MATERIA MEDICA.

ON THE OLEO-STEARATES OF METALLIC OXIDES.

Translated from the *Bulletin Generale de Therapeutique* by Arthur Van Harlingen, M. D.

We desire to call the attention of practitioners to the advantages which these compounds present, both as entering into particular pharmaceutical preparations, and as to the therapeutic results which may be hoped for from their use.

Oleo-stearates (or rather oleo-stearo-margarates) are salts which have as bases oxides of the various metals, and as acids the oleic, stearic, and even margaric; and which are extracted from fatty substances by saponification.

Two processes may be employed for the preparation of these salts; one, which is direct, consists in mingling in presence of a certain quantity of water the different oxides which it is desired to combine, and the acids, or rather the natural fatty substances which are found in combination with glycerine under the names of oleine, stearine, and margarine. In this process the action of heat is often necessary, in order that the combination may be more easily effected.

This method is similar to that by which almond soap (oleate of soda), white soap, and lead plaster (oleo-stearo-margarate of lead) are prepared.

In other cases, and particularly where the oxide which is to enter into the combination is very slightly alkaline, or of feeble solubility in water, and where, on the other hand, the oleo-stearate is insoluble in the same vehicle, it is necessary to have recourse to a second process, which permits of obtaining the salt indirectly and by double decomposition.

It is by this process that the oleo-stearates of iron, copper, mercury, etc., and of the various alkaloids, are obtained.

For this purpose a solution of almond soap is added in small portions to a solution of some soluble salt, with the base of which it is desired to obtain an oleo-stearate, until a precipitate is formed. Care must be taken always to employ an excess of the solution of soap, the presence of which excess is recognized by the milky tint of the supernatant fluid, the latter being clearly separated from the precipitated oleo-stearate.

That metallic salt should be chosen which precipitates most easily; thus, for iron or copper the sulphate, for mercury the per-nitrate, should be used, avoiding in the latter an excess of nitric acid, which possesses the property of decomposing the alkaline soap and setting free the fatty acids.

For the oleo-stearates of the alkaloids as proposed by M. Tripier, the chlorides of morphia, quinia, etc., are used.

The salts, as we have said, offer as pharmaceutical preparations several advantages, which have been pointed out by various writers, particularly M. Jeannel.

They allow, by their easy solubility in fatty substances, the preparation of ferruginous oils, and pomades containg active principles (oleo-stearates of morphia, quinia, etc.), where the state of solution in the excipient in which they exist makes them preferable to similar preparations where the active principles are incorporated by simply mixing or are dissolved in water, and are perhaps much less, easy of absorption.

Finally, the oleo-stearates lend themselves successfully to various therapeutical applications. To give a single example, we may cite the oleo-stearate of zinc, which, mingled with a convenient quantity of an unctuous excipient, as in the following formula, gives excellent results in the treatment of chronic exzema accompanied by itching:

℞ Oleo-stearate of zinc (dry), 3 parts;
Mutton suet, 15 parts,
Oil of sweet almonds, 15 parts.

Slowly incorporate the oleo-stearate of zinc with one part of the oil of almonds in a slightly warmed porcelain mortar, and add, little by little, the melted and partially cooled mixture of the remainder of the oil with the suet.—*Philadelphia Medical Times.*

EXOPHTHALMIC GOITRE.

Boddaert, *(Bull. de la Soc. de Med. de Gand, Gaz. Med.,)* experimented on rabbits with reference to the origin of this condition. Ligatures were placed upon the external and internal jugular veins at the base of the neck, and the two cervical cords of the sympathetic were cut. An exopthalmia resulted, continuing several days, diminishing gradually as the collateral venous circulation became developed and as the effects of the section of the sympathetic disappeared. Exophthalmia following the ligature alone, due to distention of the orbital veins, is much less pronounced. An enlargement of the thyroid is produced by section of the sympathetic and ligature of the inferior thyroid vein between the four jugulars. These experiments, combined with the discovery of lesions of the sympathetic, whose effects are analogous to those produced by section (atrophy of nerve-elements, hypertrophy of connective tissue) in a number of cases of Basedow's disease, are considered as explaining the phenomena of the disease. In exophthalmic goitre, an obstruction to the circulation occurs; the superficial veins, especially of the neck, become swollen; there is a tendency to haemorrhage, an increase of splenic and hepatic dulness, occasional dropsies, œdema, and the enlargement of the retinal vessels observed by Graefe. Boddaert hence produces this theory of exophthalmic goitre. In the majority of cases the pulsations of the heart increase in number,—120 to 200 even; this may continue for months. The veins are insufficiently emptied during the diastole; a venous congestion results, more marked from a more or less complete paralysis of the sympathetic. The effects become more marked in the eye and thyroid body, from the development of the retro-ocular venous system and the great vascularity of the thyroid. This theory is considered as explaining the observation of Trousseau, where the exophthalmia and the thyroid tumour came on during a night, the goitre disappearing suddenly and and returning afterwards; also the diminution of the exophthalmia and the thyroid body, as the heart beats less rapidly.—*Boston Medical and Surgical Journal.*

ON THE MIGRATION OF WHITE CORPUSCLES.

Dr. Thoma read a paper on the migration of white corpuscles into the lymphatics of the tongue of the frog. He injected the lymphatics of the living animal with an extremely dilute solution, not containing more than from 1-2000th to 1-8000th part of nitrate of silver, and found that, with certain precautions, this did not lead to stasis of the blood in the bloodvessels, but only to a lively exodus of the white corpuscles from their interior. After the lapse of some time, when the parts had begun to recover from the injurious effects of the injection, he was able to observe the reentrance of the corpuscles into the lymphatic vessels through certain stomata in their walls, now marked and rendered distinct by a precipitate of the silver salt. In a second series of researches the lymphatics were injected with a dilute emulsion of cinnabar in a three-quarter per cent. solution of common salt. The cinnabar was in part deposited in the stomata of the lymphatics, and partly passed through them, and was deposited in the tissues in the form of small, round, cloudy patches. The evidence of the identity of the stomata brought into view by means of cinnabar, with those rendered apparent by means of nitrate of silver is obtained by observing their peculiar grouping, and by the subsequent injection of nitrate of silver into the same vessels. The injection of cinnabar causes very little disturbance of the circulation. If a lively exodus of the white corpuscles from the bloodvessels be produced by making an abrasion of the surface, the migrating cells quickly make their appearance in the stomata of the lymphatics marked out by the cinnabar. They then take up the particles of cinnabar into their interior, which causes them to lose their activity, and accumulate in the stomata. They then appear in the form of cauliflower excrescences projecting into the interior of the lymphatics, which gradually break up into their constituent cinnabar-holding cells. These may be traced into the larger vessels, and from thence into the blood. In these researches a remarkable regularity or uniformity in the track pursued by the white corpuscles was observed. They pass away from the bloodvessels nearly at right angles into the tissues, their course, however, being in a series of short zigzags. They all appear to travel at about the same pace.—*Proceedings at Weisbaden.*

TREATMENT OF ASTHMA.

Dr. Ad. d'Evot, (Revue de Thérapeutique), gives some directions as to the remedies to be used in asthma. Twelve grammes of flowers of sulphur, with one gramme of tartarized antimony, are mixed with honey and powdered gum and divided into sixty pills. Three of these represent the dose of Debreyne's powders, and one pill is given morning and evening.

Morning and evening a sheet of nitre paper may be burned in the bedroom of the patient. The paper may be prepared of white filter paper, dipped in a solution of nitrate in the proportion of a drachm to an ounce.