

a yellow precipitate when added to this solution; a plate of zinc, a metallic crystallization, and sulphuret of ammonia, a black precipitate.

The remainder of the acid solution was submitted to a stream of sulphuretted hydrogen: and the black precipitate thus obtained, after being washed, and properly dried, was mixed with a portion of black floss and reduced. A metallic substance was the result which proved to be pure lead.—*Bulletin of the Royal Academy of Sciences of Brussels*, vol. 8, May, 1841. T. R. B.

82. *Do Metallic poisons when mixed with cultivated land, enter into the composition of the vegetables produced?*—We mentioned in the last number, that this had been proposed as a prize question by the Academy. Five memoirs were received in reply, three of which came too late. To the others, the Academy awarded silver medals.

The first (written by M. LOUYER, Professor of Chemistry in the Central School of Commerce and Industry at Brussels) stated that the author had impregnated a portion of soil with arsenic in three different proportions—also a part with arsenite of potash—with tartrate of potash and antimony—with sulphate of iron—sulphate of copper—sulphate of zinc—proto-nitrate of mercury—and corrosive sublimate. In these, barley, rye, and buckwheat were sown. When the quantity of arsenic in a square of 64 feet of ground, amounted to 1280 grains, germination was checked, but when the quantity in the same space was more than 256 grains, neither it nor the full growth of the plants was at all retarded. The roots, leaves, and seeds of the cereals thus produced, were macerated in a gentle heat for two or three days with a solution of caustic potash. This after being concentrated and neutralized with sulphuric acid, was introduced into the apparatus of Marsh. No indication of arsenic was perceived. The author then examined a portion of the above soil, and found in it, a sensible quantity of arsenious acid in a soluble state. It would thus seem, that although the cereals grow in a soil impregnated with arsenic, yet their roots do not imbibe an appreciable portion of it. Mr. Martens, the reporter on this memoir, however regrets that the author did not employ the method of carbonization with nitric acid, as much the most certain for detecting minute portions of arsenic.

When the grains, which had been checked in their growth by the too strongly impregnated soil, were submitted to analysis, they were found to contain a sensible quantity of arsenious acid, thus proving that the absorption of the poison had checked vegetation.

No poison could be detected in plants grown on the soil containing arsenite of potash, but the author ascertained that this salt was almost entirely insoluble, having been mainly converted into an arsenite of lime.

A similar result was obtained with plants from the soil containing tartar emetic. This salt had also become insoluble.

Iron in notable quantities was detected in every part of the plant, grown on the soil impregnated with sulphate of iron, thus apparently proving that non-poisonous substances are more readily absorbed than their opposites. So also with plants grown on the soil containing copper. That metal was detected in the leaves, twigs and seeds, while on the contrary, no trace of it could be discovered in cereals growing on soil not impregnated.

In plants from the ground containing sulphate of zinc, proto-nitrate of mercury and corrosive sublimate, no trace of these substances could be discovered, nor did they appear to have influenced or retarded their growth. When, however, plants were watered with a strong solution of corrosive sublimate, they died in a few days, and on analysis, the poison was detected.

The conclusion of the author from these experiments is, that a soil containing a notable proportion of metallic poison will not check or impede the growth and maturity of cereals.

The second memoir was written by M. VERVER, of the University of Groningen. He also had divided off a garden plot into various squares and impregnated the earth in each with the respective poisons. The results with arsenic were

precisely similar to those of Louyet. He did not detect any copper in the vegetables raised from that soil, but this is ascribed to the insufficiency of the analysis, and probably somewhat also to the decomposing effect of the carbonate of lime in the earth, on the sulphate of copper.

M. Verver also planted balls made of the mixture of the grain and of arsenic; (as is frequently done by farmers;) vegetation was not in the least impeded; the plants did not contain the poison, although it was detected in a soluble state in the soil several months thereafter.

A similar result occurred when arsenic and arseniate of potass in powder were inserted at the root of growing plants, but watering them with a solution of the above substances speedily induced death.

From these results, our author is induced to believe that the practice of farmers, of scattering arsenic over their cultivated grounds, in order to destroy noxious animals, cannot prove injurious to the cereals growing in them.

The examiners of the above memoirs seem notwithstanding inclined to dissuade from the use of this dangerous material.—*Bulletin of the Royal Academy of Brussels*, vol. 8, May, 1841. T. R. B.

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83. *Superfœtation*.—Mr. Renauldin presented to the Academy a two-lobed uterus, of which the following was the history. A female, aged 23 years, six months advanced in pregnancy, aborted. After suffering severe abdominal pains for a week, she was admitted into the Hospital Beaujon. M. Renauldin found her labouring under the most marked symptoms of puerperal peritonitis, and she died in seven days thereafter.

On dissection, the external organs and the vagina were found to be natural, but the uterus had a double neck, and was divided into two cavities completely separated from each other, with an ovary, fallopian tube and ligaments to each. The left cavity, much larger than the right, still contained some bloody spots, and from this the fœtus is supposed to have proceeded. With such an anatomical conformation, it is supposed that superfœtation might have occurred.

The present is a proper place to mention that I have read with pleasure the article "*Generation*" by Dr. Allen Thomson in the "*Cyclopædia of Anatomy and Physiology*." In his remarks on Superfœtation, he has however, committed one error of some importance, viz., increasing incorrectly the number of extraordinary cases. The first is quoted from Burdach, and related on the authority of Eisenmann. The fifth is quoted from Velpeau, and is related of a Madame Bigaux. Now these are one and the same case. Madame Bigaud Vivier on the 30th of April, 1748, was delivered of a living child, and on the 16th of September succeeding, another of full size and mature was born. The mother, who had also a child in 1752, died of an acute disease in 1755, and was examined by Prof. Eisenmann, who found the parts natural. *There was no double uterus*. My authority for this is Devergie, *Médecine Legale*, vol. 1, p. 489, 1st edition. Desgranges' case is equally remarkable with the above, but in this there was no dissection.

The following remarkable case is quoted in the British and Foreign Quarterly Review of October, 1841, from the communications of a Society of Physicians practising at Riga. "A robust girl conceived in February, and in consequence menstruation ceased. In June, she aborted. To her dismay, soon after the symptoms of advanced pregnancy appeared, and in the beginning of November, five months after the abortion, she was delivered of a full grown child, which doubtless, was the result of the same impregnation, as the fœtus expelled at the fourth month."—*Bulletin of the Royal Academy of Medicine of Paris*, sitting of the 21st of December, 1841. T. R. B.

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84. *Plea of Quick with child in criminal cases*.—At a meeting of the Provincial Medical and Surgical Association, held in August last at York in England, the following resolution was moved by Mr. Griffiths of Wexham, and carried.

"The attention of this Association having been called to the present state of the law as it affects female criminals under sentence of death, it desires to re-