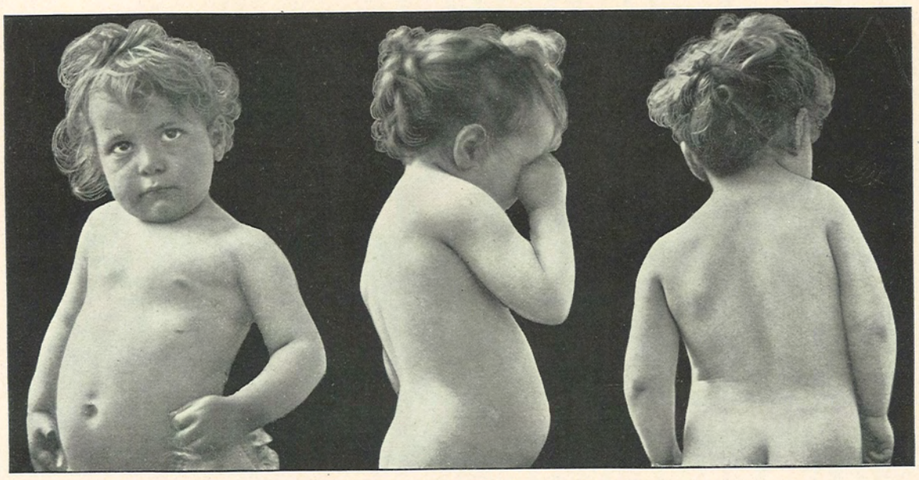

FIG. 1.—Case I, Congenital elevation of scapula.

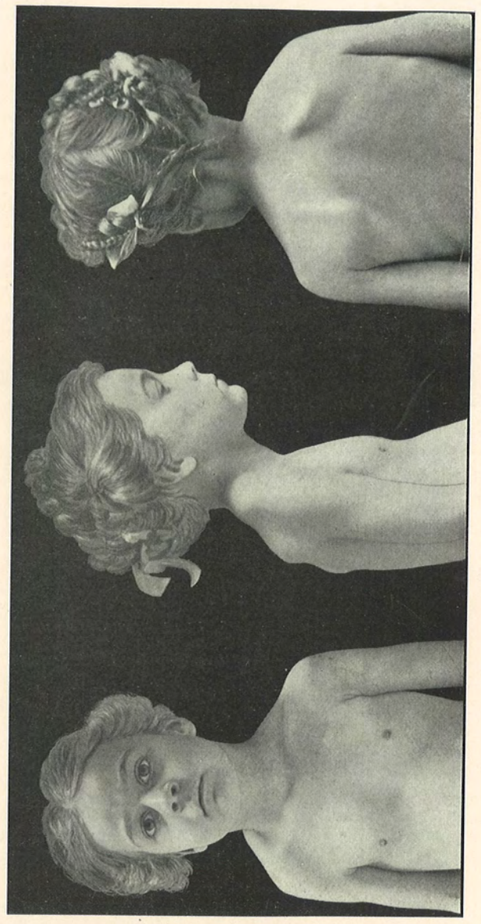

FIG. 2.—Case II. Congenital elevation of scapula.

TRANSACTIONS

OF THE

PHILADELPHIA ACADEMY OF SURGERY

STATED MEETING, JANUARY 3, 1902.

The President, RICHARD H. HARTE, M.D., in the Chair.

CONGENITAL MISPLACEMENT OF THE SCAPULA.

DR. JOSEPH M. SPELLISSY reported two cases of congenital misplacement of the scapula that he saw during the past year.

Case I was that of a girl, seven years old, seen in June at the University Hospital, and referred to Dr. C. L. Leonard, of the X-ray Department, because the nature of the anomaly was not recognized. Suggestion was made at the time that the abnormality might be due to the presence of a cervical rib. The patient was not seen again till November, when the X-ray plate was seen for the first time and the condition understood.

Case II, that of a girl aged eight years, was seen during August at the Orthopædic Hospital. The condition existing was recognized by inspection at once, and three months prior to diagnosis by X-ray of the first case.

