

to supply over 400 ounces to the Paris Academy of Sciences, but he clearly took some action after receiving the letter, for it bears an endorsement in his own hand which seems to show that six ounces were wanted by Henry Cavendish and three ounces each by Alexander Dalrymple and Alexander Aubert – all Fellows of the Royal Society with whom Banks was in regular contact.

Why did these three men want to buy a few ounces of platinum? Normally the historian refuses to commit himself in print to any statement unsupported by documentary evidence, but sometimes it is interesting to speculate. There is no certain proof that any of them used platinum for a specific purpose, and it is of course possible that they acquired it merely out of curiosity. However, it may be significant that they were all engaged in work where platinum might have been useful.

In 1786, A. M. Rochon, of the French Naval Academy at Brest, described how he made a concave mirror for a reflecting telescope out of platinum, and he said that plane mirrors could also be made, for use in navigational and astronomical instruments such as octants and sextants (4). At that time the mirrors were generally made of speculum metal – a highly reflecting alloy of tin, copper and arsenic – but it tarnished easily, and Rochon found that platinum, either pure or alloyed with a little speculum metal, was free from this defect. His mirrors were evidently popular, for he was still making them – both concave and plane – in 1806, when they were shown at the Exhibition of National Industry in Paris (5). Rochon's paper was not published until 1798, but it was originally read in 1786 at a meeting of the Paris Academy of Sciences, and knowledge of his work must soon have reached Banks' circle. The news that Janety was offering malleable platinum for sale might have interested anyone who worked with astronomical and navigational instruments.

Alexander Aubert (1730–1805), the wealthy governor of the London Assurance Company, was an amateur astronomer with a splendidly

equipped observatory. Alexander Dalrymple (1737–1808), at one time Hydrographer to the East India Company and later Hydrographer to the Admiralty, drew up many charts of oriental waters. Henry Cavendish (1731–1810), famous for his physical and chemical researches, was also interested in astronomical measurements; in 1790 he showed how the height of the aurora borealis could be calculated from observations of its position at three different places (6), and in 1797 he described a method of calculating the angular distance between the moon and a star (7).

It may therefore be reasonable to suggest that 12 ounces of Janety's platinum was made into mirrors by one or other of the excellent instrument makers then working in London, but as a precaution this note can be concluded with the words of Cavendish: "I wish it to be understood, however, that I do not offer this as a theory of which I am convinced; but only as an hypothesis which has some probability in it" (6).

#### References

- 1 D. McDonald, *A History of Platinum*, London, 1960, 53
- 2 H. C. Cameron, *Sir Joseph Banks*, London, 1952
- 3 British Museum, Additional MS. 8097, f.323
- 4 *J. Physique*, 1798, 4, 3–15
- 5 Notices sur les objets envoyés à l'exposition des produits de l'industrie française, Paris, 1806, 289
- 6 *Phil. Trans.*, 1790, 80, 101–5
- 7 *Phil. Trans.*, 1797, 87, 119–122

### Wollaston's Classic Lecture on Platinum

As the first in a series of 'Metallurgical Classics' the American Society for Metals has published in the December 1967 issue of its Transactions a reproduction in facsimile of W. H. Wollaston's Bakerian Lecture of 1829 to the Royal Society, 'On a Method of Rendering Platina Malleable'. This is accompanied by an extensive commentary on Wollaston's life and work, and on the significance of his contribution, by Professor Joseph Gurland of Brown University.