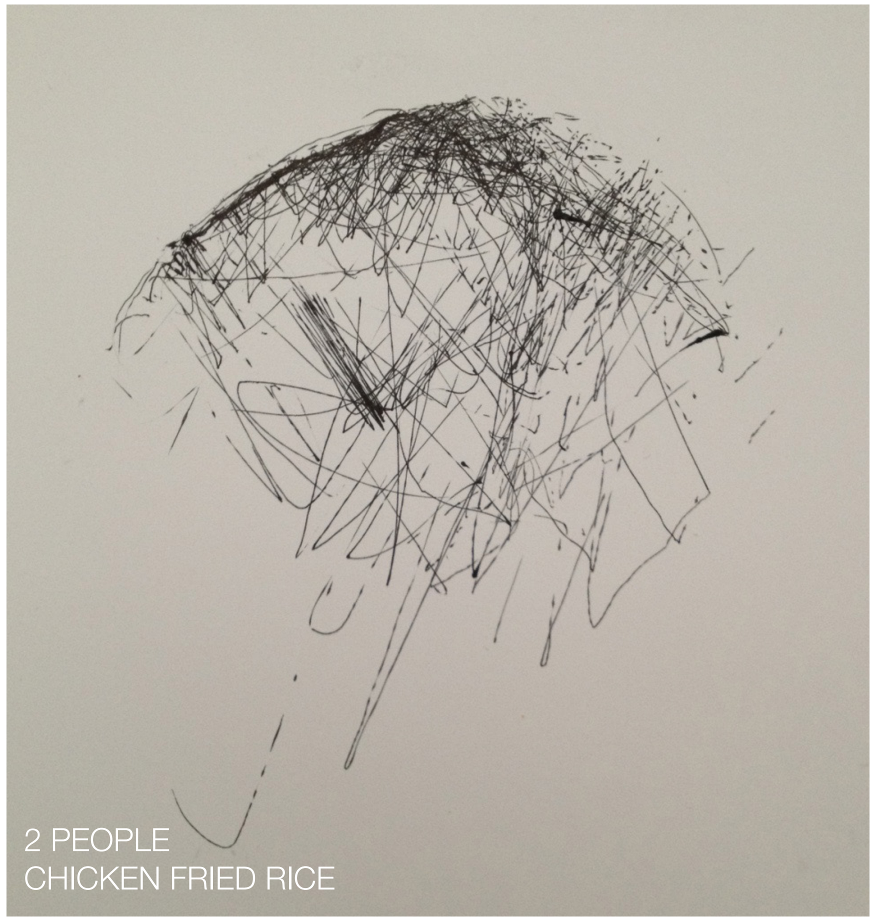
MEAL-DRAWING MACHINE

The ‘Meal Drawing Machine’ attaches the users knife and fork to a pen, tracing the movements of eating to create a drawing. The underlying theme centres on the idea of control (or a lack of) in the process of creation. Are we still the main creative force if we are unaware of what we are making?

Video available at https://vimeo.com/213556626



1 PERSON
SPAGHETTI CARBONARA

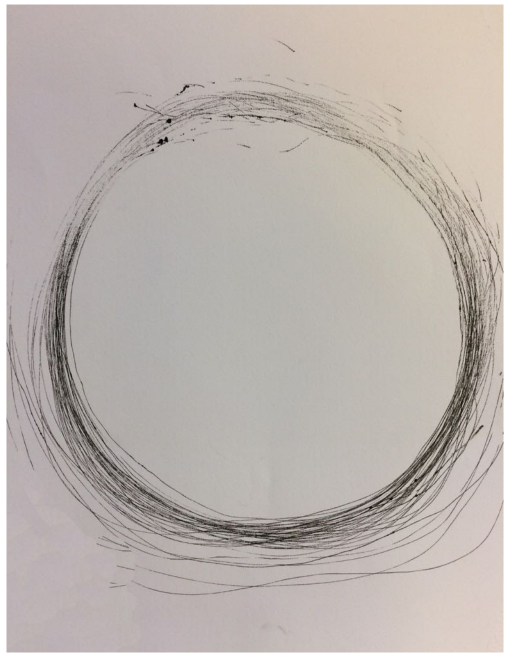


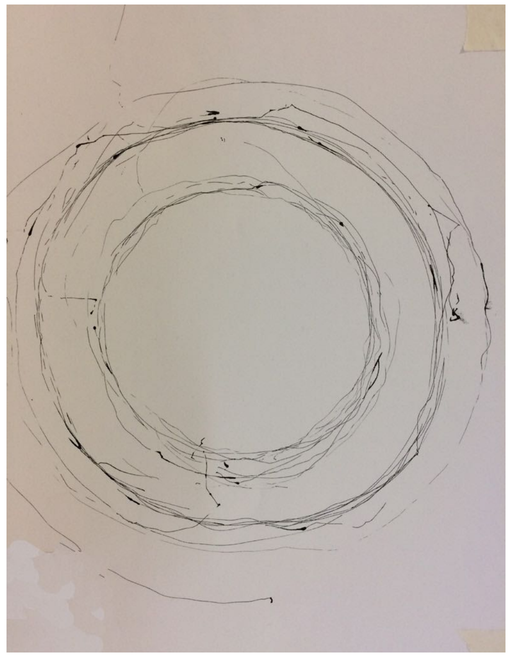
2 PEOPLE
CHICKEN FRIED RICE

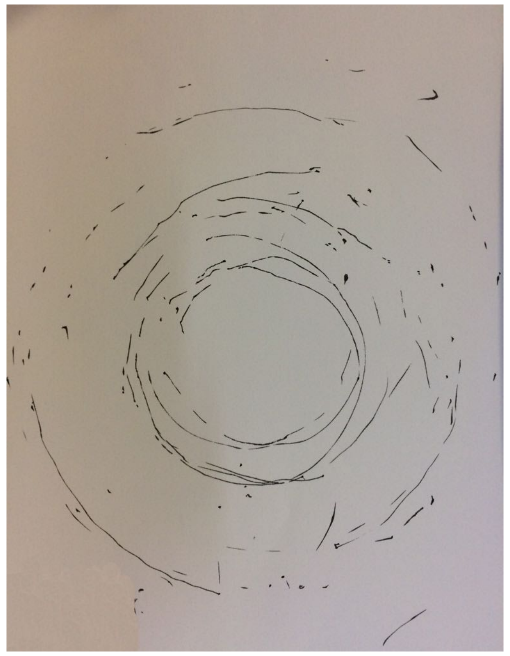
WIND DRAWING MACHINE

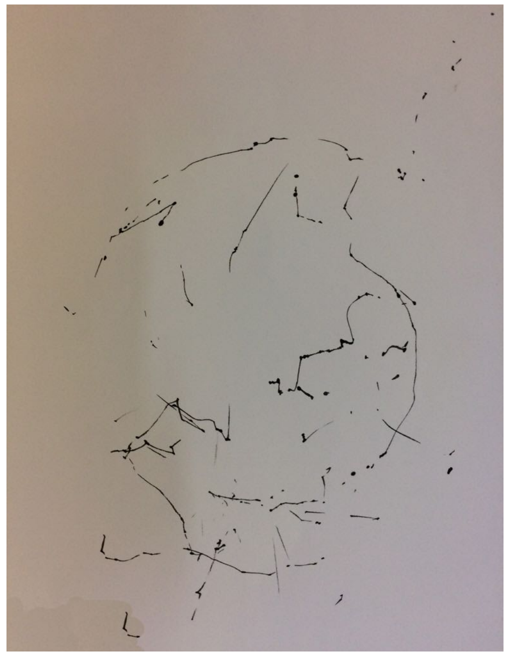
The wind propells the paper masts and subsequently the base the in a circular motion. The severity of the wind determins the control of the pen on the paper. The drawings created are specific to a particular location, time and place. Does this mea the location is the main creative factor functioning as the operative?

Video available at https://vimeo.com/213556410


LOCATION 1/4: FAN

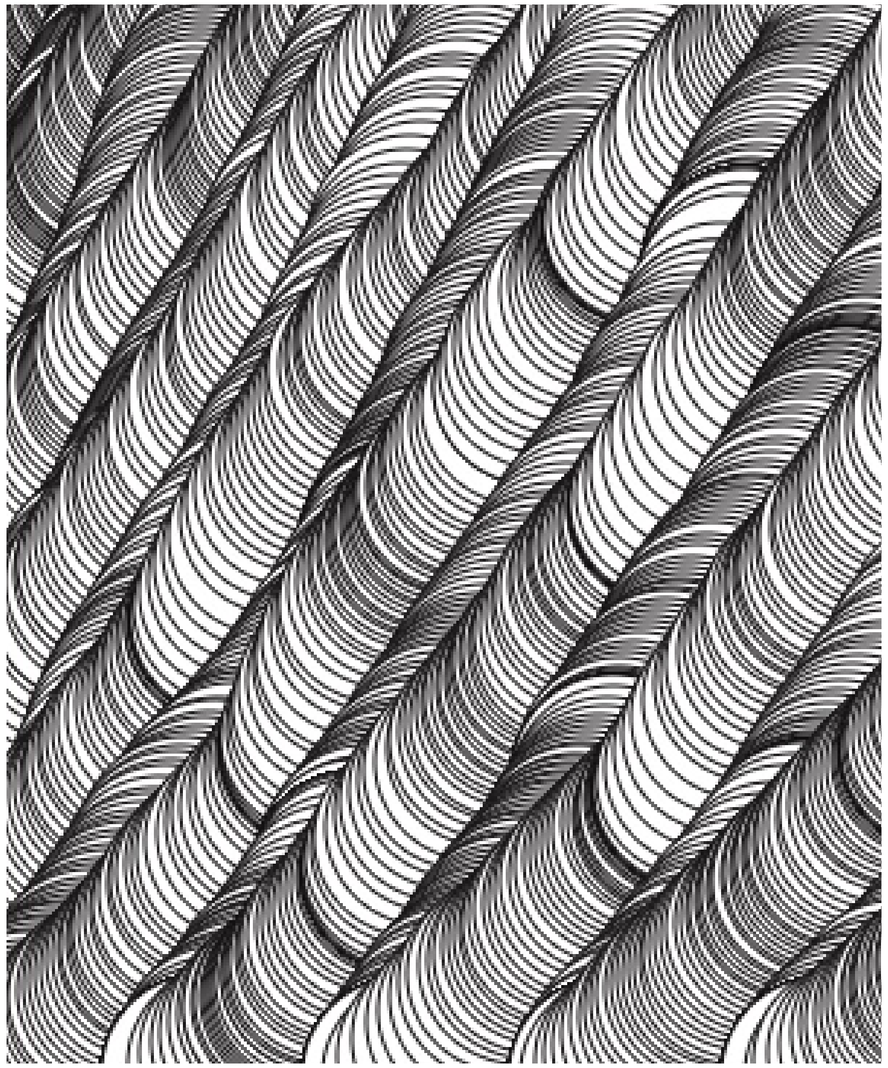

LOCATION 2/4: GARDEN


LOCATION 3/4: ROAD


LOCATION 4/4: FIELD

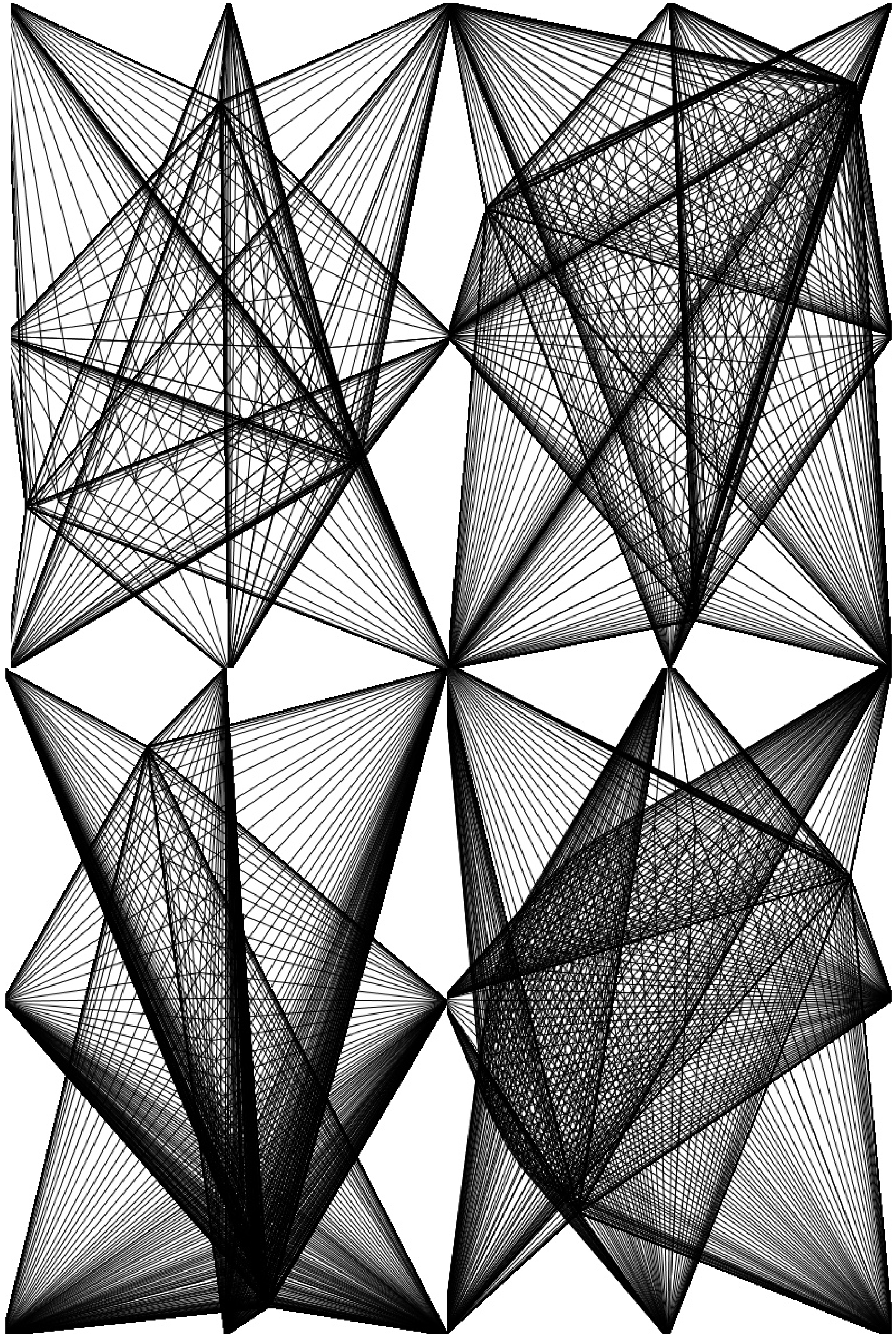
CODED DRAWING

Using the software 'Processing' to create digital drawings. By coding a function of 'draw shape' when following the mouse (mouse x, mouse y), the software functions as a drawing machine that traces movement. The control factors included in the coding highlight elements of the man-made through a unique form each time, despite the same control variables. 'Processing' functions as a tool in creating something controlled by the human hand but not possible by the hand alone. What does this mean when definining the 'craftsman' in the process?



```
void setup() {
  size(500, 400);
  background(10, 80, 100);
}

void draw() {
  stroke(255,0,0);
  fill(15,68,73);
  ellipse(mouseX, mouseY, 70, 70);
}
```

CRAFTBOT

Craftbot was created to explore and develop some of the ideas established in using the drawing machines but as 3D objects. Originally starting with the principals of a 3D printer, I tried to apply the mechanics of the machine to analogue processes. Using clay as a material which I was able to extrude through the machine, the project quickly developed around the craft of pottery and how this could potentially be subverted through the introudución of machine-made ceramics. How far could I remove the idea of the 'traditional potter' as both the creative hand and cognitive mind into a process that could be carried out by machine? Would this process still be considered a craft?

