THYROID.

Baumann and **Goldmann** (Freiburg, Baden). — *Is Thyro-Iodine the Active Ingredient of the Thyroid Gland?* "Münchener Med. Woch.," 1896, No. 47.

THIS paper was sent by Baumann, a few days before his death, to the "Münchener Med. Woch." The author's investigations are summarized in the following results:— In dogs whose thyroid glands are extirpated tetanic symptoms do not appear if they receive thyro-iodine daily (three to six grm.). If this is diminished tetanic symptoms appear. To cure tetany in thyroidless dogs thyro-iodine is necessary in direct relation to strength of the attacks. The organism of the thyroidless dogs is not capable of retaining the thyro-iodine, this substance always appearing *in toto* in the urine. *Michael.*

Edmunds, W.—*Further Observations and Experiments on the Pathology of Graves' Disease.* "Brit. Med. Journ.," May 30, 1896.

THE author read a paper at the Pathological Society of London, in which he pointed out that the reservation of a single parathyroid was sufficient to prevent symptoms of athyroidea. If both parathyroids were removed a considerable amount of the thyroid must be reserved to prevent these symptoms. In a single parathyroid left, hypertrophy took place, secreting cells multiplying. Even after six months only a few minute collections of colloid were to be found.

When a portion only of the thyroid gland was left, the vesicles enlarged and ridges projected into the interior, the cells becoming columnar. The colloid was mostly replaced by a deeply staining material.

Similar changes took place in Graves' disease. Excision of the parathyroids in rabbits caused the opposite condition to exophthalmos. In dogs a widening of the palpebral orifice was occasionally seen after partial excision of the thyroid.

Ernest Waggett.

Horsley.—*The Physiology and Pathology of the Thyroid Gland.* "Brit. Med. Journ.," Dec. 5, 1896.

THE author commences with a short *résumé* of the history of his subject, from the time that King, nearly one hundred years ago, demonstrated that the thyroid was a secreting gland, up to 1884, when Semon pointed out that some of the symptoms following extirpation of the organ were analogous to myxœdema. It was not, however, until the author obtained a chronic experimental strumipriva, by the employment of herbivorous instead of carnivorous animals, that this identity was firmly established. *Post-mortem* examination of monkeys, dead from induced myxœdema, proved that no surgical disturbance of the sympathetic or other nerves in the neck could be held responsible for the athyroideal state. Further, the *coup de grace* has been given to the sympathetic theory by Murray's discovery of the relief of the symptoms of myxœdema by the internal administration of that structure the loss of which coincided with the incidence of the disease.

Since 1891 the anatomy of the gland, and particularly of the parathyroid, has been the subject of much investigation. Prenant has demonstrated that in the sheep the parathyroid develops in chronological advance of the main gland, as an outgrowth of the thyroid vesicular prolongation. Its minute structure is similar to that of the adrenal cortex, being composed of columns of entodermal epithelium cells, separated by capillaries; and though no true acini or colloid secretion are to be found, there is evidence of the secretory character of the organ. The anatomical characters of the normal and of the hypertrophied parathyroid lend support to the theory, arrived at on physiological grounds by Gley, that the organ is a gland *sui generis*, and has a specific function.

Inasmuch as the thyroid has been proved a secreting gland, the epithelium is of primary importance for investigation. The cubical cells appear to be of two distinct kinds, one of which has characters suggesting the formation of the colloid material within the cell.

In compensatory hypertrophy, the cubical cells become elongated and columnar; the outline of the acini becomes irregular instead of spherical, until the appearance of a conglomeration of tubules replaces that of cystic spaces, and in some instances the lumen is actually obliterated (micro-photographs).

Finally, the colloidal contents are replaced by a watery fluid, with some granular *débris*. In parenchymatous enlargement of the gland, much the same appearances are seen, but the most remarkable similarity is to be observed in exophthalmic goitre, where a similar metamorphosis of the acini and their contents accompanies the general enlargement of the gland. With regard to the last-named disease, it is to be noted that the tremor of all thyroidal lesions is the same as that of acute cachexia strumipriva. The question of chief moment is, whether the anatomical changes have a causal influence, or whether they are merely secondary to central nerve lesions. Hitherto the nerve supply has not been proved (by excitation) to exert a secretory influence comparable to that in the salivary glands. The question has therefore been approached from a clinical standpoint, and there is a tendency to look upon a perversion of secretion as a cause of the symptoms. The author points out that, with an extensive perversion of secretion, there must be a certain degree of athyroidism.

Turning to the secretory epithelium, evidences of increased activity are seen after administration of pilocarpin. Speaking of the appearance of vacuoles, due doubtless to the secretion of watery droplets, the author digresses to mention that the vacuolation of the nuclei of fat cells, a fairly constant phenomenon in myxœdema, has been shown by Sack to be present in normal developing fat, and in senile degeneracy and other conditions.

