

## Engraving & Transfer Printing

The development of transfer printing on ceramics is considered a British achievement of the mid 18th century. It quickly became the most successful form of decoration, enabling porcelain production on a large scale.



A flat sheet of copper was engraved by hand using a 'graver'. Gravers are types of chisels with round handles, which fit into the palm of the hand. The designs were created by a combination of punching dots or engraving /cutting fine lines. It was a long and very arduous process - one slip of the engraving tool and hours of work could be destroyed. To engrave the design for a ten-inch copper plate could take around 40 hours depending on its complexity!

Once the engraving was complete, tissue prints could be made from it, which when applied to the ware created a pattern. To create a print, the surface of the warmed copper plate was covered with hot oil based ink, which was forced into every cavity of the design using a 'dabber' or 'dolly'. The plate was then cleaned, removing excess ink. Whilst the plate was still hot, it was placed face upward on the bed of a printing press and dampened tissue paper was placed on top. By means of a spoked wheel the whole bed was moved between rollers, rather like an old time domestic mangle, which forced the paper to take up the ink left in the recesses.

Immediately on coming from the press, and while the ink was still warm, the tissue was placed printed side down on the ceramic ware. It was firmly rubbed, using a hard flannel boss, until the paper was free of wrinkles and in complete unbroken contact with the surface of the article. The tissue was then removed by sponging with water or brief immersion in water. After drying the print was placed in a muffle kiln to fuse the pattern to the glaze.



One of the drawbacks of copperplate printing is that only one colour can be printed at a time, consequently to add colour, the engraved design was often simplified, allowing 'after painting' by an artist.

Copper being a very soft metal also wears very quickly and only about 250 impressions can be taken from a plate before it has to be re-sharpened for further use. Young apprentice engravers were given the job of re-sharpening used plates and this is why there are often slight variations in the finished prints. From the late 19<sup>th</sup> century engraved copper plates were also sometimes electroplated with steel to make them more durable.

Sadly, copperplate engraving and transfer printing have now largely disappeared from the ceramics industry, and have been replaced by lithography. By this process full colour patterns can be applied and fused to the ware in one firing.

At one time Royal Worcester would have employed around 20 engravers, but by the middle of 20th century this had reduced to 12.



Royal Worcester's copperplate vault housed around 14,250 plates, each weighing approximately 2.5kg. This amounts to 35 tonnes of copperplate! It takes one man about 10 days to engrave a plate. Therefore contained within the vault are 142,500 days of work which equates to something like nearly 400 years or over a million hours of work. A truly remarkable library.

Ted Taylor was the last in a long line of Royal Worcester engravers who passed down both skills and tools from one generation to the next. He worked from 1951 until his retirement in 2000.

### **Copyright 2009 Worcester Porcelain Museum**

The Worcester Porcelain Museum

Severn Street, Worcester WR1 2ND

Telephone +44 (0)1905 21247

e-mail: [info.admin@Worcesterporcelainmuseum.org](mailto:info.admin@Worcesterporcelainmuseum.org)

Registered Charity No.223753