Starting with one of the oldest forms of ceramics, the handmade coil pot, I experimented in how I could deconstruct each step of the making process into an action that could be completed mechanically. By creating a basic version of the machine which I was able to develop, I gradually distanced my input in the making process aiming to achieve as simple human action as possible. With the defenition of craft being split between the operator and machine (a skill-by the machine and the handmade-by the operator) who is classed as the craftsman?

At the same time there was a parrallel line of enquiry questioning the role of the designer. I found that as the machine developed my role in the process became less involved with the aesthetic of the vessel, but more in preparing and setting up the machine. Does the designer become redundant in the process once the machine has been made?

Coiling step by step

It is wise to prepare a large quantity of coils prior to starting a piece, as it can be frustrating to have to stop mid-construction. Wrap the coils in plastic sheeting to keep them fresh.

Making the coils

1 | Loosely squeeze the clay into a sausage shape. Damp the workbench with a sponge, as a combination of too much rolling and warm hands can soon dry out the coils.

2 | Place the clay on the bench and spread your hands on top. Start with your hands in the middle, apply an even pressure, and roll the clay backward and forward through your palms to your fingertips.

3 | Part your hands and roll along the coil as it lengthens. Coils should be around ⅜–1¼in thick (1–3cm), depending on the size of the form you intend to build. A common problem for beginners is flat, misshapen coils. If this happens, squeeze the clay back into shape and continue rolling. Cut off the uneven ends.

Building a coil pot

1 | To make the base, roll out a piece of clay into a flat sheet by using a rolling pin on top of wooden slats. Transfer the slab onto a round wooden bat. A banding wheel is a useful tool for handbuilding, as it allows you to rotate the piece as you work. To create a circular base, put the bat on the wheel head and spin. Position a pottery knife against the clay and allow the movement of the wheel to cut a line. The excess can then be cut away; it does not have to be very tidy at this stage.

2 | Before putting on the first coil, cross-hatch the edge of the base. Apply slip and rework the cross-hatched area. Leave for 5–10 minutes to make it extra-sticky.

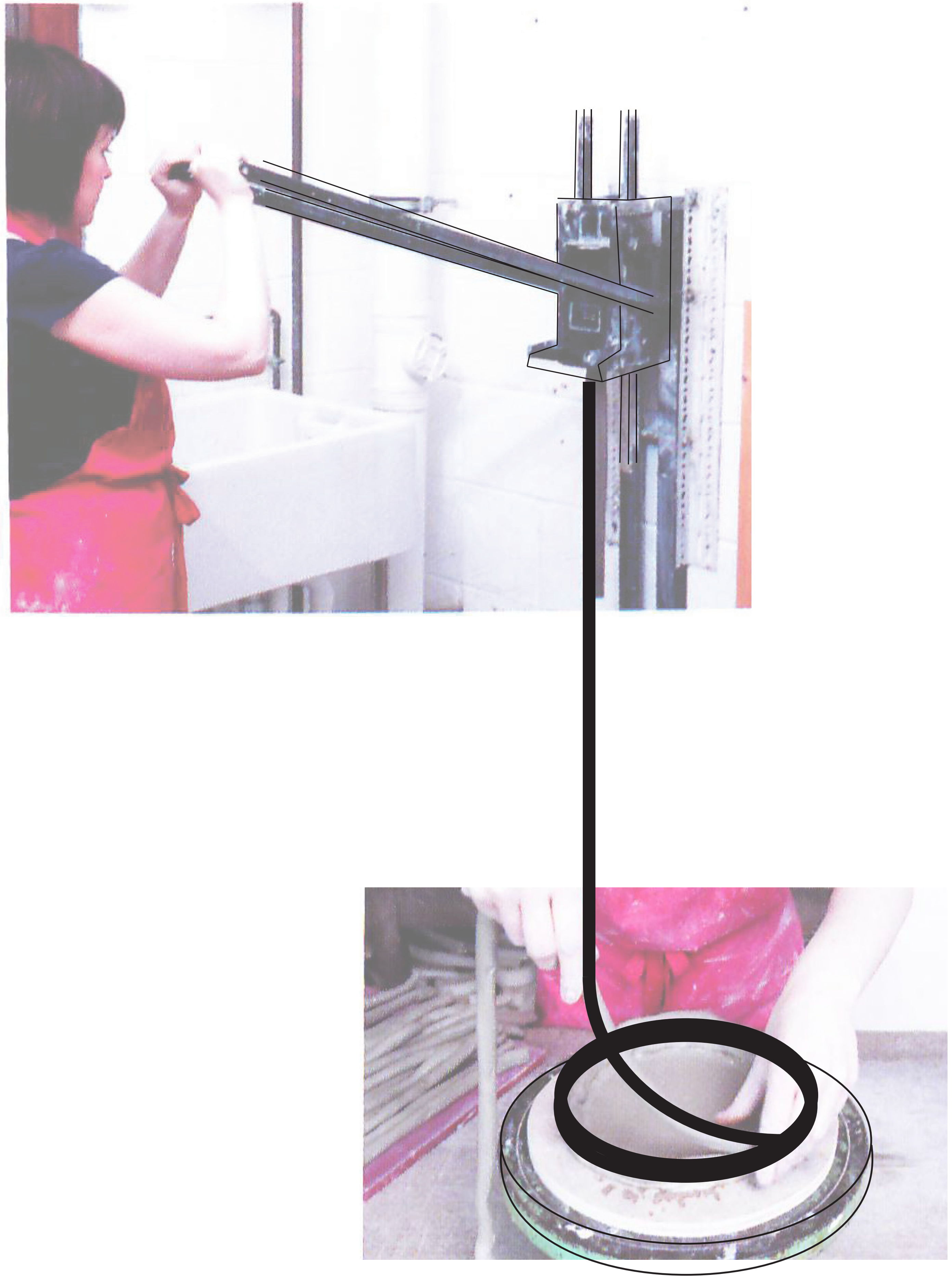
3 | Use one hand to hold the coil up high and the other to position it on the cross-hatched area. Try not to twist the coil; flick your thumb downward to blend the coil. Add 2–3 coils and put another coil in the base to strengthen the form.

Coil pot weakness

Coil pots are susceptible to sagging under their own weight. It is important to recognize when the clay is beginning to reach this point. Decide whether to stop, cover the piece and work on it later, or alternatively use a heat gun or blowtorch to firm up the weak areas and continue working. Force-drying has its benefits, but can increase the risk of cracking. If joining fresh coils to older coils, dampen the area and cross-hatch with slip before joining.

4 | As the walls are built up, stop every 4–5 coils and blend them together with either your fingertips or a wooden tool. The areas between the coils are the weakest parts and are vulnerable to cracking. Make sure the joins are well blended and fill any gaps with clay.

By analysing the process of coiling, I questioned the function of the hand and how it could possibly be replaced into a mechanically performed action. The two main steps outlined by Louisa Taylor in her book 'Ceramics, Tools and Techniques for the Contemporary Maker' are; making the coils, and building the pot. To completely remove the function of the hand, is it possible to combine these processes into one? If so what role does the maker now have?

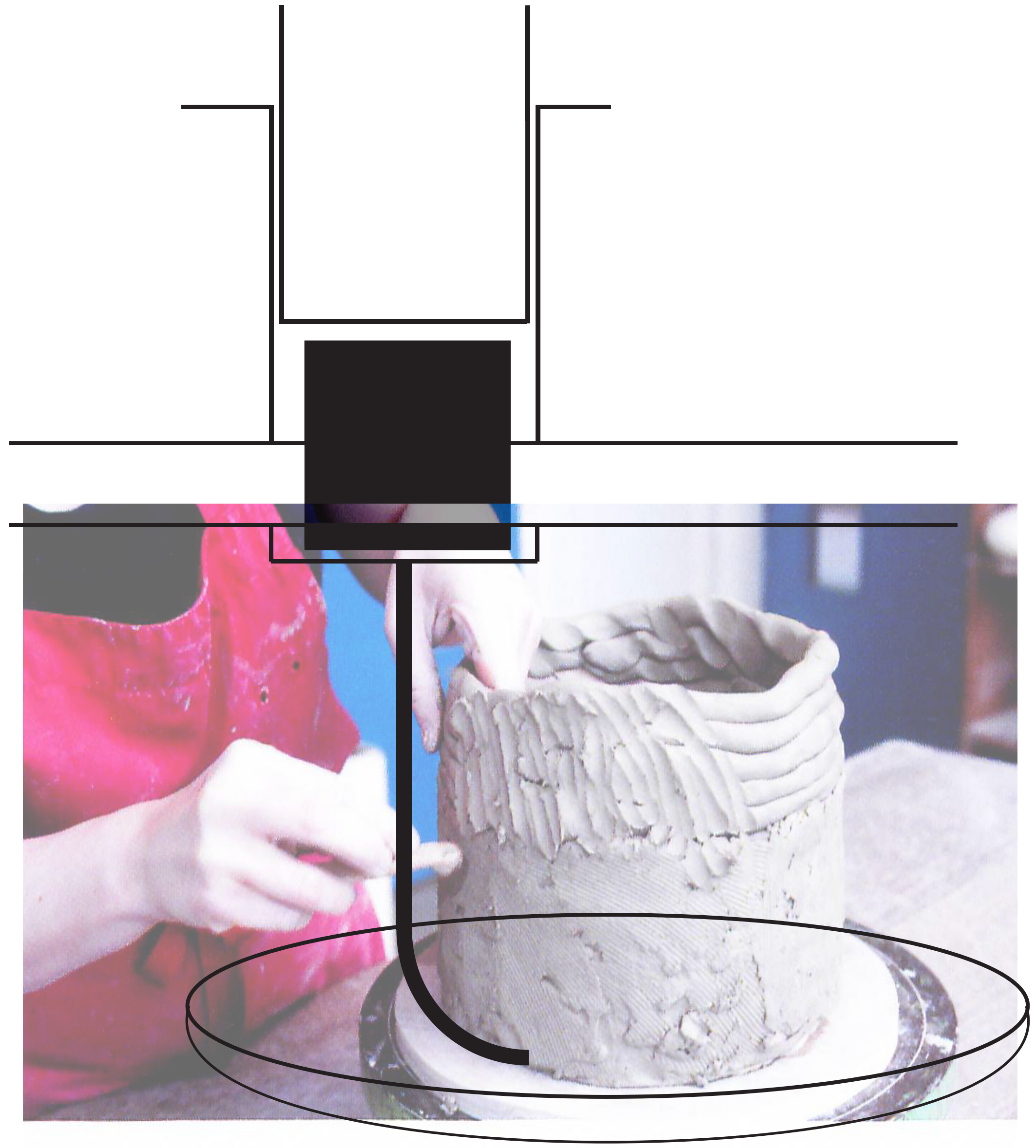


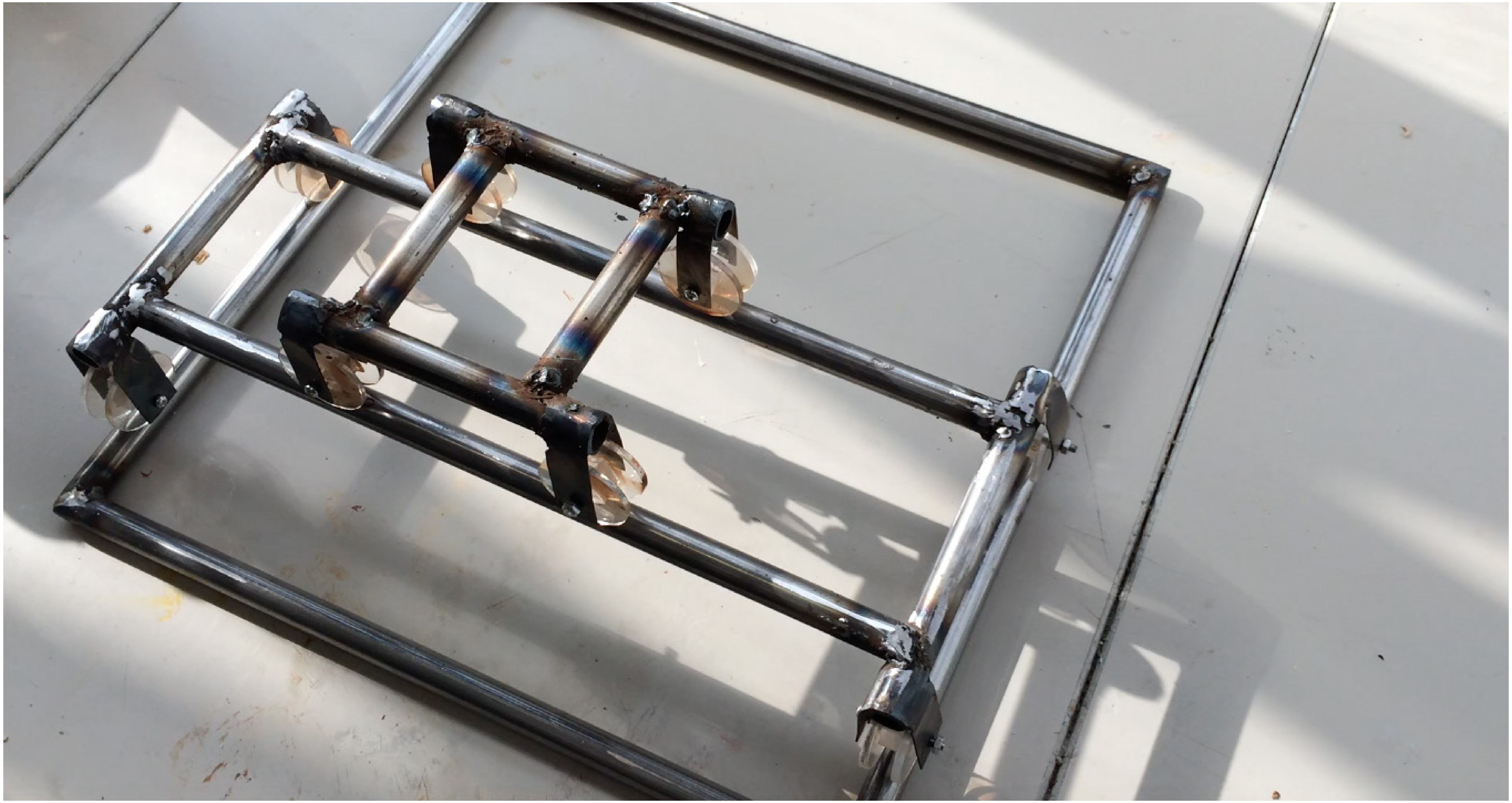
Making the Coils:

Step 1. Can be replaced with the introduction of an extruder to create the coils.
Step 2. Can be replaced with the introduction of an extruder to create the coils.
Step 3. Can be replaced with the introduction of an extruder to create the coils.

