devised and—assisted by my friend Mr. Lonsdale—performed the operation described. No blood was lost; the performance occupied perhaps two minutes, and might be accomplished in less time. On tightening the ligature, the nævus became perfectly white, and so violent was the constriction, that the secretion from the mucous follicles was forced out all over its surface. The child did not appear to suffer much during the operation, and ceased to cry or to exhibit any symptom of pain five minutes after its completion, and immediately went to sleep.

The following day, the child appeared quite well and cheerful; had passed an excellent night; the line of separation very marked, extending one-eighth of an inch all round the part constricted, which was half its former size; no swelling of the face or nose, nor œdema of the eyelid. All went on well, and on the eighth day the slough with the ligature was thrown off, leaving a circular wound of considerably less dimensions than the nævus presented prior to the operation.

The advantages this method appears to possess over those in general use, may be stated as follows:—

1. That it requires no other apparatus than a needle and a piece of silk; and that it is very easily, quickly, and safely performed.

2. That it leaves less deformity than the operation by excision, or by the common mode of applying ligatures, the sound skin being drawn around the base of the nævus, and so held, as by two points of suture, almost to fill the space previously occupied by the same.

3. That neither needle nor other apparatus is left after the operation is completed, with risk of injury to other parts, nor to the inconvenience of the mother, the infant, or the nurse.

4. That it can be applied easily in situations where other means cannot be used conveniently, at any depth, or however superficial, to a flat as readily as to a raised surface, without risk of hæmorrhage at the time of operating, or subsequently thereto.

5. That the ligature passing beneath and completely encircling the parts to be removed, the strangulation must be perfect, and that it can be seen to be so at the period of operating, thereby putting aside all doubt as to the result.

Upper Montague-street, February 14th, 1845.

ON THE POISONOUS EFFECTS OF SAVIN, (JUNIPERUS SABINA.)

By H. Letheby, Esq. M.B., Lecturer on Chemistry at the London Hospital.

A young woman, M. A. N——, aged 21, had enjoyed remarkably good health up to twelve hours before her death. On the night of Tuesday, April the 22nd, she supped with her lover, by whom she was far advanced in the family way. She was then cheerful and hearty, but about three o'clock in the morning, she awoke her mother, with whom she slept, and complained of a violent pain in her stomach. She was very sick, and her mother, believing that it arose from a too hearty meal, got up and gave her some brandy and water. The sickness, however, was not diminished, and she subsequently became insensible. About eight o'clock, her mother sent for the parish surgeon, whose assistant came to see her; he prescribed some ordinary medicines, which, from her insensibility, they were unable to administer. Fearing that there might be some danger, the mother sent for another surgeon, Mr. Newth, who got to her about eleven o'clock. She was lying on her back, perfectly insensible, breathing laboriously, and with stertor; she was foaming at the mouth, her countenance was turgid, the eyes shut, with the pupils much contracted; her limbs were also convulsed, and the mother told him that she thought she had been suddenly taken in labour. He therefore made an examination per vaginam, but found that the os uteri was only slightly dilated; the membranes, however, were ruptured, and the uterus was still acting vigorously, each contraction being accompanied by a convulsive tremor. Believing it to be a case of puerperal convulsions, he bled her, and applied cold to the head, but this did not in any degree restore her. As the os uteri became more fully dilated, he found that the head of the child presented, and that it was gradually descending. About three o'clock, while the labour was thus progressing, she uttered a low moan, and in a few minutes ceased to breathe. Mr. Newth immediately sent for the forceps, and delivered her of a male child, which was dead; as far as he could judge from its appearance, and the mother's report, deceased was somewhere between the term of the seventh and eighth month of pregnancy.

Twenty-four hours after death, Mr. Newth made an examination of her body. It bore no marks of violence, was well formed, and rather robust. On opening the head, he found that the vessels upon the surface of the brain were much gorged with black fluid blood, and in proceeding with sections of the cerebral substance, discovered that the grey matter was infiltrated in various parts by the same dark-looking blood; this he especially noticed in the anterior part of the corpus striatum. The choroid plexus was also gorged; the ventricles were empty. The lungs were a little congested on the dependent parts, but otherwise healthy. He did not examine the heart, nor did he pay attention to any of the abdominal viscera besides the stomach. This on being opened appeared rather paler than usual, excepting one or two spots, which were red, as if blood had been effused into the mucous tissue. It contained about four ounces of fluid, which he secured, and brought to me for examination. This fluid had a dark brownish-green colour, smelt of digesting matter, and exhibited an acid reaction. A part of it was subjected to distillation in a retort. The portion which came over was turbid and opaque; it smelt and tasted like oil of savin. When examined by the microscope, it was found that the turbidity was due to minute oil globules. The whole was therefore shaken with ether, which instantly rendered it transparent; and on allowing this to stand and evaporate spontaneously, I procured several small drops of a yellow oil, having all the physical character of oil of savin. A little of the sediment from the original bottle was afterwards examined under the microscope, and compared with the powder of the dried plant; their structure appeared to be perfectly identical. The remainder of the fluid was filtered, and the residue digested with ether, by which means there was obtained a green solution, containing resin and the vegetable colouring matter, chlorophylle. In order, however, to be certain of all results which were thus manifested, I instituted a parallel series of experiments with a little powdered savin, and there could be no doubt in my mind of their identity. It afterwards occurred to me that porter might possibly yield similar products. I therefore distilled four ounces of this fluid, and after rejecting the alcoholic portion which first came over, I obtained a liquid which was slightly turbid, from the presence of oil; but if we except this particular there was no similitude whatever between the results.

