An industrial craft reinstated: A printmaker's perspective on tissue transferware

Lisa Sheppy

INTRODUCTION

Tissue transferware is a genre of industrial printmaking on ceramics. This genre was practised inside the factory and is described in my doctoral study as an industrial craft. A majority of this industrial craft knowledge has been lost as the pottery industries have now closed or replaced printing on ceramics with newer and more cost-effective forms of decoration. In this paper, I define tissue transferware and present the unpinning aims of the study highlighting the methodology employed to present a new method of printmaking ceramic production for creative practitioners. The derived method of production works both technically and creatively and does not set out to replace the original industrial craft process, but serves as a new interpretation of it.

DEFINITION

Tissue transferware is a genre of decorated ceramics manufactured using a particular method of production. In simple terms, the pattern is printed with ink containing ceramic material and oil onto thin tissue paper derived from an intaglio printmaking process and the use of copper plate engraving. The printed pattern on tissue is transferred onto the ceramic ware and remains in place, assisted through skilful manual manipulation and the viscous consistency of the ink. The pattern is underglaze and is kiln-fired on the ware before a final glaze firing renders the ceramic object resilient to constant domestic use.

Tissue transferware can be defined by its distinctive aesthetic, recognisable as an intricate image constructed from lines and dots in a monochrome colour. The distinctive halo effect to the blue printed marks is achieved with the use of cobalt oxide, an active colourant, which flows readily into the clay body when fired to high temperatures. The printed marks appear painterly with soft tonal ranges.

I refer to tissue transferware as an industrial craft in my study as it was practised in factories during the Industrial Revolution within the system of work defined as the division of labour. The knowledge of the methods of production is historic and concealed within insider know-how. This tacit knowledge is under threat of disappearing as it is embodied in the individuals who worked with the process, many of whom are now deceased.

It became clear from initial reading and investigations that the copper plate engraving

Figure 1

Figure 2

Figure Titles and Information

Figure 1: Detail of a tissue transfer printed willow pattern, researcher's own
Figure 2: Original copperplate from Spode, Blue Italian pattern, by kind permission of John Raftery, Portmeirion Pottery

printmaking process was pivotal to achieving refinement and effective final outcomes. The professional engraver was trained in the pottery through a long apprenticeship, following the master engraver with the repetitive and laborious tasks of making faultless symmetrical lines and punch dots with chisel-like tools. When considered ready, the time-served apprentice would begin making patterns and designs on copper plates designed for tissue transferware. The engraved copper plates were traded as currency between potteries and were highly valued.

This profession is now redundant and, as engravers are no longer needed in the ceramic industry, the process has almost died out. It would be difficult for artists to attempt to recreate some of the distinctive autographic mark-making possibilities with an engraving process for tissue transfer, since much of the knowledge was undervalued and subsequently under threat of obsolescence.

AIM OF THE STUDY

The underpinning aim of this study was to design and document a practice-based enquiry on a method of producing tissue transferware through the lens of contemporary printmaking. In doing this, a historic and near obsolete industrial craft would be reinstated and preserved for future creatives.

Initially, oral histories, archival research and ethnographic perspectives documenting lived accounts from ex-pottery and printmaking professionals with specialist knowledge supported this investigation and enabled it to progress. The second phase of the research presented derived principals from historical research demonstrating a technically working method. Material making and reflection-in-action resulted in emergent knowledge linking traditional, autographic and manual material practices with the digital and mechanical, fusing printmaking and ceramics methods of production. The final and concluding phase of the research pitches the research to creatives by making visible its artistic potential in a series of printed ceramic artworks, thus advocating a future for it.

TISSUE TRANSFERWARE: THE HISTORICAL METHOD OF PRODUCING A DECORATED CERAMIC OBJECT

The historical evidence places engraving at the centre of the tissue transferware method of production, indicating that it was the individual engraver who initiated the sequence of methods to industrially manufacture transfer printed ceramics. However, producing tissue transferware also combines the tacit skills of both the printmaker and ceramicist. Each component part of the tissue transferware production was unravelled at the outset of this enquiry based on lived accounts from pottery professionals, archival visits and access to the physical materials connected to the tissue transferware production.

Figure 3

Figure 4

Figure 5

Figure 3: Tissue transferware Blue Italian printed dinner plate, researcher's own
Figure 4: Spode jug, researcher's own, illustrating a continuous monochrome all-over Blue Italian pattern
Figure 5: The printer. Donated from a colleague's archive (no author, date or details of publication)

The main participant and contributor to this study was Paul Holdway, who was the master engraver at Spode for over 40 years. Holdway is also a researcher, author and collector of rare, original examples of tissue transferware and the materials associated with its manufacture. His contribution to the history of tissue transferware is significant and documented in the early stages of the research, with information he kindly shared with me and allowed me to report in this study. I met Holdway in 2019 and interviewed him many times at his home in Stoke-on-Trent and had informal but pertinent conversations about the now-historic tissue transferware industry. The following discussion owes much to these meetings and conversations and describes the historic method of production at each stage of the process.