Building the pot:

Step 1: If the extruder can be moved along an x or y axis it can create a base.
Step 2. If a wet clay is used it will bind without the need for slip.
Step 3. Mounting the extruder above rotating wheel will layer clay consecutively.
Step 4. If a wet clay is used the layers may blend into each other.

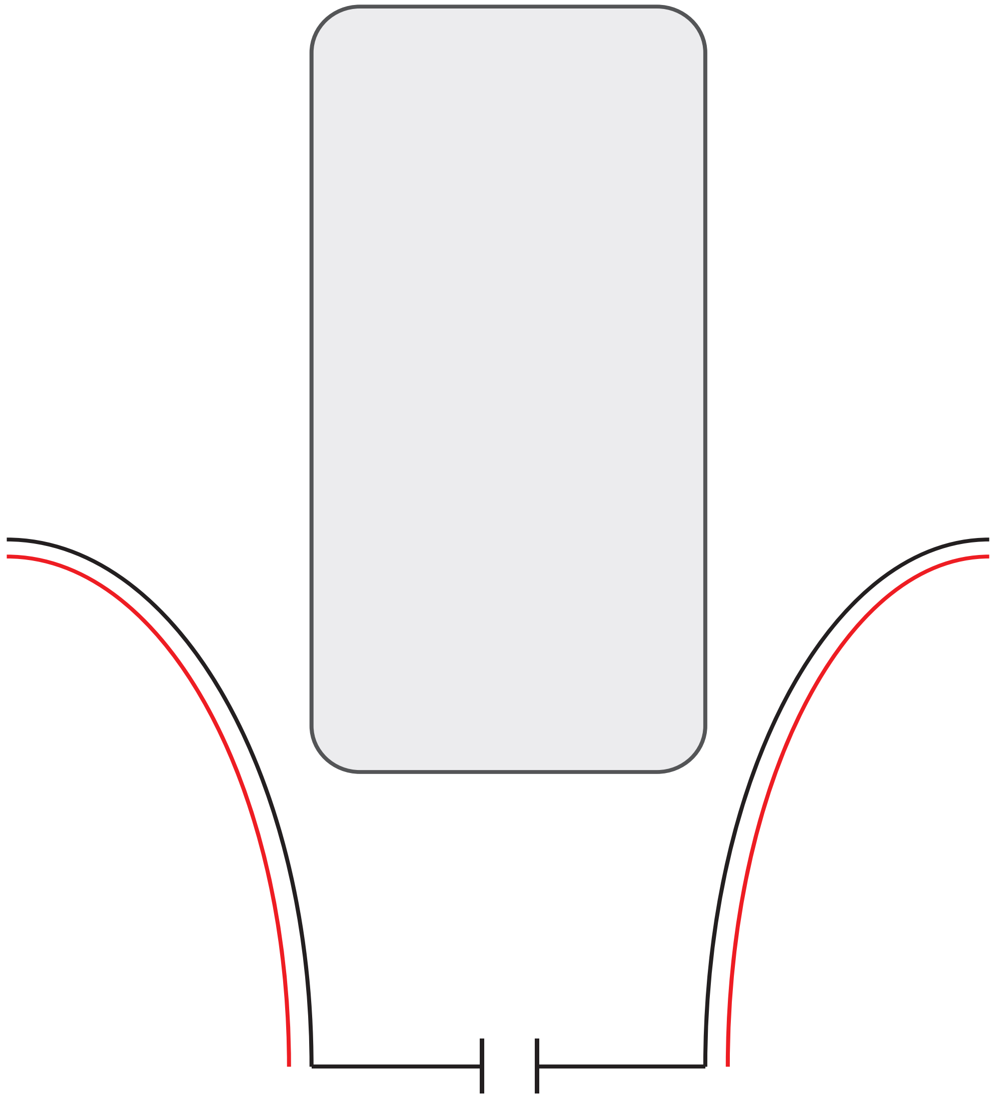


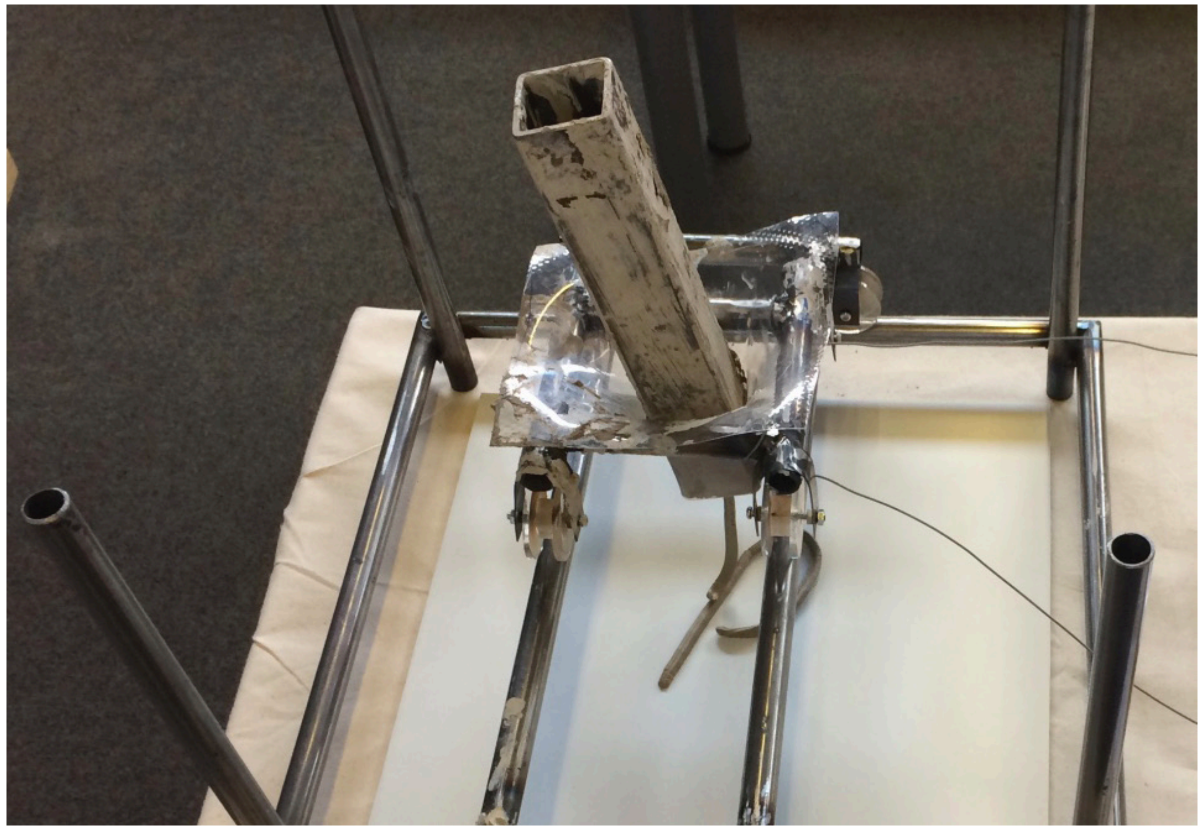


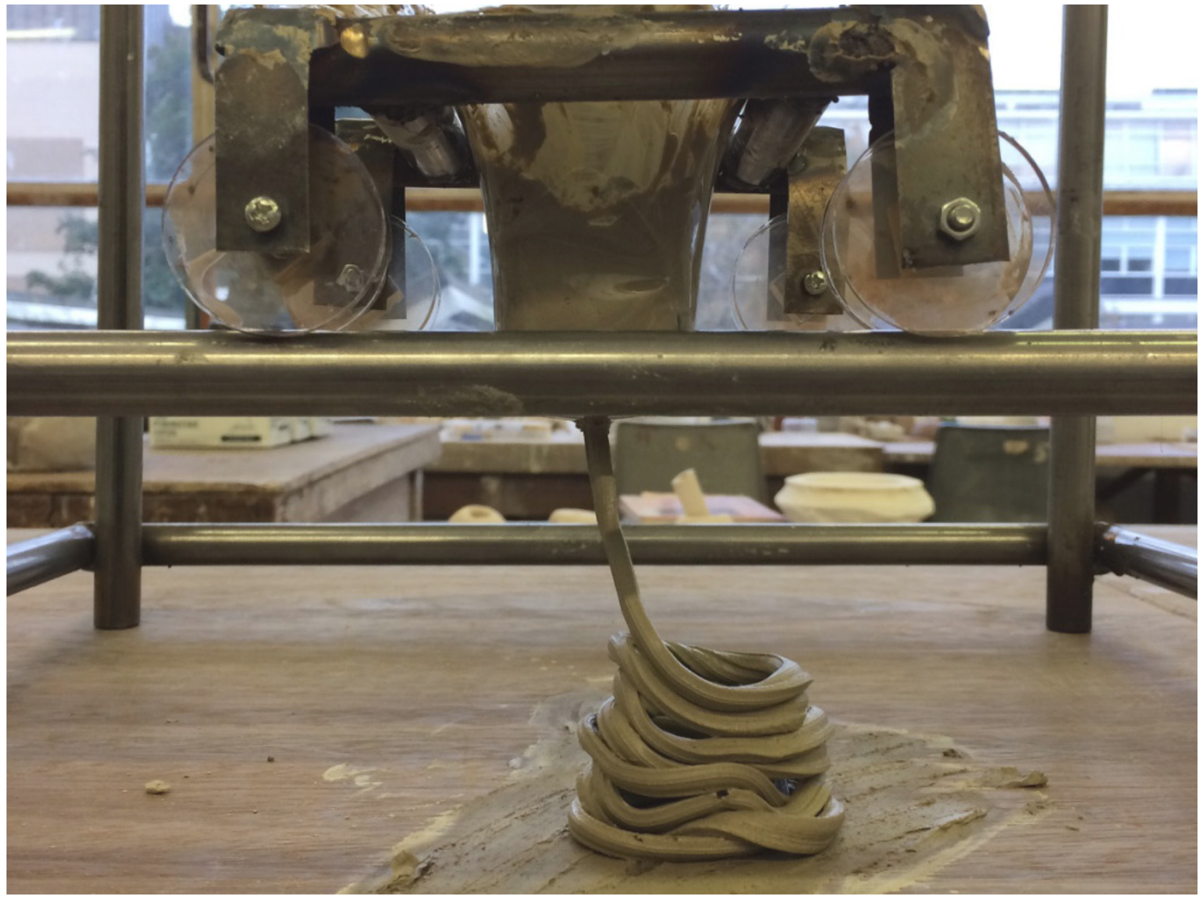
CRAFTBOT 1.0

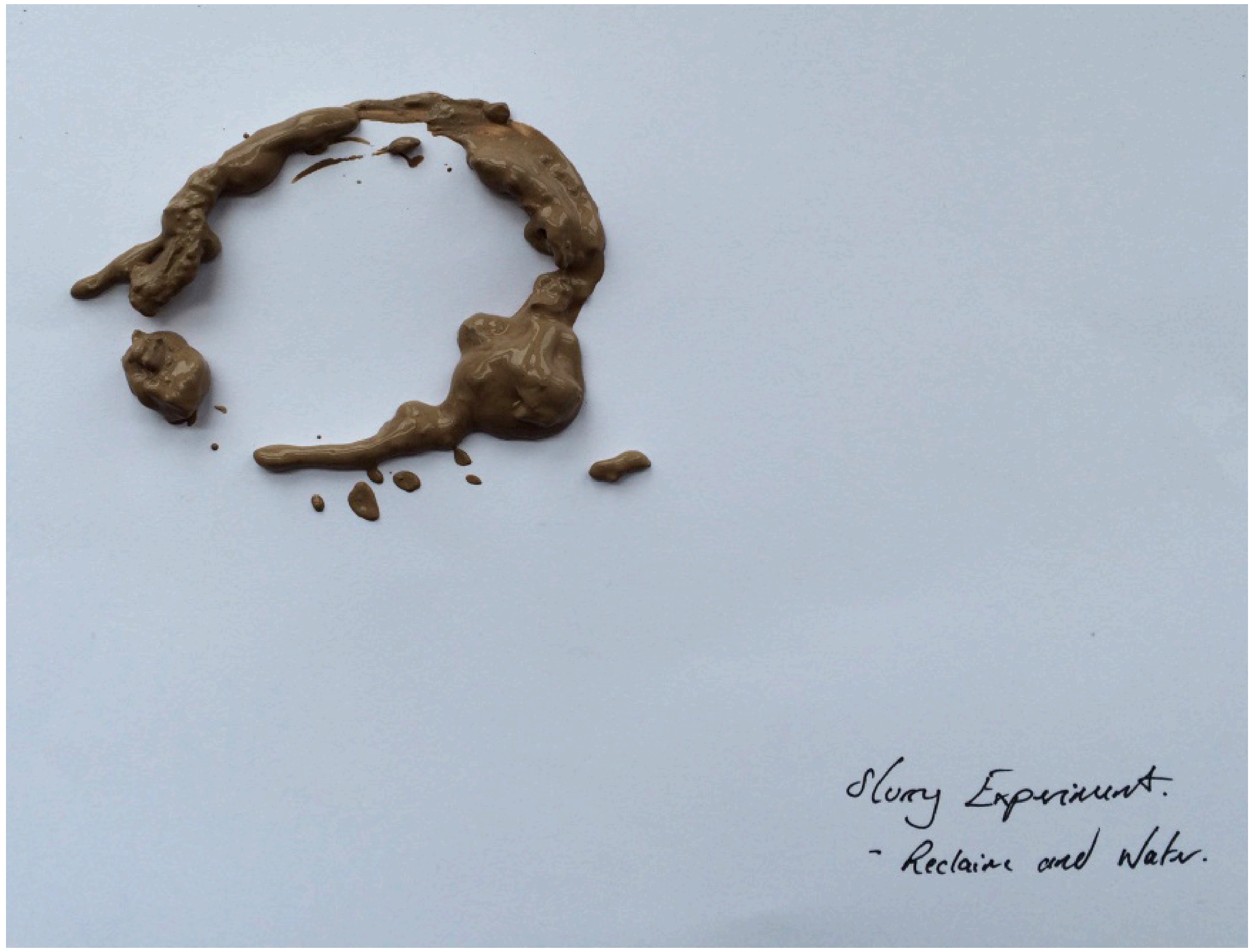
Craftbot 1.0 functions using a plunger extruding mechaism. By vac-forming a thin plastic around the plunger, I was able to create a size specific female mould. The plastic however was very thin and buckled when large amounts of pressure was added. In order to extrude the clay a lot of force needed to be applied due to its density. This led me to question the precision needed in terms of setting up the process for it to function successfully without external input.