Remarks.—In the evidence which was given before the coroner (for I was unable to attend the inquest) an opinion was entertained that deceased had died of puerperal convulsions, and a verdict to that effect was accordingly returned. It appears, however, after carefully reviewing the case, and making a comparison of the symptoms with those which are produced by savin upon the lower animals, that this poison might have been the cause of her death, for one of the most constant effects produced by it is a great congestion of the venous and capillary systems, together with profound coma. For instance, to take one case out of many. Two drachms of powdered savin, which had been kept for some years, was administered with food to a small terrier; in about one hour the animal appeared a little dull and sleepy, but it was otherwise unaffected, and even this appearance might have escaped notice, if we had not been watching for effects. In another hour and a half it began to vomit, bringing up the greater part of its food, and some of the poison. This vomiting was repeated at various intervals for about one hour and a half. It then appeared exhausted, and laid down, as it were, to sleep, but it never again rose, for in two hours it was found in the same position, perfectly insensible, and comatose, breathing with a peculiar puffing noise. The eyes remained closed, the pupils were contracted, the limbs moved when they were pinched, and the heart was beating with a slow, labouring action. It lay in this position for about eight hours, during which time a great deal of blood was passed by stool, and there was an occasional convulsive movement of the hind legs. Its breathing became slower and slower, until death took place, which happened fourteen hours after the administration of the poison.

Twenty-four hours after death the body was found in the same position in which the animal had lain down some hours before it died. The vessels on the surface of the brain were much congested and filled with dark blood; the choroid plexus was also gorged, and the substance of the brain more turgid than natural. The lungs were collapsed, and of a bright scarlet colour; the right cavities of the heart were full, the left empty. The liver was almost black, the gall-bladder full of very green bile. The spleen purplish black. The stomach was pale externally, and so was the upper part of the small intestines; the lower, however, were exceedingly congested, and looked as if blood had been effused between the muscular striæ. On opening them, they were found to be highly vascular, and covered with a layer of sanguineous fluid. The stomach contained two ounces of a dark-brownish liquid, which gave a turbid fluid on distillation, from which a little savin oil was obtained. The internal coat of the stomach was pale, excepting in two or three spots, where the mucous coat was injected with blood.

Now, it will be observed, that these symptoms and appearances

simulate very closely those of the case under consideration, and when it is borne in mind that puerperal convulsions do not very frequently attack at this period of pregnancy, and that when they arise from cerebral congestion they are generally ushered in by some premonitory symptoms, there is a great reason for believing that savin was the cause of death.

I regret that the alimentary canal was not more carefully examined, for it would appear from our experiments that savin exerts a specific action upon the vessels of the lower bowel, rendering the whole of it turgid, and, as it were, inflamed; there is no doubt, also, that this is the secret of its influence upon the uterus, both in producing abortion and urging on the menstrual flow, for its vessels must participate in the general plethora of the intestinal system. Vogt, indeed, says that it has a tendency to produce an apoplectic condition of the fœtus, and this appears to be highly probable.

Judging altogether of the effects of savin, we may regard it as a local irritant; it also affects the constitution, appearing to exert an influence on the vascular system, producing increased action of the heart, and subsequently a gorged state of the venous and capillary circulation. This may occasion the coma and insensibility, or even the convulsions and extravasations, which supervene.

In medico-legal inquiries we should expect to recognise savin by the following characters:—Its action is not immediate, but in two or three hours there might be pain in the stomach and vomiting; subsequently to this we may find coma, slight twitching of the limbs, bloody stools, and death in about twelve or fourteen hours: after death the vessels of the brain may be found congested, the blood black, the heart full, especially on the right side; the lower bowel highly congested, and containing blood. If powdered savin has been administered, the contents of the stomach will have a greenish tinge, and when examined by the microscope, it is easy to recognise the peculiar structure of the herb. On distillation, it will yield a turbid fluid, which is rendered clear by ether; and on spontaneous evaporation, this will leave a pellicle of yellowish oil, having the odour and taste of savin oil. The residue digested with ether, produces a green solution, containing resin and chlorophylle. The substances likely to be confounded with it are, green herbs containing volatile oil.

Tredegar-square, June 9th, 1845.

ON THE CAUSES OF GOITRE.

By W. Twining, Esq. M.D.

