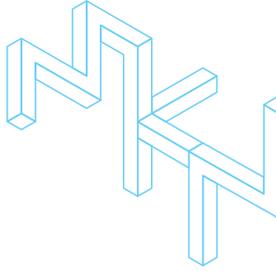


Designing 21st Century Standard Ware: The cultural heritage of Leach and the potential applications of digital technologies

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THEME: MATERIALITY & AESTHETICS

Context

As a potter and ceramics practitioner, I investigated how digital production technologies can be used to design and make 21st century Leach Pottery tableware. This included undertaking a visual-historical review of Leach Standard Ware, participating in and observing Leach Pottery workshop practices, and developing practical skills in digital design production technologies like Computer-Aided Manufacturing (CAM) and Computer-Aided Design (CAD) to explore and develop Leach Pottery design and production methods.

The Leach Pottery, established in 1920, is a stronghold of the UK Studio Pottery movement and synonymous with Bernard Leach. His approach to pottery was based in a unique and progressive assimilation of Eastern and Western pottery aesthetics and methods expressed through his practice and writings and further propagated through Leach Standard Ware. For example, Leach, while influenced by traditional pottery from periods like Sung Dynasty China and Korai of Korea (Leach 1946), or early English slipware (Edgeler 2010), frequently combined elements of these periods and regions to make hybrid pots exhibiting combinations of process, materials and decorative styles. Leach can also be seen as a progressive from the perspective of making hand-made high-fired Oriental stoneware that was not synonymous with the largely low-fired indigenous earthenware of English country pottery.¹

Leach & Technology

In response to some of my negative encounters with potters and enthusiasts, who felt that digital research was incongruous with the Leach Pottery, I sought an understanding of Bernard Leach's position in relation to manufacturing and technology. For this, I focussed on the early key texts of *A Potter's Outlook* (Leach, 1928) and *A Potter's Book* (Leach, 1940). Leach presents a complex position in relation to the products of industry:

After 100 years, the trade offers us crockery which is cheap, standardised, thin, white, hard, and waterproof - good qualities all ... the shapes are wretched, the colours sharp and harsh, the decoration banal, and quality absent.
(Leach, 1928, p.1)

To Leach, mass-production was inevitable due to the 'widened demands of the increased population' (Leach, 1928, p.1) and the use of machinery was good in some

Abstract

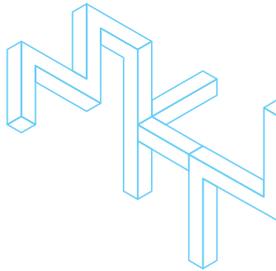
This paper relates some of the findings of the thesis which examined how digital manufacturing technologies could be used in the design and production of Leach Pottery Standard Ware. The research questions are stated before the context of the research is outlined, specifically looking at Bernard Leach's approach to pottery which, I propose, was progressive – as were some of his ideas about manufacturing and technology.

The cultural heritage of Leach is then examined from the perspective of Leach Standard Ware and Leach Tableware. The population of this field of knowledge resulted in the creation of a lineage of Leach Pottery forms and the proposal of two types of standard: a macro/design standard and a micro/making standard. Some of the digital/ceramic practice of the research is then related, specifically the role of drawing in the practice, tool making for Leach Tableware production, and the development, design, and production of Echo of Leach – a new range of 21st century Standard Ware.

The findings reflect on how digital research relates to the Leach Pottery, while also presenting some of the general outcomes of the research and conveying how digital practice represents an opportunity to create new traditions in a response to contemporary culture.

Keywords: Standard ware, Leach pottery, studio pottery, digital craft, digital ceramics.

1. See McGarva (2000) for an overview of the Country Pottery tradition.



production contexts (ibid). However, what was important was the way that labour was used: it should not be employed upon *mechanical work*. Additionally, technology promised the time and resources for a more creative engagement with work:

[T]hat labour should be employed eight hours a day, year in year out, upon mechanical work which gives no play to its creative faculties, for that is ROBOT work. With the increase of mass-production shorter hours are bound to come, and with them the time and energy for individual and home production with power supplied by electricity. (Leach, 1928, p.1).

More importantly, I took from Leach the idea that the machine is not the *enemy* of the hand-worker, but an extension of their intentions:

The next step is to get rid of the idea of the machine as an enemy. The machine is an extension of the tool; the tool of the hand; the hand of the brain; and it is only the unfaithful use of machinery which we can attack. (Leach, 1928, p.1).

