

INTRODUCTION

How can we understand mending as a design process? Susan Strausser, in her *Social History of Trash*, notes that post-industrial repair often required even more creativity than manufacturing the goods themselves.¹ While the preindustrial maker worked intimately within their immediate community, and a worn out handle or flapping sole could be returned to its maker for repair, the division of labour and eventual mass production of wares made the province of ‘machine tenders with limited knowledge’.² Repair in the post-industrial era, she poses, is a process demanding ‘a larger grasp of design and materials, an understanding of the whole and a comprehension of the designer’s intentions’.³

Such is the sentiment in Charles Leland’s *A Manual of Mending and Repairing*, published in 1896 in London and New York – part household manual, part textbook, part chemist’s recipe book.⁴ Leland laments:

*It is not the great watchmaker who oversees the production of thousands of watches to whom a watch can be most safely trusted for rehabilitation. For, in nine cases out of ten, it is some extremely humble brother of the craft, who does nothing but mend in a small shop, who restores your chronometer most admirably*⁵

‘All repairing must be by hand’, in opposition to mechanised making processes, he notes.⁶ It seems too, that for Leland, we can add that all repairs must be understood by hand. *Mending and Repairing* reiterates that its users cannot expect to succeed by ‘simply taking recipes, as written’, compounding and applying them’.⁷ He derides other writers for providing written instructions that are too extensive, instead imploring the reader to simply experiment and develop their own understanding of his processes.⁸

It is this understanding of repair at the turn of the nineteenth century - as an essentially manual design process, requiring practice to comprehend - which prompts my integration of experimentation into my research methods. *Mending and Repairing* is a work self-conscious of speaking to a distant student, guiding them through developing their own practice even though their tools and materials might be different, and their task individual. It invites not so much reconstruction of its recipes, eking out every historical detail, but experimentation with its processes - for us, as modern readers and researchers, to become part of the network of menders, chemists, materials, teachers, broken items and so on that surround it.

¹ Susan Strasser, *Waste and Want: A Social History of Trash*, (New York, Metropolitan Books, 1999), p14.

² *Ibid.*

³ *Ibid.*

⁴ Charles Leland, *A Manual of Mending and Repairing; With Diagrams*, (New York, Dodd, Mead and Co, 1896).

⁵ *Ibid.*, pXX.

⁶ *Ibid.*, pXXI.

⁷ *Ibid.*, p28.

⁸ *Ibid.*, p18.

In this workshop, I will focus particularly on experimenting with Leland's instructions for ceramic mending by drilling and binding sherds with brass wire:

*'The first and most simple process of mending both kinds of ware is to make small holes with a drill along the edges of the fracture, and then, adjusting the fragments, bind them together with wire. [...] The holes are made with either a bore or hand drill, such as can be bought in every tool shop. If the reader will obtain one and experiment with it on any penny plate or broken fragment, he will soon master all the mystery. The wire is made fast by a turn with a pair of nippers or pincers. Before fastening, wash the edges of the ware with white of egg in which a very little whiting, or finely powdered lime or plaster of Paris, has been mixed'*⁹

Below, I'll explore the practice of mechanical ceramic mending, and outline the context of Leland's particular instructions. Then, using pictures and animation, I will illustrate and reflect upon my own experiment with Leland's recipe. The intent is to explore the repair design process through developing a tactile understanding of the text, and reflect on the role of experimentation in historical practice.

Please note that this workshop is presented as a record and reflection on my own practice, as opposed to practical advice on how to carry out these processes. I consulted expert advice on using tools and materials I was not familiar with, and took relevant steps to mitigate any health and safety risks.

CERAMIC LACING

The technique the manual describes is ceramic lacing. This 'solid method of sewing is part of a wide family of technologies for holding ceramic shards together mechanically, which includes riveting with lead and gold, reed binding, or cuffing with precious metals.'¹⁰ Leland's own account of the history of the technique is charged, to say the least:

*M. Ris-Paquot claims that "the honour of this discovery belongs properly to a humble and modest workman named Delille, of the little village of Montjoye, in Normandy." But the archæologist will say of this claim, as the English judge did of a similar one, that the plaintiff might as well apply for a patent for having discovered the art of mixing brandy with water, since there was probably never yet a savage who had wire, or even string, who did not know enough to mend broken calabashes, jars, and pipes by this solid method of sewing. From the time when large earthen punch-bowls were first used in Europe, we find them mended with silver wire.'*¹¹

There are a few things to be pulled out of this description. Lacing is made to seem such a simple technique as to be materially obvious, given some ceramic sherds and string. At the same time, that simplicity is bound up with a vision of romantic primitivism. Lacing is

⁹ Ibid.

