

A Platinum Gift to King George III

A GESTURE BY WILLIAM HASLEDINE PEPYS,
CUTLER AND INSTRUMENT MAKER

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In 1805, when malleable platinum was only just becoming available in small quantities, the son of a London cutler and surgical instrument maker who extended his father's business into the design and manufacture of scientific instruments, made a pair of platinum fruit knives which he asked Sir Joseph Banks, then the President of the Royal Society, to present to King George III and Queen Charlotte.

There is a long-running debate among historians over the extent to which science was applied to industry during the Industrial Revolution (1). Argument has primarily occurred over large-scale industries like coal mining and associated innovations like the steam engine. Smaller scale activities like pharmaceutical manufacturing and the discovery of

new uses for precious metals and minerals have been given much less attention, especially those developments which occurred in London. However, the manufacturing of platinum articles deserves consideration as an important instance of how certain small-scale manufacturers became interested in the science of metals, and how astute chemists could

William Hasledine Pepys
1775–1856

The son of a London cutler and surgical instrument maker, Pepys was actively interested in platinum and the attempts to bring about its melting by the discharge from his very large batteries. A friend of Humphry Davy and of William Allen, who was making small amounts of malleable platinum by 1805, Pepys made some fruit knives in platinum in that year, presenting one to Sir Joseph Banks and asking him to present a pair to King George III and Queen Charlotte



Sir Joseph Banks
1744–1820

A distinguished patron of science, President of the Royal Society for over thirty years, and a personal friend of George III, Banks was happy to pass Pepys' platinum knives to Their Majesties



achieve both wealth and scientific distinction.

The early days of rendering platinum malleable by a commercially viable process have been well described by McDonald in "A History of Platinum" (2). The pioneers in this were mainly London chemists at the beginning of the nineteenth century; William Allen, the pharmacist and leading Quaker, Richard Knight, the son of a London ironmonger who turned chemist and instrument maker, Robert Bingley, the Assay Master of the Royal Mint, and Alexander Tilloch, a publishing entrepreneur who established *The Philosophical Magazine* in 1798. These men, together with one of Allen's younger assistants, Thomas Cock, who devised a process of rendering platinum malleable that his brother-in-law Percival Norton Johnson was to put into commercial operation, were all associated with the British Mineralogical Society which flourished from 1799 until 1806 and whose minutes include a number of references to their work with platinum (3). From all these accounts there emerges the importance of the artisan group of instrument makers as skilled men of science combining technical expertise with business acumen in dealing with expensive metals and processes.

One other member of this group who

interested himself in platinum and the early attempt to bring about its fusion by the electrical discharge and who became a skilful and ingenious designer of scientific instruments and apparatus, was William Hasledine Pepys, a great friend of Allen and of Humphry Davy as well as of the distinguished surgeon and pioneer of palaeontology James Parkinson with whom he collaborated in a quite different field, chemical experiments on the composition of fossils (4).

Pepys (apparently pronounced "Peppis") had the best attendance record at the meetings of the British Mineralogical Society and carried out electrical experiments on platinum during the controversy over the elemental nature of palladium (5). His skill in constructing powerful batteries was to earn him renown, and he later built the "great batteries" of the London Institution. He also devised blowpipes for use in mineral analysis and several other types of apparatus.

Since the 1790s he had been personally acquainted with distinguished men of science, including the wealthy chemist Henry Cavendish and the so-called "autocrat of science", Sir Joseph Banks, the President of the Royal Society for the long period from 1778

until 1820 and a personal friend of the King (6). Some surviving correspondence from Banks, that has recently been lent to the Royal Institution, establishes that Pepys also manufactured platinum articles as early as 1805. Unfortunately only the replies from Banks have been preserved, but these, quoted below, are of considerable interest.

“Soho Square
May 30 1805

Sir,

I thank you for a very elegant present a Platina fruit knife capable from the strength of its temper & cut much better than any knives I have yet known of silver or of gold.

I am unfortunate in being at present confined to my chamber by a severe fit of the gout which makes it impossible for me to undertake the execution of your loyal wishes. I would advise you however not to lose a moment if you intend to carry them into effect as I am this morning told that Mr Stodart has offered to his Customers such articles in Platina as they may have occasion to order.

If you think I can be of any use in advising you how to proceed I must request you to call upon me here as I am unable & thus you will find me always at home.

I have a high opinion of the Elegance of the article & little doubt the new desert knives will be in short terme made of this metal if it can be procured.

I am Sir
Your loyle Hble Servt
Jos Banks”

The warning about Stodart’s rivalry referred to James Stodart (1760–1833), an older man who had established a surgical instrument making business in the Strand in 1792 and who was later to collaborate with Faraday in his researches on alloy steel.

The second letter from Banks to Pepys, reproduced here, reads:

“Soho Square
June 16 1805

Sir

I have the pleasure to acquaint you that the two platina fruit knives intended as a Present by you to the King & Queen were received in the most gracious manner by Both their Majesties on Thursday last from the hands of General Manners who at my desire had the honor of presenting them. I took care that the General should be acquainted for their Majesties information that the donor is not only at the head of his Art as a Cutler but that in the Science of Chemistry he is second to Few.

