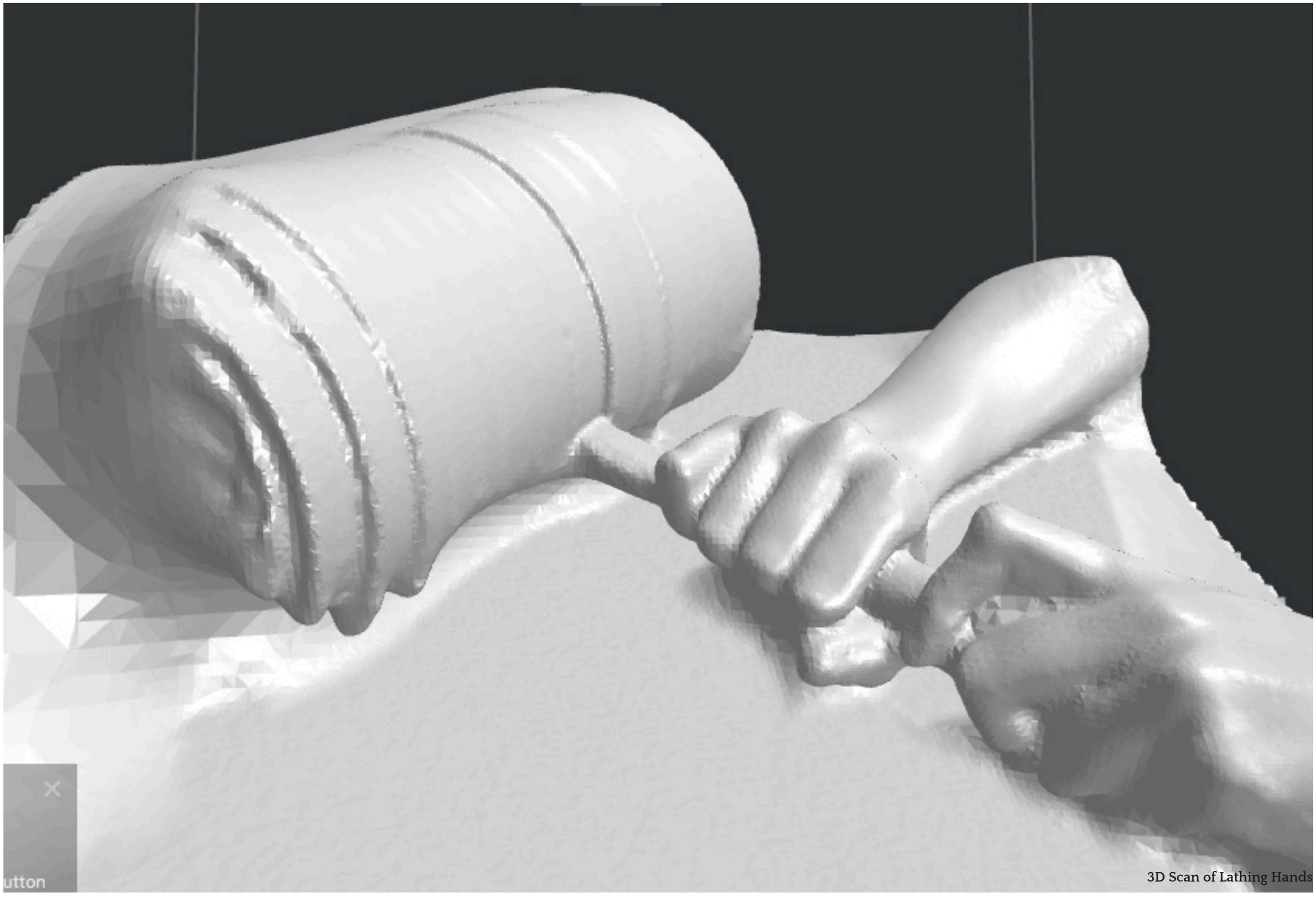
21st Century Ceramicist

Exploring the developing Relationshop between
Ceramic Craft and Digital Technology.

By Rachel Wilcock



3D Scan of Lathing Hands

My work aims to explore the developing relationship between ceramic craft and digital technology and provoke discussion on how, and in what way, digital technology is having an effect on this age old craft? The intersection of these two fields is yet to be defined, with the line between traditional craft and digital manufacturing unclear.

“We are living in such a period of non-reality”
- Johnathan Anderson for the Guardian

Ceramic craft is growing in popularity, while our world is becoming increasingly more digital - this is perhaps why there has been a resurgence in ceramics. How though, and in what way, will digital technology influence this age old craft? The intersection of these two fields is yet to be defined, with the line between traditional craft and digital manufacturing unclear.