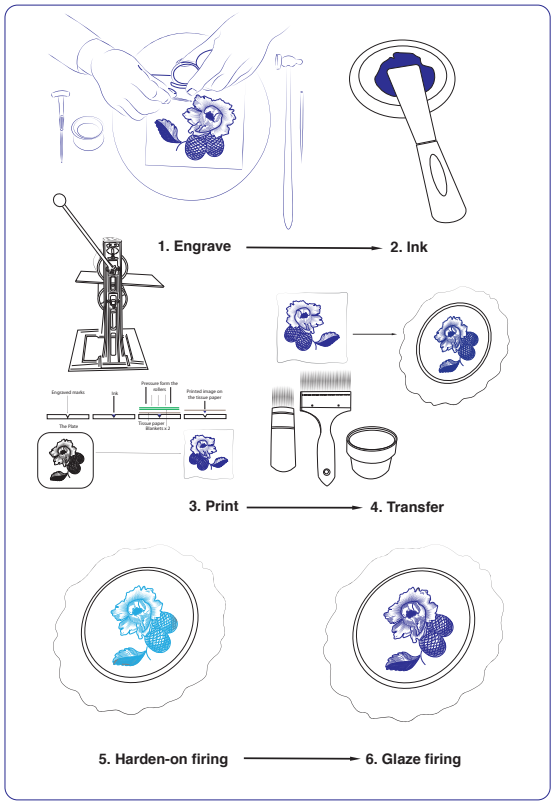

Illustration 1: An overview of the principals of the historical method of producing tissue transferware. Illustration by Lisa Sheppy

ENGRAVING

The engraving printmaking process initiates the industrial method of production, requiring technical and manual skills but also the autographic interpretative skills of the individual craftsman. Engraving is a highly-skilled method of printmaking and was the first means of reproducing an image before the advent of photography (Scott, 2002: 18).

Figure 6

Figure 7

Figure 8

Figure 6: Shards: reinstated histories, earthenware with tissue transfer print
Figure 7: Shards: reinstated histories, earthenware with tissue transfer print
Figure 8: Shards: reinstated histories, stoneware with tissue transfer print

Sandeman (1917) discusses tissue transfer process techniques in detail in his Notes on the Manufacture of Earthenware with reference to producing copperplates, and suggests that the engraved marks made into the surface of the copper should be delicate but deeply incised to extend the life of the plate (Sandeman, 1917: 295). Engraving is a highly-skilled and time-consuming process; to complete an engraving for one dinner plate would take approximately two months and for a large serving dish up to six months (Drakard and Holdway, 1983).

INK

Many examples of early tissue transferware used the effective cobalt oxide as a blue colourant as it was a predictable colour for firing up to high temperatures. Other coloured oxides were pursued as colourants, such as chrome to produce green, gold to produce pink, iron to produce red, copper to produce green and turquoise and manganese to produce brown (Binns, 1898, p.232).

Historically, ceramic underglaze ink was prepared in-house; therefore, very few recipes exist that could be repeatable by today's health and safety standards. Holdway remembers ink being made at Spode, but in more recent times the ink was bought in from manufacturers in Stoke-on-Trent. Despite working in Spode for all his professional career, Holdway would not know exactly how the ink was made, as this was the responsibility of another team within the collective.

PRINTING AND TRANSFERRING METHODS WITH POTTER'S TISSUE

The paper used for printing is a thin but strong tissue paper which is initially sized with soft soap. The sizing enables the tissue to remain flexible, helps the printed image stick to the paper and pick up the detail of the plate, and stops the oil from soaking into the tissue. The application of size renders the tissue transparent so that it can be placed more accurately on the ceramic before printing (Copeland, 1980: 23-30).

Technical improvements to paper manufacturing enabled the production of a strong, flawless tissue paper for the transferring process. It was perfected by the Fourdrinier company, and in 1827 they moved from Hertfordshire to the potteries to supply the expanding ceramic printing trades (Des Fontaines, 1968: 125). Their paper-making machine could make long continuous sheets of paper at a time, supplying the potteries with potter's tissue for the tissue transferware industry.

Printing the copperplate onto the tissue involved a team of people working together to print and transfer the print. Historic accounts of this process mention a male printer who worked with a number of female transferors and was responsible for the overall success of the transferring process onto the ceramic. To achieve this, ink is loaded

onto the copperplate and worked into the recesses of the engraved marks, with the help of a hot plate. The plate is wiped firmly and continuously until the ink remains in the recessed marks and the uppermost surface is clean. The wiping material is a boss, which is a pad covered in corduroy fabric (Copeland, 1980: 23-25).