With reference to a remark on goitre, in The Lancet of June 1st, p. 614, I would beg to offer for your journal the following facts.

In the narrative of his voyages round the world, G. Von Langsdorf states, "The assertion that goitre, so prevalent in the Swiss cantons and the Tyrol, arises from the use of snow-water, is refuted by the fact, that the Coraks, in Kamschatka, during the greater part of the year, drink snow and ice, melted, and even in summer time, when they withdraw to the mountains with their rein-deer, snow-water is still almost their only drink, and no such thing as goitre is to be seen among the Coraks."

Linnæus, too, congratulates the Laplanders in their mountains, on their exemption from goitre and idiocy, their drink being snow-water.

Lastly, Marsden states, in his Travels, that in Sumatra, where frost and snow are never seen, goitre is very frequent. It has been ascertained by travellers in Asia, America, and Europe, that goitre occurs generally where endemic, in the valleys of the limestone formation, but not exclusively.

June, 1845.

REVIEWS.

A Physiological Essay on the Thymus Gland. By John Simon, F.R.S., Demonstrator of Anatomy in King's College, and Assistant-Surgeon to King's College Hospital.

Our readers will recollect that the late Sir Astley Cooper, with that desire for the advancement of medical science which was one of his leading characteristics through life, and which distinguished him to the very last, bequeathed a large sum of money for the institution of the munificent triennial prize of £300, to be given, under certain conditions, for the best and most original essay on a subject connected with physiology or surgery, to be determined by the physicians and surgeons of Guy's Hospital. The work now before us is the first essay for which this prize has been awarded, and great as the distinction must appear, it is, in our estimation, fully worthy of it, being, without even excepting Sir A. Cooper's very magnificent treatise, the most complete and original work on the thymus that has yet appeared, and one that does infinite credit to the industry and powers of investigation of Mr. Simon.

After giving, in the first chapter, a very clear and interesting historical sketch of the numerous opinions that have, at various times, been entertained with regard to the functions of the thymus gland, the author proceeds to treat of its development, first, with reference to structure, and, secondly, to size. Mr. Simon's investigations in this respect were principally conducted on the embryos of swine and oxen. It may be detected in embryos of little more than half an inch in length, in the shape of a simple tube lying along the carotid vessels, and surrounded by faint indications of nascent areolar tissue. He believes that it is originally formed from a series of primordial cells, arranged in a line along the cervical vessels and pericardium, and coalescing on each side of the neck. Mr. Simon does not agree with Arnold in supposing that this primary tube has any connexion with the larynx or the rest of the respiratory apparatus, but, on the contrary, states, as the result of his dissections, that it is quite distinct from it, and closed throughout; neither does he agree with Bischoff, that its origin has any particular relation to that of the thyroid body. The second stage in the process of development is analogous to the mode of growth in glands generally, viz., the bulging of the tube at certain points into follicles, which maintain their connexion with its cavity. The third distinct step in the development of the gland, is made by the commencement of ramification in its follicles:—

"By the extension of this process of follicular growth to all portions of the gland successively—by the repetition on each new crop of follicles of the same acts of development and ramification—and by the continued molecular increase, which pervades the entire substance uniformly, as the means of interstitial growth, the thymus attains the bulk and the complexity of structure which distinguish it in the mature fœtus. There is no change whatever in the nature of the phenomena, the later steps are exact iterations of the first; the type of development is established by the earliest bulging of the primary tube—by the first vesicle that buds from its side. That type essentially consists in the *lateral growth of branching diverticula from a central tubular axis.* And as the extremities of these diverticula, like the follicles whence they first sprang, tend always to assume the vesicular shape, and to represent large segments of spheres, the permanent structure of the gland, no less than its mode of development, may be named *tubulo-vesicular.*"—p. 24.

Mr. Simon very justly remarks, that there are only two ways by which the true structure of the thymus can be satisfactorily ascertained, namely, either by the artificial distention of its cavities, or by studying the successive stages of its development in the embryo. The first, as is well known, was the plan adopted by Sir A. Cooper; the second, that by our author. By the first mode of procedure, Sir A. Cooper succeeded in demonstrating the existence of a central cavity or reservoir, the size of which, as is evident from the means employed, he somewhat over-estimated, and the opponents of this view were able to deny the existence of such a cavity, by pretending that the means employed actually produced the appearance they merely professed to demonstrate:—

"As is usually the case, the truth lay between the extremes; there certainly is a central cavity; but it is one which bears only a small proportion to the entire mass of glandular structure. It is the above-mentioned primary tube, which, though increased in size, is yet hidden from casual observation, by the abundant peripheral off-shoots developed from it; and which, when exhibited by the former modes of preparation, had been seen with a deceptive exaggeration. But, not the less, there is a common central cavity; and I trust that the preceding observations may suffice, not only to elucidate its origin, nature, and relations, but likewise to explain those peculiarities in the structure of the mature gland, by which the discovery of its cavity is rendered so difficult, that many accomplished anatomists have been induced to discredit its existence."—p. 26.