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MODERN ASPECTS OF THE TREATMENT OF GRAVES' DISEASE.

EVERYONE who has seen much of this disease allows that the treatment of it is most unsatisfactory. There is no definite information as to what is the best drug to give, such, for instance, as we have in psoriasis, for which everyone acknowledges arsenic to be by far the best remedy.

Many drugs have been tried for exophthalmic goitre. Naturally, considering the anæmia, perchloride of iron is one of them, but that was long ago discarded, for, as Wilks pointed out, it often actually does more harm than good. Perhaps out of the very long list of medicines those which have found most favour are belladonna and digitalis, the latter having been used on the recommendation of Trousseau. The very unsatisfactory results obtained by drugs have made physicians look on all sides for other modes of treatment, and some have therefore applied Leiter's coils, with ice-cold water circulating through them, to the heart, the thyroid gland, and the protruding eyes, and in certain cases with undoubted benefit; but this good result did not take place in a sufficient number of instances for the treatment to be widely adopted, nor is that surprising when we remember that some patients suffering from exophthalmic goitre recover even if left to themselves, and, on the other hand, some of those treated with Leiter's coils relapsed as soon as these were left off. For the last few years many cases have been treated by electricity. This treatment originally came into vogue because it was believed that the cervical sympathetic was diseased in exophthalmic goitre, but although the reasons which led to the employment of electricity were erroneous, it sometimes benefited the patient. The galvanic current should be used, and it should be allowed to flow for some minutes every day through the enlarged thyroid, one pole being placed on each lobe of the organ. After that has been done, a mild current being used, one pole should be placed over each eye for two or three minutes. There is no doubt that in this way slight cases may sometimes be improved.

Still more recently surgeons have been slowly and cautiously excising part of the thyroid gland in cases of exophthalmia goitre. All treatment previous to this was either quite arbitrary and irrational, or was founded on an incorrect notion of the pathology of the disease. About this the wildest notions prevailed. The exophthalmia was thought to be due to a great increase of fat in the orbit; it was considered that the orbitalis muscle of Müller, which is in man very little developed, was disordered owing to some lesion of the sympathetic. In fact, the whole disease was set down to disturbance of the cervical sympathetic, for it was considered that the cervical ganglia were diseased. The cause of this error was, that sufficient attention was not paid to the wide variations these organs may attain in health in the human adult.

Gradually observers came to see that probably the disease was set up by some disturbance of the central nervous system, and the fact that Savage and others urged that it was frequently associated with mental disorder gave an impetus to this view. Next actual microscopic changes in the central nervous system, especially about the floor of the fourth ventricle,

were described, and this observation was corroborated by several physicians. Still there was no clue as to treatment. It appeared clear that the symptoms of exophthalmic goitre were due to some functional disturbance of the central nervous system, accompanied in some rare cases by actual microscopic changes, but we were quite in the dark as to why this functional disturbance should occur. Then there came those brilliant researches carried on by Horsley and others, which proved that myxœdema was caused by the loss to the body of some secretion which the thyroid normally pours into the blood, and that this disease, cretinism, and probably acromegaly can be cured by the administration to patients of the thyroid of the sheep. These discoveries have given an immense impetus to the excision of the thyroid gland in exophthalmic goitre, for they render it highly probable that the functional disturbance of the central nervous system which causes the symptoms of the disease is induced by the enlarged and hypertrophied thyroid gland pouring constantly into the circulation too much of its secretion with which the patient is in fact poisoned.

Putnam has done immense service by collecting together in the *Journal of Nervous and Mental Disease* for December, 1893, all the published cases of the removal of all or part of the thyroid gland in Graves' disease. The first thing to notice is that great care must be taken in the administration of the anæsthetic, for there seems no doubt about the fact that there have been an unusual number of deaths at the operation caused by the anæsthetic, probably owing to cardiac failure, partly from the previous condition of the heart, and partly because of the many important nerves which may be wounded in the operation. Not only is there this danger, but for some few days after the operation the pulse is often rapid and weak; there is great prostration, with a weak voice, and the temperature may rise. Usually after a few days these unfavourable symptoms pass off, even if one of them, as is often the case, has been laryngeal paralysis.

In many of the cases after the first few days, the improvement began, the palpitation was less, and the eyes were not nearly so prominent; in others the improvement came on a little later. An interesting and important point is the liability of the part of the thyroid that is left behind to grow large again. In one or two instances this has happened, but its frequency is much over-estimated. The almost invariable rule is shrinkage of the remaining portion.

The character of the enlargement of the thyroid gland, whether, for instance, chiefly vascular or chiefly parenchymatous, appears to make no difference, improvement always, according to Putnam, follows the operation. It should be mentioned that in most of the cases that have been operated upon the goitre has been large and the symptoms urgent. We do not yet know whether benefit would follow in the slighter cases. Another point on which we want more information is how much of the gland should be removed. As now we know that when too much of it has been taken away the bad symptoms can probably be controlled by the administration of sheep's thyroid, many surgeons will err on the side of removing too much. Putnam has shewn that the removal of part of the thyroid is quite sufficient.

7

The above is a summary of the above.

