

of the new material by that year. In addition, it bears the French import mark for platinum introduced in 1926.

It has not been possible to trace the history of the bowl beyond the 1890s when it was in the collection of Baron Jérôme Pichon, the first of the modern connoisseurs and collectors of French silver. In 1900 it was lent by an unidentified owner to the International Exhibition in Paris, and lately it was owned by the late David David-Weill from whose collection it was sold in 1971.

Janety appears to have been the only French silversmith to substitute platinum for silver in the manufacture of objects for domestic use. The difficulty of working the

material, and the ease and inexpense of producing the same articles in cast or stamped silver combined to prevent its general use in the decorative arts. The sugar bowl is thus of interest both as a document and as an example of the extraordinary quality of design and skill that could be achieved in platinum.

References

- 1 *Platinum Metals Rev.*, 1960, 4, (2), 68-69; 1968, 12, (2), 64-66; 1973, 17, (3), 102-104
- 2 Donald McDonald, "A History of Platinum", Johnson Matthey, London, 1960, 53, 55
- 3 "Exhibition of Old French Gold and Silver Plate", New York, Arnold Seligman Rey and Co, December 1933, No. 45. This is the same piece as shown in a line drawing in H. Nocq, *Le poinçon de Paris*, II (1927), 353. It is conceivably the same shown by Lavoisier

The Melting of Iridium

A HISTORICAL NOTE

Recent developments in the application of iridium as an electrode in high-duty sparking plugs lend interest to a little-known paper published over ninety years ago entitled "The Fusion, Casting, Dephosphorising, and Plating of Iridium, together with a Bibliography of the Subject". This was written by Nelson W. Pevry, and was published in three parts in issues of *Chemical News*, commencing on January 2nd, 1885.

The paper records efforts made by a succession of inventors in America over a period of more than 40 years to develop melted iridium as a substitute for the natural-occurring mineral iridosmine (or osmiridium) for the hard-wearing tips of gold nibs for fountain pens. These were known as McKinnon nibs.

The earliest experimenter in this field is said to have been G. W. Sheppard, who died in 1862, when his business was taken over by John Holland. Six years later Holland accepted a contract to supply tips for a new type of nib which required a centre-drilled "iridium" tip. Being unable to secure sufficient grains of iridosmine of the size needed, and under a threat of being sued for breach of contract, Holland offered 1000 dollars in 1868 to anyone who would fuse for him a mass of 1 ounce of iridium. With no solution forthcoming, and observing the fluidity imparted

to iron by phosphorus, he tried the effect of phosphorus additions to iridium and, according to the paper, "made half an ounce at the first go".

On May 10th, 1881, Holland patented in America the fusion of iridium with phosphorus and about this time formed the American Iridium Company of Cincinnati, with Professor W. D. D. Dudley as general manager. The method used for making pen points was to fuse iridium with phosphorus and pour the alloy between two hinged iron plates which were closed to give a slab $\frac{1}{32}$ inch thick. This was broken up and the pieces soldered to a brass strip for grinding to shape with corundum or diamond, countersinking with a diamond drill, and piercing. Later, Professor Dudley suggested that the phosphorus be removed by heating the alloy on a bed of lime.

This account of activities in the New World brought a curt letter from Johnson Matthey & Co Ltd of London in reply, commenting that some of their staff carried a record of preparing iridium-phosphorus as far back as 1837. And the editor, Sir William Crookes, added a footnote that in April 1882 Mr Sellon, the Chairman of Johnson Matthey, had presented him with a beautiful specimen of iridium sheet.

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