Covered cup
Artist/Maker: Elkington & Co. (maker)
Museum number: REPRO.1872-10
Gallery location: In Storage

Descriptive line
Electrotype. From the C19th Register: "CUP and COVER, two-handled; the handles chased with figures; the bowl and cover ornamented with flowers and foliage in beaten work. English. Hall-mark, 1638. The original, of silver, is in the South Kensington Museum, No. 52, 52a-65. H. 5 5/8 in., diam. (without handles) 4 1/2 in. Messrs. Franchi and Son. Price, silvered, 3l. 10s."

Dimensions
Height: 15.0 cm, Diameter: 13.0 cm bowl, Width: 19.0 cm handle to handle

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Object history note
This electrotype impression of a cup was bought by the Museum in 1872 from franchi and Son. Electrotype copies were used as design aids for artists, artisans and students in the government schools of design which were run under the aegis of the Department of Science and Art.

As an electrotype the cup is an example of a 19th-century design model. Electrotypes play a key role in helping us to understand the V&A in its earliest days. The Museum grew largely out of the Great Exhibition in 1851 and, under the guidance of Henry Cole, sought to arrest the perceived decline in British design. The Museum aimed, initially, to collect `modern manufactures' for the education of manufacturers, designers and the public, with a long-term goal of improving the quality and quantity of Britain's manufactured goods. Cole was also in charge of the Government Schools of Design, which he set about reforming. Cole passionately believed in the potential of both museums and the schools of design, to raise standards of taste.

The appointment of John Charles Robinson as curator of the Museum in 1853 heralded a slight change in focus. Under Robinson and Cole historic works of art were seen as just as instructive as contemporary work. For Cole and Robinson, if historic works of art could not be acquired, copies were a perfectly viable alternative.

The aim of the Museum was to present a lesson in world ornament. The Museum bought electrotypes as part of its growing collection of reproductions. This collection enabled students to look closely at both modern and historic objects that were otherwise inaccessible. Electrotypes provided the same function as the Museum's collection of plaster casts. They sit alongside photography, invented around the same time, as the products of revolutionary new technology that enabled the reproduction of works of art to be made available to a wide audience. The relationship with photography is close. The electrotypes were not generally working copies. They were impressions of the outside surfaces of an object, in effect, 3-dimensional photographs.

Historical context note
The Technology
Electrotypes were a by-product of the invention of electroplating (silver plating by electrolysis).

ELECTROPLATING: Electricity revolutionised the trade of coating base metal objects with silver. Patented by Elkington and Company in the 1840s, this technique was the fulfilment of a century of research into the effects of electricity on metals. A negatively charged silver bar, suspended in a vat of potassium cyanide, deposited a coating of silver on a positively charged base metal (mostly copper, later nickel-silver) object immersed with it. Electroplated objects were fully formed in base metal before plating.

ELECTROGILDING exploited the same technique but used gold bars instead of silver. It was safer than traditional mercury gilding.

ELECTROFORMING transferred the metal deposits directly into moulds in the plating vats. When enough metal had been deposited to create a self-supporting object, the mould was removed. Developed by Alexander Parkes, electroforms so accurately mirrored the moulds in which they were created that multiple copies could be created (ELECTROTYPES).

The Process
During the electrotyping process a mould was taken of the original object. The moulds were made from gutta percha or plaster. Gutta percha was a tree-resin from Malaysia that could be melted and poured onto an object, but would set hard and take a perfect impression. During cooling it could also be manipulated. When the mould set, it was removed from the original object and then lined with graphite or plumbago to make it conductive. This mould was then immersed in the plating vats for coating with copper.

For this electrotype, the sequence therefore runs as follows:

Separate moulds were taken of various parts of the cup. In these, copper impressions were electroformed. These became 'type patterns'. The type patterns became the source for future moulds to be made to save going back to the original, which might be fragile or, in the case of objects in private or overseas collections, inaccessible. This cup then was electroformed in copper from moulds made from a type pattern which itself was electroformed in a mould of the original. The copper electrotype was then electroplated and electrogilded to look like the original. The final electrotype is therefore two stages removed from the original cup, but is still a highly accurate impression.

The Educational Role of Electrotyping

Early experiments in electroplating, often by amateur scientists using Elkington's home electroplating kits, involved coating fruit, flowers and animals in silver or gold "with the most perfect accuracy". They "retained all the characteristics of the specimens before their immersion" (Penny Magazine, 1844). The Art Journal enthused in same year, "The electrotypes are perfect; the finest lines, the most minute dots are as faithfully copied as the boldest objections."

Henry Cole, the first director of the South Kensington Museum (V&amp;A), quickly grasped the educational potential of this new technique. He employed Elkington's and Franchi &amp; Son of Clerkenwell to take moulds of historic and modern objects in the Museum (at their own risk), create copies in copper and then electroplate them. These could be sold freely as reproductions, with a gold, silver or bronze finish, provided they bore the South Kensington Museum's official stamp. To avoid breaking English hallmarking laws, all marks were to be deleted from copies of silver objects. Copies were made of successful modern objects as well as historic works of art.

Elkington's display of electrotypes at the 1867 Paris Exhibition proved extremely popular and prompted Cole to organise a convention at which 14 European countries agreed to exchange works of art. Representatives of Elkington's and the V&amp;A sent staff to Germany, Sweden, France, Denmark and Hungary. The most ambitious trip, to Moscow and St. Petersburg in 1880, secured copies of over 200 items from the Kremlin and the Hermitage, including the celebrated Jerningham Wine Cooler and much Elizabethan and Stuart silver sent as ambassadorial gifts to the Tsars. By 1920 the V&amp;A held over 2000 electrotypes. Copies toured the country as part of the museum's educational programmes and were sold to the public and to museums and art schools.

Electrotyping as a Product of Industrialisation

Elkingtons were a commercial giant selling electrotypes for profit as well as instruction. A variety of finishes met a range of tastes and budgets. Electrotypes are also relics of 19th-century industrialisation and mass production. The process of electroplating and electrotyping favoured companies that could afford large factories and expensive technology. The power of the machinery and new technology now at the disposal of the silver industry encouraged modern mass production to develop. Electroplaters could create thousands of identical objects using a fraction of the amount of silver to create "a degree of mechanical finish it would be difficult to surpass" (Art Union, 1846). The focus of silver and silver product manufacture moved from London to the new factories of Birmingham and Sheffield.

Some smaller companies trying to keep pace with industrial change suffered. The large vats of potassium cyanide required spacious, well-ventilated factories. A report at the Great Exhibition claimed workers in smaller companies suffered blistered skin, headaches temporary blindness and nausea.

This combination of art education and mass production made electrotypes the perfect marriage of art and industry.

Franchi operated a smaller factory than Elkingtons and were eventually taken over by the commercial giant from Birmingham who sold electrotypes for profit as well as instruction.

URL

http://collections.vam.ac.uk/item/O375617/covered-cup-elkington-co/