I am Sir
Your most obedient Servt.
Jos. Banks”

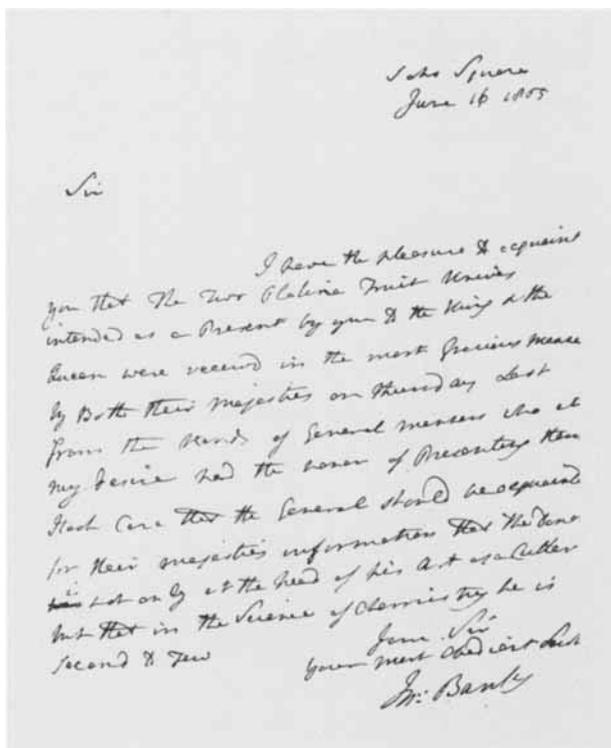
Now Allen had succeeded in refining platinum on a modest scale only by the January of 1805 (7) and it was most probably his metal that his great friend Pepys used. The joint endeavours of Smithson Tennant and William Hyde Wollaston yielded their first small sales of malleable metal a month or two later (8) yet by the end of May Pepys was able to offer his knives—presumably not the first platinum articles he would have produced—to the King and Queen, a remarkably speedy achievement.

Certain historians have suggested that a major incentive to undertake scientific work was that of social advance. Undoubtedly the platinum knife episode reveals Pepys as seeking the patronage of powerful members of the establishment. Pepys’s request came at a time of considerable political instability, and may well have also been a symbolic act of allegiance to the established social order. On the other hand Pepys himself enjoyed considerable status in the City: his father had been Master of the Cutlers Company in 1793, and Pepys himself was to be Master in 1821 (9). Although Davy commented on Pepys’s tradesman’s manners, and although it is clear that Pepys considered it no indignity to be skilled in manual labour, this must not obscure the fact that he could also afford the leisure to undertake costly experiments (10). It should also be noted that Pepys is often wrongly described as a Quaker (11).

George III had an extensive collection of scientific instruments and promoted economic improvements, particularly in agriculture (12). The knives were themselves an experiment in manufacturing techniques. The characterisation of Pepys by Banks as skilled both in science and in his art suggests the great difficulty and artificiality in attempting to distinguish between these two spheres of activity. Unfortunately, there is no further record of these knives, and they were not included in the sale of Queen Charlotte’s possessions at Christie’s in 1819 (13). The General Manners mentioned was Robert Manners of Bloxholme in Lincolnshire, an equerry to the King and like Sir Joseph Banks an influential and neighbouring landowner.

The letter from Sir Joseph Banks acknowledging the gift to him of a knife and reporting on the presentation of two to the King and Queen

Photograph by courtesy of the Royal Institution



The letters from Banks to Pepys thus provide a nugget of evidence in the complex sequence of events leading to the commercial application of platinum. They reveal a variety of motives: those of dedication to science, to innovation in manufacturing and a wish that both science and

art might be endorsed by the patronage of the President of the Royal Society and of the Crown.

Acknowledgements

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References

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- 2 Donald McDonald, "A History of Platinum", Johnson Matthey, London, 1960
- 3 The Minute Book of this Society is in the Department of Mineralogy Library, British Museum (Natural History). For platinum experiments see: 9 January 1800 and 18 February 1802. For a fuller discussion see: P. J. Weindling, "The British Mineralogical Society: A Case-Study in Science and Social Improvement", in ed. I. Inkster & J. B. Morrell, "Metropolis & Province: Science in Britain 1750-1850", Hutchinson, London, forthcoming
- 4 By 1802 Parkinson dedicated a pamphlet on "The Improvement of Trusses" to Pepys: R. D. Gurney Ltd, "Catalogue 84", London, 1981, item 95 inscribed "W. H. Pepys with respect"
- 5 W. H. Pepys, *Phil. Mag.*, 1803, 15, 94
- 6 Royal Society MS, 155. This contains a short autobiographical introduction and Pepys's publications
- 7 Donald McDonald, Ref. 2, 88-89
- 8 J. A. Chaldecott, "William Cary and His Association with William Hyde Wollaston", *Platinum Metals Rev.*, 1979, 23, (3), 112-123. M. C. Usselman, "The Platinum Notebooks of William Hyde Wollaston", *Platinum Metals Rev.*, 1978, 22, (3), 100-106
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- 10 J. Z. Fullmer, "Davy's Sketches of His Contemporaries", *Chymia*, 1967, 12, 135
- 11 As in the Dictionary of National Biography
- 12 J. A. Chaldecott, "Handbook of the King George III Collection of Scientific Instruments", HMSO, London, 1951
- 13 A volume of Queen Charlotte's sale catalogues is in the Victoria and Albert Museum Library