In conclusion, a comparison between the polygonal cells occupying the lumen of the shrunken acini in myxœdema, and those of the compensating active transplanted thyroid in one of Von Eiselberg's experiments, leads us yet to look for an estimate of the athyroidal condition rather in the changes in the epithelium itself than in the products of its secretory activity.

To summarize: it is generally agreed that, whereas myxœdema and cretinism result from simple loss of the function of the thyroid gland, exophthalmic goitre in its various degrees results from a perversion of that function. *Ernest Waggett.*

Owen, D.—*Thymus Feeding in Exophthalmic Goître.* "Brit. Med. Journ.," Oct. 10, 1896.

A REPORT of three successful cases together with a collection of recorded examples. The large size of the thymus in infancy and during hybernation would seem to indicate some relation between the activity of this gland and the cerebral and sexual functions precisely antagonistic to that of the thyroid gland. *Ernest Waggett.*

Rolleston, H. D.—*Tuberculosis of the Thyroid with Abscess opening into the Œsophagus.* Path. Soc., "Brit. Med. Journ.," Nov. 7, 1896.

TUBERCULOSIS, a very rare condition of the thyroid, was in this instance secondary to tubercular caries of the spine in a woman of twenty-three. Mr. BERRY had seen but one instance of miliary tuberculosis of this gland. *Ernest Waggett.*

Roos (Freiburg, Baden).—*On the Number of Active Substances in the Thyroid Gland.* "Münchener Med. Woch.," 1896, No. 47.

OF the thyroid gland, Fränkel has extracted a substance which he has called "thyro-antitoxin," which he believes to be an active substance of the gland as well as thyro-iodine. The experiments of the author with this substance prove

that thyro-antitoxin has no effect at all, and that the only efficient substance is Baumann's thyro-iodine. *Michael.*

Swoboda (Wien).—*Teratoma Colli Strumam Cysticam Simulans.* "Wiener Klin. Woch.," 1896, No. 46.

IN a twelve-weeks-old child the author removed a tumour situated on the right side of the neck, compressing the trachea, and apparently a congenital struma. The child was cured. The examination of the tumour showed that it was not a struma, but a teratoma, containing glia cells, ganglion cells, and fibrillar connective tissue. *Michael.*

Todd, C.—*A Case of Exophthalmic Goître treated with Thymus Gland.* "Brit. Med. Journ.," July 25, 1896.

THE case, which had resisted prolonged and energetic treatment with drugs, was rapidly relieved of distressing symptoms. The pulse, irregular and 156 to the minute, was in three days (taking 30 grains of dried gland) reduced to 130, and after three weeks (with increasing doses) was 72, and regular. At the time of report the exophthalmos and goitre remained unchanged. Irregularity of pulse followed a short cessation of the treatment. *Ernest Waggett.*

Woodman, J.—*Myxœdema: a Case treated by Thyroid Extract.* "Med. Record," Oct. 31, 1896.

MRS. F., thirty-eight; six children, the last of which was born in 1893; family history good; previous history good; had been constipated all her life. Present illness began eight years ago, with slight swelling of left side of face and left eyelid, then of right side of face and right eyelid. Gradually the whole body was involved. Weight increased from one hundred and twenty to two hundred and forty pounds. Sweating ceased entirely with the onset of the disease; the skin became hard and dry, and after an attack of jaundice deeply pigmented. The hair in axillæ and on pubes fell out, that on scalp became coarse, hard, and brittle. The usual mental symptoms were well marked, and patient saw rows of faces and thought someone always followed her about. The urine was somewhat scanty, and always contained albumen. Palpitations, dyspnœa, etc., were present. In short, the case was a very well marked one of myxœdema. The treatment by thyroid extract and large quantities of water was begun on January 4, 1895. Improvement was very rapid. By May 1st weight was reduced from two hundred and forty to one hundred and eighty pounds, and in all other respects patient had returned to her normal condition. The thyroid feeding is still kept up, and patient remains well.

During the eight years of her illness three children were born. During the pregnancies all the symptoms were exaggerated. The children were born healthy, and were breast fed. The first child is strong and well, the second died of erysipelas at four months, and the third had a convulsion at eighteen months, after which hemiplegia developed. *A. J. Hutchison.*

ŒSOPHAGUS.

Hamilton, T. K. (Adelaide).—*Epithelioma of the Upper Third of the Œsophagus, and Œsophagotomy.* "Australasian Med. Gaz.," June 20, 1896.

A LADY, aged thirty-one, six months after an attack of influenza, began to have darting pains—independently of deglutition, and not increased by that act—extending from the region of the larynx up towards the left ear. Soon after-