The speaker termed the condition "congenital misplacement of the scapula" because there is no apparent luxation of any joint. The right scapula is placed on top of the shoulder, and the inferior angle very much elevated in contrast to the inferior angle of the scapula of the other side. The joint relations of the humerus and scapula are perfect.

This condition necessitates some distortion either of the relations of the clavicle with the sternum; or of the clavicle with the acromion; or in the shaft of the clavicle, or, most probably, of all three combined. Careful inspection and palpation of the parts involved and study of the skiagraph deny that there is luxa-

tion of the clavicular joints. The fact that fracture of the clavicle is accompanied by dropping of the scapula renders the supposition of old and unrecognized fracture untenable. The shape and size of the clavicle and scapulæ affected, when compared with their fellows, hardly permits them to be classed as malformations; yet the manner in which they are assembled must be admitted to be a malformation which is best described as a misplacement, and which must have originated in utero.

There is no history of traumatism. In the second case, the deformity was noted at the age of three. At this period the child had a painful swellling of the neck; it was treated by the family physician, who denied that the condition was due to parotitis. No positive opinion was obtained. Here, also, there is no history of traumatism.

SUTURE OF THE ACROMIOCLAVICULAR ARTICULATION FOR DISLOCATION.

Dr. W. B. Hopkins presented the case of a Swedish sailor, twenty-three years of age, admitted to the Pennsylvania Hospital, June 10, 1901. Four months before he had been injured in the left shoulder by falling from aloft. Examination showed complete dislocation of the acromial end of the left clavicle (Fig. 1). The joint was exposed by an incision five inches in length, and after preparing out the bones a suture consisting of seven strands of silkworm gut was inserted through four drill-holes, as shown in the accompanying diagram. Tension on the suture completely corrected the deformity, and a knot on the outer side held the bones firmly in place. The subsequent history of the case was without incident, the wound healing promptly. After retaining the arm to the side for three weeks, the patient was discharged cured.

The speaker's object in reporting this case, he said, was to illustrate complete dislocation of the acromial end of the clavicle; to show a suture which seems to be the most effective one for the complete correction of this dislocation; and to emphasize the importance of taking, when practicable, a plaster cast of all dislocations in order to emphasize the deformity. Fig. 2 shows the index-finger of the operator thrust completely under the clavicle. An incision, five inches long, was made over the shoulder. In order to get at the bones well for the application of drills, the

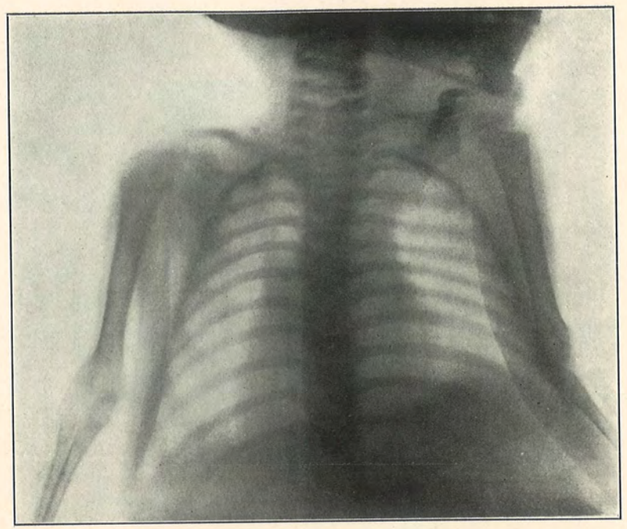

Fig. 3.—Case I, Congenital elevation of scapula. (Radiograph by C. L. Leonard, M.D.)

