beautifully clear and free from all vascularity or opacity. The aperture shown in the engraving upon the summit of the sac was accidentally made in opening the body. The hepatic flexure of the colon with the immediately adjacent parts of the ascending and transverse colon were incorporated in the right and upper part of the sac. The whole of the small intestine from the end of the duodenum to the ileo-cæcal valve was contained in the sac, its walls, though smooth and polished, were intensely injected and tightly stretched by accumulated gas and fluid in its interior—in short, it showed all the signs of well-established strangulation. It required some time and repeated examination, in the absence of any available experience on the matter, to determine the precise anatomical nature of the conditions briefly described above. Ultimately it became quite clear to all who saw the case that we were dealing with a congenital displacement of the small intestines into a sac formed in the following manner. The left layer of the mesentery had been invaginated along the posterior wall of the abdomen, and behind the superior mesenteric vessels, displacing forwards and to the right the right layer of the mesentery, the parietal peritoneum on the posterior right abdominal wall, the right meso-colon, the right colon, and the parietal peritoneum on the right abdominal wall—that is to say, a sac formed by the left layer of the mesentery lay behind the parts of the peritoneum and the large intestine enumerated above. I had myself never before seen anything of the kind, neither was I acquainted with any literature bearing upon the subject, so I ventured to send a short account of the case to Mr. Frederick Treves, along with the photograph, of which the above is the engraving, of the opened body. He was able at once to identify the condition, and very kindly wrote to me, giving me, amongst much interesting information upon the matter, reference to Sir Astley Cooper's plate illustrating his mesenteric variety of retro-peritoneal hernia, to which variety the case here recorded clearly belongs. There is no need for me to attempt any explanation of the mechanism by which this abnormality was established, for this has already been done in Mr. Treves's admirable account of the development of the fossa duodeno-jejunalis,¹ and its relation to the development of recto-peritoneal hernia. I would, in conclusion, draw attention to an extremely interesting paper upon Retro-peritoneal Hernia by Dr. Pye-Smith,² which, so far as its author was then aware, was the first English notice of the duodeno-jejunal fossa. Dr. Pye-Smith in this article makes reference to Treitz's writings on the subject, by whose name (Mr. Treves informed me) this hernia is known to continental writers.

Leeds.

ARSENIC IN PERNICIOUS ANÆMIA.

By E. A. BARTON, L.R.C.P., M.R.C.S.

THE following case, as illustrating the value of arsenic in pernicious anæmia, is not without interest.

J. A—, a coachman, came to me on Nov. 25th, 1890. He then stated that he had always been somewhat pale, but for the last three months he had become much paler, and was very weak, the least effort fatiguing him. He complained that for the last three or four weeks there was blood in his mouth on waking in the morning. The patient was emaciated and intensely pale, the hands were pearly white, the conjunctivæ lemon-coloured, and the ears looked transparently waxy; the gums were very large, spongy and quite pale, and at the junction of the teeth and gums was a thin line of blood; the lips were blanched and the tongue pale but clean; there was no oedema of ankles. Altogether he had the appearance of a man who had recently suffered a severe hæmorrhage. He was short-breathed, and felt faint on standing. The lungs were quite sound. The heart had a soft systolic murmur at the apex, and another at the base over the pulmonary cartilage. They were both probably hæmic in origin. A marked venous hum was also observed in the neck. The pulse was quick, very compressible, and not accelerated. There were no petechiæ on the skin. The urine was very pale in colour, and contained one-sixth

albumen. Three grains of sulphate of iron were ordered thrice daily. A week afterwards I had the opportunity of making a careful examination of the blood, and found that the corpuscles numbered only 18 per cent. of the normal quantity, while the hæmoglobin was 23 per cent. The corpuscles themselves varied in size, were soft and plastic, and formed rouleaux readily. The blood was, on being drawn, obviously pale and thin. There was no leucocytosis. He complained of being unable to read, and on examination large hæmorrhages were observed in both retinæ. The urine at this time contained only the merest trace of albumen, which in a day or two entirely disappeared. The iron was discontinued and five minims of liquor arsenicalis thrice daily were substituted, with very generous diet. On Dec. 13th, a week after the arsenic was begun, he had a fit, which seemed from the description more of the character of a faint, for when I saw him he was sensible, with no paresis. There was some tendency to wander in his talk. The next morning he volunteered the statement that he saw red colour when looking at anything white. He was also annoyed by noise in his head "like a steam engine," keeping time to his heart. A fortnight after the commencement of the arsenic (which was never increased beyond five minims three times a day) there was no further bleeding from the gums, and he declared himself stronger, and was allowed to move about his room. The urine was normal, but very pale, and the appetite extraordinary, for besides the most nourishing diet of strong soups &c. he took three pints of milk daily. In three weeks he was able to walk half a mile without fatigue, and in a month returned to work, the corpuscles on Jan. 16th being 76 per cent. and the hæmoglobin 60 per cent. The hæmorrhages into the retinæ had entirely disappeared, except for a slight blur on the right side. He could read small print. He continued the arsenic for ten weeks from the commencement.

Recoveries from pernicious anæmia are so rare that some seem to doubt the authenticity of such cases. Here was a case in which the percentage quantity of hæmoglobin and the number of corpuscles were practically the same, showing that each corpuscle contained its right quantity of hæmoglobin. The disease, then, was one of diminution in number of corpuscles and corresponding increase in the proportionate amount of plasma. The hæmorrhages into the retinæ, from the gums and probably the kidney, combined to give a grave import to the disease; and the fit was, I think, attributable solely to anæmia. The rise in one month of the number of corpuscles and quantity of hæmoglobin to thrice the quantity under the administration of arsenic proves the enormous benefit derived from the drug.

Cheniston-gardens, W.

AN

ANATOMICO-PHYSIOLOGICAL CONTRIBUTION ON THE OSSICULA AUDITUS.

By DOCTOR P. C. LARSEN-UTKE.

WHILE investigating the subject of the anatomy of the organ of hearing I have alighted on some points upon which I cannot agree with the views of H. Helmholtz in his book, "Die Mechanik der Gehörknochen und des Trommelfells (Bonn, 1869)." With due regard to so eminent an authority, I at first thought I was mistaken; but as all further examinations yielded the same result, I could scarcely doubt the validity of my observations, of which the following is an account. My preparations have been examined by Dr. Med. Wilhelm Meyer of Copenhagen, who agrees with my view of the matter.

The first point concerns the ligamentum externum mallei. In his description of this ligament, Helmholtz says (p. 20): "Von diesen Bündeln [those, namely, which are inserted medially to the "crista colli mallei," and laterally to the "incisura Rivini"] ist das stärkste und am meisten gespannte das hinterste; die Richtung desselben geht verlängert auf die Spitze der Spina hin, und dieser Strang ist es hauptsächlich, der die Drehungsaxe des Hammers darstellt. Ich möchte deshalb diesen hintersten Strängen des Ligamentum externum den besonderen Namen Ligamentum mallei posticum beilegen, weil sie in der That in mechanischer Beziehung eine besondere Bedeutung haben." And further, page 22: "Denkt man sich die Richtung des

¹ Hunterian Lectures on the Anatomy of the Intestinal Canal and Peritoneum in Man: Brit. Med. Journal, Feb. 28th, 1885, p. 415.

² Guy's Hospital Reports, vol. xvi., 1887, p. 131.