

## Captain James Cook's Antimony Cup

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### Summary

*Medicinal cups made of pure antimony metal were once common but are now rare and only about ten have been described. An unusual cup which belonged to Captain James Cook, the explorer, which has not previously been reported in the medical literature is described here.*

### Résumé

*Les gobelets médicaux fabriqués en antimoine pur étaient autrefois courants mais sont actuellement rares, et près de dix seulement ont été décrits. Un gobelet extraordinaire qui appartenait au Capitaine James Cook, l'explorateur, et qui jusqu'ici n'a pas été présenté en littérature médicale, est décrit ici.*

### Introduction

Antimony cups are rare artefacts which were popular in Europe during the 17th and 18th centuries.. They were used by allowing wine to lie in them overnight, during which tartaric acid in the wine formed tartar emetic, the drinking of which produced sweating, vomiting and diarrhoea depending on the dose. The concept dates back to Roman times when *pocula emetica* or *calyces vomitorii* were used to induce vomiting after heavy eating (1). Antimony in various forms had for a long period the reputation of being a panacea particularly in the treatment of fevers. It has been suggested that antimony in the form of a cup made of the metal or regulus was used as a means of overcoming the bad reputation which the widely prescribed and toxic antimony compounds had acquired. Six antimony cups in the UK, all in London, have been described, and there are two in the Netherlands (Amsterdam and Leiden), one in Basel, Switzerland and one

in Italy in the former papal palace in Ariccia (2,3). Another one in London, which has not been described in the medical literature, is believed to have belonged to James Cook (1728-1779) the English navigator, and is in the National Maritime Museum at Greenwich, London. Cook was born in Yorkshire and entered the navy in 1755. He was engaged in surveying the St Lawrence River during the Seven Years War and afterwards surveyed the Coast of Newfoundland. Subsequently he commanded three voyages of scientific exploration to the Pacific. He sailed extensively to St Lawrence and Newfoundland, New Zealand, Australia, New Guinea, Java and the Cape of Good Hope. In 1772-5 he was in the Antarctic, and later Tahiti and the New Hebrides. His final voyage was to the Pacific Islands and the west coast of north America and Hawaii where he was killed. He did more than any other navigator to add to knowledge of the Pacific and the Southern Ocean, and he was noted for his care of his crew's health by insisting on good hygiene and diet. After experience of the disastrous effects of scurvy on earlier voyages Cook reacted by insisting on his men taking antiscorbutics with excellent results.

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Fig 1. The antimony cup and its case. Courtesy, National Maritime Museum, Greenwich

There appears to be no reference to the cup in Cook's journals but why would he have wanted such a device? During his third voyage in 1773 Cook is recorded as being unwell on two occasions with stomach trouble which included vomiting, constipation and sweating (4) suggesting intestinal obstruction. In February 1774 on his way to find Easter Island he was



taken ill with a bilious colic which soon resolved. It has been suggested (5) that Cook had a parasitic intestinal infection with roundworm (*ascaris*) perhaps resulting from an earlier voyage. Organic compounds of antimony have been used in the 20th century for the treatment of the protozoal infestation leishmaniasis (Kala-azar), and formerly for schistosomiasis (bilharziasis) but not for ascariasis (roundworm) infection. Dr James' powder which contained antimony oxide was prescribed for fever by the surgeon on the *Adventure*, the companion ship to Cook's, but there is no account of the use of an antimony cup. It would be most likely to have been carried by Cook as a non-specific form of treatment but it could also have been for use in gastrointestinal symptoms associated with worm infestation. I have had the interesting suggestion that Cook may have had the cup as a treatment for scurvy, on the basis that John Quincy (6) mentions *antimony panacea* as a treatment for, amongst other things, scorbutic conditions. However I think that this is reading too much into his comments, and antimony was recommended for the treatment of everything at one time or another. In any case it seems clear that Cook knew the importance of diet above all else in the treatment of scurvy, and I know of no evidence that he himself suffered from it.

#### The Antimony Cup (TOAOH3)

The cup (Fig 1) was identified as being made of antimony by the Department of Metalwork of the Victoria and Albert Museum in 1980 although it is not stated whether the cup was chemically analysed. Where this has been done (1,2) the composition of the cup has been found to be similar to highly pure commercial antimony metal (regulus). Cook's cup is ornate and unique in design and raises questions as to how it was cast which must have been quite difficult. It is in very good condition and unlike most of these cups the base is the only part which is damaged. It is approximately 6.25 cms (2 1/2 inches) high, and 7.8 cms (3 1/8 inches) in diameter at the top. It has a fine rim, and below the curved body there is a series of finely moulded acanthus leaves round the waist. It ends in a flat rimmed pediment which has suffered some damage in one section. This is useful, as where a piece of the lip of the base has broken off it is possible to see the characteristic crystalline structure of antimony metal, suggesting that it is like other such cups made of a highly pure regulus. The inside shows no obvious evidence of use. It has a tooled leather case showing marked signs of wear with a neat brass handle at the top. The interior of the case is lined with marbled paper and a green cloth fabric on top of that. The cup

**Fig 2. Showing base of the cup with broken pediment and crystalline structure of antimony regulus.**  
Courtesy, National Maritime Museum, Greenwich



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was exhibited at Chelsea Royal Naval Exhibition in 1891 by the 7th Viscount Galway as being used by Cook during his voyages, and at the National Maritime Museum in July 1984 and April 1990.

### Provenance

The Museum records show that it was acquired on loan in 1983 from Lady Rowley, daughter of the 8th Viscount Galway, Governor General of New Zealand whose family had owned it for many years and regarded it as a pewter communion cup. Lady Rowley's ancestor General Robert Monckton was General Wolfe's second in command at Quebec where Cook was involved in the St Lawrence Expedition of 1759 under the joint command of Admiral Sir Edward Saunders and General James Wolfe, with a fleet of 35 ships of the line, some smaller men of war and transports (4). The cup may have been amongst Cook relics bought by the 5th Viscount Galway between 1815 and 1830 from the sale of the effects of Admiral Isaac Smith (d. 1831), a nephew of Mrs Elizabeth Cook, who sailed on Cook's first two voyages and was skilled as a surveyor. He was the first European to land in New South Wales, and was the companion of Elizabeth for most of her widowhood.

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### Biography

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