Things to consider:
-Density of clay
-Extruding Mechanism

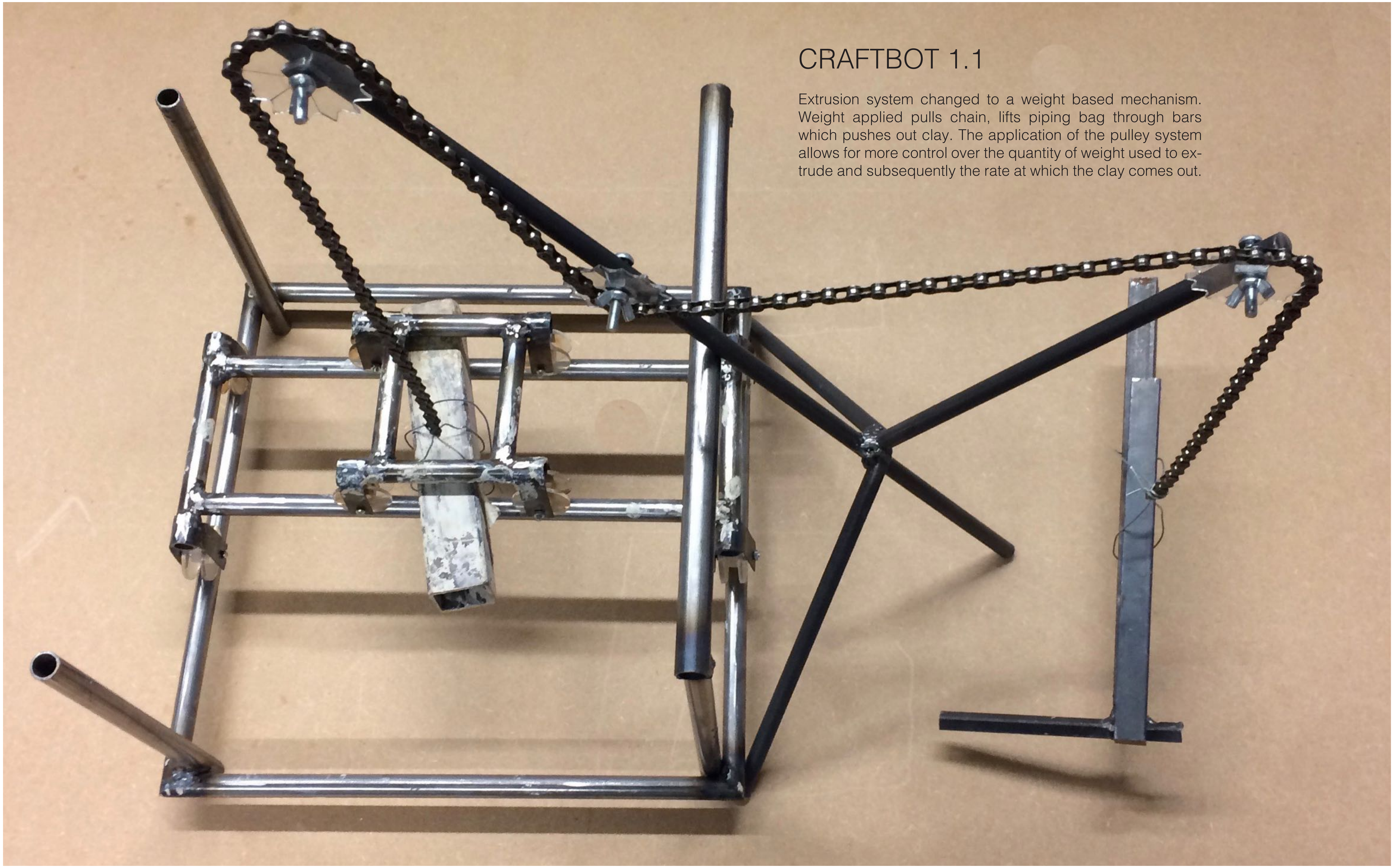








To experiment with the density of clay, there were two possible ways of changing its thickness; starting with a slip and applying a thickner, or starting with clay and adding water. I found that when applying thickner to the slip (left), the consitency would reach a saturated level and not thicken any more. By drying the clay first and then adding water I was able to control the density more accurately and to a more varied degree.



CRAFTBOT 1.1

Extrusion system changed to a weight based mechanism. Weight applied pulls chain, lifts piping bag through bars which pushes out clay. The application of the pulley system allows for more control over the quantity of weight used to extrude and subsequently the rate at which the clay comes out.

CRAFTBOT 1.2

By placing the machine on top of a throwing wheel, the rotation caused the layers to build upon each other in a process similar to that of coil building.

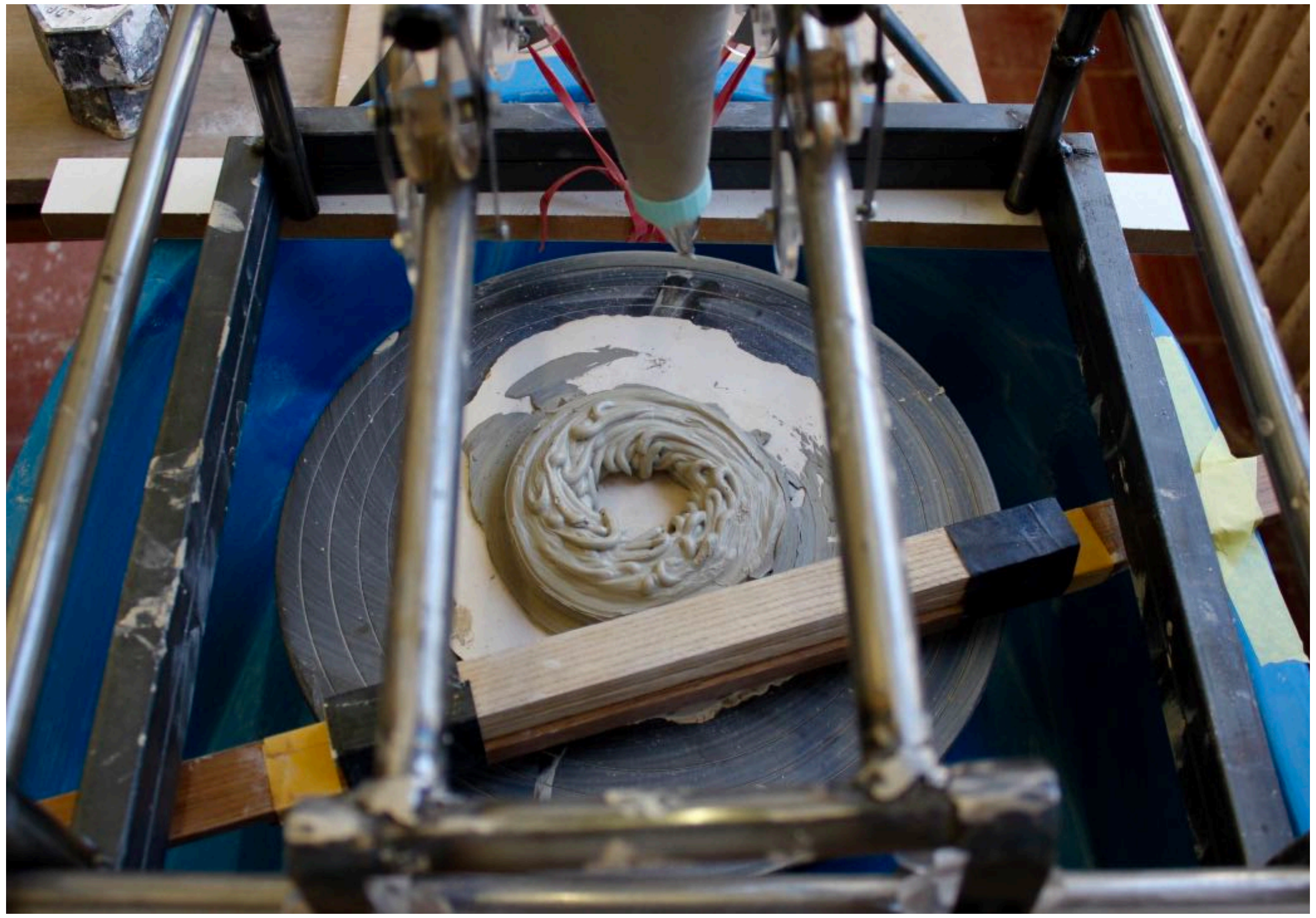
The heavy weight used to extrude caused the top section of the machine to lift off the main body. Version 1.2 consists of more wheels to attach the sections together, elastic bands to secure the moving sections (to make use of the rotating base) and weights to the structure to secure the machine to the wheel.

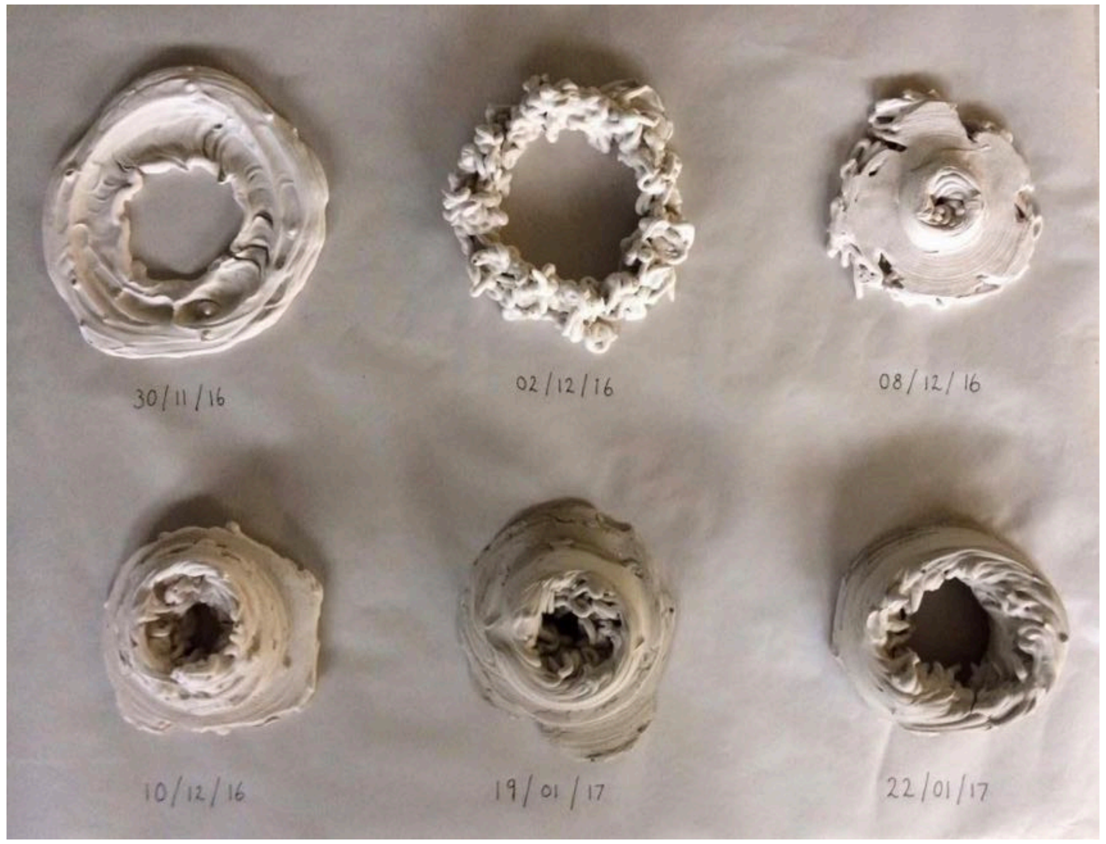
By using the experiments regarding the desnity of clay I was able to test the idea about joining the layers. As the clay is wet it doesn't require any slip to join the layers.

CRAFTBOT 1.3

In evaluating the forms produced by the machine I installed a 'throwing arm'. By layering a series of wooden bats which rest against the wet clay, they brush off the excess, the form being dictated by the movement of the wooden bats. In doing this the process becomes more similar to the craft of throwing.