Just over ten years later, in his seminal *A Potter's Book* (1940), Leach maintains his position and praises mechanical manufacture for its efficiency but, again, is critical of its implementation to produce wares that are 'dull and miserable' and 'dead' in body, form, and decoration:

[M]echanical processes are indeed marvellous, as for example the automatic glazing, cleaning, measuring and stamping of many millions per month of bathroom tiles, fired in a single non-stop tunnel kiln, the mere fact of their being mass-produced is no reason why these tiles should be as cheaply designed and as dull and miserable in colour as it is possible for tiles to be; nor in the case of hollow-ware is the casting of shapes so exactly and so quickly and with such perfect pastes an adequate excuse for dead shapes, dead clay, dead lithographed printing or the laboured painting of dead patterns. (Leach, 1976a, p.3)

Leach Standard Ware

In defining the cultural heritage of Leach, I foregrounded Standard Ware as one of its most prominent aspects because of the significance of pottery practice to the research and the significance of the ware in relation to the pottery. Standard Ware was the domestic tableware that the pottery began making after 1937 and ceased making after Bernard Leach's death in 1979. It was the pottery's first and, so far, most significant period of tableware production and represents the bulk of the pottery's output for over three decades.

Specific coverage of Standard Ware is sparse. Bernard Leach provides only piecemeal references to it in his writing. *Whybrow* (2006) offers the first text that

provides an overview of many of the potters associated with its production, yet only briefly engages with the ware itself. A richer record of Standard Ware production can be found in a 1952 Leach Pottery film (Gross, 2012), which comes with two narrated versions: one by Warren MacKenzie, and one by Bernard Leach. The film provides a sense of the production and the teamwork that existed alongside a division of labour in tasks like clay preparation, glazing and kiln packing.

While the thesis closely examines several aspects of Standard Ware, this paper focuses on the analysis of Standard Ware forms found in Standard Ware catalogues, which resulted in the development of a visual lineage and the idea of macro and micro standards.

Leach Tableware

In 2008, the Leach Pottery reopened as a museum and educational resource, and resumed the production of domestic pots in a new studio. The new soda fired Leach Tableware, designed by Jack Doherty, heralded the beginning of a second period of tableware production in a body of work which drew a line under the earlier Standard Ware, with distinct aesthetics and a different firing process. Doherty left the Pottery in early 2013, after which tableware design and production moved into a new period of development. The research focussed on the period of Leach Tableware production.

Leach Standard Ware and Tableware: Macro and micro standards

Lineage of Pots: Macro standards

Using Standard Ware catalogues, I developed lineages illustrating how Leach tableware is described and looks; mapping nearly four decades of Standard Ware production plus the recent Leach Tableware production. All the wares were scaled to the same size to facilitate recognition and comparison. The lineages supported the practice by defining the scope of the Standard Ware and Tableware produced by the Leach Pottery from WWII to 2013, which in turn provides a comparative horizon to help locate the outcomes of the practice within the Leach canon.

The lineages present Standard Ware and Leach Tableware at a macro/design level by illustrating the 'standard' of the broader design characteristics (see Image 1). However, even a casual glance at examples of pots from either period suggests a degree of variation between pieces of the same form. Thus, the idea of what that standard is alters depending on the level from which the work is examined. As the lineages are a macro/design level study of tableware, it was also important to examine the pots at a micro/making level to acquire a further insight into standards.

Lidded Soup Bowl: Micro standards

Extending the previous examination of Leach tableware lineages at a macro/design level, the idea of