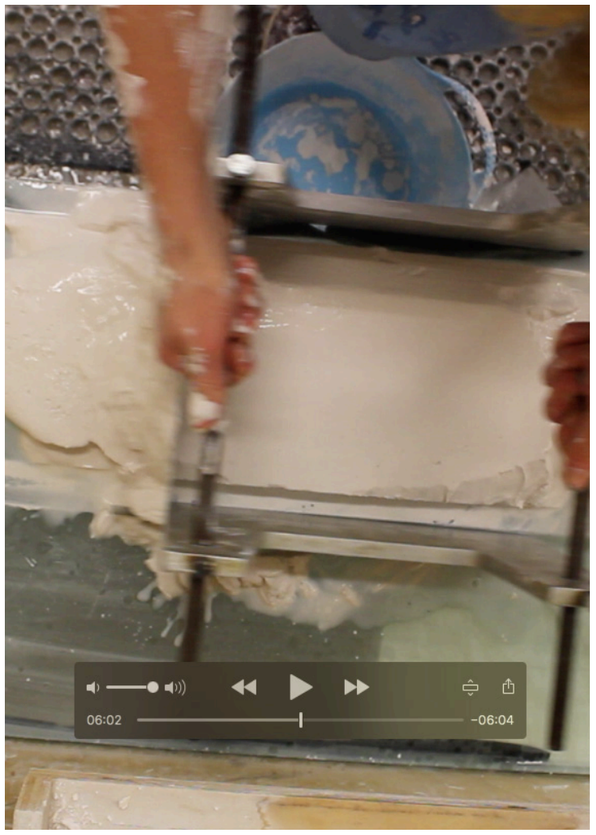
“Some think I am killing ceramics” - Ryan Barrett

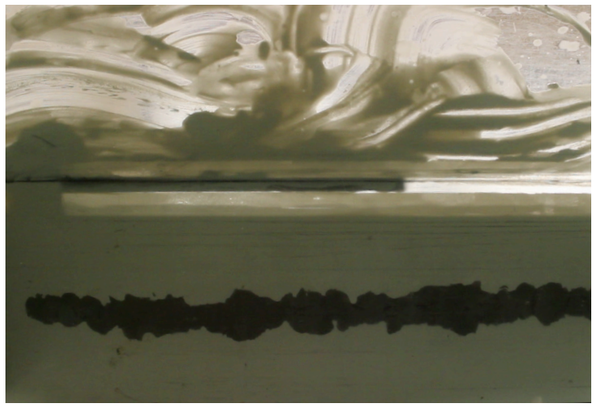
Opinions are spit on the use of digital tools. Since the industrial revolution and William Morris’s relentless campaigning against manufacturing, technology has been seen as in opposition to craft.

A Digital Influence on Contemporary Craft

A subtle digital influence can be seen in things like the video documentation of Studio Glithero's 'Running Mould' or in the sharing of pottery throwing videos on instagram in the public sphere. London Craft week also shows a digital influence with their craft film festival 'Reel to Real' returning to London for a third year, with the quality higher than ever.

