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Industrial Manchester's confrontation with copying

by Philip A. Sykas

An essential stage in the mass production of goods is the development of techniques for efficiently making copies. But in the field of design, it has been equally important to develop means to responsibly manage the processes of copying. Manchester of the 'industrial revolution' period illustrates an urban culture coming to terms for the first time with the issues surrounding the mechanical copying of designs. These impacted most strongly on one of its premier industries, that of printed cottons. Perhaps this history is instructive to us now as we enter a new understanding of copying in the age of digital reproduction.

In the 'industrial revolution' period, most textile designers learned their trade through apprenticeship as pattern drawers within the manufactories. This traditional training was described by a Glasgow calico printer, 'As soon as he is able to handle a brush, a youth is employed to draw up, or complete the patterns commenced by more experienced hands, and he may also be occasionally employed to modify or throw into another form existing materials. Tracing, by means of transparent paper, is largely employed to ensure correctness, but the effect of long practice is to give the power of copying, even with Chinese accuracy... By constant repetition of the conventional forms usually employed in patterns, the memory is impressed with their leading characters and arrangement, so that in process of time, he is able to produce designs himself.'¹ Developing the ability to copy through repeated practice was thus the first stage to becoming a pattern designer.

Once qualified, a pattern drawer would continue to use his copying skills to work up sketches to a finished state, or to modify existing drawings, whereas above him the *designer* was expected to produce *original* design ideas. In 1787, original designs became the focus of a hotly contested debate when patterns by London designers were being copied in Manchester before they could realise their market value. One printer related how he brought out a new pattern for dress fabric that was much admired by ladies of the highest rank. 'Finding a considerable demand for it, he set about finishing others; and before he could complete them, another person produced an inferior copy upon a very coarse linen that sold at a much lower price, by which

means the sale of his original design was totally frustrated.’² William Kilburn, one of the foremost London pattern designers, seeing his own patterns copied by Manchester printers, led a campaign to secure copyright of design. Before a committee of the House of Commons, he showed a printed calico of his design, and a counterfeit of the same pattern on coarser cloth from Peel and Co. of Bury, near Manchester. The Manchester imitation had been copied from Kilburn’s fabric, and completed from drawing to block cutting to final print in just ten days. Manchester printers felt that their skilful copying work justified its recompense, and tried to prevent the copyright bill becoming law. But parliament decided in favour of originality by giving designs protection for two months from their release, extended to three months in 1794. Sir Robert Peel³ was later to regret his youthful forays into copying. In fact, he and other leading Manchester printers supported a campaign beginning in 1819 to extend the length of copyright protection. What led to Manchester’s complete change of attitude?

Peel’s copies of the 1780s were feats of great skill and efficiency. One has to admire the dexterity and boldness of the endeavour. It pitted provincial wit against metropolitan suavity to deliver market-ready facsimiles in record time using only hand-controlled craft techniques. However, in the early 1800s new methods of machine engraving were developed that were to change the face of copying.

New developments in engraving began in the field of printing bank notes, where prevention of copying is an essential preoccupation. In 1799, the American engineer Jacob Perkins patented a method that allowed banks to transfer engravings of highly elaborate and difficult-to-copy designs to a printing plate through the intermediary of a metal die. Perkins improved the process by 1806, using a cylinder made of soft steel that took the impression in relief from the engraved master plate. Then, after case-hardening the steel cylinder, it could be placed in a roller press to push the relief pattern into a copper printing plate. The system was able to perfectly transfer even the finest of engraved lines. Complex hand engraving taking days to complete could now be copied mechanically in minutes, and the engraving could be transferred as many times as required.

One of Manchester’s foremost engravers, Joseph Lockett, realised the potential of mechanical engraving for the manufacture of printed cottons. Beginning around 1808,

Lockett perfected a process for commercial use within a few years. Like Perkins, he used a transfer method exploiting the ability to case-harden soft steel. Starting with an engraved cylindrical die to raise a design in relief on a cylindrical steel *mill*, this mill could then be used to mechanically engrave larger copper rollers for textile printing. Since the engraved area of the original die was one-fiftieth of that of the printing roller, the mechanical engraving reduced the highly-skilled hand engraving in proportion. Mill engraving soon became universal and led to a craze for small patterns that previously would have been too time-consuming to engrave by hand. But the new patterns were also easier to copy. Manchester had entered a new age where copying could be performed rapidly with the aid of machines. Manufacturers were faced with a new relationship to copying.