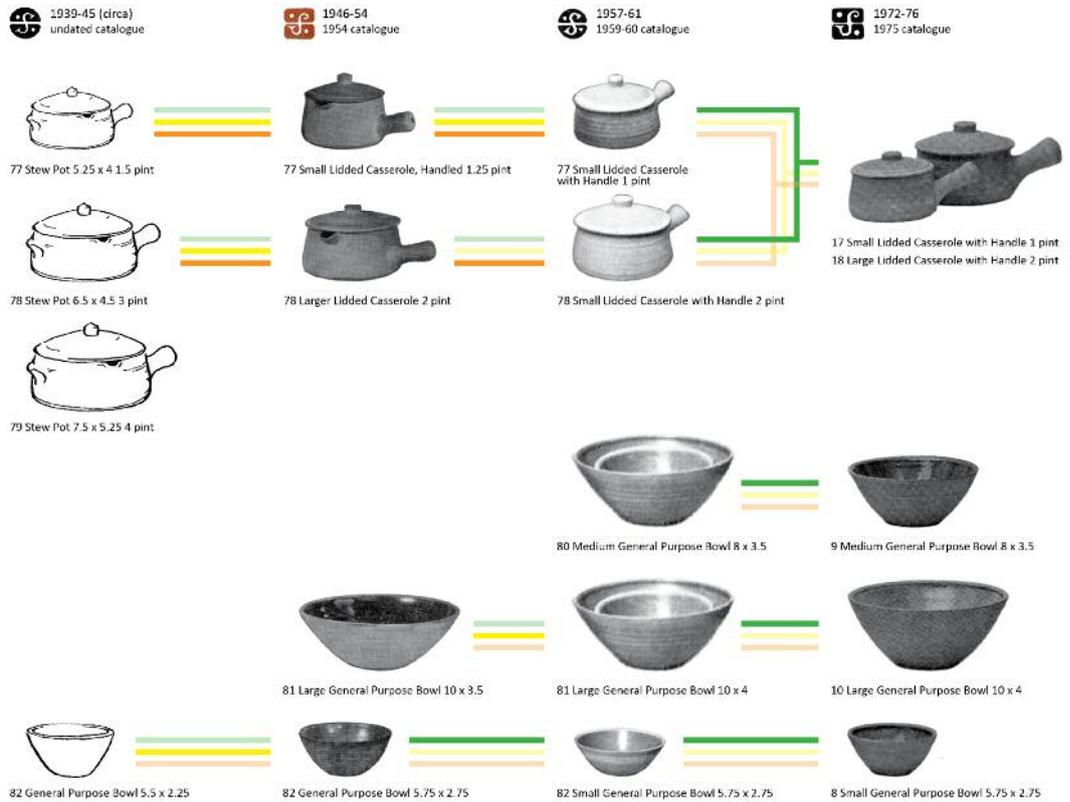
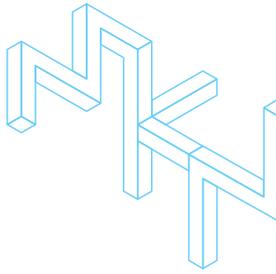


Image 1

'standard' was examined at a micro/making level as variations between examples of the same Standard Ware and Leach Tableware forms were noted. Such variations question the idea of 'standard': an achievement of particular parameters or qualities.

A selection of Standard Ware Lidded Soup Bowls were used as a basis for the sample and interrogated through photography and 3D scans to ascertain their properties. The photographic record (see Image 2), weights and dimensions of the forms, demonstrated variations between the examples of all the bases and lids. John Bedding, a previous maker of the forms, also examined them and identified strong and weak characteristics in their making and aesthetics and discussed their variation in relation to the acquisition of skill and the interpretation of the form through finding personal ways of working.

Overall, the findings showed that the 'standard' of Leach Standard Ware can be defined differently depending on the level that is being examined: at a macro/design level the 'standard' operates with clear definitions of size and shape. At a micro/making level, comparisons of the same form show deviations from the macro 'standard' and it is at this level that the design is interpreted and enlivened by the maker. Standard Ware was a clearly defined body of work that often evolved at a design level, but it also developed through its making: the 'standard' was simultaneously fixed and fluid.

Practice: Methods and outcomes

Informed by the previously established contextual knowledge of Leach Pottery tableware history,



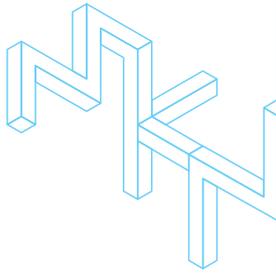
Image 2

production and artifacts, I then used and explored several CAD/CAM methods, including 3D rotational and 2D flatbed scanners, 3D software, a milling machine and laser cutters. Although digital methods were largely new to my practice, my approach to using these digital tools was grounded in the same spirit as analogue clay practice: to make, reflect and respond.

Digital technologies were approached and implemented in several ways, sometimes resulting in unanticipated enquiries and outcomes. This paper specifically focusses on digital explorations relating to drawing, tool making and designing, and making new 21st century Standard Ware which also involved other potters in its production.

The Theme of Drawing

I used CAD as a way of introducing drawing to my



practice in several ways. For example, it provided a method for making 3D drawings of pots, from the Leach Tableware range, which were then used as the basis for designing tools to assist potters in the Leach Studio. Experiments with making CAD drawings and using the laser cutter generated unexpected insights into developing designs for new Standard Ware. Continued experiments with drawing and materials like plaster, led to the creation of laser-etched decorative stamps for thrown ware, and the development of a laser-cut reconfigurable plaster mould (see Image 3).