Stills from a Video of a Circular Sledge



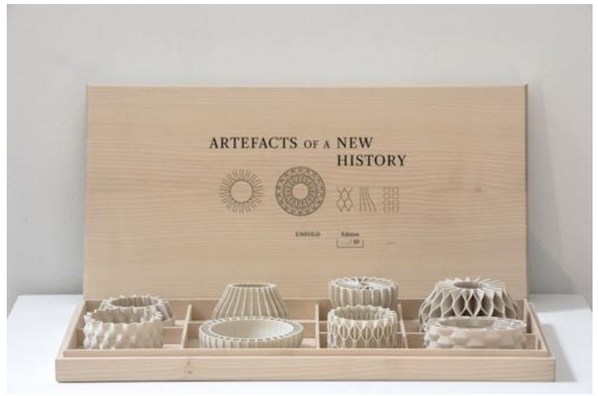


Stills from two videos showing straight edge sledging

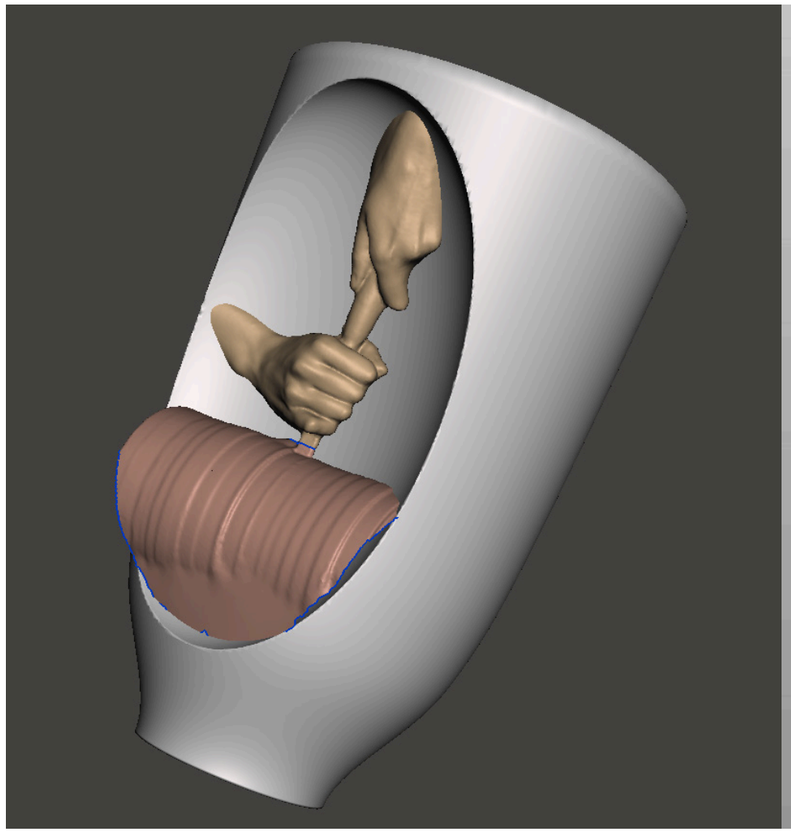
Scan of Sledging from Printer/Scanner

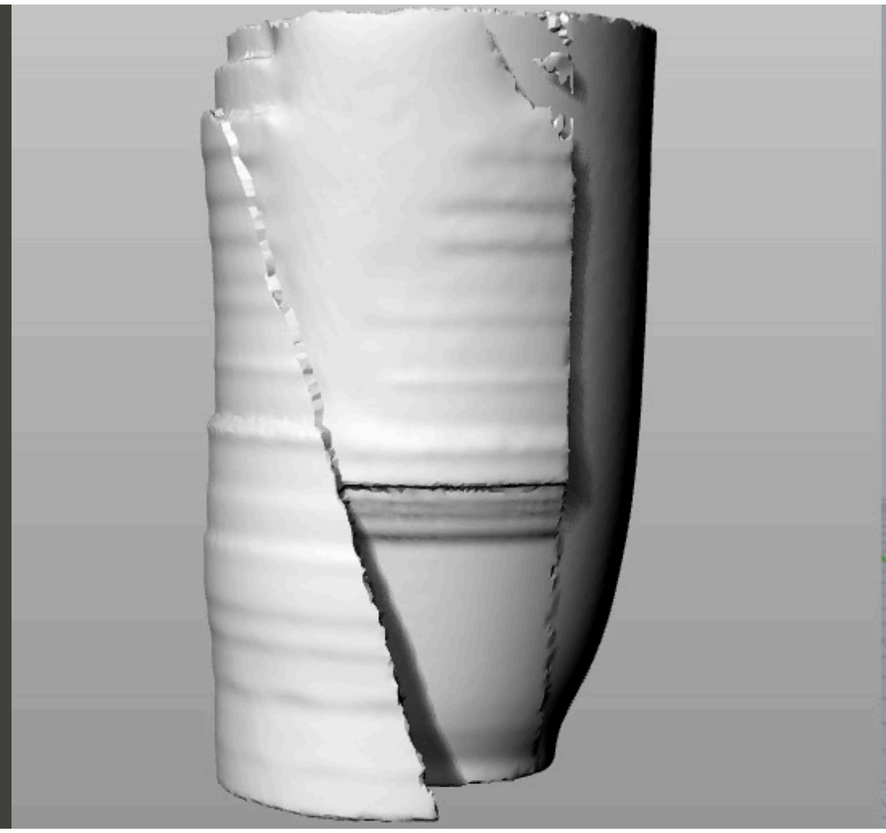
Use of Digital Tools within Craft

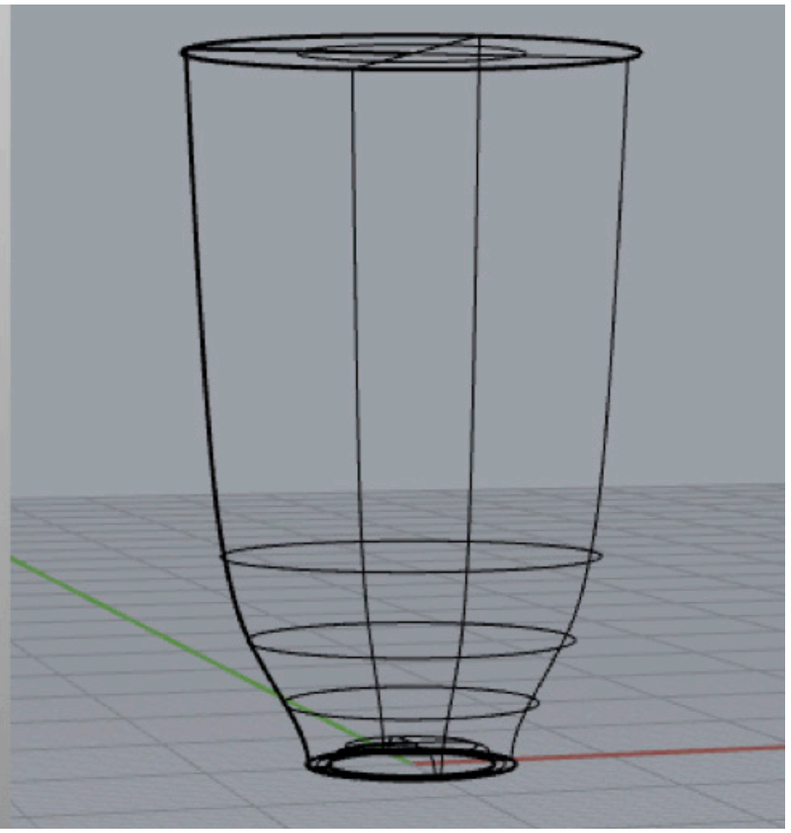
Digital tools can be seen to dictate new forms for ceramics or they can be used as designing and manufacturing tools. Digitisation also provides a new stimulus for work to be created around.



