

ducts of the disease. All are aware that the appendices of some are comparatively "free" in the peritoneal cavity, their movements between the fields of the contiguous intestines being limited only by their mesenteries or their attachment to the cæcum. The free extremities of such as these are observed often extending upward from between the intestinal loops, and at this time can be aptly compared to the erect position of the deadly cobra when prepared to strike!

Let us now glance for a moment at the records attesting the freedom of movement of intra-peritoneal appendices. In 66 examinations, 40 per cent. of them were "free," in that one-half of the entire length was surrounded by peritoneum. The remaining 40 had mesenteries varying from three-fourths to above an inch in length.

Surely, gentlemen, the length and the freedom of movement of a diseased intra-peritoneal appendix exercises an important influence on the intensity and area of the pain and the rapidity of the diffusion of the disease producing elements. Dr. Reginald Fitz, in his oft-quoted and classical article published in the *American Journal of Medical Science*, October, 1886, says, "Sudden severe abdominal pain is the most constant, first, decided symptom of perforating inflammation of the appendix." As a proof of the fact he shows that this manifestation happened in 216 of 257 cases, or 84 per cent. of the number.

If we now turn our attention to the per cent. of "free" appendices, and those with mesenteries above an inch in length, we find their sum to be 84 per cent. of the entire number also. Certainly this similarity of percentages is a strange coincidence at the least, and leads one to repeat the remark, "There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy." While it is doubtless true that the situation of pain is regulated to some extent by the location and direction of a diseased appendix, still neither time nor utility will permit me to indulge in hair-splitting distinctions in this regard, based on whether the appendix extends outward, downward, inward, etc., as this feature alone possesses no practical importance, except when the appendix extends beyond the usual limit.

It may not be amiss to add in this connection that the appendix runs inward in about 25 per cent.; that it is curled behind the cæcum in about

20 per cent., and extends into the pelvis in 14 per cent. of all cases. The average length (*post mortem*) of the appendix in the male is $3\frac{1}{2}$, and in the female $3\frac{1}{10}$ inches, as deduced from 144 examinations. The importance of the frequency (14 per cent.) of intra-pelvic extension should not be considered lightly. Nor can the differences in the lengths of the organ, as between the sexes, be deemed insignificant, when it is noted that the half inch difference between them causes the appendix of the male to enter the pelvis twice as often as it does in the female sex. The clinical importance of intra-pelvic extension of the appendix cannot be gainsaid: In a diseased appendix there located, the pain may be nearer the hypogastrium, and, too, it may involve the pelvic peritoneum and modify the action of the pelvic viscera during functional activity. And especially are these facts true if the extremity of the appendix be the portion involved by gangrene or perforation.

Thus far only direct pain has been considered, of both the acute and dull types. Reflex pains, while less important than the direct, are, nevertheless, of great diagnostic significance. Frequently during the course of an attack, and especially at the outset, referred pain may be present in almost any part of the abdomen. And, too, it is observed not infrequently in the testicle, perineum, rectum, thigh, lumbar region, etc. In fact, referred or reflex pains may occur at the seat of the distribution of any spinal nerve directly involved by the disease. Fitz has shown that in 213 cases of appendicitis pain was present in the right iliac fossa in 48 per cent.; in the abdomen in 36; in the hypogastrium in 5; in the umbilical region in 4; in the epigastrium in 2; and one per cent. each in the stomach, hepatic region, left iliac fossa and right hip and groin. I, myself, treated a case in June 23, 1886, in which the pain was referred to the umbilical region only. That this was a genuine case cannot be gainsaid, since the appendix was found to be perforated and was removed. The anatomical reason for the occurrence of these reflex pains can be explained by the well-known influence exercised by the abdominal sympathetic ganglion on the contents of the belly. A misplaced appendix or a wandering cæcum will account for an unusual pain site in a few instances. Without amplifica-