Tool Making

Working alongside the Leach Studio, I developed and produced a range of tools, such as measures (see Image 4) and shaping ribs (see Image 5), to support the

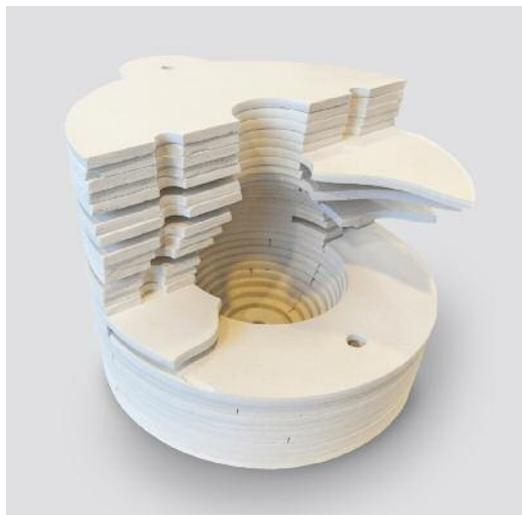


Image 3

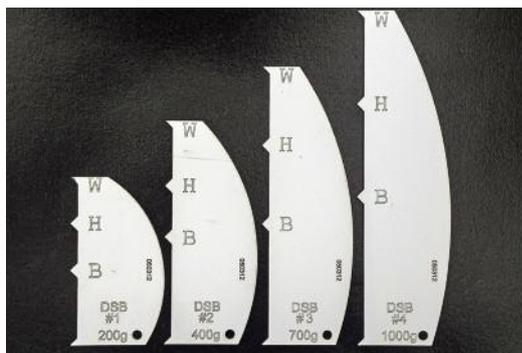


Image 4

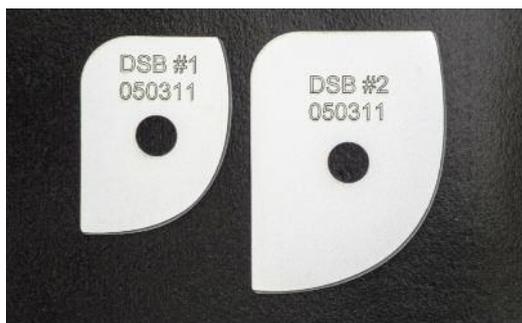


Image 5

production of Leach Tableware. Using CAD/CAM to design and produce the tools ensured they were an accurate realisation of the pots they were based on. Tool making was taught at the Leach Pottery into the 1970s, where potters often hand made tools, but this skill is not currently taught. CAD/CAM introduces the possibility for reinvigorating tool production at the contemporary Leach Pottery, facilitating more consistent hand-production and standards in the pottery's studio and even presenting the possibility of remote production.

Designing and Making 21st Century Standard Ware: An echo of Leach

In investigating tool production and developing digital models of Leach Tableware, I then progressed to creatively interrogating Leach Tableware CAD models by slicing and contouring them to re-make the pots in acrylic (see Image 6). The outcomes of contouring, of extracting the digital slices of pots, were used as the starting point for designing new Leach Standard Ware based on the 3D scans and CAD models of Standard Ware and Leach Tableware forms.

The design process evolved through drawing in CAD, by extracting the essence of a form's line from the CAD models, or 3D scans and using that data in an emergent relationship between the drawings and throwing the designs on the potter's wheel.

The new Standard Ware range was called Echo of Leach (see Image 7), to reflect the use of earlier Leach forms in its design and in acknowledgement of the involvement of other makers in interpreting the designs and returning their work to the Leach Pottery for exhibition. The designs comprised of diagrams for nine different forms and the work was exhibited in the Leach Pottery's Cube Gallery (see Image 8) from June-September 2013, reaching an audience of 3000 people.²

Interpretation and Distribution of the Echo of Leach Designs

Six potters submitted their own interpretations of the Echo of Leach brief for exhibition, based on their own clay, process, glaze and firing practices. The aim of including makers external to the Leach Pottery was to extend Standard Ware production beyond the pottery and encourage a wider reinterpretation and engagement with the ware by playing on the idea of the micro/making standard: that the ware comes alive through its making and interpretation.

The Echo of Leach designs were also fully interpreted by the Leach Pottery Studio and explored through my own digital-ceramic practice using laser-etched stamp decoration on thrown ware (see Image 9), and through porcelain slip cast vases produced using the laser-cut reconfigurable plaster mould (see Image 3).

Douglas Fitch, a thrower of traditional earthenware, and Jonathan Keep (see Image 10), a thrower and digital-ceramic practitioner, were both previously unconnected with the pottery and provided interpretations for the exhibition. Personal work was

2. www.facebook.com/EchoOfLeach

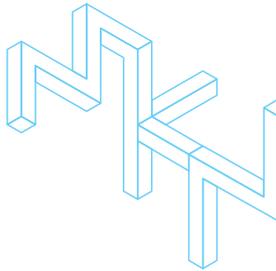


Image 6



Image 8



Image 10



Image 7



Image 9



Image 11

also contributed by current Leach Potter, Britta Wengeler, of Germany, and ex-Leach Student Apprentice, Jeff Oestreich (see Image 11), of the USA.