Porcelain 3D Print of Throwing Hands







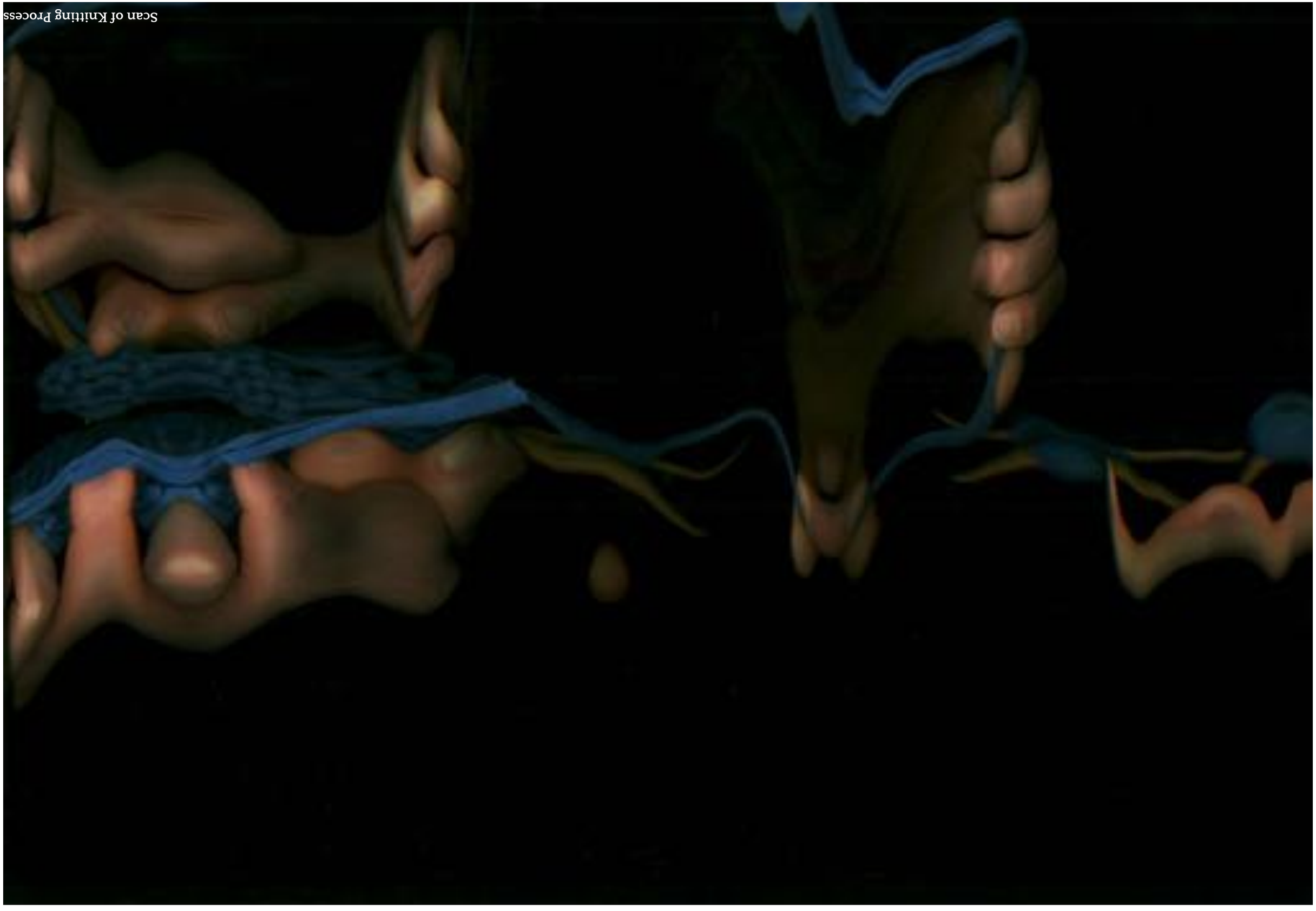
Iterations of Form

Plastic 3D Print of Lathing Process

‘Digital Technology allows me a high degree of accuracy and complexity of form’ - Matt Davies

