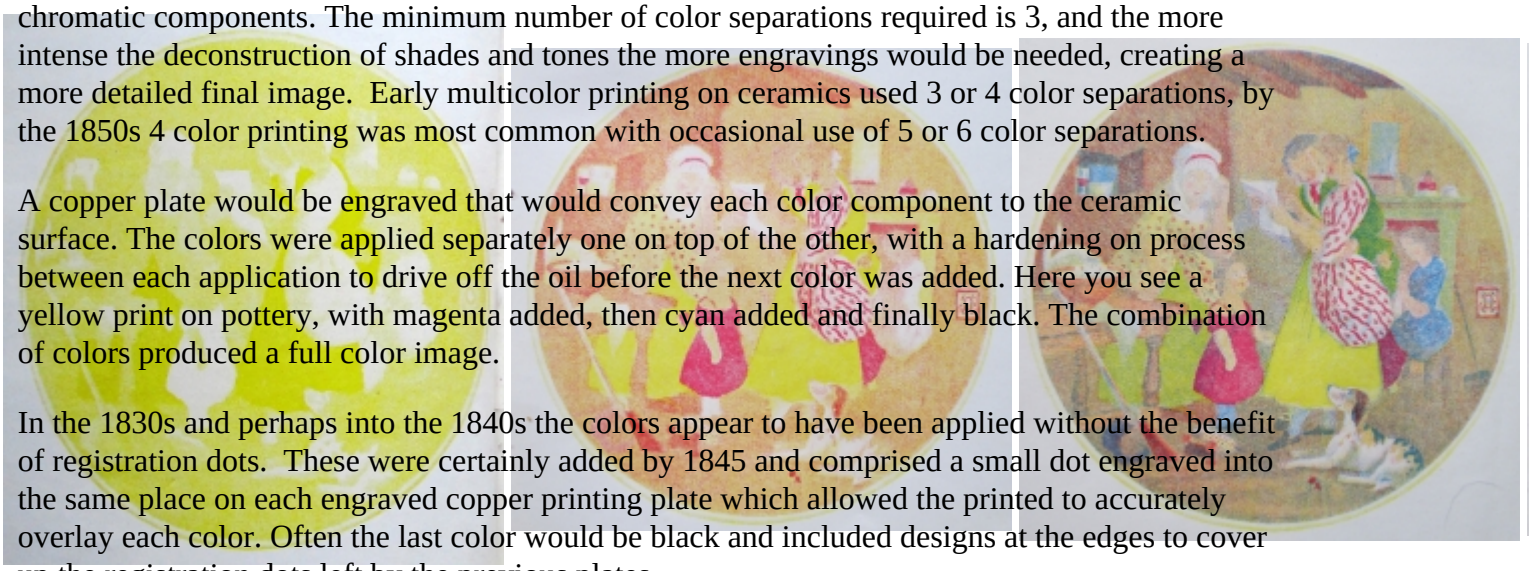
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Multiple-Plate Multicolor Printing by Hot Press

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Recent discoveries have shown that as early as 1835 Staffordshire potters had begun to print underglaze in multicolor by using a different copper-plate for each color.

First of all the engraver/artist had to deconstruct the desired colored image into its primary chromatic components. The minimum number of color separations required is 3, and the more intense the deconstruction of shades and tones the more engravings would be needed, creating a more detailed final image. Early multicolor printing on ceramics used 3 or 4 color separations, by the 1850s 4 color printing was most common with occasional use of 5 or 6 color separations.



A copper plate would be engraved that would convey each color component to the ceramic surface. The colors were applied separately one on top of the other, with a hardening on process between each application to drive off the oil before the next color was added. Here you see a yellow print on pottery, with magenta added, then cyan added and finally black. The combination of colors produced a full color image.

In the 1830s and perhaps into the 1840s the colors appear to have been applied without the benefit of registration dots. These were certainly added by 1845 and comprised a small dot engraved into the same place on each engraved copper printing plate which allowed the printed to accurately overlay each color. Often the last color would be black and included designs at the edges to cover up the registration dots left by the previous plates.

The technique seems to have been perfected by the engravers Jesse Austin and Alphonso Toft before the end of their short partnership in 1845. Austin then had a distinguished career working mainly for F & R Pratt of Fenton. By the end of the 19th century multi-color printing had fallen out of favor and was eventually replace by lithographic processes.