On insoluble alkaline and earthy double arseniates

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contains phosphate of lime. To make this experiment, a little more than an atom, or preferably two atoms of pyrophosphate of soda, and one atom of carbonate of lime are employed. In the aqueous solution, the presence of lime may be discovered by oxalic acid. The phosphate of lime does not always separate so well by evaporating the aqueous solution to dryness, or by passing a current of carbonic acid gas into it, as by decomposing it by carbonate of soda and evaporation. The phosphate of lime eliminated does not contain any carbonate of lime after washing.

In this case there is evidently formed a double salt of phosphate of soda and phosphate of lime. The latter separates when a portion of the soda is converted in the solution into carbonate of soda.—*L'Institut*, Decembre 26, 1849.

ON INSOLUBLE ALKALINE AND EARTHY DOUBLE ARSENIATES.

BY M. H. ROSE.

Arsenic acid forms with the alkalies and earths double insoluble salts, analogous to those of phosphoric acid. The earthy arseniates are always much more readily decomposed by heat and by the alkaline carbonates than the phosphates are; consequently, if an excess of an alkaline carbonate be employed, the result is a complete decomposition. But if merely an atom of earthy arseniate and an atom of alkaline carbonate be heated together, partial decomposition is soon produced without undergoing fusion. If the calcined mass be treated with water, some earthy carbonate mixed with the insoluble compound remains, in which by long treatment with water the alkali is replaced by an equivalent of water, as already stated with respect to the insoluble double phosphates.

There is therefore but little chance of success in preparing analogous insoluble double salts of arsenic, but they certainly exist; and what proves this is the circumstance, that the calcined mass, although the washing may be long continued, always contains some alkali.—*L'Institut*, Decembre 26, 1849.

ON THE DISCOVERY OF PLATINA IN THE ALPS.

BY M. GUEYMARD.

The author is chief engineer and director of mines, and discovered in 1847, platina on the mountain of Chapeau, in the commune of Champoleon, in the valley of the Droc. It occurs in gray copper ore, which besides contains from some cases as much as 12 per cent. of silver, some antimony, lead, zinc, iron, a little arsenic and sulphur; the gangue is a mixture of dolomites, quartz and barytes.

In 1847 platina was found in the alluvion of Columbia, of the Ural, Brazil, and of St. Domingo; in the rocks of diorite of the high mountains of Columbia (Boussingault), and in the serpentines of the Ural (Leplay). The existence of this metal had not been discovered in other places, and never in the Alps. M. Gueymard states, that in 1847 he had performed more than a hundred examinations or analyses