Translucent Porcelain 3D Printed Cup Bottom

Scan of Knitting Process



“Digital tools allow us to see beyond ourselves”
-Geoffrey Mann

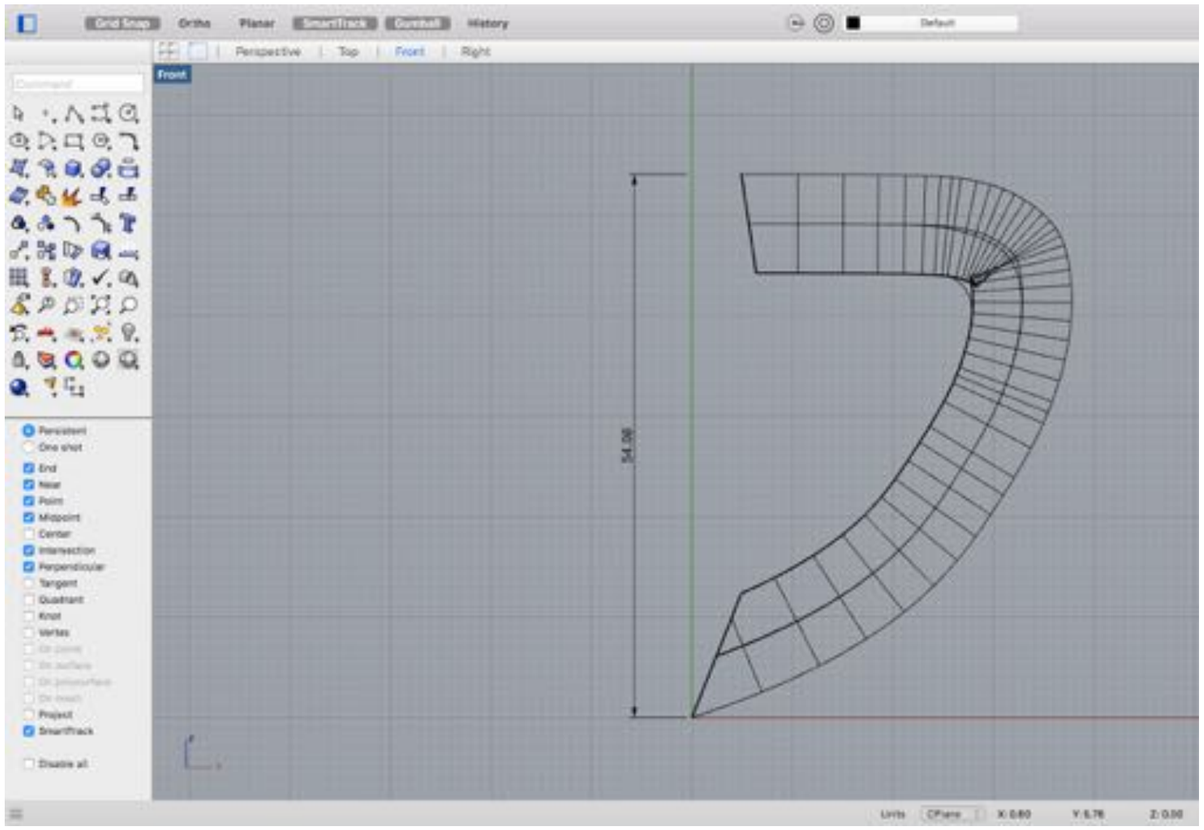
These digital tools capture a moment and presented it from a new point of view. I like to think that in this way they enhance and promote ceramic craft, taking it out of studio context and inciting curiosity

‘An activity which involves skill in making things by hand’ - Christopher Frayling

Does something have to be made by the physical hand to be considered as crafted? –

In the introduction of Christopher Frayling’s book, ‘On Craftsmanship’, he dictates the common place definition of craft as ‘an activity which involves skill in making things by hand’. Does this mean that digital tools revoke the crafts label by using more than just the hand?

Hand Modelling Plaster Handle



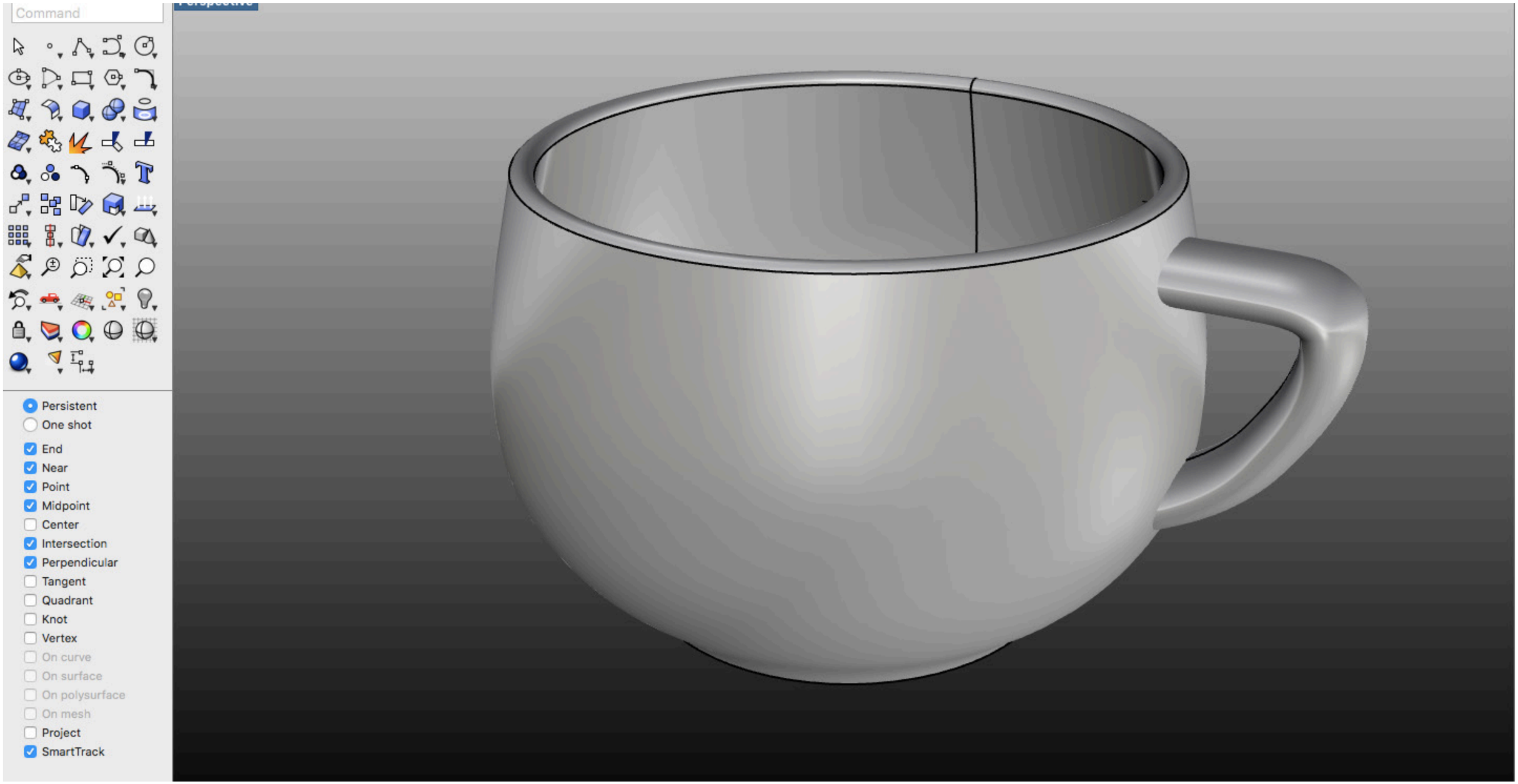
‘Can a computer ... ever demand sufficient concentration?’ -Malcolm McCullough

