

but as, by the north winds, there is often but one stratum of clouds, this action by induction no longer occurs, and the rain is more frequently positive. In winter, the snow falls generally from a single stratum; it is almost always positive."

### DISCOVERY OF NEW ELEMENTARY BODIES.

Professor Henry Rose, professor of Chemistry at Berlin, has a few months ago announced the discovery of two new elementary bodies of a metallic nature, in a mineral—the Tantalite of Bavaria. He has proposed for them the names of Pelopium and Niobium. These, together with Lantanium, observed by Mosander, and more recently of Didymium, discovered by the same chemist, increase the number of bodies, in the meanwhile recognised as elements, to 58.

### ABSTRACT OF A MEMOIR ON THE LEECH COMMERCE OF FRANCE.

By M. CHEVALIER.

France has been for some time supplied with leeches for medical use from Hungary, Turkey, Wallachia, Russia, and Egypt. This branch of commerce is chiefly in the hands of large dealers, and, indeed, at the present time, it is carried on almost entirely by a single company at Strasbourg, where the animals are kept in large ponds for the supply of retailers. They are conveyed from their native marshes to the French frontiers overland, in ten or twelve days, by means of spring waggons, in which they are disposed in bags from 100 to 120 in number, and each weighing about eight pounds avoirdupois. They are watered occasionally on the way. But, contrary to what has been often alleged, they are not fed either before or during the journey; for in that case the mortality on the way is greatly increased. The supply has been falling off for some years—the annual importation into France prior to 1834 having been 44 millions, while now it is only 17½ millions; and the price has risen in the same ratio as the importation has diminished, namely, from three-halfpence each to fivepence. The source of supply is therefore obviously becoming exhausted.

In French trade five denominations of leeches are distinguished, viz., great leeches, cow-leeches, middlings, little-middlings, and thread-leeches. The last quality consists of young ones gathered a great deal too soon, and comparatively unfit for use. The relative prices to the wholesale dealer are 200 shillings, 165, 180, 2, 54 shillings the thousand. The relative size may be judged of from the relative weight of a thousand of them; which varies from 6½ to 6 9-10 avoirdupoise pound, for the great leeches; from 2½ to 2¾ for the middlings; from 1 35-100 to 1 43-100 for the little-middlings; and about 88-100 for the thread-leeches. Cow-leeches, an inferior sort, are the largest of all, for a thousand of them usually weigh about 20 pounds. At least two species of the leech occur in French commerce, the *Sanguisuga officinalis* and *S. medicinalis*; and M. Mequin-Tandon, who has studied their natural history attentively, finds that two other species, the *S. interrupta* and *S. obscura*, are also occasionally made use of in France.

The relative utility of the four principal qualities, deduced from the quantity of blood they draw, appears extremely different. In a careful trial made with ten leeches of each quality, which were selected for the purpose by one of the principal leech-dealers in Paris, it was found that each great leech, which weighed on an average 46 grains, drew 247 grains of blood; that each middling-leech, weighing 19½ grains, drew 129 grains; that each little-middling of the weight of 11 grains, drew 51 grains; and that each thread-leech, which weighed only 7½ grains, sucked no more than 19 grains. It is worthy of remark, that every one of these

forty leeches fastened upon the skin at once, and without any preparatory measure whatever.

The principal cause of the tardy and imperfect action of leeches is, that they are partially gorged by the dealers, either expressly, or simply because they have been previously used. The practice of expressly gorging leeches prevails to a great extent in France. The reason is, that the lower qualities of them, when allowed to remain in blood till they are satiated, will, in this way, double their original weight, and thus pass with the inexperienced for leeches of a higher quality, and much greater price. Leeches treated in this way are not always easily known. Though generally torpid, they are sometimes active enough; and when squeezed in the hand, they contract themselves into a ball, which is therefore not an infallible character, as some suppose, of the leech being good. They are best known by the following characters:—When pressed between the finger and thumb, they do not flatten so easily or so completely as when fasting, and they present a reddish appearance: If squeezed between the fingers from the head to the tail, a tumour forms at the end, consisting of blood: If the leech be dusted over the forepart of its body with finely-powdered salt, and a little more be sprinkled on its two ends, when it elongates them in its efforts to escape, the blood will be emitted within thirty seconds. The last test will even detect the minutest traces of blood left in a leech that has been used and stripped, unless the operation of stripping has been performed with unusual care. A virgin-leech never emits any blood when touched with salt.

Many interesting practical deductions follow from these facts. The most important to the medical practitioner is, that *an experienced dealer can choose from his store leeches which will, to a certainty, fasten upon the skin at once without any preparatory measure, and will suck on an average half an ounce of blood.* In ordinary cases, much annoyance is occasioned to the patient by the sluggishness with which they adhere; and the average quantity of blood drawn by suction does not exceed one drachm.

### FORENSIC MEDICINE.

#### TESTS FOR OPIUM.

Where opium cannot be detected by the smell, Mr. Taylor prefers the sesqui-chloride of iron as a test, discovering as it does meconic acid in one hundred and sixtieth of a gr. of opium.

It might be supposed, says he, that if, on adding strong nitric acid to a portion of the liquid, a bright red colour resulted, this would be a sufficient indication of the presence of morphia, and therefore of opium; but a serious mistake might be committed in such a case, unless the operator had previously employed the iron test, and determined the presence of meconic acid in the liquid. It is worthy of remark that the nitric acid test, while it destroys the colour given by the meconate of iron (a dark red), will bring out, when added to excess to the same portion of liquid, the peculiar bright amber red tint which it is known to give in a solution of morphia. The tests for meconic acid and morphia may be thus applied to one quantity of liquid.

Mr. Taylor, after explaining the fallacies these tests, and that of iodic acid, may give rise to, next describes some experiments he instituted for the discovery of the smallest quantity of morphia which can be detected by each. He found that nitric acid detected one-fiftieth gr. of muriate of morphia, diluted in 300 parts by weight of water; sesqui-chlor. iron detected the one-eleventh gr. in 231 parts of water; and iodic acid the one hundredth gr. in 1300 parts of water. Thus iodic acid is by far the most delicate test, discovering, as it does, morphia in less than one-fifth of a grain of opium; but