

Appended will be found a table of seven previously reported cases and related bibliography.

#### CASES REPORTED.

Apostolides: *London Lancet*, 1898, vol. 1, p. 1254.  
T. J. Crofford: *Tr. Miss. Med. Assn.*, 1882, p. 98.  
Sangalli: *Compte Rendue Geneva*, 1878, p. 247.  
Marion: *Deu. Arch. f. klin. Med.*, v., 29, p. 601.  
V. Balesiu: *Arch. f. path. Anat.*, Ber, 1880, p. 158  
Drasche: *Mediz. Presse Wiener*, 1882, p. 1382.  
W. Bergmann: *Prag. Med. Woch.*, 1890, p. 617.

#### OTHER REFERENCES.

T. S. Cobbold: "Parasites," etc., Lon., 1873.  
Oehme Lipsiae: *De Ascarid. effectu mechan.* 1852.  
Indret: *Contribution a l'etude de l'ascar. lombric.* Paris, 1880.  
Siro: *De quelques accidents determ. per ascar lombric.* Lyons, 1882.  
Schroeder: *Perforation des Darmes durch Ascar. lumbric.* Halle, 1887.

#### DISCUSSION.

DR. HENRY B. WARD, Lincoln, Neb.—I know of a number of cases in which the worm was found to have penetrated a diseased bowel, but I believe only one case has been reported in which a positively normal gut has been penetrated by this parasite. I can hardly understand how the worm can become blocked in the intestine and gather sufficient force to push itself through the normal wall. The ascaris has a firm body, and can not coil itself closely, as the body breaks when bent. Usually the head of the male worm is more pointed than that of the female, and the worm in this specimen is evidently a male.

DR. W. A. EVANS, Chicago—This worm has been found frequently in the lower animals, imbedded in the wall of the intestine below the mucous membrane, but rarely ever penetrating the muscular coat. This is seen especially in hogs.

DR. HENRY B. WARD, Lincoln, Neb.—I have known the wall of the intestine to be penetrated by certain other worms, as the ankylostoma or uncinari and trichocephalus, but it is exceedingly rare for the ascaris to penetrate the mucous membrane.

DR. LOUIS C. AGER, Brooklyn—There are cases reported in which large numbers of these worms have gotten into a mass and, by erosion, produced ulceration. There are also cases of umbilical abscess reported, in which the worm has been discharged from the umbilicus, probably due to a patency of the fetal duct leading to the umbilicus. No histologic examination of the gut was made in this case, but the macroscopic appearance gave no indication of chronic ulceration. Moreover, it would be a strange coincidence if a single small ulcer had existed in the gut and that this worm should have found that spot. I think this worm must have worked its way through the bowel by a slow process of erosion of the tissues. There have been cases reported in which lumbricoides have been found in the kidney, inguinal glands, and other places adjacent to the intestinal tract, and they have even been discharged from the eye duct and from the auditory canal. I do not believe that this worm braced itself transversely, but more obliquely, in pushing its way through the bowel. The lumbricoid can coil itself to a limited extent. I have seen one case in which 50 or 60 worms were in one mass, all being coiled on themselves and on each other. One case has been reported in which 5,000 worms were discharged in the course of 18 months.

**Typhoid Fever at Lille, France.**—Professor Lemoine, in discussing the marked and permanent increase in the number of cases of typhoid fever at Lille, remarks that the majority occur among the well-to-do, and in the fall. Most of the patients had spent the summer elsewhere, and had thus lost their relative immunity to the local water, while the early fall rains pollute the water more or less. The extensive work on the streets has brought to the surface long buried generations of microbes which are whirled about in the dust and fill the hospitals during the dusty season. The only time when the hospitals are comparatively empty is during wet, foggy weather when the microbes are held down by the moisture under foot. But this is the time when the typhoid germ is most active, as it reaches the system in the drinking water. His article appeared editorially in the *Nord. Med.*, Dec. 15, 1902.

## THE CLINICAL APPLICATION OF SOME THYROID GLAND EXPERIMENTS.\*

L. BREISACHER, M.D.

Consulting Gastroenterologist, Harper Hospital; Formerly Professor  
of Comparative Physiology, University of Pennsylvania;  
Member of American Physiological Society.

DETROIT.

In 1890, at a time when little or nothing was known of the chemical constitution of the thyroid gland and when we were unaware that it possessed any particular therapeutic action, the writer offered the first experimental proof that the thyroid gland was in some manner concerned in the general metabolism of the organism.<sup>1</sup> While even to-day we are not in possession of any positive proof of the true physiologic rôle of the thyroid gland, its action as a therapeutic agent, and further the clinical and experimental results following total extirpation along with the action of diet in various thyroid diseases and after total extirpation of this gland, indicates that it is in some manner invested with a metabolic function, but which we are not as yet able to particularly define. It would lead us too far were I to attempt to give a résumé of the various phases through which the subject of the function of the thyroid gland has passed. For the reason, however, that both Victor Horsley<sup>2</sup> and F. Blum<sup>3</sup> have misconstrued my position in reference to the metabolic significance of the thyroid gland to the organism, I should like, in a few words, to explain the circumstance which prompted me to study the influence of diet on thyroidless animals.

In 1888, when I first took up this subject, Professor Munk, in whose laboratory I was pursuing my work, believed that the thyroid gland could not be looked on as being of absolute vital significance to the organism, for the reason that some animals remain perfectly normal after total extirpation of this gland, and as late as 1897 Professor Munk<sup>4</sup> again emphasized this statement. He believed that the symptoms following the total extirpation of the thyroid gland were in a large measure the result of irritation of the vagosympathetic nerves and their branches.

The writer instituted a series of experiments in which he applied both chemical and electrical irritation to the various cervical nerves without, however, producing in any case symptoms resembling those noticed in thyroidless animals. To definitely decide this question the writer devised the following method of experimentation: First, the left vagosympathetic and the superior laryngeal nerves were extirpated, the superior incision being made at the superior ganglion and the lower incision half an inch below the lower border of the thyroid gland. The animals were carefully observed during a period of three weeks following the operation; they remained perfectly normal. Following this period the right thyroid gland was totally extirpated and the animals again carefully watched for a period of three weeks, during which time they remained in an absolutely normal condition. Finally the thyroid lobe on the side on which the vagosympathetic had previously been removed was extirpated, and it was shown that the dogs succumbed in precisely the same manner as did the dogs in whom this method had not been resorted to, thus proving that nerve irritation is not absolutely necessary to the production of death after total extirpation of the thyroid gland. Professor Munk, and also E. Fuhr,<sup>5</sup> had noticed that the first thyroid symptoms, fibrillar, clonic and tonic muscu-

\* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. Alfred Stengel, L. Hektoen and Winfield S. Hall.

