Medical Matters.

THE ADVANCEMENT OF MEDICAL SCIENCE.

Under the auspices of the Research Defence Society, a most interesting lecture, illustrated by lantern slides, at which the Hon. Sydney Holland took the chair, was given to nurses by Mr. Stephen Paget, F.R.C.S., at the House of the Royal Society of Medicine, at 20, Hanover Square, W., on Friday April 16th.

The lecturer said that advance in every branch of natural science was made only by means of experiments, in conjunction with observation at the bedside, and in the *post-mortem* room. The results attained proved that the nation owed an immense debt to research work both in connection with physiology and pathology. In this connection he mentioned amongst others the discovery of the circulation of the blood, of the circulation through the capillaries, of the lacteals, facts as regards digestion, of the functions of the pancreas, and all we know of the nervous system and of reflex action.

Some most interesting diagrams were thrown on the screen of a section through the brain, showing how the functions of the different parts have now been localised, so that the various centres, such as that of speech, etc., can be exactly delineated.

Showing that practice and science must go together, the lecturer related that Sir William Gull reported, in quite a small pamphlet, a few cases of the cretinoid state in elderly women, and Dr. Ord followed with a paper on myxœdema. Then, in Switzerland, the surgeons began removing goitres, with the result that in some cases a condition similar to that of myxœdema was produced, and it began to be recognised that they were connected with abnormal conditions of the thyroid gland. In 1888 the Clinical Society issued a report on myxœdema in which there was not a word of hope, then came the grafting of the thyroid gland of a healthy animal to fulfil the functions of the defective human gland. Next, thyroid extract was given hypodermically, and the gland was also administered in sandwich form; finally, instead of these somewhat crude methods, exact doses of thyroid extract can now be given in tabloid form. Some very striking illustrations of patients suffering from myxœdema before and after treatment were shown, and also cases of sporadic cretinism in children—repulsive looking abnormalities—until, by the administration of thyroid extract, the soul gradually dawned in their faces, and the children became normal and intelligent looking. In connection with pathology, the lecturer asked: "What do men of science know about germs since Pasteur's work was at its zenith some thirty years ago?" and the answer was "everything." There were three important things to remember in connection with germs: (1) They are infinitely small particles of life; (2) they multiply at an amazing rate; and (3) they breed true. The germ of diphtheria always breeds that of diphtheria, that of scarlet fever, scarlet fever, etc.

Illustrations of different germs, greatly magnified, were then thrown on the screen, the first being the staphylococci and the streptococci, which are responsible for the production of pus. Their method of work was worked out by Pasteur and Lister, with the result that Lister has wiped out the formerly dreaded hospital diseases of pyæmia, erysipelas, cellutitis, hospital gangrene, puerperal fever, and others. The germ of anthrax, common in animals, rarer in human beings, when it is known as wool-sorters' disease or malignant pustule, was next shown. This has now its anti-toxin, the value of which was strikingly illustrated in the case of a flock of 50 sheep infected with anthrax. They were divided into two lots; 25 were protected with the anti-toxin and 25 were left to Nature. Of the latter, all but one were dead within 48 hours, while those which were protected recovered.

The next germs shown were those of tuberculosis, discovered by Koch in 1881, typhoid, cholera, plague, leprosy, sleeping sickness, tetanus, and, lastly, diphtheria. Some interesting tables from the records of the Metropolitan Asylums' Board were thrown on the screen, showing the immense decrease in mortality when the anti-toxin is administered on the first, second, or even third day of the disease.

The work done in connection with malaria and yellow fever was then explained. In these diseases, as is now well known, infection is not direct, but the mosquito acts as a carrier, and the germ goes through certain changes in the body of this host before it can be conveyed to a human being.

More recently a serum has been discovered of efficacy in the treatment of epidemic meningitis. Formerly children usually died in agony within 48 hours after contracting the disease; those who did not were almost worse off, often becoming blind, imbecile, or permanently crippled.

The lecturer laid stress on the benefit to the animal world, as well as to humanity, of the discoveries connected with research work, and showed a picture of a horse suffering from sleeping sickness, to whom treatment with a curative serum must be of great benefit.

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