In 1968 David Pye defined techniques where ‘The result is continually at risk during the process of making’ as craft. In the book Abstracting Craft, McCullough asks ‘can a computer with its undo and save as button ever demand sufficient concentration on our part to enable serious, expressive works to come forth’?

Does this mean that crafts cannot involve digital tools?

Screen shot of Handle Design on Rhino

Card , Paper, Clay and Plaster Models of Tea Cup Design

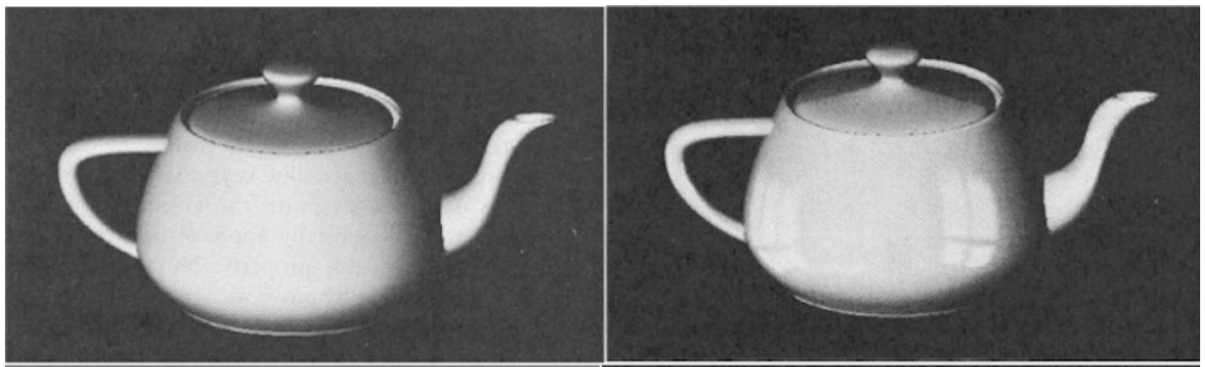


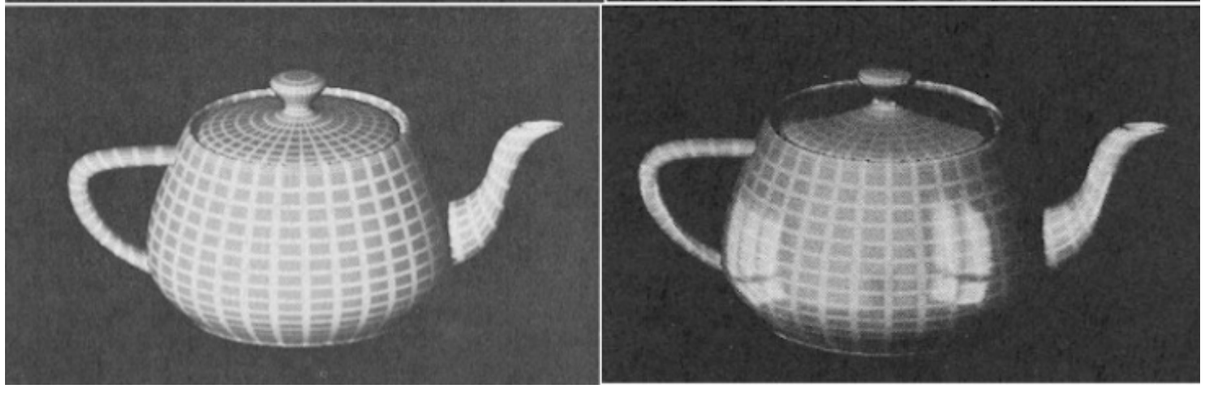
Screen-shot of Rendered Tea Cup Design on Rhino

An ode to the Utah Teapot

To further understand the definition of craft, I challenged my self to craft a tea cup using both slip casting and 3D printing separately, as an ode to the Utah Teapot.

