



Analysis of the plenakite

Professor Bischoff

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yellow when the precipitation has ceased. The green colour is owing to a mixture of the blue tint occasioned by the small quantity of tellurium mixing with the yellow colour of the liquor. Sometimes the remaining liquor is of a dull rose colour, and gives no precipitate in several days; this is owing to the telluret of iron which it contains.

As long as the potash is in access, the sulphur and the selenium are not precipitated, but the access of air converts them into acids; this is a method of obtaining tellurium free from these substances. Muriatic acid precipitates from the yellow solution the selenium and the sulphuret of tellurium which it contains, in the state of sulphuret and seleniuret of tellurium.

The tellurium precipitated from the alkaline solution is a very fine and dense powder: it must be purified by distillation; but on account of its slight volatility it cannot be sublimed from a retort in a common furnace. In order to effect it, a long porcelain vessel, containing tellurium, was put into a large porcelain tube in a furnace; it was heated to redness, and a current of hydrogen gas passed over it. The tellurium was converted into vapour, and it was constantly carried by the hydrogen towards the cold parts of the tube, where it was condensed. In order to make the tellurium flow after its condensation, the tube must be slightly inclined. In a short time all the tellurium distils, and there remains in the porcelain vessel a small button formed of the tellurets of gold, copper, and iron; the product of the distillation is pure tellurium.

In general the process, which consists in fusion with potash and charcoal, may be employed to purify tellurium, especially if it contains sulphur, selenium, or arsenic, all bodies which cannot be separated from it by distillation. The arsenic goes off in vapour at a red heat, and the two others, after the precipitation of the tellurium by the air, remain dissolved in the liquor. The solution of potash contains the metals which render the tellurium impure. If in this operation powdered charcoal be employed instead of oil, the mixture may be strongly heated at once, but the solution of telluret of potassium which is then obtained contains telluret of calcium; and as the lime which is produced is precipitated with the metal, the precipitate must be first washed with muriatic acid, and then with water. The quantity of charcoal ought always to be sufficient to prevent the mass from fusing during reduction, for then it would go over the edges of the crucible and part of it would be lost.—*Annales de Chimie et de Physique*, lviii. 132.

ANALYSIS OF THE PLENAKITE. BY PROFESSOR BISCHOFF.

This very rare mineral is found in the shallow part of an iron mine at Framont (Vosges); it is crystallized in rhomboids. Its physical characters are the same as those of the plénakite of Nordenskiöld, and the analysis of M. Bischoff confirms their similarity. It is as follows:

Silica	17·048
Glucina	14·280
Lime and magnesia	0·030
Matter unacted upon	2·252—33·610

It is considered as a bisilicate of glucina.—*Ibid.**

* See p. 239 of the present number.

MINERAL WATERS.

Circular addressed by Professor Daubeny of Oxford to men of science, particularly on the Continent, who interest themselves on the subject of mineral waters :

“ August 25, 1835.

“ Sir,—The British Association for the Advancement of Science, at their meeting in Dublin this year, having done me the honour to request that I would draw up a report “ On the present state of our knowledge with regard to Mineral Waters,” I am anxious to obtain all the information I can on this subject, and shall be obliged by any communications with which you may favour me, especially relating to such recently published memoirs or treatises as consider the subject in a scientific point of view.

“ These communications, if from foreign parts, may be addressed to the care of Mr. Hunnemann, Queen-street, Soho-square, London, who has correspondents in most cities of Germany.

“ I am, Sir, your obedient servant,

“ CHARLES DAUBENY, F.R.S.,

“ Professor of Chemistry, Oxford.”

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Sir Francis Chantrey's admirable bust of the late venerable Troughton (now placed in the Observatory at Greenwich) has, by permission, been modelled with great success as a cabinet bust by Mr. C. A. Rivers, of 26, Derby-road, Kingsland, the artist by whom those of Telford, Lord Brougham, Lord Denman, &c. were executed.