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“Historic Publications in Electrochemistry”

which is part of

**Electrochemical Science and Technology Information
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THE
PHILOSOPHICAL MAGAZINE:

COMPREHENDING
THE VARIOUS BRANCHES OF SCIENCE,
THE LIBERAL AND FINE ARTS,
AGRICULTURE, MANUFACTURES,
AND
COMMERCE.

BY ALEXANDER TILLOCH,
HONORARY MEMBER OF THE ROYAL IRISH ACADEMY, &c. &c. &c.

"Nec aranearum sane textus ideo melior quia ex se fila gignunt, nec noster
villior quia ex alienis libamus ut apes." JUST. LIPS. *Ment. Polit.* lib. 3. cap. 1.

VOL. XXI.

LONDON:

Printed by R. Taylor and Co., Black-Horse-Court, Fleet-street:
And sold by Messrs. RICHARDSON; CADELL and DAVIES; LONGMAN,
HURST, REES, and ORME; SYMONDS; MURRAY; HIGNLEY;
VERNON and HOOD; HARDING; London: BELL and
BRADFUTE, Edinburgh; BRASH and REID, and
D. NEVIN, Glasgow; and GILBERT
and HODGES, Dublin.

1805.

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Wm. Bosville, Wm. Noble, and Charles Binny, Esqrs. has been such, that the subscriptions hitherto have been sufficient to defray the expenses, without requesting additional aid from the present supporters; yet, to accomplish the objects of the institution to their full extent, it will be requisite that further contributions be requested from the public, and that the present subscribers particularly be respectfully solicited to use their interest for that purpose.

The number inoculated since the last report amounts to 2337.

Subscribers of ten guineas are Life Governors; of two guineas annually are Electors, and of one guinea annually are Governors.

All persons, with or without letters of recommendation, are admitted for inoculation every Tuesday and Friday, at one o'clock.

Subscriptions will be thankfully received by Messrs. Devaynes and Co. Pall Mall, and by Mr. Sancho, at the Institution.

NOTE—*Provincial subscribers and correspondents are informed, that permission has been liberally granted by their Lordships the Postmasters-general for letters to come and return postage free, provided they are addressed to Mr. Sancho, Secretary to the Original Vaccine Pock Institution, Broad-street, Golden-square, and are sent under cover to Francis Froling, Esq. General Post Office, with this indorsement—“On the business of the Broad-street Vaccine Institution.”*

By order, WILLIAM SANCHO, Secretary.

METALLIC NATURE OF OCHROIT.

M. Gehlen, of Berlin, has received from Messrs. Hisinger and Berzelius, a memoir on the analysis of the ochroit of Klaproth. They consider the new substance contained in this fossil as a metallic oxide, and they give to the metal the name of *Cerium*, from the planet Ceres. They have, however, judged of the nature of it only from the phenomena of the oxidation exhibited by the substance, for hitherto they have not been able to obtain it in a metallic state.

CHARACTERS OF PURE NICKEL.

M. Richter is employed in examining the nature of nickel. In its state of purity, this metal is exceedingly malleable; it is also almost as brilliant as silver, and more susceptible of attraction by the magnet than iron. He as-

serts,

serts, that in the purest state in which it has been hitherto obtained it contains still a great deal of copper. M. Richter has discovered a sure method of freeing it from that metal.

Purified oxides of nickel are of a much livelier green colour than common oxides, and their solution in ammonia is of a very pale blue colour.

ALKALINE METALLIC SOLUTIONS PRECIPITATED BY OTHER METALS, AND BY PHOSPHORUS.

Klaproth has found that solutions of metallic oxides in alkalis are as easily precipitated in the metallic state, by other metals soluble in the same salts, as also by phosphorus, as acid metallic solutions are. He makes a very ingenious application to analysis of tin ores, according to a method which he indicates in his (*Beitrag*) collections. In this process, tungsten is separated by zinc from tungstate of ammonia, under the form of black flakes.

DECOMPOSITION, BY BOILING WATER, OF SUCCINATE OF IRON OXIDATED AT A MINIMUM.

Bucholz, in examining M. Gehlen's method of separating iron and manganese by the help of succinate of potash, has found that succinate of iron, oxidated at a *minimum*, is entirely decomposed by boiling it with distilled water, so that the water dissolves the acid with an inappreciable quantity of oxide. The same chemist is employed in examining uranium and its combinations,

GALVANISM.

Brugnatelli, in a letter to M. van Mons, says, Volta is still employed on electricity. He has lately constructed different piles, composed merely of saline substances of a different nature, with solutions of which he impregnated disks of bone.

I have lately, adds he, gilt in a complete manner two large silver medals, by bringing them into communication, by means of a steel wire, with the negative pole of a Voltaic pile, and keeping them, one after the other, immersed in ammoniuret of gold newly made and well saturated*.

* The result here detailed reminds me of one somewhat similar, which took place during some experiments performed some years ago at the Alkesian rooms. Some gold leaf was put loose upon a new piece of copper coin, which was then brought into the circuit of the pile; a part of the gold was inflated, and other portions adhered to the surface of the copper as completely as if they had been attached by any common gilding process. EDIT.