

and Mayo, of Rochester, Minn., says that even in cases without apparent goitre, a careful examination usually discloses a small unilateral or bilateral tumor, which lies deeper, but is firmer than normal.

The exhibition of thyroid extract does not give rise to Graves' disease, although it certainly produces some of the prominent symptoms.

Dr. Crile, from his experiments on blood pressure, believes that the normal tone of the vessels is maintained, first, by a nervous mechanism through the vaso-motor system; and secondly, by the action of the internal secretions, an equilibrium being probably established by the opposing action of the secretions of the suprarenal capsules and the thyroid gland, the former bringing about constriction and the latter dilatation of the blood vessels. If this supposition be correct, two of the main operative procedures for the cure of Graves' disease rest upon a scientific basis, namely, partial thyroidectomy, to lessen the size of the over-secreting gland, and cervical sympathectomy to cut off the nerves which send to the thyroid its vaso-constrictor, dilator and secretory fibres.

Three main theories have been advanced as to the probable cause of exophthalmic goitre, namely, excessive thyroid secretion, changes in the central nervous system or primary alteration in the sympathetic system. Against the second theory it is held that no pathological lesions have been found in the cerebral centres. If the third theory be correct, operation on the sympathetic nerve in the neck should be curative. Excision of the cervical sympathetic, with its ganglia, does, undoubtedly, bring about changes in the vaso-motor control of the vessels which supply the thyroid gland, and also alters the nervous influences on the heart. It moreover relieves the exophthalmos, which MacCallum and Cornell, of Baltimore, have shown to be due to the contraction of a cone of smooth muscular fibres which surrounds each of the eyeballs, and not in any way due to vascular engorgement posterior to the globes. Thus sympathectomy probably relieves the three card-disturbances, symptoms which may also be noticed when exophthalmos.

The theory of hyperthyroidization, or even altered thyroid secretion, is supposed to exert a toxic action on the heart, nervous system and general nutrition. Many cases of cystic goitre show tachycardia, slight exophthalmos, and vasomotor disturbances, symptoms which may also be noticed when excessive amounts of thyroid preparations are administered