

CHAPTER 61

META-MAKING AND ME

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The position of ceramics within contemporary society is an example of meta-modernity at its finest, it is a field in a perpetual state of oscillation and plurality. Depending on your perspective, ceramics as a material practice is simultaneously endangered and yet, routinely declared as never more potent or valuable to society.

The definition of Meta-modernity by cultural theorists, Timothies Vermuleun and Robin van Der Akker can be easily applied to contemporary ceramic practice; it is that of a field hugely influenced by its heritage, but on the verge of significant departure. In their seminal text “Note on Metamodernism” Vermulen and van Der Akker describe their concept of meta:

“Meta, for us, signifies an oscillation, a swinging or swaying with and between future, present and past, here and there and somewhere; with and between ideals, mindsets, and positions. It is influenced by estimations of the past, imbued by experiences of the present, yet also inspired by expectations of the future.”¹

This essay is an attempt to hold still this oscillating metronome for long enough to see how technological advances might influence the future of ceramic practice.

On a personal level I experienced this point of oscillation, between the past, present and the future, when in 2011, I had the pleasure of facilitating a shared stage at the International Ceramic Festival in Aberystwyth, Wales between British ceramicist Michael Eden and South Korean Onggi potter Oh Hyang Jong.

There is no denying that the gaze of the three hundred strong audience was fixed firmly on the eight foot high pot growing steadily from Mr. Oh’s wheel head, while Michael Eden’s Mac Book pro and whizzing cursor merely attracted the odd look of disdain. And indeed, in terms of spectacle it is hard for pixels on a screen to compete with the skill required to produce Mr. Oh’s seemingly gravity defying vessel, but when Michael offered a small, glazed, 3D printed, ceramic torus form for audience inspection it drew a modicum of attention away from Mr. Oh.

In this small torus we had binary data given physical form, the digital matrix of bytes had become the analogue compound of clay and glaze. 3D printing had enabled a digital file to become a physical ceramic form. There were a few members of the audience, myself included, enthralled by this object, as it offered a glimpse of into future possibilities. Back on stage, the attention was again with Mr. Oh but it was evident that that torus had formed a small bridge between past and future.

The reaction of the audience did not surprise me in the least. The festival draws from a demographic, for whom, traditional craft skills are of great importance, and the presence of a Mac Book Pro as a tool on the

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‘stage of craft’ was incongruous at best. Such a reaction to technology is common and shows how the rules Douglas Adam’s set out in his book “The Salmon of Doubt” still prevail today:

“I’ve come up with a set of rules that describe our reactions to technologies:

1. Anything that is in the world when you’re born is normal and ordinary and is just a natural part of the way the world works.
2. Anything that’s invented between when you’re fifteen and thirty-five is new and exciting and revolutionary and you can probably get a career in it.
3. Anything invented after you’re thirty-five is against the natural order of things.²

The Craft versus Technology debate is not new. It has been a long-standing legacy of Morris and Ruskin’s teachings that technological progress is perceived at odds with the poetic evocation of the craftsman and his hard worn skills and material understanding. Technology and the speed of its progress, be it mechanical or digital, is an ongoing debate for makers and theorists alike. To illustrate the never ceasing pace of progress, here is a quote from French poet and philosopher Paul Valery from his foreword to Walter Benjamin’s book: ‘Art in the Age of Mechanical Reproduction’

“Neither matter, nor space, nor time is, what up until twenty years ago, as it always was”³

This sentiment has never been more apposite when we consider the technological advances of the last twenty years. Society has shifted from a world inhabited by digital immigrants, those born into a pre digital world, to a world inhabited by digital natives. We are fast approaching what *future technologists* Parag and Ayesha Khanna describe as the ‘Hybrid Age’.

“The Hybrid Age is a new sociotechnical era that is unfolding as technologies merge with each other and humans merge with technology- both at the same time”⁴

As the “Hybrid Age” attests, we live in a world of co-evolution rather than co-existence with technology. Now that we live in the era of ‘big data’, it is predicted that we will move away from a society based on causation, (the why of a thing) to a society on correlation (the what of a thing). The implications of this on how and why we make ‘things’ is immense.⁵

In 2013 the amount of stored information in the world was estimated to be around 1,200 exabytes, to clarify an exabyte (EB) is one billion gigabytes (GB), or in old money, it’s a quintillion bytes. This proliferation of information means that less than 2% of the world’s information is non-digital, and this relational proportion will continue to reduce. As a ceramicist, and someone interested in the stuff of matter, it is important for me to understand what role material art plays in this post-material world equally I am interested in how the massive computational tools, now available to all, can augment ceramic practice, not only in how we choose to produce a ‘crafted’ object but how we conceive and perceive it. This requires more than the simplistic approach of replacing a traditional physical process with that of a digital process. It requires us to look more at the ‘meta’ of our making, the structure that exists above and beyond the *making* itself. To do this it is key to know how emerging technologies as well as technological constructs will shape our future relationships with objects. Just as throughout history, we cannot ignore the pace and influence of technological progress, Paul Valery’s comments of 1936 are still relevant today:

“In all arts there is a physical component that cannot continue to be considered and treated in the same way as before, no longer can it escape the effects of modern knowledge and modern practice”⁶

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In my own attempt to embrace these changes, in 2011 I began a Creative Wales funded project to see how digital technologies can be used in my own ceramic practice. In essence I got 'tooled up'.