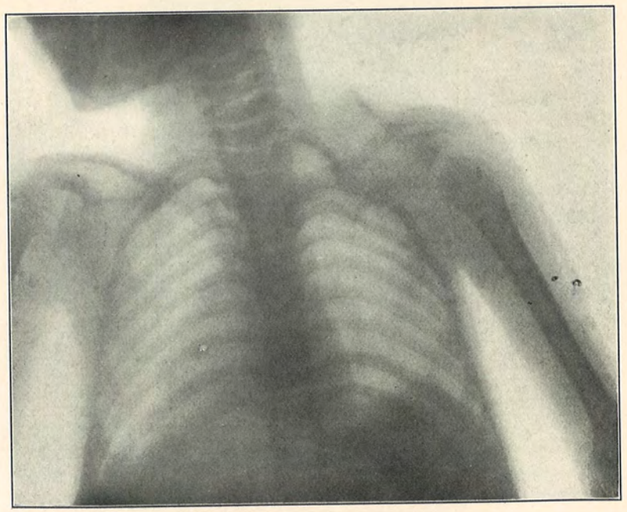

Fig. 4.—Case II, Congenital elevation of scapula. (Radiograph by C. F. Mitchell, M.D.)

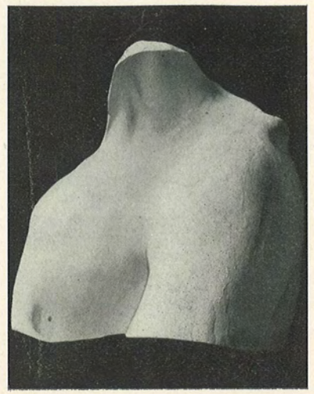

FIG. 1.—Plaster cast showing dislocation of acromial end of clavicle.

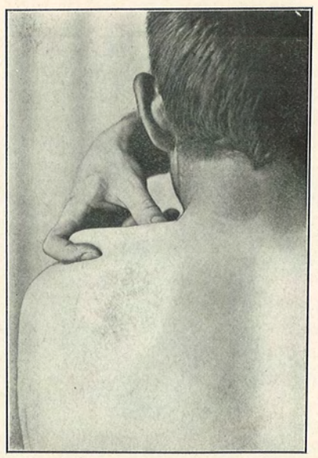

FIG. 2.—Dislocation of clavicle.

joints had to be quite freely exposed. After that was done, a suture, which may be described as an X-shaped suture, was used, consisting, as shown in Fig. 3, of seven parts of heavy silkworm gut, carried through holes made in the following manner: A drill-hole was made at a point a quarter of an inch from the extremity of the bone into the centre of the articular facet; another one, from a point three-quarters of an inch farther forward, emerging from the same central orifice. The other holes at corresponding points were drilled in the acromion to the centre of its clavicular facet. Traction made upon the suture brought the articulation into nice apposition. The central hole in the clavicle was situated farther forward and downward than the one in the acromion, so that when the knot was drawn tight the tendency was to over-correction, the acromion becoming more promi-

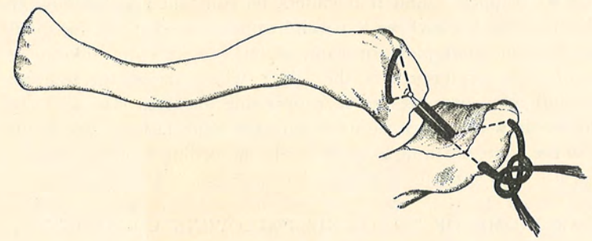

FIG. 3.—Showing X suture for acromioclavicular dislocation.

nent than on the sound side. The suture was drawn tight and tied with a knot over the acromion, so that the latter should be over the side of the shoulder rather than over its summit. This precaution was taken in order to avoid irritating pressure from loads carried on the shoulder, as the knot was a large one.

DR. JOHN B. ROBERTS said that he had long thought that if he came across a case of dislocated clavicle that seemed to need more than ordinary treatment, he would simply nail the fragments together subcutaneously.

DR. J. M. SPELLISSY said that he had the privilege of seeing this case at the period of its luxation and later during convalescence, and desired to bear testimony as to the perfect result obtained. The deformity was absolutely reduced and kept controlled. At a slight distance the scar was undiscernible. On

examining and manipulating the joint subsequent to suture, no separation could be effected.