The 1975 Utah Teapot was the first object to ever be designed digitally by early computer graphics researcher Martin Newell, chosen for its multitude of angles. It has since appeared in animated films such as Toy story and Beauty and the beast becoming an in joke in the computer graphics community.





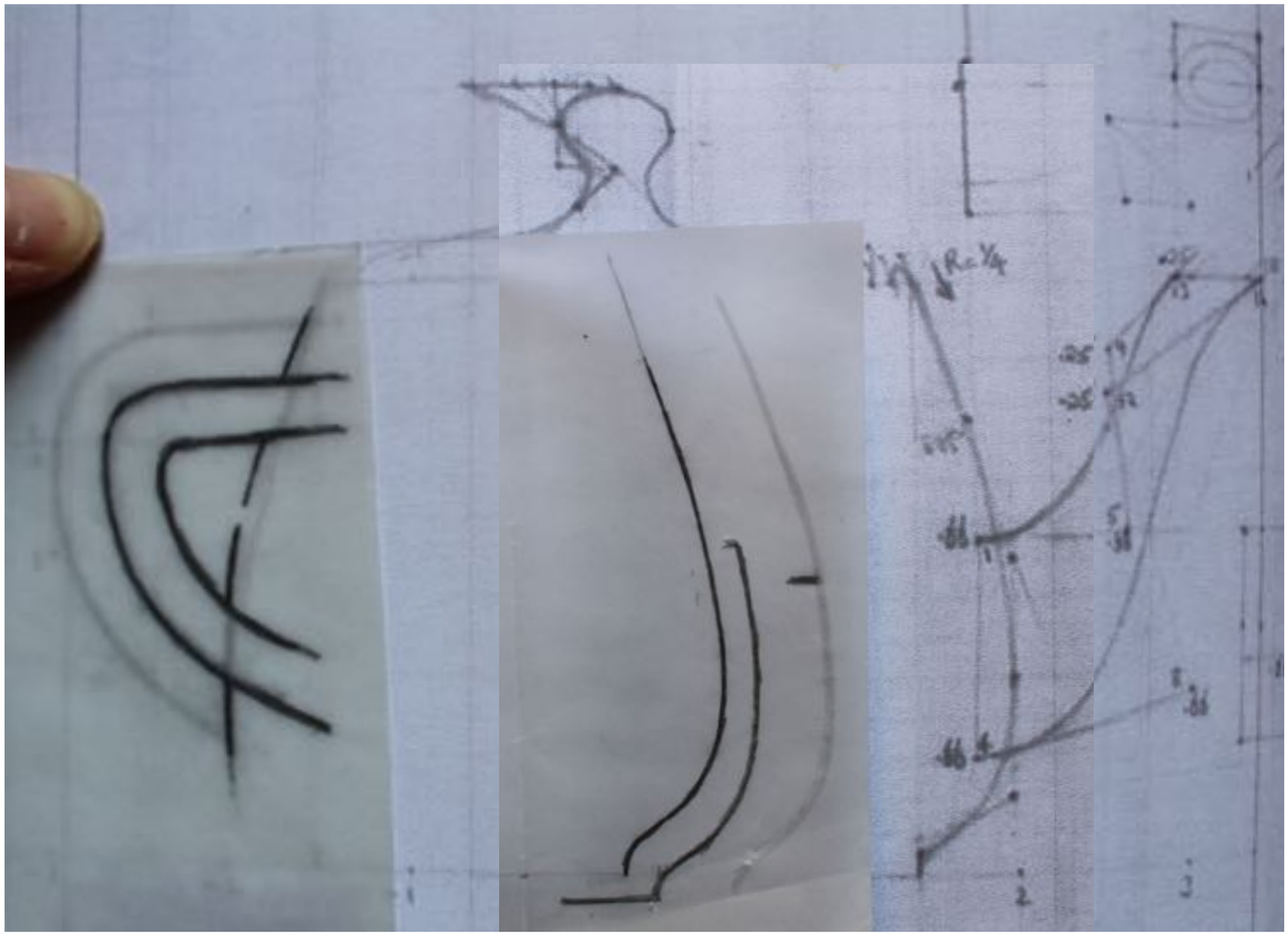


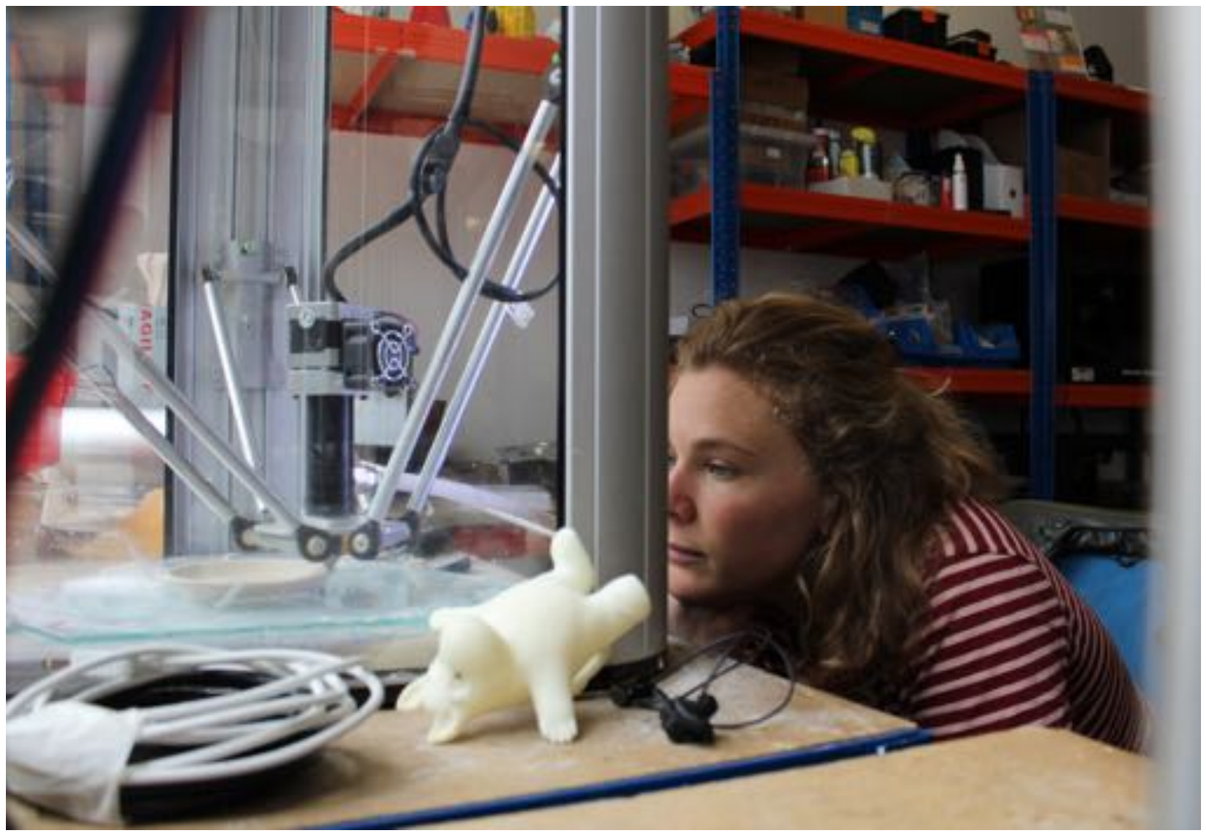
Photo illustrating taking curves from teapot for tea cup and handle design.

Learning a New Process

Without too much thought I was able to make models and moulds neatly and accurately in plaster. In contrast the digital process felt redundant as I was focusing on getting the job done as fast as possible while was having no success. This was frustrating when I knew I could make the tea cup through my traditional craft methods.

However after repeating the printing process multiple times, as with any new skill, I began to improve and begin enjoying myself. I found myself becoming absorbed in the process, something commonly experienced in traditional craft practices such throwing.

Failed Handle 3D Print



Tacit Knowledge

After a few weeks of 3D printing, I began to be able to predict when the print would fail or when I would need to change settings. George Sturt, author of the 1920s ‘The Wheelwrights Shop’, would have described this knowing as tacit knowledge – a knowledge which could only be obtained through experience. He theorised that it is this tacit knowledge, combined with skill, which makes up a craft.

This seems to me the most accurate definition of craft so far as it allows room for a broad spectrum of techniques while maintaining importance of time taken.

Watching the 3D Printer , noting changes in clay consistency

Screen-shot of Video Showing Simultanious Process's

“Digital techniques are not in competition with traditional techniques ”

-Jonathan Keep

It comes as no surprise that the 3D printed piece and slip cast piece are not identical. Having only learnt to 3D print a short while ago the lesser quality of the 3D printed tea cup suggests that I am yet to master the process. The printed tea cup also showed a surprisingly different shrinkage to the slip cast piece which must be due to the structure of its build.