To quote technology theorist, Tom Chatfield, from his book "How to Thrive in the Digital Age":

"All technologies change us as we use them: 'we shape our tools, and thereafter our tools shape us.'"⁷

So as my project developed I became a digital journeyman of sorts, learning new skills from the master and font of all knowledge - 'YouTube'. As my new skills merged with my old knowledge it became apparent to me that to fully understand the 'meta' of my own making, and therefore technology's ability to influence it: I needed to break my creative process down into 5 key categories. These were as follows

1. Concept forming
2. The forming giving process
3. Material use
4. Production/fabrication/making
5. Perception/Interaction

As I embraced each new technology be it 3D printing, scanning or augmented reality, I quickly discovered analogies between technological constructs and my own creative process. One in particular was Gartner's Hype Cycle of Technology.⁸ Gartner Inc. is a information technology research company whose 'hype cycle' is a graphic presentation of the maturity, adoption and social application of specific technologies. The hype cycle depicts the life cycle of any specific technology as it starts with an innovation trigger, reaches the peak of inflated expectations, falls into the trough of disillusionment, climbs the slope of enlightenment until it eventually reaches the plateau of productivity, a similar cycle to every creative work I've undertaken.

Analogies between traditional craft and digital practice are not new, in his book 'The Craftsman', sociologist Richard Sennett cites the development of the open source software Linux as an example of collaborative craft. Sennett has a very encompassing view of the craftsman:

"... the carpenter, lab technician and conductor are all craftsmen because they are dedicated to good work for its own sake"⁹

In this expansive view of craftsmen, Sennett also rails against the historical divisions inherent in creative practice:

"History has drawn fault lines dividing practice and theory, technique and expression, craftsman and artist, maker and user, modern society suffers from this inheritance."¹⁰

The historical fault line that divides the craftsman - man as maker, from a computer programmer - the operative, would appear self-evident. For one, there is the idea of the hard won craft skill, gained through focused labour. It is cited that it takes 10,000 hours of practice to gain mastery of a skill, this seems distinctly at odds with the 'push and play' sensibility of digital usage, and its world of hyper-mediacy and instant gratification, as opposed to the sense of labour intrinsic in a crafted object. However in my capacity of teaching across both traditional skills and digital applications it is naive to think that proficient skills in software and its inherent applications are not hard won. Trine Webster who teaches digital form and fabrication at Oslo National Academy cites her similar experience in teaching digital fabrication tools to craft students.

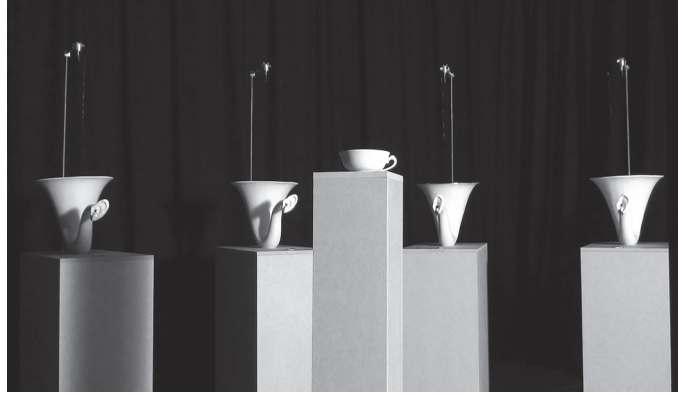


Figure 61.1 The Campanologists Teacup, 2016/Ingrid Murphy and J Piggott.

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“I think of digital fabrication both as a craft field and a set of tools that come with their own rules for use. To master the tools requires skills, which take about the same time to learn as it takes to master any other craft”¹¹

Webster concludes:

“I am quite sure we have seen the beginning of the use of digital craft. We now have access to a whole range of new tools that allow for a new set of expressions. I think one implication of this will be a monumental shift in the way we understand creation. This, in turn, means we must rethink *what it means to make*, and *to be a maker today*”¹²

With this in mind it is too narrow to focus the impact of new technology at the point of production alone. As stated earlier the impact of new and emergent technology does not occur by merely replacing a hand tool with a digital one, technology is all pervasive in our lives and thus pervades our very psyche, whether we recognize this or not.