Findings

The idea of using digital tools in the context of the Leach Pottery was a difficult prospect for some potters whose perception of *digital* was associated with a lack of humanity, authenticity and creativity. However, taking Bernard Leach's ideas about technology as a basis for the research, especially his views that state that: '[t]he machine is an extension of the tool; the tool of the hand; the hand of the brain; and it is only the unfaithful use of machinery which we can attack' (Leach, 1928, p.1), the use of digital technology can be seen as being as valid as any other method if it is engaged with in a thoughtful manner.

Furthermore, Leach's own approach to practice was progressive and Standard Ware embodies this. Not only in its forms, glazes and methods that borrow and develop European and Oriental pottery themes, but also in the context of its foundations, which were based on David Leach's industrial training and subsequent part-mechanisation of production processes (Cooper, 2003, pp.206–207). Against this historically progressive context, practice using digital technology is a newly progressive area for the Leach Pottery to explore and one that could enable it to engage with the technological culture of the 21st century.

Overall, the research found digital technology to be useful in the areas of:

- Introducing the potential for quality, standards and enhanced training in tableware production through

the development of bespoke tools.

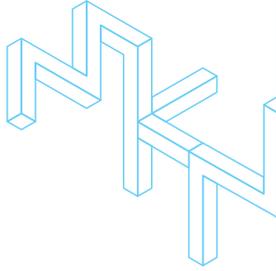
- Facilitating the creative design and development of Standard Ware and exploring the potential for its interpreted and distributed production in a more collaborative format.

For the participants, involvement in the research resulted in some poignant and unexpected reflections. For Leach Pottery stalwart Jeff Oestreich, the practice made him realise that he had not moved far from the Leach aesthetic, which he wished to re-embrace from a less technological perspective on his return to the Leach Pottery:

In some respects I have fooled myself in thinking my work has grown away from the Leach aesthetic. Your exhibition pointed this out. What I need to do is embrace it all. And being a romantic, when I return in October I will work on a Leach wheel in the museum and not on an electric in the new studio. (Oestreich, 2014)

Jonathan Keep, potter and digital practitioner, succinctly summarises his position on the role of digital within the research and what Echo of Leach offers, which is to acknowledge that tradition is actively made and that it is important for ceramics to be an expression of contemporary times:

I am a great believer in tradition and feel tradition is an ongoing phenomenon, so in time, digital techniques will just become part of tradition. This was an opportunity to begin to make that move between old and new, to indicate what tradition of



the future might look like. I also believe creative works should be an expression of the time in which they are produced and it worries me how in ceramics there is this terrible holding onto the past with almost a denial of any influence of the present. 'Echo' was a chance to learn from the past and through transformations offer a contemporary vision, this is what tradition is all about in my mind. (Keep, 2014)

References

- Cooper, E.**, 2003. *Bernard Leach: Life and Work*, New York: Yale University Press.
- Edgeler, J.**, 2010. *Slipware and St Ives: The Leach Pottery 1920-1937*, Cotswolds Living Publications.
- Gross, M.**, 2012. *The Leach Pottery 1952*, Marty Gross Film Productions.
- Keep, J.**, 2014. *On Echo of Leach*.
- Leach, B.**, 1940. *A Potter's Book*, London: Faber and Faber.
- Leach, B.**, 1928. *A Potter's Outlook*, London: New Handworkers' Gallery. Available at: <http://www.oakwoodceramics.co.uk/Magazine3.htm> [accessed 8th January, 2011].
- Leach, B.**, 1946. *Leach Pottery*.
- McGarva, A.**, 2000. *Country Pottery: The traditional earthenware of Britain*, London: A. & C. Black.
- Oestreich, J.**, 2014. *On Echo of Leach*.
- Whybrow, M.**, 2006. *Leach Pottery St.Ives: The legacy of Bernard Leach*, Beach Books.

Matthew Tyas is a potter/ceramist/maker and recently completed his PhD at Falmouth University. Matthew is keen to publish, more widely, his findings in relation to Leach Standard Ware and its production, both from a historical and critical perspective. He remains committed to making and will return to the pottery workshop, where he aims to explore some of the findings of his doctorate – particularly in the context of tableware design and production. Matthew also works as exhibitions coordinator at the Leach Pottery.