

chromogenic substance, the only compound so far isolated with certainty from the urine.

The significance of the Webster test is emphasised, especially as a signal of danger of T.N.T. poisoning. The absence of this reaction from the urine may be taken as an ominous sign. The chromogenic substance appears to represent the safest point at which reduction of T.N.T. is arrested. The failure of the body to excrete T.N.T. in this form may therefore provide an indication that more highly reduced forms occur, and with them severe intoxications.

Dr. P. N. Panton deals in his two reports with his experimental work on animals, and the pathological changes induced in man by T.N.T. poisoning.

In the experimental work he collaborated with Dr. Harold E. Bates, and Dr. H. M. Turnbull has added very complete reports upon the histological changes which he found in the experimental animals, and also in man. In only two animals was it possible to induce changes akin to the aplastic anæmia and toxic jaundice as met with in man. The aplastic anæmia and the toxic jaundice were not directly due to hæmolysis by the poisonous action of T.N.T. The extreme reduction of the blood-forming bone-marrow was the chief effect of the poison in the cases of aplastic anæmia. The cell-count was thus that of a rapid progressive primary anæmia with a high colour index. The observations on the macroscopic and microscopic changes in the liver in toxic jaundice due to T.N.T. are of more than passing interest. The question as to whether permanent liver damage occurred in the cases which recovered is also discussed. The evidence so far obtained leads to the view that recovery from minor liver damage is the rule, and is non-progressive. With severe damage to the liver there was, however, evidence of a progressive degeneration with the occurrence of toxic jaundice many months after exposure to T.N.T.

The report is a testimony to the value of scientific coöperation, and if the cases of T.N.T. poisoning are happily no longer existent, there are many conditions which closely resemble it and require investigation. The effects of a number of liver poisons have still to be elucidated, especially salvarsan and its numerous substitutes, and further light may thus be thrown upon the various manifestations of T.N.T. poisoning described in this report.

GUSTAV KILLIAN.

IN the death of Professor Gustav Killian, which occurred last month, rhino-laryngology has sustained the loss of one of its most brilliant workers. Born in Mayence in 1860, he studied at Strasbourg, Heidelberg, and Berlin under Krause, Jurasz, and Fraenkel; in 1900 he became professor of diseases of the nose, ear, and throat in the University of Freiburg-in-Breisgau, and in 1911 succeeded Professor B. Fraenkel in the University of Berlin. Killian was an original worker of extraordinary fertility, and will long be remembered for his association with the most notable advances in the technique of his specialty; especially remarkable is his work on direct examination of the larynx, trachea, and bronchi, on suspension-laryngoscopy, on submucous resection of the nasal septum, and on the "Killian" operation on the frontal sinus. Many English laryngologists will remember his visit to London in May, 1914, when he delivered the Semon lecture and demonstrated his method of suspension-laryngoscopy. Foremost among his pupils are Brünings and v. Eicken. His name will remain a landmark in the history of rhino-laryngology.

THE NON-OPERATIVE TREATMENT OF SURGICAL TUBERCULOSIS.

THE discussion at the Medical Society of London on March 7th served to emphasise what has recently been pointed out by Mr. G. R. Girdlestone and others in our columns—namely, the inadequate provision in this country for dealing with the crippling disabilities of children. Mr. Girdlestone himself found,¹ from an analysis of the case-sheets of more than 12,000 youthful cripples, that in 35.4 per cent. of them the occasion of the crippling disability had been non-pulmonary tuberculosis. At the discussion Sir Anthony Bowlby, speaking for surgeons in general, justly pointed out that it

was impossible in these, or indeed in any other cases, to eradicate the tubercle bacillus by operation. If it could be done at all, that was a thing which could only be done by the patient himself. But, on the other hand, much more than passive treatment was needed for this class of case. Mere convalescence in the open air was insufficient, for a child with a tuberculous hip needed appliances and other forms of special treatment. Mr. T. H. Kellock in his contribution regretted that efforts so far had been mainly directed towards building up the constitution in these cases of surgical tubercle, whereas little or nothing had been done to try to treat the disease itself. He also saw the necessity of combining local and constitutional treatments. Mr. W. H. Trethowan showed the difficulties of the orthopædic surgeon called upon to treat tuberculous disease of bones and joints in the busy out-patient department of a big general hospital. Some cases did well even without the benefit of a stay in the country, but often the most modern and efficacious methods of preventing and correcting deformity were in out-patient practice vitiated in results by bad home circumstances. All who are called upon to deal with these cases naturally turn for guidance to the experience of the Treloar Cripples Hospital at Alton or to that of the Rollier Clinic at Leysin; but the suggestion of scattered orthopædic clinics made by the Central Committee for the Care of Cripples should not be forgotten. Every area in this country should be served by a hospital for crippled children.

ANGINA PECTORIS IN DIABETES.

ACCORDING to Dr. Max Kahn,¹ physician to the Beth Israel Hospital, New York, comparatively little attention has been given to the cardio-vascular changes present in diabetes, angina pectoris especially being overlooked. Unless granular changes in the kidney are also present, the diabetic patient usually has a normal or low blood pressure. Attacks of angina pectoris may nevertheless be the chief complaint of a middle-aged diabetic patient. Although the pain may not be excruciating, it may be sufficiently severe to stop whatever work the patient is doing. A remarkable feature of the attacks is that they do not occur when the sugar tolerance is not exceeded. A high blood-sugar with glycosuria will frequently cause recurrence of the attacks. Dr. Kahn suggests that the pathological changes in the myocardium responsible for the angina result from a lowering of the glycogen storage in the fibres of the bundle of His, which are normally richer in glycogen than the ordinary cardiac fibres. Electro-cardiograph tracings of diabetic patients with angina pectoris show an inversion of the T-wave in one or more of the three leads, which, as Willus has recently pointed out, is usually due to some pathological change of the myocardium. Of three cases of diabetes reported by Dr. Kahn two had a low blood pressure and attacks of angina pectoris, while in the third there were high blood pressure and albuminuria, but the patient did not complain of any cardiac oppression.

THE MANCHESTER RADIUM INSTITUTE.

THE report of the Manchester and District Radium Institute for the year 1920 consists for the most part of abstracts of two papers read before the Royal Society of Medicine last year. The first of these concerns carcinoma of the cervix, the second the treatment of exophthalmic goitre; both should be of value to practitioners who missed the opportunity of reading the original communications. Of original work Dr. G. E. Loveday furnishes a report on the blood of radium workers based on examinations carried out in the institute during the past 14 months. Two cases are described in detail, one being that of a female worker, who had handled radium for five years. Unfortunately, no indication is afforded as to the precise nature of her work—whether she was engaged in making or fitting emanation apparatus, or in applying it to

¹ THE LANCET, Jan. 8th, p. 74.

¹ Journal of the American Medical Association, Feb. 26th, 1921.