Dr. H. A. Wilson said that there are many cases of disability, following the wearing of apparatus for effecting an acromioclavicular ankylosis, which are due to the prolonged use of the apparatus.

Dr. R. H. Harte thought that in this case there was no alternative but to do what was done. When you come to examine the acromion and the clavicle, it seems a wonder that they do not give way much more frequently than they do. We see many fractures of the clavicle, but seldom a dislocation of the acromial end, which was so very marked in this case. We have here in this joint two bearing surfaces which are very narrow, and consequently, when dislocated, there is a great tendency for the deformity after reduction to reappear; and if it cannot be controlled by keeping the patient upon his back with a weight upon the shoulder, he should not hesitate to employ suturing, as Dr. Hopkins did. As to the suture, his preference is the silver wire carried through and through, two openings at each opposing surface. He preferred the silver wire, which he used with the expectation of removing it in the course of four to eight weeks, according to circumstances.

CARCINOMA OF THE PENIS FOLLOWING CIRCUMCISION.

Dr. W. L. Rodman presented a man, thirty-four years of age, who was circumcised last February. Soon thereafter he noticed a small red spot in the cicatrix, and in the course of time a typical epithelioma developed on the dorsum of the penis. The speaker amputated the penis well behind the glans. The patient having a good-sized penis, it was not necessary to go back to the crura. There was also seemingly a metastasis in the inguinal glands of the left side. The enlarged glands were removed, together with the fat in both groins. What seemed to be metastases was an irritative enlargement of the glands, and there was no evidence of carcinoma in the lymph nodes. The man has no trouble in micturition; his pain has left him entirely, and since he went home, less than three weeks ago, he has gained nine pounds in weight. He has erections, and has a fairly good-sized penis at the present time. The end of the organ was covered over by a natural skin covering. The wound united per primam.

The speaker further said that he was able recently to get a report upon two cases of epithelioma of the penis operated upon by him in 1891 and 1895, respectively; and both of them are entirely well at the present time.

The interesting features in connection with this case of epithelioma of the penis presented are, first, the age of the patient; and, secondly, the possible development of epithelioma in a recent cicatrix.

SARCOMA OF THE PAROTID.

Dr. Rodman presented a man, aged thirty-five years, who noticed a swelling nine years ago underneath the ear, which progressed slowly. In 1894 it was the size of a pigeon's egg, and the tumor was then removed. For two years after excision there was no return of the growth. Then it began to grow slowly. The patient seemed never to suffer except with stiffness of the neck. The growth was the size of a small orange when it was removed six weeks ago.

The two points in connection with this case were that the overlying lymph-nodes were quite extensively enlarged and involved. Of course, that is occasionally seen in sarcoma growing from glands. The next point of interest is that the operator was able to remove the growth and the lower half of the parotid without inflicting very much damage to the facial nerve. The patient can do everything except whistle.

No attempt was made to prevent suppuration in this case; it was rather invited. The wound did suppurate. The speaker thought there is no doubt that sarcomas which suppurate freely at the time of operation are less likely to recur than when the wounds unite per primam.

Dr. John H. Gibbon had been interested in an article on the subject of growths of the parotid gland by Butlin, in which he says that the majority of cases diagnosed as sarcoma of the parotid were in reality cases of endothelioma. This was borne out recently in a case which he had operated on for a recurrence. Dr. Da Costa had operated on this patient a year or eighteen months previously for a growth which was diagnosed as sarcoma of the parotid. This growth returned after a year. Dr. Coplin examined it, and said that this growth was an endothelioma, although previously diagnosed by the pathologist as sarcoma.

Dr. Rodman said that it is true that many pathologists claimed that certain sarcomata are really endotheliomata; but this is true of lymphosarcomata and alveolar growths, where there is a reticulated substance and always a small round-cell element. In this case it was a typical spindle-cell growth. Examination was made by Professor MacFarland. There was quite a lot of cartilage in the tumor which is characteristic of spindle-cell sarcomata. There could be no doubt about this being a spindle-cell growth, and it could not possibly be an endothelioma.