In a recent article featured in the Financial Times Glenn Adamson, craft theorist and director of New York’s Museum of Arts and Design, comments on the relationship between digital experience and making.

“Digital experience and tangible making have a dramatic and ongoing impact on one another when it comes to aesthetics ... the characteristic features of digital form stretched distortion, filtered colour and backlighting- migrate into analogue design as if unconsciously. Digital experience fuels the imaginative storehouse of the maker, encouraging rapid-fire connection, leaping from one data point to another”¹³

Even at a basic level the internet has facilitated a social revolution in making. Sociologist and media theorist, David Gauntlett in his book *Making is Connecting*, writes of the innate desire people have to be more than mere consumers, they want to make and shape their environment. People not only need to create but want to share their endeavor with others. Web 2.0 with its emphasis on user generated content, facilitates this on a global scale for makers of all kinds, and as Gauntlett states, this creating and sharing ‘increases your feeling of embeddedness and participation in the world’¹⁴

So technology in this sense does not necessarily affect how we make something but has influence on how we share, access, communicate and develop our making as well as enhancing our wellbeing.

On another level we have the emergence of the open source philosophy and the creative commons license. Open source technology allows anyone to access what was previously the domain of the specialist or researcher. Open source philosophy enables multitudes of makers to share their knowledge, it is truly democratic and non-hierarchical, a collaborative process, where the hobbyist and professional can work together. This inclusivity is akin to that found within craft practice. With open source initiatives there is the advantage of the accumulative power of the crowd, amassing many thousands of 'man' hours towards the development of a shared knowledge, advancing a technology, its application and its creative potential.

However there is a drawback, the egalitarian inclusivity within the world of open source does bring with it issues of quality and veracity, a characteristic also frequently criticized in the world of ceramics. Equally I have found there is a risk in making an open source technology or software the bedrock of your practice for they can be quickly surpassed, subsumed or indeed even disappeared overnight. Working with open source technologies has taught me not to rely on what is currently existent but to look towards the trajectory and the broader applications of any given technology. In much the same way as it would be unwise to focus this essay on examples of current technologies, it would be outdated by the time the ink had dried on this paper. We need to ensure that our adoption of technologies speak to our inherent creative values. We need to subvert them to our ends, shape our tools to our needs before the tools shape us.

It is easy to be seduced by the apparent sophistication of new and emergent technologies and become consumed with the how as opposed to the why? In my own experience I stared at the 3D printer sitting on my desk for a year before I found a purposeful and creative use for it. Critic and digital theorist Peter Lunenfeld gives us a cautionary note about technological enchantment and how we can be seduced by the novelty of digital objects; "They attract less for what they mean than for the fact that they are".¹⁵

There are however many ceramicists using digital technologies innovatively to meaningful ends. As mentioned earlier Michael Eden has embraced digital 3D forming and fabrication processes, for Eden the attraction is "that these technologies allow previously impossible objects to be made".¹⁶

It is interesting to note that Eden's work is frequently produced using non-ceramic materials, however his work quotes so intelligently from the lexicon of ceramics, that it contributes significantly to its material culture.

A leading exponent in the field of 3D printing in clay is ceramicist Jonathan Keep. Keep's use of coding as opposed to off the shelf software is highly innovative. Keep creates his own processing code, which in turn creates digital form. These forms can then be printed in clay using his homemade extrusion printer. What is of particular interest here is that the forms are iterative, in that the code, i.e. the algorithms used to determine the printers movements are created by Keep himself, as opposed to a 3D digital file being rendered by the printer. These codes, which are inspired by the mathematical codes found in nature, dictate how the form develops. Keep's processing code sets both the parameters and potential of the form, this construct would be impossible by any analogue means of making form.

Keep's work does not have the aesthetic sensibilities of what many would see as a digitally produced artifact, but speaks the language of physicality and formal understanding that Keep has honed for years working with clay.

Alongside makers such as Michael Eden and Geoffrey Mann, Keep moves seamlessly between the screen and the workbench, with physicality and materiality at the heart of his making. For these makers, all technologies, be they digital or physical are considered non-hierarchical and subsumed in their practice, there are no historical fault lines here, the wall between the real and the virtual has become permeable.