Video available at: https://vimeo.com/213557592



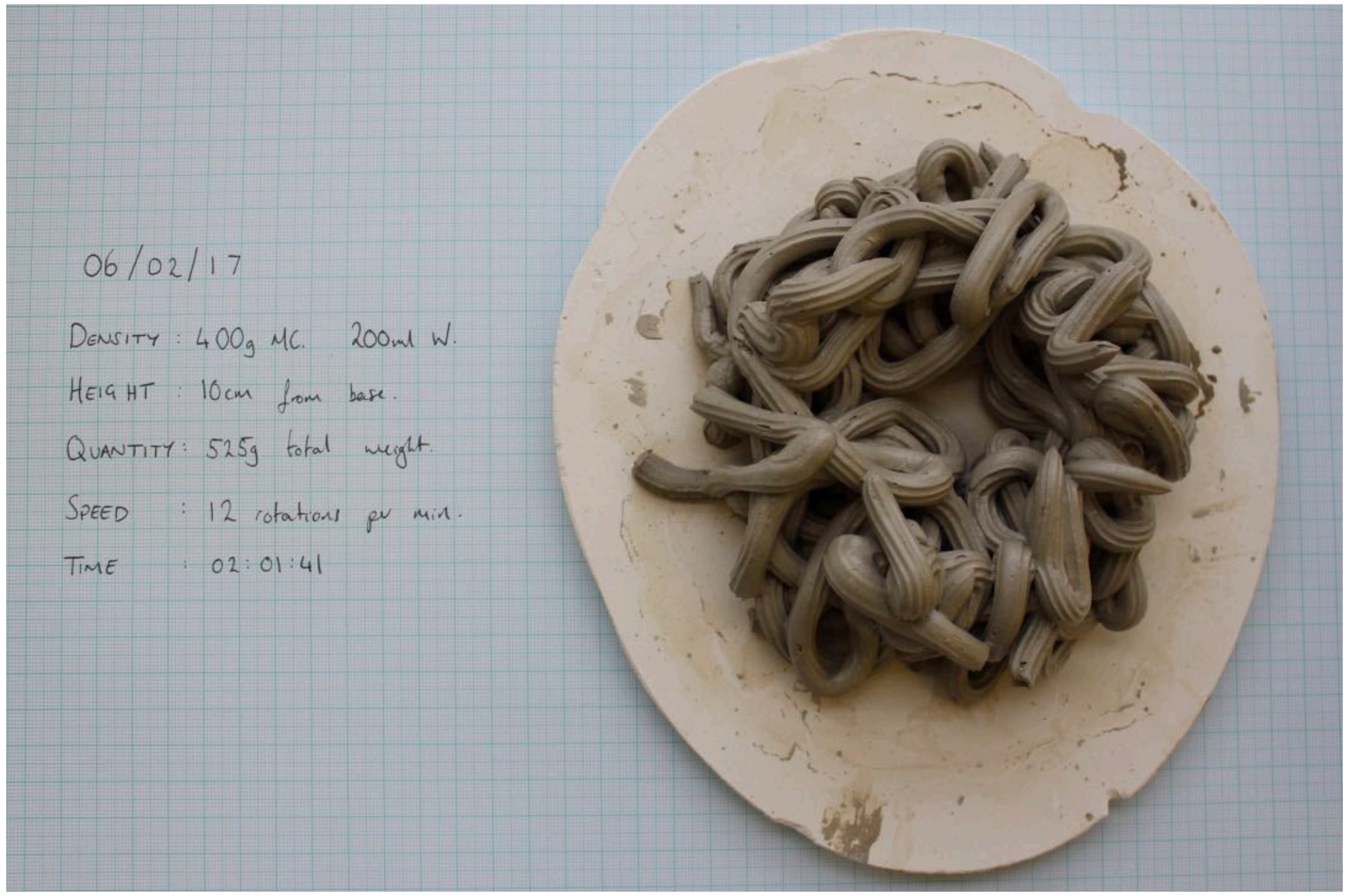


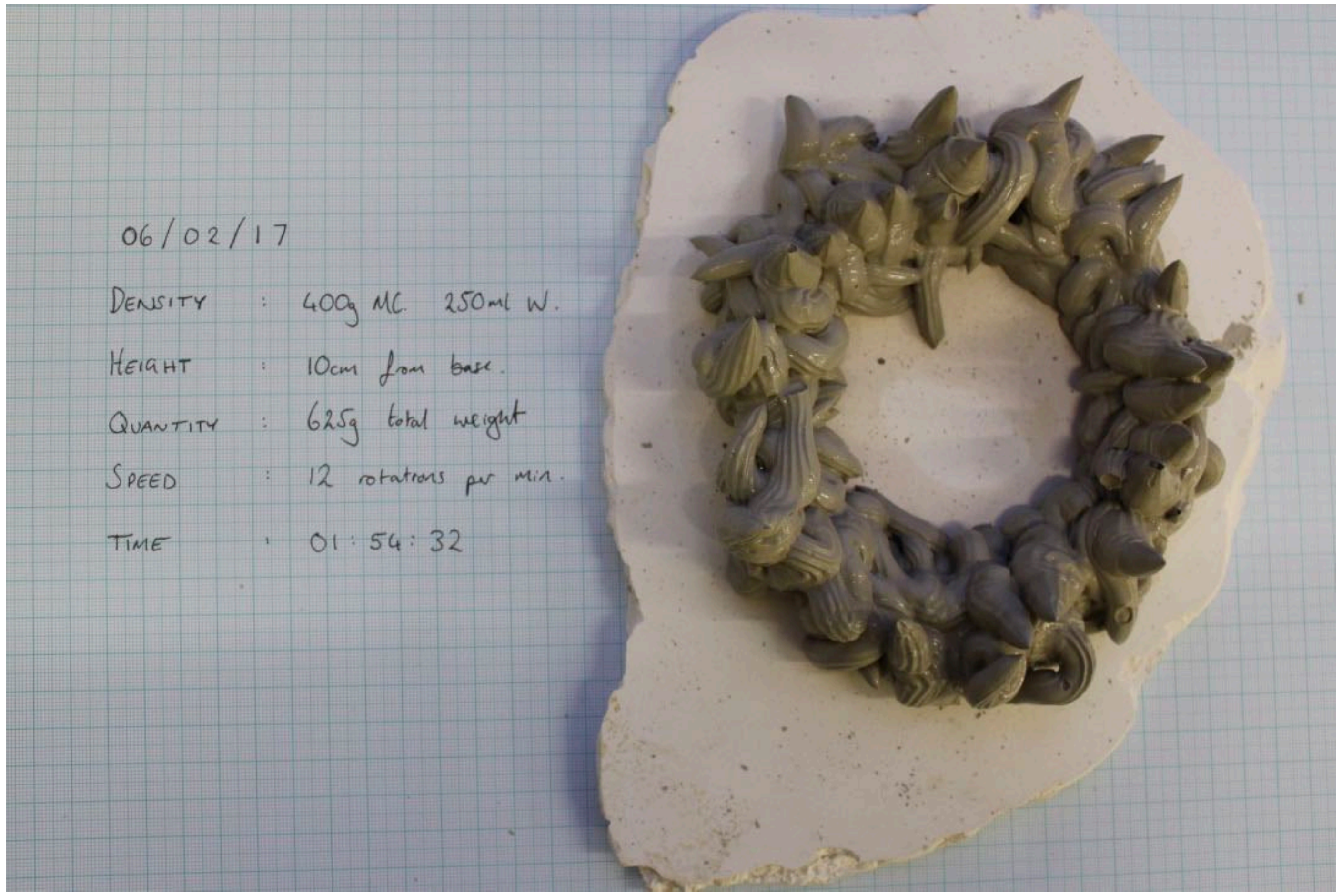
Over time, the form and creation of the ceramic vessels has progressed alongside my knowledge of how to use and set-up the machine. This is important to consider when evaluating the relationship between maker and machine. From my perspective as maker and controller of the machine, I have an important role in operating Craftbot however have little dictation in the form. The variables I control consist of:

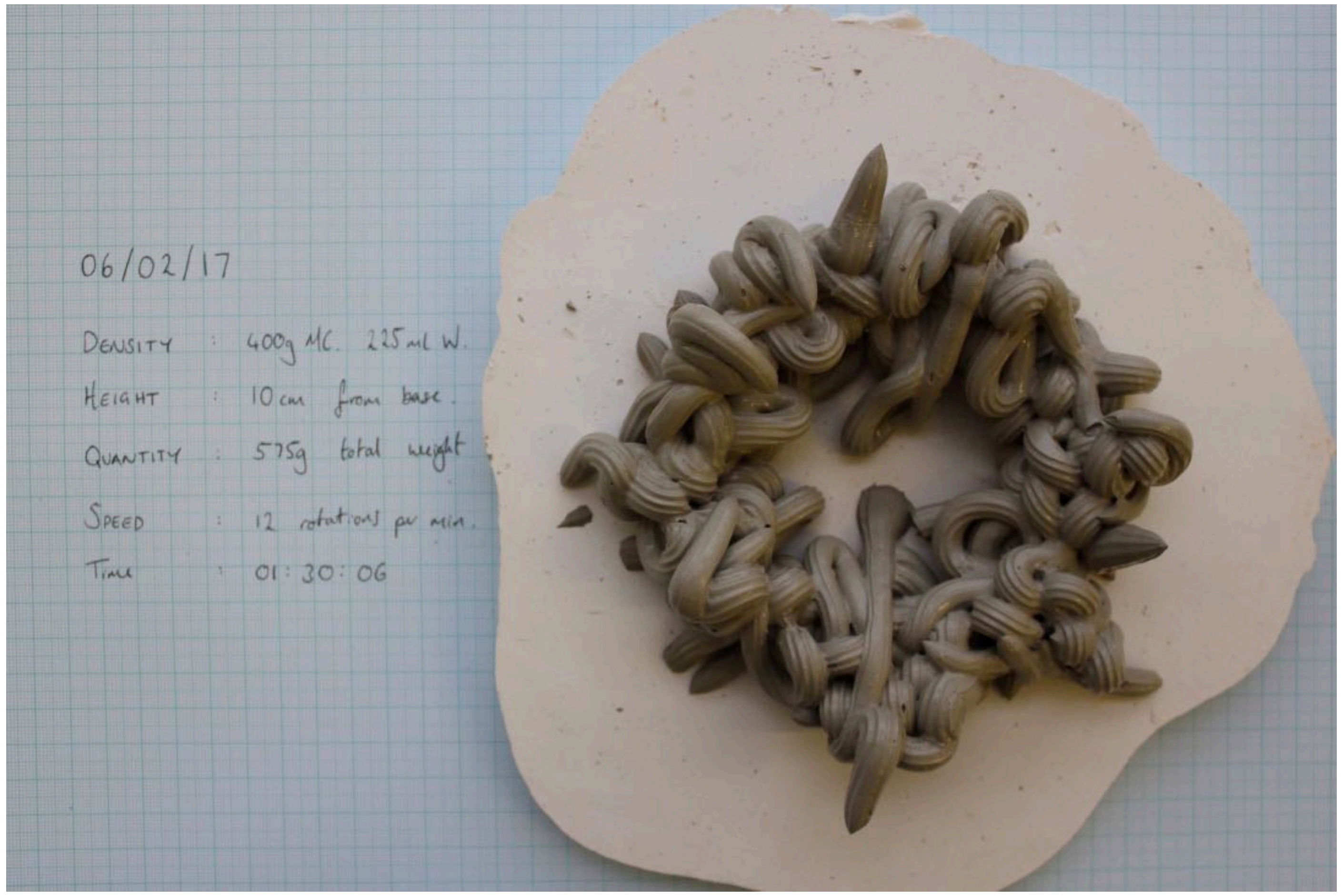
- density of clay
- force of extrusion
- quantity of clay
- position of nozzle (diameter of pot)
- height from base
- speed of rotation

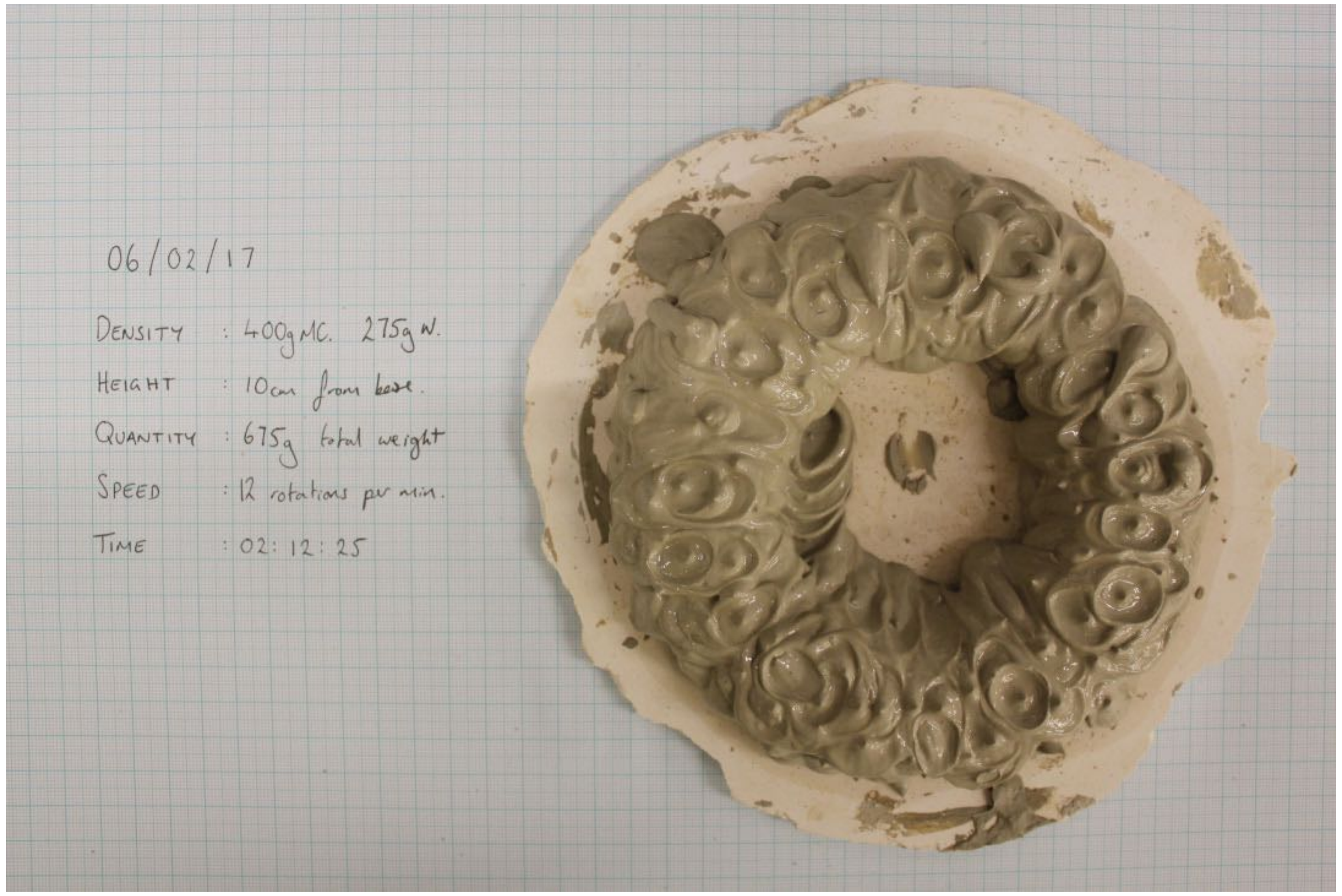
All inform the shape to an extent, however my input as the 'craftsman' is removed from the material aspect. Similar to inputting data into a computer, I am inputting a series of control variables to dicate what is made. Is it possible to alter these variables to generate an understanding of how the machine works?

I began to experiment with my input, starting by altering the density of clay. As previously discovered the best slip was created by adding quantities of water to dry clay. By starting with a standard amount of clay and adding varying volumes of water I created a series of material samples to input into the machine.