These two process’s resulted in different outcomes, similar in form but with different aesthetics - just like when comparing thrown and cast work. 3D printing has never, and will never be a replacement for traditional ceramic techniques, it is merely a another process which we can choose to play with.

3d printed tea cup on left of slip cast tea cup

3D printed tea cup on the left of slip cast tea cup

“Surely its time to accept that engaging in the use of digital tools is just an extension of our hands? Yes, it is divorced from touch and the sensory evaluation process during its conception, meaning extra caution needs to be applied, but it is craft non the less”

- Gareth Neal, Craft Magazine May 2018.

Contrasting qualities of tea cups from alternate processes

My explorations have led me to believe that digital technology should not be considered as in opposition with traditional crafts, but as a tool to enhance or develop ceramic craft. I agree with Gareth Neal in that when used considerately digital tools can become crafts within themselves.

Through my experiments with digital technology I learnt that there are many exciting avenues to explore using digital technology with ceramics - too many for one project!

In striving to create the same piece using both a traditional and a digital techniques I learnt that the techniques are not comparable - each has its own strengths and weaknesses. 3D printing as a technique can be seen to strive in the works of Ryan Barrett and Jonathan Keep and it is in this kind of use that it will strive to become known as a CRAFT within ceramics.

Craftsmen and more specifically, ceramicists, should be free to choose techniques which speak directly to them, without fear of judgement and regardless of whether it is the best technique for the job. Having this choice is what I believe it means to be a 21st Century Ceramicist.