TRANSFERRING

Wyman (1977) discusses the earliest account of the transfer printing process from the Liverpool Albion printed in 1827, given by an eyewitness at the Herculaneum Factory in Liverpool. It describes the print room as a busy and crowded place with stoves used to keep the copperplates warm during the printing process. The ink was glutinous and dark purple coloured and, as soon as the tissue was printed, the centrepieces of the design and borders were placed on the unglazed plate; the excess paper was cut away and then rubbed stoutly with a piece of flannel. The friction smoothed the paper so there were no wrinkles; then the barely noticeable paper was washed away, revealing the colouring matter on the ceramic (Wyman, 1977: 187).

ROLLER PRINTING

The mechanical use of roller printing to supplement printing copperplates began at Spode in 1847. At first, the copperplates were bent into cylinders to fit the rollers, but this created a seam in the pattern, so eventually the engravers worked on the cylinders directly. This increased productivity and mechanised the printing process (Halliday, 2018: 104).

Holdway provided some insight into this practice, explaining that the cylinders were worked on in the traditional manner and secured in a cradle for the engraving to take place. The engraved roller on view at the Victoria and Albert Museum is one of Holdway's engraved rollers from Spode made in 1975 – the last one surviving after the rest were destroyed when the factory closed.

FIRING THE WARE

After transferring, the ware is fired two times; in the first firing, the printed transferred pattern is hardened at 800-850oC. This renders the print stable on the ware and burns away the print residues.

The final clear glaze firing is approx. 1050oC; it laminates the printed pattern under the glaze and renders the ceramic object resilient to constant domestic use.

These are my derived principals of tissue transferware production from historical investigations.

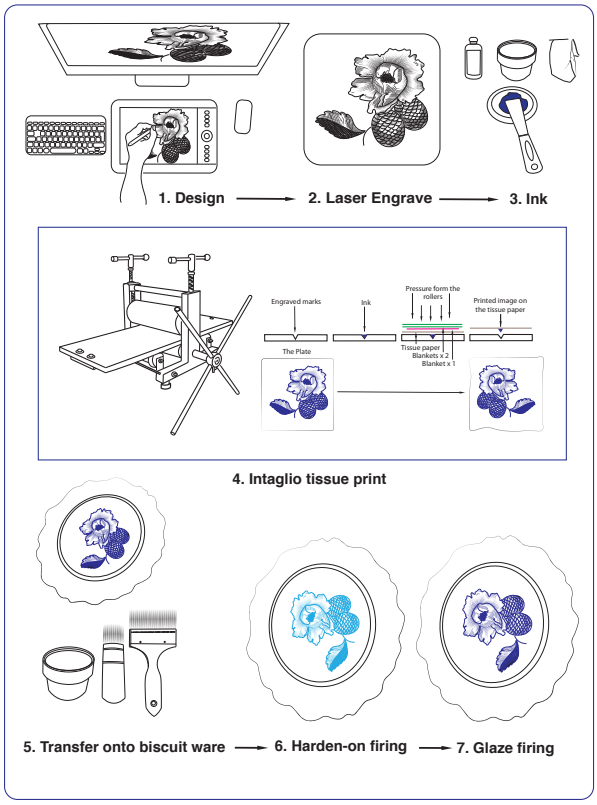

Illustration 2: This illustrates the derived principals of a seven-stage method of producing tissue transferware. Illustration by Lisa Sheppy

The research resulted in a tangible method of tissue transferware production derived from historical knowledge of the process. The production of a tangible method which could potentially be performed by the single practitioner materialised the research and presented a new interpretation of tissue transferware for artistic invention.

The knowledge emerged through material thinking with the direct handling of a printmaker's materials, tools and equipment. The printmaker's perspective was recorded as emerging knowledge through the critique in the thesis, but also the physical interaction with the tools and materials was recorded. This resulted in material artworks that visually supported, and were embedded in, the research.

At this time in the project, it was lockdown time due to the Covid-19 pandemic and we were being advised to work from home. This resulted in the final stages of the study taking place in my home studio with access to limited resources and equipment. Whilst this could have marked a detrimental halt to the research, I resolved that this would not be the case. I modified my study by working within the confines of my home studio. I have a small etching press and ceramic kiln and, with access to some external services, I devised a working method that was open, accessible and within reach of the sole artist working with printmaking and ceramics.

In the next section, I present each part of the derived production method linking traditional, autographic and manual material practices with the digital and mechanical, fusing printmaking and ceramics methods of production.

DESIGN

Drawing with digital tools enabled this investigation to progress creatively. At the outset, my objective was to equip myself with digital drawing tools so that I could respond creatively and technically. As an artist, I consider drawing to be essential to the creative process and realised that being able to draw effectively with a new palette of tools would facilitate further testing of the tissue transfer process. It would take an engraver working traditionally many years of working with tools and honed skills to complete the tissue transfer, whereas this new method facilitates an inclusive approach, thus championing a method of printmaking previously closed to non-specialists.