06/02/17
Density : 400g MC. 200ml W.
Height : 10cm from base.
Quantity : 525g total weight.
Speed : 12 rotations per min.
Time : 02:01:41

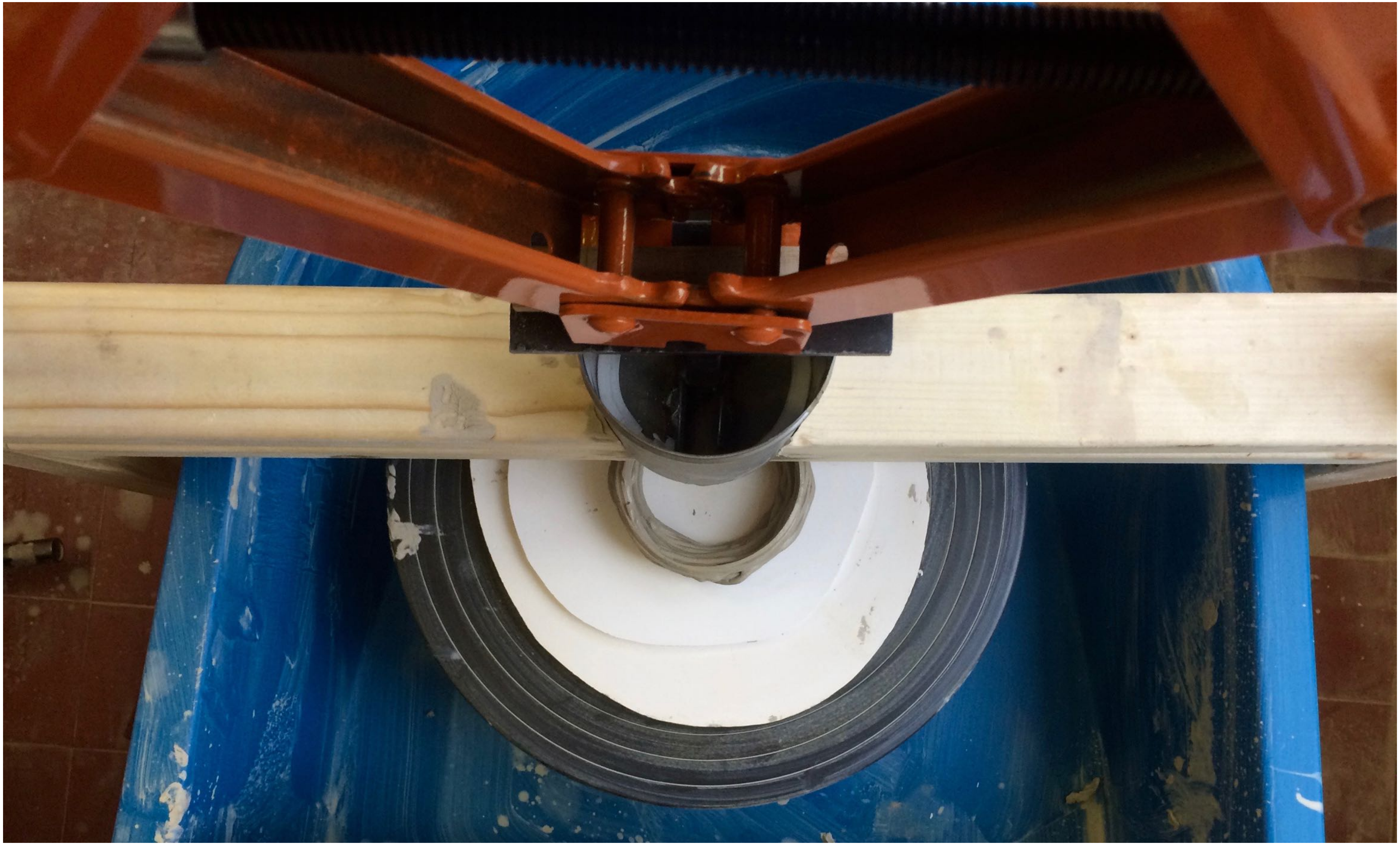

06/02/17
Density : 400g MC. 250ml W.
Height : 10cm from base.
Quantity : 625g total weight
Speed : 12 rotations per min.
Time : 01:54:32


06/02/17
Density : 400g MC. 225ml W.
Height : 10cm from base.
Quantity : 575g total weight
Speed : 12 rotations per min.
Time : 01:30:06


06/02/17
Density : 400g MC. 275g W.
Height : 10cm from base.
Quantity : 675g total weight
Speed : 12 rotations per min.
Time : 02:12:25

DENSITY OF CLAY: LEAST WATER- MOST WATER

The first prototype of the machine required some refinement regarding the aesthetic of the pots produced. With an understanding of the factors contributing to the process, I experimented with the method of production questioning how it could be possible to create a more definitive shape. By piping by hand I found holding the nozzle closer to the base and having more control over the speed at which it is extruded has a major effect. I found however, when building layer upon layer of modelling clay using the piping bag, the structure would become weak under the weight of the vessel as it grew. To overcome this required stopping the construction process at several stages throughout building, leaving to dry, and then continue to build. This was not the most efficient way to build the vessels however did provide a lot more control over the form. Eventually I found that by adding a hairdryer into the process I was able to build much higher forms. How could I translate this into a mechanical action?



CRAFTBOT 2.0

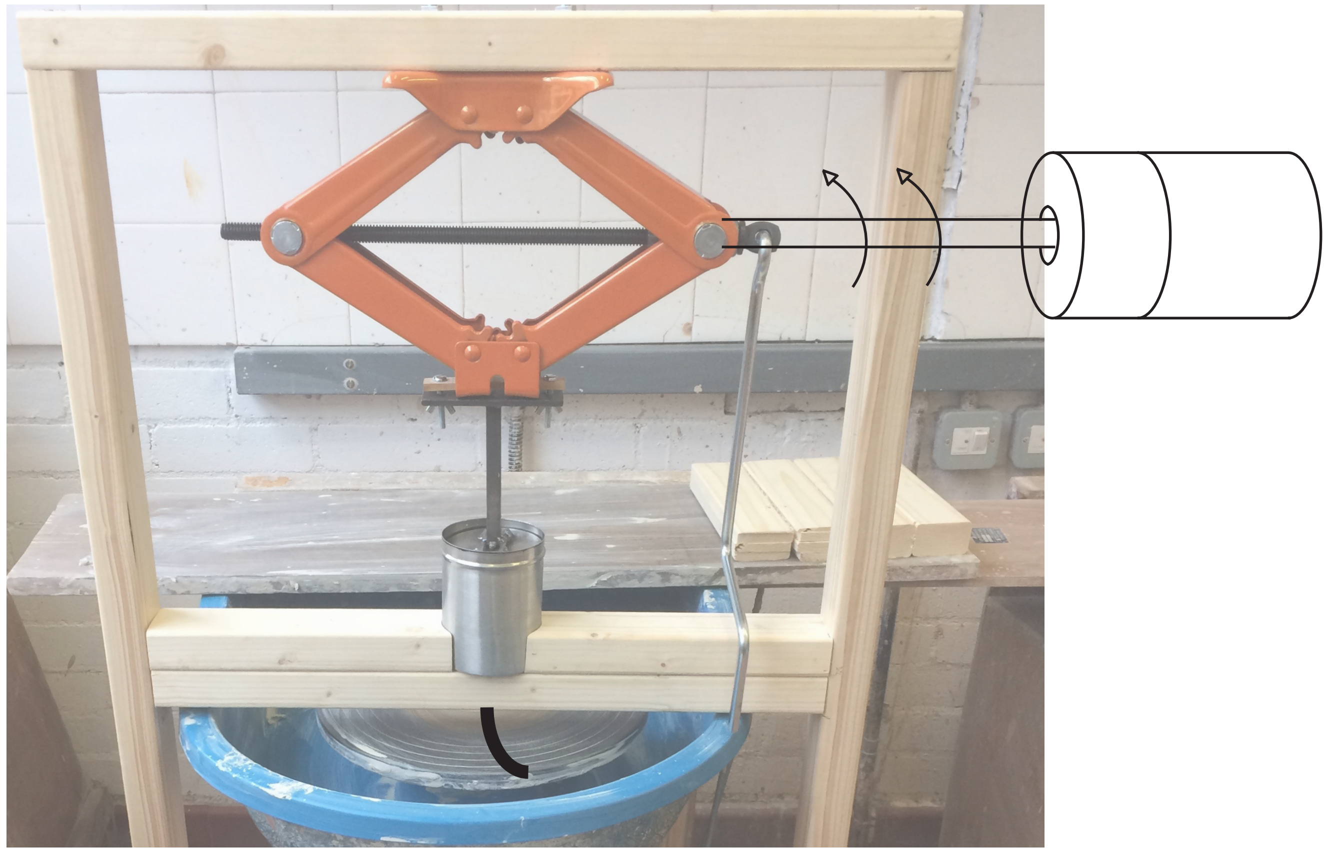
2.0 consists of a change to the extrusion system, replacing the weight based piping bag to a scissor-jack pump. The ability to change gradual increments in pressure applied to the clay allowed for a more precise application layer by layer. By incorporating the piping nozzle into the mechanism, a definitive line of clay was produced. 2.0 was custom built to fit around the height of a throwing wheel, therefore the height of the nozzle is close and accurate to the rotating plate. By placing blocks of wood underneath the feet of the machine, I was able to raise it at intervals during the construction of the pot. These two factors allow me to critically control both the position of the nozzle and height from base-two elements identified in my earlier analysis.

CRAFTBOT 2.1

By attaching a drill to the side of the scissor-jack I was able to semi-automate the machine. The multiple speed settings of the trigger on the drill allowed me to extrude different rates and quantities of clay. I found a faster speed produced a more unpredictable and wavy texture where as a slower setting layer the clay neatly ontop of one another. If I could next automate the wheel lowering at a constant rate the entire process would be mechanical. To do this I will need to build my own wheel mounted on a moveable base.

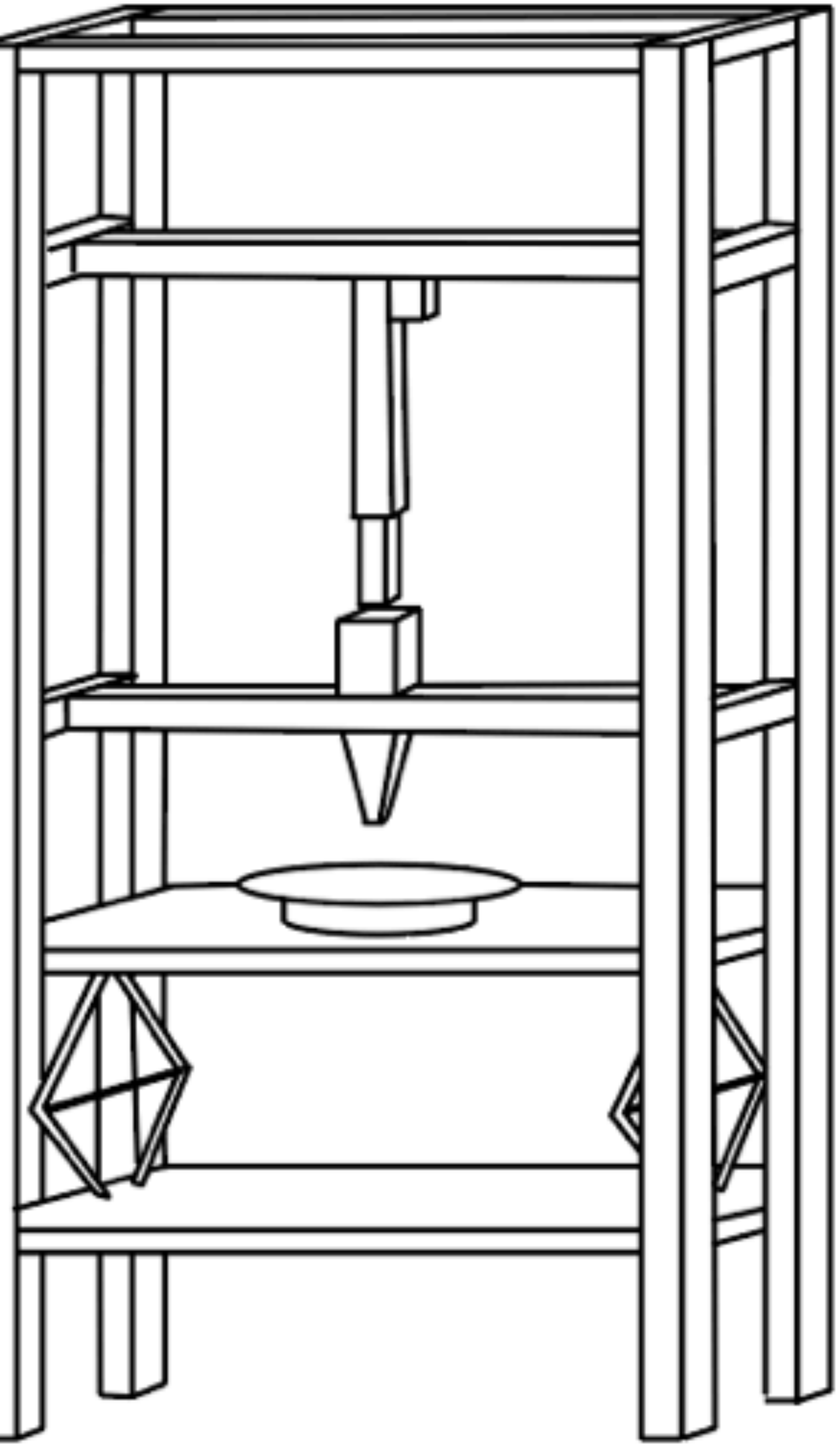
It is interesting to reflect upon the spectrum at the beginning of this document (Maker/Machine) and assess how each individual pot will place differently. Despite controlling the input variables, there is an unpredicatblilty to what is produced as an output.

How does this begain to alter the role of the craftsman? By remvoing their connection to the material, to what extent are they in control of the process and what it produces?



The consistency in pressure applied to the extrusion caused specific patterns to print. If I am able to make an automated height adjustable wheel, would I be able to get this pattern to continue the entire height of the vessel?

3.0



CRAFTBOT

WHAT IS IT SAYING?

- LACK OF CONTROL MAKERS HAVE OVER WHAT THEY ARE MAKING DUE TO THE INPUT OF TECHNOLOGY.
- SIMPLIFIED PROCESS FOR THE EVERYMAN TO DO. LACK OF SKILL WITH CRAFT. SKILLS OF MAKERS REDUCED.
- MASS PRODUCTION OF THE CRAFT OBJECT? CAN CRAFT BE PRODUCED AS A PROCESS.

HOW DOES THIS EVALUATE TO A CONCEPTUAL LEVEL?

- TECHNOLOGICAL REVOLUTION SEEN AS A NEGATIVE THING.
  - LACK OF HUMAN INPUT
  - LOSS OF JOBS
  - MASS PRODUCED – NOT UNIQUE.
- MACHINES CAN PRODUCE BEAUTIFUL UNIQUE PIECES.
  - EVOLUTION OF CRAFT.

eg. ① thickness of clay. ..
— ② 500g.
③ 10cm.
④ 1st notch.
⑤ 30 sec.

② quantity of clay ..
① 500g clay. ... water.
③ 10cm.
④ 1st notch.
⑤ 30 sec.

SHORT TERM SUCCESS.

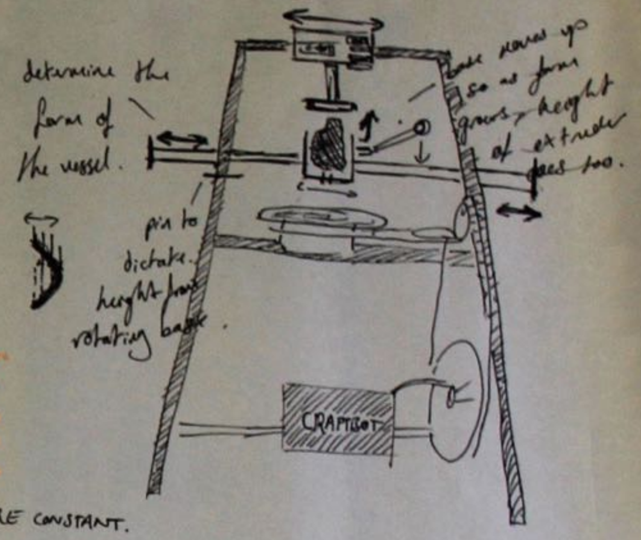
EVALUATE HOW CONTROL OF MAKER CHANGES WHEN VALUES OF CONTROL VARIABLES CHANGE.

