

"Our noted Bustamente has also found Iodine in the white lead of the mine of Catorce, situated in the department of Guanajuato. In 1834, in company with Mr. Herrera, I made myself a quantitative analysis of this last mentioned mineral. I will give you the results when my trunk arrives.

"I know not whether you have been informed, that in Mexico, Iodine has been discovered in the Sabila and the Romeritos. The Sabila is a plant of the genus *maguery* (*agaves*) which grows on the plains and on the sides of mountains. The Romeritos is a kind of varilla which vegetates on the floating gardens of the fresh water lakes in the neighbourhood of the Capital, it is much eaten during lent."

Annales de Chimie.

Analysis of Virginia Snake Root. (*Polygala Senega.*) By T. A. QUEVENNE.

This account occupies 30 pages of the *Journal de Pharmacie*, and appears to contain a much more thorough examination of the Virginia Seneca Snake Root than any to which it has hitherto been subjected. The substances which the author discovers in the *Polygala*, are Polygalic acid, Virgineaic acid, pectic acid, tannic acid, yellow colouring matter, gum, albumine, cerine, fixed oil, carbonate of lime, carbonate of potash, sulphate of potash, phosphate of potash, chloride of potassium, sulphate of lime, phosphate of lime, alumine, magnesia, silex, and iron.

From the whole scope of the examination he is led to the following conclusions:

1. That no alkaline principle exists in the *Polygala* of Virginia.
2. That the therapeutic action of the root is owing to a principle that had not before been obtained in a state of purity, and which he finds to possess acid properties.
3. That this acid, which he designates Polygalic acid, being sufficiently distinct in its character, ought to assume a place in that class of bodies.
4. That the Polygalic acid exists in a free state in the root.
5. That there is, also, in very small quantity, in the *Polygala*, a volatile fat acid, analogous to the valericinic and phoenic acids; this he denominates Virgineaic acid, and to this he ascribes the odour of the root.
6. That, in order to extract the active principle of the *Polygala*, the best vehicle is cold water, or water at a temperature below 40° C. (104° F.)

Jour. de Pharmacie, Sept. 1835.

Analysis of the Water of the Elton Lake, (Asiatic Russia). M. H. ROSE.

The Elton Lake is the most important of all those that surround the Caspian sea. It is situated on the eastern shore of the Wolga, 274 versts from Saratona. Its greatest diameter from west to east is 17 versts (11 miles) and its shortest from N. to S. 13 versts (9 miles.) It is so shallow that a person may wade through it without getting more than knee deep. It furnishes two-thirds of the salt which is consumed in all Russia. The analysis of a bottle of the water of this lake, brought by M. Humbold, gave me:

Magnesia	0.1022	Chloride of Magnesium	0.1975
Soda	0.0204	Chloride of Sodium	0.0383
Potash	0.0014	Chloride of Potassium	0.0023
Chlorine	0.1697	Sulphate of Magnesia	0.0532
Sulph. Acid	0.0351		0.2913

Its spec. grav. is 1.27288. It contains no calcareous salts whatever, although large masses of crystallized gypsum are found on the shores of the lake. During the summer a great deal of common salt is collected on the shore, and during the winter, or even on cold nights in summer, sulphate of magnesia is deposited. The water of Lake Elton is identical with the northern mother water, which is obtained by the evaporation of the sea water in procuring common salt.

Ann. des Mines.

Artificial Formation of Crystalized Pyrites. By WÖHLER.

If an intimate mixture of tritoxide of iron (for example brown hæmatite heated to redness) sulphur and sal-ammoniac be slowly heated in a glass vessel until the sal-ammoniac is completely sublimed, and the mass be allowed to cool slowly, and then water be poured on it, we shall find that heavy octahedrons and tetrahedrons, of a brass yellow will be deposited in the bottom of the vessel; and that they are identical with common pyrites. The more considerable the mass of materials the larger and better defined will be the crystals.

Jour. de Pharm.

Atmospheric Electricity.

The following curious experiment has been tried with success on a mountain called Teufelsberg, near the village of Philippsthal, within the Prussian States. It became desirable to get rid of a large rock, and, in order to avoid the immense expense of the ordinary means, it was resolved to try the effect of atmospheric electricity. To this end a deep hole was made in the rock, and from it was raised a bar of iron twenty-eight feet high. At the first thunder-storm which ensued, the lightning was attracted by the iron bar, and conducted into the rock, which shattered it to pieces, and it was afterwards easily taken away.—*German paper.*

Mining Journal.

Crosse's Galvanic Apparatus.

The public attention having been much excited by the unpretending statements of Mr. Crosse at the late Bristol meeting, and with the remarkable effects produced by a galvanic apparatus the most extensive of any that has ever been erected, at least by a private individual, we doubt not that the following letter, addressed to the editors of the London Mining Journal, by a gentleman so well known in science as the writer, (together with the article which immediately follows) will be acceptable to the readers of our Journal.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Some questions having appeared in your recent numbers, concerning the construction of the galvanic apparatus of Mr. Crosse, I am happy in having it in my power, from having spent some interesting days in his house, to give your correspondents an account which I hope may prove satisfactory. I rejoice in the opportunity thus afforded me of showing, that although locally removed, I can never cease to feel a warm interest in what is passing in a county endeared to me by so many associations. Each separate combination, forming one of the members of Mr. Crosse's galvanic series, consisted of a plate of copper, containing from three to four square inches of surface, bent round so as to form a cylinder, inside of which was a similar plate of zinc; round the interior zinc cylinder a thin string was