into partial views of physiology. The philosophic biologist at least realizes how completely every part depends on every other and the body as a whole on its varied environment. This application of the idea of total relativity is sure to be lost sight of in the isolated study of anatomic units. Analysis frequently goes too far, in fact into "results" that are wholly false when applied to the active unit in the actual living organism. One reads, for example, in the textbooks of anatomy, the precise movements brought about by the shortening of one muscle, whereas probably always a movement is a muscular synergy, and always at any rate a complete neural synergy.

A final very important but here negligible advantage, perhaps, of this group-method of viewing things lies in the light that it throws on the neuromuscular relations to the mental process, discussed by the writer elsewhere.

Clinical Department.

X-RAY EXAMINATION OF A PATIENT WITH STRICTURE OF THE ESOPHAGUS.*

BY FRANCIS H. WILLIAMS, M.D., BOSTON.

(NOTE FROM THE X-RAY DEPARTMENT OF THE BOSTON CITY HOSPITAL.)

A WOMAN, thirty-one years of age, under the care of Drs. H. D. Arnold and R. C. Larrabee, was brought to me about a year ago for an x-ray examination. For twelve years she had regurgitated most of the food she had eaten at one meal before taking another. She was very thin and this condition facilitated the examination. I gave her subcarbonate of bismuth in a solution of gum arabic and then made a fluoroscopic examination with the rays going through the thorax from side to side, and took a radiograph (see cut). The shadow of the bismuth was clearly seen on the fluorescent screen in the lower part of the esophagus, and the undulation of the anterior portion of this organ following the pulsation of the heart was observed. The undulation of the posterior portion of the esophagus was also noted, but was not so marked as that of the anterior portion. Three hours afterward another fluoroscopic examination was made and two radiographs were taken, one with the light going through the body antero-posteriorly and the other with the light going through from side to side. In both radiographs the lower part of the esophagus, just above the diaphragm, in front of the vertebrae and behind the heart, cast a very dark shadow, showing that only a very small amount of the bismuth had passed into the stomach. It is instructive to note that the fluoroscopic examination was even more satisfactory than the radiographs.

The stricture was dilated, and soon after the patient was able to retain her food and gained a pound a day for some time.

IMPERFORATE HYMEN.

BY F. W. JOHNSON, M.D., BOSTON,

Gynecologist-in-Chief, Carney Hospital.

THIS condition must be a rare one, and before the days of aseptic surgery almost all cases operated on died. The vaginal walls, the uterine

* Since this note was written Dr. Larrabee has brought a second case for x-ray examination, but the stricture, as determined by the rays, was not so complete as in this one.

cavity and sometimes the tubes are deprived of their epithelial covering by long maceration in the retained fluid, and it was through these surfaces that infection took place before the days of aseptic surgery.

Miss R. R., aged eighteen, of a phthisical family history, entered the Carney Hospital February, 1910. She had not only never been unwell as far as the appearance of blood externally, but she had never had any symptoms which would indicate that menstruation had been established. Her general health was excellent. On examination by the rectum, assisted by pressure on the abdomen, a soft, semi-fluctuating mass was felt occupying the position of the vagina. The uterus was pushed up into the abdominal cavity and was on top, so to speak, of this mass. With the actual cautery an opening was burned through the septum where the hymen should have been and 12 oz. of thick tarry material were evacuated. The vagina was then thoroughly washed out with sterile water and a sterile T bandage was applied. Sterile douches were given twice a day as long as there was any colored discharge. The septum was one-half inch in thickness and two and a half days after the operation menstruation occurred. The flow lasted four days and was normal in every respect. On leaving the hospital the vagina easily admitted the index finger.

INTESTINAL PERFORATION OF UNUSUAL ETIOLOGY.

BY HAROLD G. GIDDINGS, M.D., BOSTON.

THE cause of the perforation in the following case was of such an unusual nature that it seems distinctly worth reporting.

The patient, a strong farmer lad of seventeen years, who had always lived in Maine, and in the country, whose family history was of the best and who had known no previous sickness, was at work in an old fashioned "bay" pitching hay down into the floor of the barn, when he lost his footing and slid over the pile of hay, falling a distance of about eight feet. Directly in the course of his fall, resting against the side of the hay pile, handle up, was a pitchfork. As the boy slid off feet first, he came in contact with the fork, the tip of the handle being thrust through his trousers and underclothing, directly into the rectum for approximately three or four inches. There was considerable local pain at the time, a slight amount of bleeding and a moderate degree of tenesmus when the bowels moved, some hours later, but there was then no evidence of serious injury. The episode happened in the middle of the forenoon and was not so grave but that the patient was able to work through the remainder of the day.

That evening he began to have abdominal pain, which continued through the night, gradually becoming worse. The next morning his parents sent for their family physician, who found symptoms which closely simulated appendicitis. Throughout the day the young man constantly grew worse, and at six that evening the physician, having diagnosed the condition as a ruptured appendix with supervening general peritonitis, sent for my father to operate. Dr. Wallace Price, who was in charge of the case, could not but feel that the condition must be due to the injury the lad had sustained the preceding day, but as he could find, on careful rectal examination, no evidence of a perforation, he finally decided that the case was, as I have said, simply an intercurrent appendicitis.