

his return to Europe and gave them to M. Collet-Descotils, asking for a report on del Río's claim. Collet-Descotils analysed del Río's samples and reported—erroneously—that they contained only chromium⁴. At that time von Humboldt accepted this verdict and therefore rejected del Río's claim as invalid.

The facts relating to Sefström's discovery of vanadium in 1830, and to Wöhler's work⁵ establishing the identity of 'erythronium' and vanadium, are well known. Here we would only like to add that in 1831 both Berzelius⁶ and von Humboldt⁷ recognized del Río's priority as valid.

As a consequence of a conversation held between del Río and von Humboldt, the former gave up temporarily his claim to the discovery of a new element, accepting that what he had really found was chromium⁸. He held to this point of view after the publication of Collet-Descotils' error⁹.

From the preceding historical facts, it follows that the real priority for the discovery of element 23 belongs to Andrés Manuel del Río. Our main purpose is to emphasize that under the rules suggested by Prof. Paneth, del Río's choice for the name of this element should stand. Element 23 should, therefore, be called 'erythronium' and not vanadium. Whether this change in accepted chemical nomenclature of long standing is at all possible is here neither implied nor suggested. Paneth's rules, however, either should be applied uniformly to all cases they are meant to cover, or to none at all.

MANUEL SANDOVAL VALLARTA
ARTURO ARNAIZ Y FREG

Instituto de Física,
Universidad Nacional de México,
México, D.F.

May 15.

¹ Paneth, F. A., *Nature*, 159, 8 (1947).

² "Tablas Mineralógicas", by D. L. G. Karsten, translated into Spanish by Andrés Manuel del Río, footnote pp. 61-62, México, Zúñiga y Ontiveros, 1804.

³ Letter addressed to Baron Alexander von Humboldt by Andrés M. del Río, dated October 14, 1817, published in *Mercurio de España*, p. 173, Madrid, February 1819.

⁴ Collet-Descotils, M., *Annales de Chimie*, 53, 254-253 (1805).

⁵ von Hoffmann, A. W., Briefwechsel zwischen J. von Liebig und F. Wöhler, *Konigl. Sv. Vetensch Acad.*, 1, 38-39 (1831); also *Poggen-dorfs Annalen der Physik und Chemie*, 21, 49 (1831).

⁶ Berzelius, J., *Annalen der Physik und Chemie*, 22, 1-67 (1831).

⁷ von Humboldt, A., *Révue bibliographique pour servir de complément aux Annales de Sciences Naturelles* par M. M. Audouin, Brongniart et Dumas, 2eme. année, pp. 42-43 (1831).

⁸ *Anales de Ciencias Naturales*, 19, 31 (Madrid, Feb. 1804).

⁹ *Diario de México*, 15, No. 2170, 294-295 (México, Sept. 11, 1811). *Mercurio de España*, 172-175 (Madrid, Feb. 1819). *Annalen der Physik von Gilbert*, 71, 7/12 (1822).

THE foregoing letter may create the impression that Del Río only "temporarily" abandoned his claim to the discovery of erythronium, misled by "Descotils' error" and Humboldt's persuasion. This, however, is not the story he himself tells in his last contribution to the subject¹. In discussing the chemical composition of the Zimapan lead ore, he not only stresses the point that it contains no other element than the lead chromates, but ascribes to himself the merit of this 'discovery'. He states that he had published the correct analysis one year before Descotils, and attacks Humboldt for intentionally suppressing this fact and giving credit to a French chemist out of spite against the Spanish. Not a single word is said about the old erythronium claim, which he seems very anxious to consign to oblivion.

The rule suggested says that the right to name an element should go to the first to give *definite* proof of

its existence. It is difficult to see how Del Río could be included under this heading, in view of his quick, complete and lasting change of front—even if we may have some doubts whether his recantation actually preceded the Paris analysis, as he so emphatically claims.

F. A. PANETH

Chemistry Department,
University, Durham.
July 11.

¹ *Gilbert's Ann. der Phys.*, 71, 7 (1822).

Naming the Elements: a Former Suggested Use of 'Plutonium'

IN view of the recent naming of new elements, the following two quotations, which have lately come to my notice, may interest or amuse historians of science. They refer to an early *claim* that barium oxide can be reduced by the oxyhydrogen blowpipe. In Thomas Thomson's famous "System of Chemistry" (5th edit.; London, 1817), vol. 1, p. 342, we read: "Dr. Clarke has decomposed barytes by exposing it to an intense heat, produced by the combustion of a stream of oxygen and hydrogen gas, mixed together in the requisite proportions to form water. He has given to the metal of barytes the name of *plutonium*." It appears that, in this quotation, "barytes" means barium oxide and not the sulphate, as now (see below).

Edward Daniel Clarke (1769-1822) was, from the end of 1808 until his death, professor of mineralogy at Cambridge—he was the first occupant of the chair—and his life, travels and work are duly recorded in the "Dictionary of National Biography". Again, in the "Life and Remains of Edward Daniel Clarke" by the Rev. W. Otter (London, 1825), vol. 2, p. 455 (footnote), we read (Dr. Clarke speaking; date 1819): "In proposing the substitution of Plutonium, instead of Barium, for the name of the metal of Barytes, the author was actuated solely by a regard to truth, as essential to science. The impropriety of naming one of the lighter metals, from βαρύς signifying *heavy*, will surely be obvious, when it now appears that the name implies an untruth. The specific gravity of the metal of Barytes equals 4.000. With what propriety, therefore, can it be denominated Barium, the heavy metal? . . . The metal of Barytes, in whatsoever manner its presence may be demonstrated, owes all the proofs of its existence to the dominion of fire; hence the propriety, at least, of giving to it the name of Plutonium." Incidentally, the modern value for the specific gravity of metallic barium is 3.78.

In 1774, Scheele discovered a new earth in native manganese dioxide (which often contains barium as an impurity), and Gahn in 1775 found that this earth is a constituent of 'heavy spar' (BaSO₄). It seems that the *earth* was called 'barote' by Guyton de Morveau, 'barytes' by the Irish chemist, Kirwan, and 'baryta' by Lavoisier. Barium was isolated electrolytically by Davy in 1808.

As history would have it, Davy's name, 'barium', for the metal remained, in spite of Clarke's ingenious logic; but we may now hail the unexpected return to the service of science of its former rejected rival.

K. R. WEBB

Chemistry Department,
University College, Southampton.
June 3.