WEEK BY WEEK PLAN.

EXPLORE 5 POINT VARIABLE SYSTEM INDIVIDUALLY TO EVALUATE HOW EACH CHANGES CERAMIC FORM.

↳ • length of time. ⑤
• quantity of clay. ②
• thickness of clay. ①
• hight of extruding. ③
• speed of rotation. ④

OTHER 4 ARE CONSTANT.



1) LEVER TO EXTRUDE CLAY.
2) ARM TO MOVE POSITION OF EXTRUDER.
3) PEDAL TO DETERMINE SPEED OF ROTATION OF WHEEL.

WHAT DO I WANT IT TO SAY!

- ARTIST ATTEMPTING TO CREATE SOMETHING BEAUTIFUL.

ONLY SO MUCH ARTIST CAN DICTATE ABOUT FORM.

↳ CAN CRAFTBOT CREATE THE SAME FORM 5 TIMES

↳ (NO! UNPREDICTABLE).

ARTIST LOOSES CONTROL BECAUSE OF THE MACHINE.

TECHNOLOGICAL REVOLUTION IS NOT A BAD THING! DESPITE ARTIST LOSING CONTROL, BEAUTIFUL THINGS CAN STILL BE MADE.

— EVOLUTION OF CRAFT

SPECIFICATIONS FOR 2.0 / 3.0.

- BY APPLYING CONTROL VARIABLES, DICTATING THE ROLE OF THE ARTIST TO A (5) POINT SYSTEM.

by reducing the input of the Maker to an input of Numbers
|
questioning their input of creativity.

1) TIME TAKEN TO EXTRUDE.
2). HOW MUCH CLAY HAS BEEN EXTRUDED.
3). DENSITY OF CLAY.
4). HEIGHT FROM WHEEL TO EXTRUDER
5). SPEED OF ROTATION

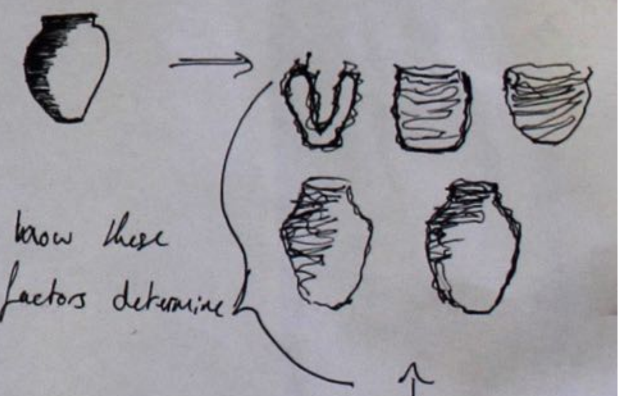
1) SIZE OF VESSEL
2) (ANGLE EXTRUDING ARM HAS BEEN PUSHED TO).
3) HOW AFFECTS LAYERS OF VESSEL
4) DEFINITION OF VESSEL
5) FORM OF VESSEL.

how these factors determine

WHAT DOES SUCCESS LOOK LIKE

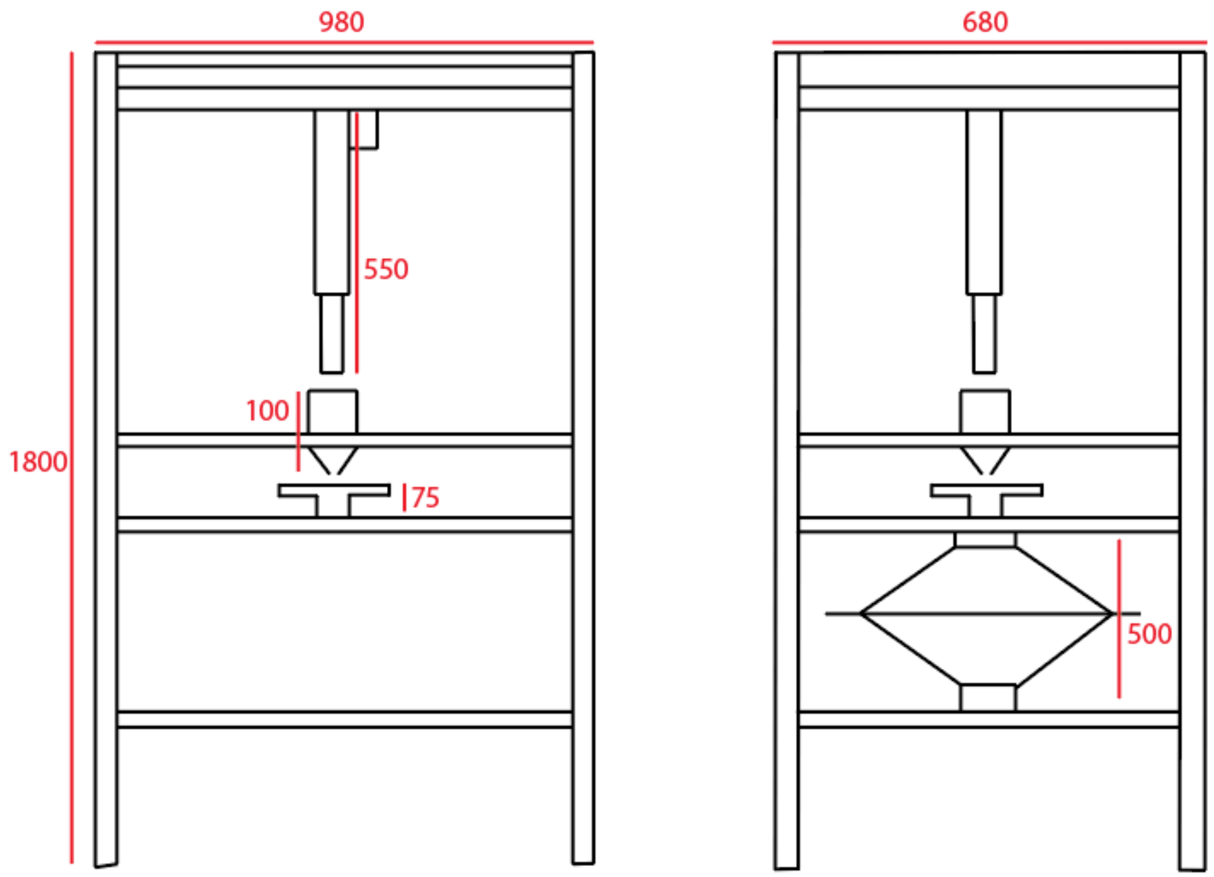
1). TO WHAT EXTENT CAN A MACHINE REPLICATE / COMPARE TO THE HAND MADE.

↳ HAND MADE VESSEL. ⇒ MACHINE MADE VESSEL ?



PROGRESSION IN FORM SHOWS:-

1). ARTIST/MAKER LEARNING NEW CRAFT.
2). NEW STYLE IN AESTHETIC FROM MACHINE CRAFT.



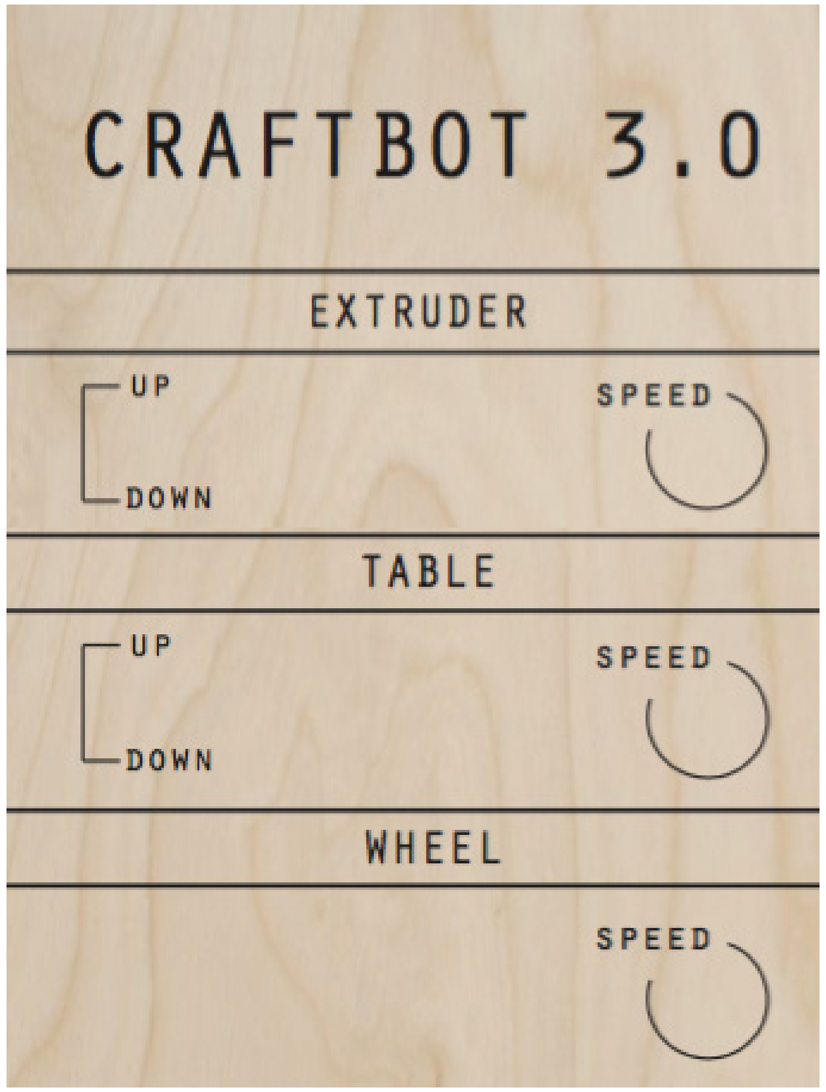
Through a critical analysis of the previous two machines, 3.0 needs to provide automation in terms of :

-Force of Extrusion
-Speed of Wheel
-Height of Table

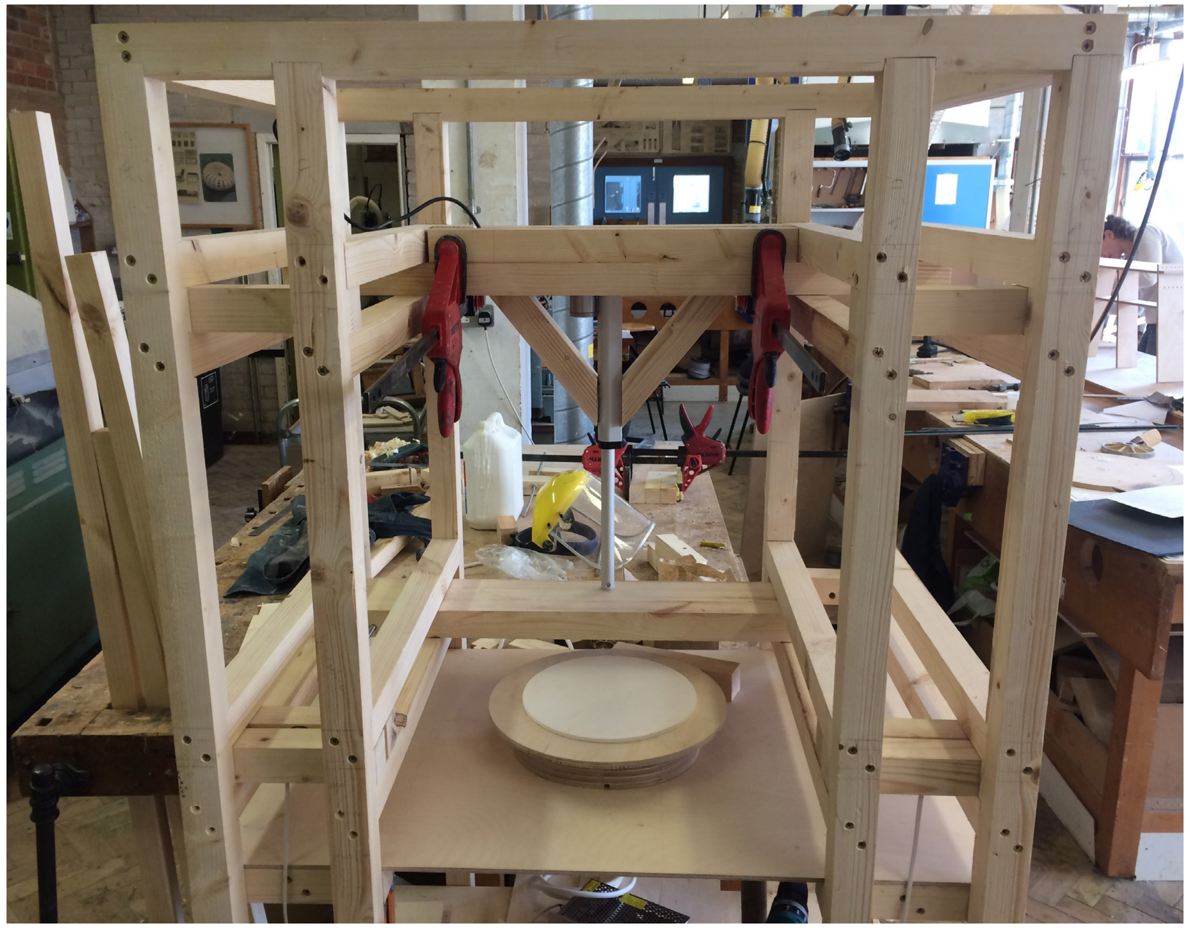
Similar to incorporating the drill, I want to remove the input of the craftsman as much as possible. If these actions can be controlled or carried out by a series of motors controlled by the maker, the role of the craftsperson becomes an operative. What does this mean for their identity? How does the use of the motors begin to portray their understanding and knowledge of the machine?

The machine needs to be large enough to incorporate all of the moving elements. I like the idea that it is a large object instating a sense of authority and importance as a machine and how this affects the person using it. Can the term tool still be considered an extension of the hand if it is as large as the person using it?

A control panel mounted onto the side of the machine will function as an easily understandable interface. From here, one will be able to control the seperate functions of the machine at the same time. A simple design will allow anyone to use the machine. This takes away any need for the 'craftsman' to have any prior understanding of clay or the machine. Through using the machine the maker leanr about the process in a similar fashion to the practice of craft.




G27
Warning



3.0 is constructed out of a timber frame; housing inside the electronics, mechanical components and processes. The aesthetic is very simple to highlight the idea of it being a piece obviously made by hand, juxtaposing the outputs it creates. Simple details such as location joints in the frame and the uncovered screws provide an insight into how the machine has been made. It is a functional form, the aesthetic driven by the processes of the machine.