LASER ENGRAVING

The designs were created with digital vector-graphics applications beginning with those available on an iPad and advancing to the Wacom tablet and Adobe Illustrator. These designs were outsourced to an online laser engraving bureau and the engraving technology replaced the manual tooling required to fabricate a copper plate engraving. This resulted in a rapid turnover of designs to work from as they could be created, outsourced and returned within a short time. This facilitated iterative testing of variables of the process to take place effectively without losing momentum.

INK

As a printmaker working with intaglio processes on paper, the ink is available to buy from excellent suppliers. Printmakers know tacitly how the ink should feel on the plate for inking up. The ink for tissue transfer must perform as an etching ink, but contain ceramic colour and firing components. There is no ceramic ink to buy for this on the market and the advice from my supervisory team was to make an ink consisting of colour, flux and linseed oil. The first two components are not a problem as there are many coloured stains on the market, and flux is also a general ceramic material used for its vitrification properties. The linseed oil component appears straightforward but there are many different types and consistencies.

The inking up is more problematic for tissue transfer because the ink is cold and viscous. As a challenge and threat to the effectiveness of the process, this had to be overcome through manual dexterity and an effective oil carrier for the ink. Through constant testing of oil carriers, I produced a new blend of ink for tissue transfer pertaining to the consistencies of intaglio printing.

INTAGLIO PRINTING

Printing the design onto the tissue echoes that of traditional etching. The inked wiped plate is placed onto the bed of the etching press, covered with a tissue dampened on the back with soft soap, and secured with a number of blankets. The plate then passes through the press backwards and forwards to ensure the ink is printed efficiently onto the tissue. This was based on observations of the printing process at the Spode Museum.

TRANSFERRING

Through years of tacit knowledge, professional transferors give the illusion of an effortless operation. However, this is far from the case for a newcomer; when the tissue is released from the plate, it is flimsy and likely to stick onto itself, so it needs to be handled quickly and efficiently and placed into the final transferring position. The print is burnished from the back with pressure, leaving the printed pattern from the tissue on the ceramic surface. The ceramic surface is bisque-fired, so it is still porous to contact materials such as ink and glaze.

Better results were achieved at the final stage of the research through a refinement of skills with repetitive actions. I have introduced a new colour palette not traditionally associated with tissue transfer, and taken this further into my final artworks. This brings a new colour aesthetic to transferware and advocates its contemporary art potential.

FIRING SCHEDULES

The two firing schedules follow a traditional method and do not change from the historical deductions.

MATERIALISING THE RESEARCH

Figures 6, 7 and 8 are examples of final ceramic printed artworks as material evidence of a creative and working method of producing tissue transferware.

CONCLUSION

I have endeavoured to contribute new knowledge through my PhD study to interpret a historical method of ceramic decoration and give it new life. The method of production I have discussed is accessible and speaks the language of tools and materials that are within reach of an individual artist or a small collective.

My innovation is re-interpreting a historical process, not replacing it, maintaining engraving printmaking at the centre. Engraving for tissue transfer was an industrial but human-automated process, and the repetition of mark-making produced the same motifs and

subsequently was never a printmaking method for artists. This knowledge was hidden inside the closed factory. This study has exposed this knowledge through a walk-through demonstration of how the method works technically, which I created by responding as both a researcher and artist. Through this walk-through, I have established the potential of tissue transferware for future artists working with this particular form of printmaking and ceramic process so that it will become part of creative practice in the future.

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Lisa Sheppy has recently completed her doctoral study, designed to investigate an obsolete industrial craft, tissue transferware, with the aim to reinstate it through the lens of contemporary printmaking.

Lisa has a BA (Hons) Fine Art (BCU) first class, an MA Multidisciplinary Printmaking (UWE) distinction and commenced her full-time PhD study at the CFPR in 2017. She was awarded the Glass Seller Prize at the 2010 British Glass Biennale and has exhibited subsequent works across the UK in galleries and site-sensitive historic locations. This includes: The Brontë Parsonage Museum, Yorkshire; The RWA, Bristol, The London Glass Blowing Gallery, The National Trust's Croome Court and Bilston Craft Gallery; the historical home of enamel transfer printing.

Lisa's art practice involves working with materials and processes akin to craft, with printmaking at the centre. Her research interests are initiated with responses to the overlooked and obsolete, from which she reveals new meanings.

IMAGE GALLERY

Figure 1: Detail of a tissue transfer printed willow pattern, researcher's own
Figure 2: Original copperplate from Spode, Blue Italian pattern, by kind permission of John Raftery, Portmeirion Pottery

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