This new breed of makers, are the subject of Jonathan Openshaw's forthcoming book "The Post-Digital Artisan". Here in a quote form Openshaw's FT article, 'The Craft Makers ahead of the Digital Curve', Hans Ulrich Obrist, co-director of exhibitions and director of international projects at the Serpentine

Gallery London, cites the ‘porosity of boundaries’ brought about by this integration of the physical and the digital:

“This celebration of the physical is not a rejection of the digital, it’s an integral part of the new digital movement.... It’s about renegotiating the resources that we have at hand, rather than trying to add new resources to the situation. There’s a kind of porosity of boundaries for many of these artists and designer, moving freely between disciplines as they do between media formats”.¹⁷

In my own practice I have focused on the use of technologies in relation to our perception of a ceramic object. Using QR (Quick Response) codes and AR (Augmented Reality) markers to create embedded and interactive content on handmade ceramic objects. Exploring the concept of a ‘hacked’ object I use 3D digital scans and 3D prints to both physically and digitally hack historical ceramic artifacts.

Recently I have worked collaboratively with artist Jon Piggot to create interactive works. These works, which are kinetic sound sculptures, use the open-source electronic prototyping platform Arduino to create interactive objects. We use sensors and actuators (not to mention a few rubber balls) to explore the aurality of ceramic objects. This combination of clay and electro mechanics makes for interesting bedfellows. In our *bricolage* of hi tech and low craft, we have found a much greater communality in our working methods and processing than we ever envisaged at the outset. For an example of this work view “The Campanologist’s Tea Cup” <https://vimeo.com/123617368>.

Using new technologies has enabled me to animate an inanimate object; when perceiving my work the viewer frequently engages with physical objects and digital content simultaneously. It is the ability to give static objects a voice that is of particular interest, those objects can become palimpsests of their own making. Similarly an object’s provenance can be recorded and revealed and in some way may determine its future. This is what I see as one of many trajectories for objects, if we change how we experience them, it will also change how we conceive and produce them.

The science fiction writer Bruce Sterling writes eloquently on the future of objects in his book “Shaping Things”, here he discusses the theoretical construct of a Spime. The Spime, as Sterling describes is a futuristic object, which can be tracked throughout its lifetime. It uses six key technologies, including GPS and Radio Frequency ID Tags, these technologies could make it feasible to track the entire existence of an object, from its raw material, through its manufacture, to how it is used/viewed, its ownership, its geographical location, even how it might be recycled into new objects. If the data is recorded, the lifetime of the object can be archived, and searched for, this would not only change how we might approach making an object but how we understand objects in the future. The word spime is a neologism of ‘space’ and ‘time’.

“Spimes are the intersection of two vectors of technosocial development. They have the capacity to change the human relationship to time and material process, by making those processes blatant and archiveable. Every Spime is a little metahistory generator.”¹⁸

In reality this is not the stuff of fiction, with the advances in I.O.T. (Internet of Things) technology the concept of ‘object to object’ communication becomes a very real and tangible entity. The Internet of Things proposes that everyday objects have networked connectivity and therefore can send or receive or accumulate data. Interesting to note that in Gartner’s Hype Cycle of Technology 2014, Internet of Things technology sat atop the peak of inflated expectations. So in one of my attempts to shape my own tools and use massive computational advances to my own creative ends I designed and made an Internet of Things tea cosy. This tea cosy was made for my elderly technophobe father who lives on his own in Ireland, I was intrigued to see if ‘object to object’

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communication could let me know (un-intrusively) if he was engaged in his daily routine. As a ceramicist the obvious object of choice for routine use was a teapot ... so using a IOT device with a heat sensor called a Twine, my twitter account, an IFTT (If This Then That) recipe and a WeMo switch, I 'connected' my father's teapot in Ireland to my own 1950's teasmade in Wales. So when my father uses his tea-cosy to keep his morning brew warm my teas-made lights up and simultaneously pours me a cup of tea ... and then safe in the knowledge he's about to sit down with his tea, I can phone him for a quick chat on his landline, which is still his preferred mode of communication.

Writer William Gibson captures the irony of this act in his well known phrase:

"The future is already here just unevenly distributed".¹⁹

Which brings me once again to the demonstrator stage at the International Ceramics Festival by now it is 2015 and this time the demonstrators are Jonathan Keep and British potter Lisa Hammond. My view from the stage clearly shows that the audiences attention is now equally divided between Lisa's wheel and Jonathan's 3D printer, they seem to enjoy the fact that Jonathan struggles with the vagaries of clay consistency in the differential atmosphere of the stage, taking comfort in his need for material knowledge with this digital tool. While they are thrilled by the technology they are reassured to see dirty hands!

To end the demonstration Jonathan activates his laptop microphone and captures the ambient sounds of the theatre, this data instantly creates an undulating vessel form on his laptop screen, responding in real time to the noise we generate. Here Jonathan is using the time and space we are in to create the form itself, perhaps a potential forebear of the Spime. On the other side of the stage Lisa is using a freshly sharpened handmade tool to confidently facet her thrown tea bowl, with these sure movements she creates a timeless and beautiful object. As I stand between these two great makers, both making a faceted ceramic vessel, I feel the thrill of oscillating in the present, and it's an exciting place to be.

Notes

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