Video available at https://vimeo.com/218147410


CRAFTBOT
TABLE
WHEEL

OUTPUT

When Craftbot 3.0 became functional I started to methodically document all of its outputs, evaluating my relationship and understanding of the machine with reflection on the amount of time I have been using ite for. Relating back to Malcolm Gladwells idea of 10,000 hours as expressed earlier in this document, would the same notion of practice and craft still apply when considering using technology in creating the craft. How would I now asses my position as the craftsman?

Through using the creation process as a research method I aim to evaluate the efficency of Craftbot 3.0 as a tool of craft. Experimented with types of clay, densities of clay, stains and colours added to the clay as well as using different nozzles to extrude through will provide an understanding about the machine and how to establish different results.

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 001 ISSUE NO: 001 DATE: 02.05.17

DENSITY OF CLAY: 400g MC. 200ml W.
FORCE OF EXTRUDER: 1
SPEED OF WHEEL: 1
HEIGHT OF TABLE: 0cm. 1

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 001 ISSUE NO: 002 DATE: 02.05.17

DENSITY OF CLAY: 400g MC. 200ml W.
FORCE OF EXTRUDER: 1
SPEED OF WHEEL: 1
HEIGHT OF TABLE: 1cm. 1

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 001 ISSUE NO: 003 DATE: 02.05.17

DENSITY OF CLAY: 400g MC. 200ml W.
FORCE OF EXTRUDER: 1.
SPEED OF WHEEL: 2.
HEIGHT OF TABLE: 3cm. 2.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 001 ISSUE NO: 004 DATE: 02.05.17

DENSITY OF CLAY: 400g MC. 200ml W.
FORCE OF EXTRUDER: 1.
SPEED OF WHEEL: 2.
HEIGHT OF TABLE: 2cm. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 001 ISSUE NO: 005 DATE: 02.05.17

DENSITY OF CLAY: 400g MC. 200ml W.
FORCE OF EXTRUDER: 1.
SPEED OF WHEEL: 2.
HEIGHT OF TABLE: 1cm. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 001 ISSUE NO: 006 DATE: 02.05.17

DENSITY OF CLAY: 400g MC. 200ml W.
FORCE OF EXTRUDER: 1.
SPEED OF WHEEL: 2.
HEIGHT OF TABLE: 4cm. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 002 ISSUE NO: 007 DATE: 03.05.17

DENSITY OF CLAY: 400g TER. 150ml W.
FORCE OF EXTRUDER: 2.
SPEED OF WHEEL: 2.
HEIGHT OF TABLE: 2cm. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 002 ISSUE NO: 008 DATE: 03.05.17

DENSITY OF CLAY: 400g TER. 150ml W.
FORCE OF EXTRUDER: 4.
SPEED OF WHEEL: 2.
HEIGHT OF TABLE: 5cm. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 003 ISSUE NO: 009 DATE: 04.05.17

DENSITY OF CLAY: 400G MC. 225ML W.
FORCE OF EXTRUDER: 1. NOZZLE 1.
SPEED OF WHEEL: 1.
HEIGHT OF TABLE: 1CM. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 003 ISSUE NO: 010 DATE: 04.05.17

DENSITY OF CLAY: 400G MC. 225ML W.
FORCE OF EXTRUDER: 1. NOZZLE 2.
SPEED OF WHEEL: 1.
HEIGHT OF TABLE: 1CM. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 003 ISSUE NO: 011 DATE: 04.05.17

DENSITY OF CLAY: 400G MC. 225ML W.
FORCE OF EXTRUDER: 1. NOZZLE 3.
SPEED OF WHEEL: 1.
HEIGHT OF TABLE: 1CM. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 003 ISSUE NO: 012 DATE: 04.05.17

DENSITY OF CLAY: 400G MC. 225ML W.
FORCE OF EXTRUDER: 1. NOZZLE 4.
SPEED OF WHEEL: 1.
HEIGHT OF TABLE: 1CM. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 003 ISSUE NO: 013 DATE: 04.05.17

DENSITY OF CLAY: 400G MC. 225ML W.
FORCE OF EXTRUDER: 1. NOZZLE 5.
SPEED OF WHEEL: 1.
HEIGHT OF TABLE: 1CM. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 003 ISSUE NO: 014 DATE: 04.05.17

DENSITY OF CLAY: 400G MC. 225ML W.
FORCE OF EXTRUDER: 1. NOZZLE 1.
SPEED OF WHEEL: 1.
HEIGHT OF TABLE: 1CM. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 003 ISSUE NO: 015 DATE: 04.05.17

DENSITY OF CLAY: 400G MC. 225ML W.
FORCE OF EXTRUDER: 2. NOZZLE 6.
SPEED OF WHEEL: 1.
HEIGHT OF TABLE: 3CM. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 004 ISSUE NO: 016 DATE: 04.05.17

DENSITY OF CLAY: 200G MC. 100ML W. 15G BLUE STAIN.
FORCE OF EXTRUDER: 1. NOZZLE 1.
SPEED OF WHEEL: 1.
HEIGHT OF TABLE: 1CM. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 004 ISSUE NO: 017 DATE: 04.05.17

DENSITY OF CLAY: 200g MC. 100ml W. 15g Blue/Pink S.
FORCE OF EXTRUDER: 1. Nozzle 1.
SPEED OF WHEEL: 1.
HEIGHT OF TABLE: 1cm. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 004 ISSUE NO: 018 DATE: 04.05.17

DENSITY OF CLAY: 200g MC. 100ml W. 15g Blue/Pink S.
FORCE OF EXTRUDER: 1. Nozzle 1.
SPEED OF WHEEL: 2.
HEIGHT OF TABLE: 1cm. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 005 ISSUE NO: 019 DATE: 05.05.17

DENSITY OF CLAY: 400g TER. 150ml W.
FORCE OF EXTRUDER: 1. Nozzle 5.
SPEED OF WHEEL: 1.
HEIGHT OF TABLE: 1cm. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 005 ISSUE NO: 020 DATE: 05.05.17

DENSITY OF CLAY: 400g TER. 150ml W.
FORCE OF EXTRUDER: 1. Nozzle 6.
SPEED OF WHEEL: 1.
HEIGHT OF TABLE: 1cm. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 005 ISSUE NO: 021 DATE: 05.05.17

DENSITY OF CLAY: 400g TER. 150ml W.
FORCE OF EXTRUDER: 2. Nozzle 1.
SPEED OF WHEEL: 2.
HEIGHT OF TABLE: 1cm. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 006 ISSUE NO: 022 DATE: 06.05.17

DENSITY OF CLAY: 400g TER. 200ml W.
FORCE OF EXTRUDER: 2. Nozzle 1.
SPEED OF WHEEL: 2.
HEIGHT OF TABLE: 5cm. 0/2.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 006 ISSUE NO: 023 DATE: 06.05.17

DENSITY OF CLAY: 400g TER. 200ml W.
FORCE OF EXTRUDER: 1/0/1. Nozzle 1.
SPEED OF WHEEL: 2.
HEIGHT OF TABLE: 1cm. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 007 ISSUE NO: 024 DATE: 08.05.17

DENSITY OF CLAY: 400g TER. 200ml W.
FORCE OF EXTRUDER: 1/4/1/4. Nozzle 1.
SPEED OF WHEEL: 2.
HEIGHT OF TABLE: 1cm. 1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 007 ISSUE NO: 025 DATE: 08.05.17

DENSITY OF CLAY: 400G TER. 200ML W.
FORCE OF EXTRUDER: 1. NOZZLE 1.
SPEED OF WHEEL: 1.
HEIGHT OF TABLE: 1CM. 1/2/1.

CONTROLLED BY: GAVIN JONES

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 007 ISSUE NO: 026 DATE: 08.05.17

DENSITY OF CLAY: 400G TER. 200ML W.
FORCE OF EXTRUDER: 3. NOZZLE 1.
SPEED OF WHEEL: 2.
HEIGHT OF TABLE: 5CM. 1/0.

CONTROLLED BY: GAVIN JONES

The process of learning how to use Craftbot 3.0 was intuitive and fast. After making pot 004 I had gathered a reasonable understanding of how to set up the machine to achieve different results depending on the input variables and considered pot 005 to be successful in form (in fulfilling the aesthetic qualities of a coil pot). At pot number 021 I have understood how to control the aesthetic and the direct correllation between the input values. By changing the control mid production I was able to vary the style of the pot, displaying a source of informative knowledge through exteriour input. There is still an ambiguity to the authorship however as despite me displaying an understanding in varying the aesthetic as in pot 023, I was unable to determine to what extent the curly strands would look. I found also as I was experimenting with production, sometimes the machine would create things I was unable to replicate. For example the bottom layer in pot 024 created ripples as it overflowed from the sides however as I tried to replicate it in the next two layers it didnt happen to the same effect. This could be because I have not had enough time to practise using the machine yet or perhaps could be accrediated to the involvement of the machine in the design process. I questoned this involvment of the machine and decided to create a series of batch production pots to analyse further.

A PRODUCT OF

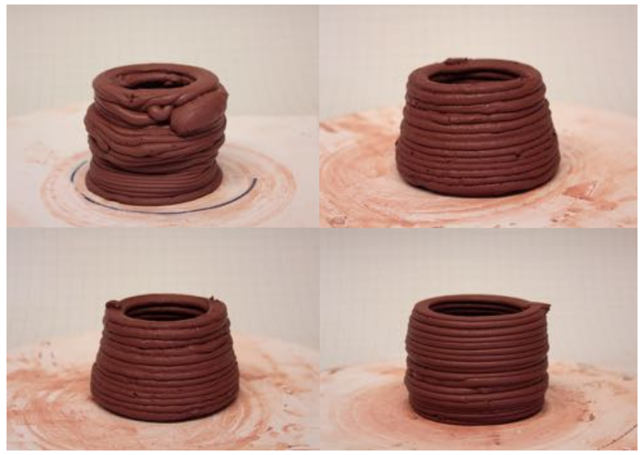
CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 009 ISSUE NO: 028/029/030/031 DATE: 09.05.17

DENSITY OF CLAY: 400G TER. 225ML W.
FORCE OF EXTRUDER: 1. NOZZLE 1.
SPEED OF WHEEL: 1.
HEIGHT OF TABLE: 1CM. 1.

CONTROLLED BY: GAVIN JONES



A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 010 ISSUE NO: 032/033/034/035 DATE: 09.05.17

DENSITY OF CLAY: 400G TER. 225ML W.
FORCE OF EXTRUDER: 2. NOZZLE 1.
SPEED OF WHEEL: 2.
HEIGHT OF TABLE: 2CM. 1.

CONTROLLED BY: GAVIN JONES

By creating a series of batch production pieces I wanted to evaulate the small differences between pots that couldnt be accredited to the maker controlling the machine, evaluating the involvment of Craftbot in the making process. Batch 009 portratys the greatest difference through pot 028 displaying an uncertainty and irregularity in aesthetic. The common input values should result in a uniform structure such as 029, 030 and 031, however an analysis of 028's form suggests a problem when extruding. The particularly thick layer at the top suggests a build up of clay in the nozzle and when enough pressure is ammounted, a large quanitity of clay is pushed through causing the rest of the pot to buckle under the pressure. This is most probably due to human error in preparing the clay and a small amount of grogg that has not been sivved properly getting caught in the machine. Batch 010 displays small differences between the curly aesthetic however each are similar enough to suggest a trend in output. These minor differences between the products of the batch production suggests that each vessel created could be considered unique.

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 011 ISSUE NO: 036 DATE: 11.05.17

DENSITY OF CLAY: 400G TER. 200ML W.
FORCE OF EXTRUDER: 2. NOZZLE 1.
SPEED OF WHEEL: 3.
HEIGHT OF TABLE: 1CM. 3.

CONTROLLED BY: DEBBIE MUMFORD

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 012 ISSUE NO: 037 DATE: 11.05.17

DENSITY OF CLAY: 400G TER. 200ML W.
FORCE OF EXTRUDER: 2. NOZZLE 1.
SPEED OF WHEEL: 2.
HEIGHT OF TABLE: 2CM. 2.

CONTROLLED BY: MATILDA GROVER

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 013 ISSUE NO: 038 DATE: 11.05.17

DENSITY OF CLAY: 400G TER. 200ML W.
FORCE OF EXTRUDER: 1. NOZZLE 1.
SPEED OF WHEEL: 2.
HEIGHT OF TABLE: 1CM. 1.

CONTROLLED BY: DAISY MACARI

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 014 ISSUE NO: 039 DATE: 11.05.17

DENSITY OF CLAY: 400G TER. 200ML W.
FORCE OF EXTRUDER: 1. NOZZLE 1.
SPEED OF WHEEL: 1.
HEIGHT OF TABLE: 1CM. 2.

CONTROLLED BY: JACK GRIFFIN

A PRODUCT OF

CRAFTBOT 3.0

EACH CERAMIC VESSEL IS LOVINGLY MACHINE CRAFTED USING A SERIES OF ALGORITHMIC VARIABLES. HANDMADE IN BRIGHTON, ENGLAND.

BATCH NO: 015 ISSUE NO: 040 DATE: 11.05.17

DENSITY OF CLAY: 400G TER. 200ML W.
FORCE OF EXTRUDER: 3. NOZZLE 1.
SPEED OF WHEEL: 2.
HEIGHT OF TABLE: 3CM. 2.

CONTROLLED BY: NICOLA BANNISTER

After being heavily involved in the making process of both the machine and the pots I wanted to question how successful other participants would be in using the machine, and whether they too could become a 'craftsman'. I found there were mixed results. Some rushed into the process and without understanding the machine and the material, pushed the process too hard causing their pot to warp and collapse, for example batch numbers 012 and 014. This however could be improved upon by using the machine several times. Some people really engaged with the process, such as batch numbers 011 and 013, creating a reasonably tall, differentiated and well-structured vessel.

What I really gathered from this process was the enjoyment other people felt and experienced when using the machine. For me craft and making is a fun action and one I have enjoyed through my time on this undergraduate course. It is nice to evaluate that even with the input of technology craft can still be viewed in this way, perhaps even moreso than its original form.

To evaluate the outputs of this process against the original spectrum of Maker/Machine would depict a fluctuating movement around the centre, with an overall shift towards maker as the operator begins to understand more about the machine. The placement of each individual pot would be in response to the emotion felt when creating it as to how involved the maker felt during the process-this will vary depending on the settings used. I felt the chronological display depicts this understanding of maker which can be interpreted through the visual development of the aesthetic over time.

Craft, a process defined as "a skill in making things by hand" becomes less about the 'dexterity of the hand' but more about the skill, understanding and application of the technology used in making the object. Technology becomes a tool for the craftsman. We should not fear automated technology taking our jobs, but rather look forward to the new tools we have to use and exprlore in our craft.