¹⁰ Ibid.

¹¹ Ibid.

such an ancient technique as to be the domain of archaeologists, but the oldest example Leland references is a punch bowl. Lacing is supposedly found across the world, but we're left with only Normandy and Europe for reference. We'd be right to ask where, when and by who the technique was practiced.

Lacing and riveting were common techniques in China and Japan as well as Europe. The Chinese terms for mechanical repairs like this is 铜瓷, 瓷 meaning porcelain and 铜 to mend with cramps, and has been in common use since at least the sixteenth century through to today.¹² The trade in porcelain with China during the eighteenth century revived interest in the technique from British practitioners, and that interest was at a height at the turn of the nineteenth century when Leland was writing. In Japan, lacing and riveting work alongside kintsugi, the practice of filling cracks and ceramic loss with lacquer and ground precious metals. The Japanese and Chinese traditions both sit within value systems that place weight on the beauty of obvious repair – not an attitude, it would seem, which made it through to Leland.

Lacing in Europe seems to have continually fallen in and out of favour. Roman sherds in the Museum of London (3740, 3713, 21980 are some examples) show where molten lead was poured into bored holes to cast form fitting rivets.¹³ Material evidence for the practice trails off after this, either due to falling out of favour, or other materials more prone to decomposition such as reeds were used. The resurgence of the technique from the eighteenth century may have been to do with the need to mend imported, thin and highly vitreous porcelain – however we see it applied to thicker earthenware as well, such as C.27-2008, a large harvest jug in the V&A.¹⁴ It appears the technique lived on until about the 1940s, when contemporary conservation manuals began to recommend that staples are removed in favour of glue rather than inserted. There has been some recent experimentation with the technique by Andrew Baseman, collector of mended objects – but otherwise the practice has tapered off in Europe and the east coast of America.¹⁵

A MANUAL OF MENDING AND REPAIRING

The instructions of *A Manual of Mending and Repairing* sit at a juncture between professional, domestic, antiquarian, museological, and itinerant practice. Leland advertised the work to all kinds of students; the London edition advertises companion volumes on woodworking, plate preparation, and leatherwork for the design student.¹⁶ The introduction grounds the book thoroughly in mending domestic objects for use, suggesting the book as a gift for the 'head of a family' or present 'to a bride as an aid to housekeeping, application in 'the kitchen or drawing room, in the library and nursery'.¹⁷ The mending might come of use to a traveler, he guesses – if a bag strap fails or clothing rips; but the recipes described

¹² I am indebted to Xueqing Xi, who told me about these traditions when I began the History of Design MA.

¹³ Museum of London, 3740, 3713, 2198.

¹⁴ Victoria and Albert Museum, C.27-2008.

¹⁵ Julia Bluff, 'The History of Repair: Past Imperfect', ifixit, <

<https://www.ifixit.com/News/4028/the-history-of-repair-past-imperfect> [accessed 6 April 2021].

¹⁶ Charles Leland, *A Manual of Mending and Repairing; With Diagrams*, (Piccadilly, Chatto and Windlass, 1896), frontmatter.

¹⁷ *Ibid*, pXIX.

also focus on making things perfect, and training a person to mend things within a museum or antiques for sale. This latter category also allies the work with imitation and fakery – the skill set being markedly similar, and Leland occasionally darkly hinting that certain techniques may, for example, make woods look identical to antique ivory, or unite pieces from separate objects into saleable wholes.

It is hard to say if the manual was genuinely used in any of these ways - how much of this was ambition or just marketing. Leland seems at his most genuine when he sets up mending as a separate branch of making, its own artistic tradition requiring training frameworks and resources. He at one point laments, echoing the founding of the V&A as a teaching collection years earlier:

If we had in London a school for teaching mending and restoring in all its branches as a trade, with a museum to show the public, probably to its great astonishment, what marvels can be wrought by renewing what is old, it would be of great service to the country at large¹⁸

We can most certainly place Mending and Repairing as a kind of textbook. Leland founded the Public School of Industrial Art, and sold this manual alongside other textbooks on woodworking, engraving, pyrography, and innumerable other crafts. It is this positioning as a teaching text, directed at students of many different means and abilities, which directs me to consider acting out this recipe as more of a direct pedagogical experience with Leland's text than an attempt to get anywhere close to the materials and techniques used by ceramic lacers through history. In taking the instructions, and following them myself, I am assuming something of the position of one of his students at the turn of the nineteenth century, and fitting myself into the network of menders, materials, objects and institutions surrounding the work.

¹⁸ Ibid, pXVI.