The case of the Manchester printer Thomas Hoyle illustrates the situation. In the 1830s, Hoyle paid Lockett to engrave twelve new patterns, but the most promising patterns were quickly copied by another firm. The copyist, to keep costs to a minimum, used an engraver who would do the job cheaply. The engraver was able to keep his charges low because he sold the mill for the pattern to other firms as well. The outcome was described at the time: 'Each of the parties who have got this roller commences printing with it, and they each bring their goods into the market at the same time. Immediately there is a race at underselling who can get rid of their goods first. The consequence is that in many cases they sell at a loss, and injure the originator, making his original pattern almost valueless.'⁴ Thus mill engraving, a mechanical copying technique, led Manchester's textile printers to realise the need for some form of regulation of copying. They pressed for extension of the copyright law beginning in 1819, although they did not succeed until decades later when modifications were made to the design registration legislation of 1839.

This delay in legal protection spurred creative design solutions. Hoyle's patterns were vulnerable because their 'principal merit consisted in their simplicity and neatness.'⁵ In the 1820s, Lockett developed two types of complex pattern grounds that made the copyist's job more difficult. One type, called *eccentric grounds*, made use of an engine lathe with eccentric gearing that automatically traced a line onto a copper printing roller controlled by the adjustment of three settings. The resulting linear patterns were based on waves and the optical effects of intersecting waves. Such

patterns were too difficult to copy by hand. Even to copy by machine, the precise settings needed to be known. Lockett maintained a practical monopoly of this work until the 1850s. Another strategy was the use of *cover grounds*; these were fine textural patterns made up of tiny dots and strokes uneconomical to copy by hand. These grounds could be used as a background for any pattern. The manufacturer was able to hold his own range of cover patterns, some of which might become associated with the firm, acting as a kind of brand marking.

Copying was not eliminated either by legislative controls or by practical techniques, but it was nonetheless kept in check. Most manufacturers realised that it was in their own interest to maintain good relations with others in the industry. The copyist, seeking to gain not simply a design, but to trade on the reputation of the originator of the design, actually ends by harming that reputation. Copying is a tool of the designer, but as any tool, it serves best when handled responsibly. In Manchester, enlightened self-regulation proved the most useful model for dealing with copyright issues. Although copying was at the heart of design culture, originality was expected of the professional designer. However, manufacturers could not agree on what originality was; did this reside in the design elements, or in their arrangement? Walter Benjamin, in his famous essay on art in the age of mechanical reproduction found the uniqueness of art ‘inseparable from its being embedded in the fabric of tradition’. The copy, as well, is deeply embedded in tradition. As we move from mechanisation to digitisation of design, it is a paradox that both the original and the copy become more valuable and more vulnerable.

¹ Anon. (1848) “Designers and schools of design by a Glasgow printer” *Art-Union Monthly Journal*, 10, pp.266-67.

² Journals of the House of Commons, Vol. 40, p.614.

³ Sir Robert Peel, calico printer (1750-1830), was father of the Prime Minister of the same name (1788-1850).

⁴ Select Committee on Copyright of Designs. Para. 6945, 12 May 1840.

⁵ Select Committee on Copyright of Designs, Para. 6948, 12 May 1840.

⁶ Benjamin, W. (1935) ‘The work of art in the age of mechanical reproduction,’ in: Arendt., H. (ed.) *Illuminations*. London: Pimlico, 1999, p.217.

FIGURES

Apprentice work, Swaisland printworks, 1838.

Mill for engraving, c.1880s

Hoyle pattern with added ground, c.1840

Cover ground used with different patterns, c.1840

Pattern with eccentric ground, c.1838