PRACTICAL ASPECTS OF MEDICAL SCIENCE.

SOME very weighty arguments in favour of the beneficial results of a vegetable diet appeared recently in the pages of a contemporary. This subject is one we usually find treated from a narrow and sectarian point of view, from the standpoint of a vegetarian, in fact, but in the case of Mr. Mark Knapp, the author of the article to which we now refer, this is not so. Here we find the matter treated dispassionately and on common grounds, and the results of the writer's investigations are both suggestive and interesting. It should be understood at once that our authority in thus pointing out what are the exact physiological and pathological benefits which accrue to the human race from the use of vegetables as a diet by no means excludes meat from the ordinary régime. Mr. Knapp points out, "We can neither confine ourselves to the exclusive use of meats, nor to that of vegetables, they are of like importance to sustain our equilibrium of health or life. . . . The chemical constituents that meats have, vegetables have not; and even if they have like quality, they do not have like quantity. The proportions differ in different kinds of meat and in different kinds of vegetables; and if we have enough of nitrogenous substances in a pound of meat to supply waste of one structure, we lack the proper amount of earthy salts to supply other tissues." In England, certainly, we do not find that sufficient attention is paid to the necessities of supplying these elements or compounds which are needed by our system. Motives, more due to thrift and economy than to physiology, have altered this state of things with other nations. Surely it is our duty to give more consideration to the importance of strengthening and fortifying our framework. König, the great German authority on this subject, urges the vital necessity for so doing. "For the growing organism earthy phosphates," he writes, "are of great importance, for out of these the bony skeleton is made up."

If it is not nutrition, what is it then which influences the height of these animals? The differences, too, of appearance and character amongst those "children of Nature" upon whom civilisation

and progress of science cannot pour its enlightening rays? our authority asks, dismissing from his mind all other factors than food to explain stature.

He gives us, again, further illustration in defence of his theory in the instance of the build of two primitive races, the one from the North, the Samoyede, the other from the South, the Polynesian, two tribes as diametrically opposed in diet as they are in locality. In the case of the Polynesians, a tall, well built-up race, their diet is predominantly of a vegetable nature; roots of ferns, berries, cabbage shoots, bread-fruit, and sweet potatoes forming the principal part. The Samoyede, a tribe of Northern Siberia, are, on the other hand, remarkable for their shortness of stature. These people having little assistance from agricultural products to assist their supplies, depend mainly for their food on the results of their fishing and hunting. "Not only," concludes our authority, "does the animal kingdom give us more than sufficient proof of the fallacy of any other theory than diet as the cause of height, also the ethnology of man, who has not yet been brought into intimate connection with the civilised world, proves it with certainty and positiveness."

Mr. Knapp's arguments in favour of this theory, which appears to be definitely established in his own mind, have a certain scientific foundation to start with. It is pretty certain that we do not pay sufficient attention in our dietary to the value of vegetables. If there are slight discrepancies in the examples he chooses to illustrate his subject it is barely to be wondered at. What has our authority to say to the respective stature and food of ancient Britons for instance? Surely they were not a nation of giants; they were short individuals in those early times, and yet they lived upon the régime set forth in this prescription which ensures height. And, again, in the case of the Patagonians, are they purely a vegetarian race? This monster tribe are little if they are not hunters, subsisting on the produce of the chase. Mr. Knapp has given his subject serious study, but we think that there are other circumstances to be taken into account besides the circumscribed aid of food, which entails a physiological cost.

THE FIELD OF SCIENCE.

THE revelations which have lately come to light on the subject of London bakeries are of a more serious nature than had been expected. Dr. Waldo, who has made this matter a subject of grave consideration, lectured at the Sanitary Institute on the results of his labours. Bread, besides being an article of universal necessity, is peculiarly liable, as we all know, to absorb moisture and gaseous substances; yet, as the lecturer pointed out, at least half of the total output of this staple article of food proceeds from "cellar bakeries." These cellar bakeries sound little better in description than they are in reality; they are for the most part damp, low basement rooms, with dark walls, unceiled roofings, and rough and uneven floors. As to ventilation, that is conspicuous by its absence; neither is daylight included in the programme, the cellars being lighted by flaring gas-jets instead.

"It will be seen, therefore," in Dr. Waldo's words, "that not only is the air systematically poisoned, from within, but also no provision is made for that

constant renewal from without which is essential to health. We can safely assert that no man could habitually work in an atmosphere even approaching that which has been portrayed without sooner or later sustaining serious injury to his health." Our authority refers us to Dr. Ogle's tables of comparative mortality of males between twenty-five and sixty-five years of age, founded upon the death registers of 1880-1-2, which offer, as he remarks, some very suggestive figures on this head. From them we learn that in one hundred different occupations bakers occupy the following relative proportions: In suicide they come third, in alcoholism seventh, in liver disease eleventh, in diseases of the circulatory system eleventh, and twelfth in diseases of the nervous system. It seems high time a reform should be suggested for these existing evils, and though Dr. Waldo does not stand alone in pointing out the pernicious effect of these underground cellars not alone on the article there manufactured, but on all concerned, yet it is due to him that he has exposed in tangible form the magnitude of the existing evil.