

different substances as elaterin, and the analogous compounds obtained from the convolvulacæ, euphorbiacæ, and guttiferæ, has up to a recent period been involved in much mystery. Some clue to an explanation has, however, been obtained from the experiments of C. M. G. Zwicke on the action of convolvulin and jalappin, from which it would appear that the activity of these resins is due to their solution in the bile. Hagentorn also found that when convolvulin had been converted into a soluble convolvulinic acid it still was incapable of producing any drastic effects in cats when rubbed into the skin, or applied to the mucous membranes of the nose, mouth, or stomach, or introduced into the jugular vein. He even found that the resin might be introduced into a loop of the small intestine, the contents of which had been expressed and a ligature placed upon it, above and below, without producing vomiting or purging after twenty-four hours' stay, though the mucous membrane was reddened. Untiedt continued Hagentorn's experiments, and satisfied himself that convolvulins of the alkalies, when subcutaneously injected or introduced into the jugular vein were inoperative. He then employed the rectum as the place of application, and found that whilst clysters of pure convolvulin, or of convolvulin and taurin, or of convolvulin and choloidinate of soda, were quite inoperative, a mixture of convolvulin and bile, or of convolvulin and glycocholate or taurocholate of soda, immediately occasioned violent diarrhœa. On the addition of soap the purging followed in four hours, and Untiedt has shown, and his statements have been corroborated by Bastgen, that in the latter case a partial conversion of convolvulin into convolvulin-oleic acid occurs. From these experiments it appears that bile, biliary acids, and soap constitute a menstruum for these resinous compounds, and their purgative action is due to the local irritation the solution in the intestinal juices excites, which solution is materially aided by the bile. Dr. Köhler gives the details of a considerable number of experiments he has himself undertaken, and demonstrates that the drastic cathartics may be divided into two, or perhaps even three, classes—namely, first into those that are, and those that are not, dependent for their activity on the presence and solvent action of the bile: the former including aloes, croton oil, rhubarb, senna, etc.; the latter being again divisible into those which, on being dissolved by the bile, act purely locally, as jalap, scammony, gamboge, agaricus, and those which, after solution in the bile, not only act locally, but are also absorbed in the blood, and act also on the nervous system; this group including the cucurbitacæ, as elaterium, colocynth, and bryony.—*Practitioner*, Nov. 1870, from *Virchow's Archiv*, Bd. iv. heft 3, 1870.

13. *Action of Gelsemium Sempervirens*.—Dr. ROBERTS BARTHOLOW, of Cincinnati, has published (*Practitioner*, Oct. 1870) some interesting experiments instituted to determine the physiological action of gelsemium on the nervous system. The following are his conclusions:—

1. Being a crystalloidal substance, gelsemiate of gelsemia, the active principle, is rapidly absorbed into the blood.
2. It has a sedative action on the nervous system.
3. It acts chiefly on the motor portion of the cord.
4. Its paralyzing effect is due to its action on the motor centre, and not to an action on the peripheral nerve-fibres.
5. It acts also on the sensory portion of the cord, producing at last complete anæsthesia; but this effect in warm-blooded animals and in man is toxic only, and follows the paralysis of the motor functions.

*Synergists*.—All the paralyzers are synergistic to gelsemium. In its physiological action, gelsemium corresponds more nearly to conium than to any other agent. Conium is a paralyzer, but, unlike gelsemium, the paralysis commences at the periphery, and rapidly extends to the motor centre. Conium, like gelsemium, does not destroy the muscular irritability. Gelsemium impairs the sensibility of the sensory nerves, which conium does not. Both cause death by asphyxia—paralysis of the muscles of respiration. In their effects on the brain these agents act similarly. Neither destroys, *per se*, the functions of the brain, consciousness being preserved until carbonic acid narcosis supervenes.

Both produce dilatation of the pupil and blindness; but gelsemium more distinctly paralyzes the third pair than conium.

Dr. B. has devoted much labour to determine the supposed antagonists to gelsemium. Strychnia, which, *a priori*, would seem to be a complete antagonist, is not so, as Dr. B. has convinced himself by repeated trials. An animal under the influence of gelsemium is quickly tetanized by strychnia.

Physostigma might be supposed to be an autagouist, but, on trial, the toxic effects of this article proved to be synergetic to gelsemium; death resulting more speedily from a dose of the latter when the former was also administered.

14. *Clinical Observations on the Bromides*.—Dr. NAMAIS publishes some important observations on the results of experiments made with the bromides during several past years. In 1867 he found that bromide of potassium was sometimes able to cure epilepsy, or at least that it could diminish the violence of the attacks and the frequency of their recurrence. To effect this, however, considerable doses were requisite, amounting even to as much as six drachms. In the event of any poisonous effects of the drug appearing, they vanish on the immediate stoppage of its administration in from two to three days. Bromide of potassium possesses a cumulative power, and may remain for a long time in the body, traces being discoverable for a considerable period in the urine. In 1868 the conclusions which he arrived at were—That a certain accumulation of bromide of potassium in the body of epileptic patients was required before it could produce its effects. The diminution of the accumulation of the bromide in the body can be estimated by the reduction of the quantity appearing in the urine. In one case the amount discharged in twenty-four hours by the urine amounted to a little more than fifteen grains, and he concluded from this that it was eliminated by other channels. The epileptic attacks cease when the urine contains 0.033 per cent. of bromide of potassium; they recur when the proportion falls to 0.030 per cent. The salt can also be discovered in the saliva, 100 parts containing 0.150 of the bromide. It exerts so specific an action in epilepsy as to influence it favourably even when the causes determining the attack still persist. His experiments in 1869 enabled him to add to the foregoing that the bromide not only accumulates in the fluids but in the solids of the body; that it checks reflectorial and convulsive movements, even in cases where it may be unable to exert any influence on the immediate cause of the attack; that bromide of iron corrects defective formation of blood, quiets nervous excitation, and produces the combined effects of iron and the bromides. In accordance with his present experience, Prof. Namais regards the *bromide of iron* as being in many instances a therapeutic agent of superior value in epilepsy even to the bromide of potassium.—*Practitioner*, Nov. 1870, from *Giornale Veneto di Scienze Mediche*, Ser. iii. T. 2, 1870.

15. *Saponified Cod-liver Oil in Phthisis*.—Dr. VAN DEN CORPUT, Professor of Clinical Medicine at the St. Jean Hospital, Brussels, has just published a paper giving an account of the great advantage which he has derived from the employment of cod-liver oil saponified by lime in the treatment of phthisis. After reviewing the published accounts of the beneficial action of cod-liver oil, and of the various means which have been adopted (with only a certain amount of success) for overcoming the repugnance which so many patients feel for it, he refers to some experiments which are but little known, although of a high therapeutic value, which were made in 1857, at the Artisan's Hospital, of Moscow, of treating phthisis by calcined bone. Of ninety women with tubercular cavities, twenty-five quitted the hospital cured, or at least in a condition of health relatively good. He attributes also to the presence of the same substance in James's powder "its recognized efficacy in certain cases of phthisis, the reputation of which is justly maintained in our own day," an admission which, we think, few will indorse here. Certain calcareous mineral waters are also debited with the same efficacy. As a first result of his own investigations in this direction, Professor Van den Corput found that the following formula furnished a preparation that is easier taken and is more efficacious than the oil taken alone, and he has made use of it in his hospital: R.—Cod-liver oil 250,