ABSCESSES IN THE RIGHT ILIAC REGION, AND OTHER LESIONS NOT OF GYNÆCOLOGIC OR APPENDICEAL ORIGIN MISTAKEN FOR APPENDICITIS.

Dr. Joseph M. Spellissy read a paper with the above title, for which see page 7.

ABSCESSES IN THE RIGHT ILIAC REGION, AND OTHER LESIONS NOT OF GYNÆCOLOGIC OR APPENDICEAL ORIGIN MISTAKEN FOR APPENDICITIS.[1]

WITH REPORTS OF ONE HUNDRED AND NINETY-FOUR CASES, WITH LESIONS OF TWENTY VARIETIES OF STRUCTURE AND SIXTY-EIGHT SPECIES OF LESION, NOT ONE OF THE NUMBERED CASES OF APPENDICEAL ORIGIN AND ALL SO MISTAKEN; SEVEN CASES HITHERTO UNREPORTED.

BY JOSEPH M. SPELLISSY, M.D.,

Surgeon to St. Joseph's and the Methodist Hospitals; Assistant Surgeon to the Orthopædic Hospital and Orthopædic Department of the University Hospital; Out-Patient Surgeon to the Pennsylvania Hospital.

In reporting, in 1899, some "Iliac Abscesses Non-Spinal in Origin," the President of the Philadelphia Academy of Surgery, Dr. De Forest Willard, said, "At the present day it is well to remember that an individual may have pain and inflammation even in the right iliac region without having appendicitis, and that a woman may have a pelvic abscess which is not due to tubal disease." The present inquiry could not have a better introduction.

Beside the danger of overlooking gynæcologic and appendiceal inflammation and abscess,—a danger now ably exploited,—there is also a less heralded diagnostic peril, namely, that of mistaking as gynæcologic or appendiceal the many other varieties of abscess occasionally met in the iliac fossa, and it is to this topic of diagnosis that this paper is devoted.

The comparative infrequency with which abscesses within the scope of this paper sufficiently resemble those stated to be

[1] Annual Address in Surgery.

outside of it, as to make differential diagnosis difficult, makes all the greater the probability of failures in discrimination, when this resemblance does occur, because its multiform possibilities of error are not kept in mind.

In verification of the liability to this mistake and towards its prevention, by placing its instances in view, attention will be invited: First, to an enumeration of the tissues in the right iliac fossa and its neighborhood that may become inflamed or abscessed themselves, or that may serve as reservoirs or as media of conduction for the pain or the pus of other tissues primarily inflamed, though, possibly, distant. Secondly, to the illustration of the misleading symptomatic resemblances existing between these lesions. This illustration will be supplied by abstracts from cases published in the past four years; by brief histories of five cases hitherto unreported that have been most kindly contributed to this inquiry by other observers; and by notes of two cases that came under the speaker's care and in one of which he was at fault.

ANATOMY OF THE ILIAC FOSSA.

The iliac fossa has as its skeletal foundation the internal surface of the iliac portion of the innominate bone. This surface is bounded above by the iliac crest and below by the ilio-pectineal line. The ilium articulates posteriorly with the sacrum, a small portion of the base of which is continuous with the concave surface of the iliac fossa. Externally and below, the ilium contributes to the formation of the acetabulum and articulates with the head of the femur. Like other bones, the ilium is covered with periosteum, and cartilage and ligament contribute to the formation of its joints. The iliac fossa is chiefly covered by the iliac muscle which arises from it, and it is partly covered at its internal portion by the psoas magnus. Both the psoas muscles, the great and the small, arise from the bodies of the vertebræ, and the anterior surfaces of these muscles are in relation with the kidney and ureter. The psoas parvus is inserted in the pectineal eminence of the iliac bone, but the

psoas magnus is inserted in the lesser trochanter of the femur, and in its transit thither is in relation with the capsular ligament of the hip-joint. These three muscles are covered by the iliac fascia. The psoas muscles in the iliac fossa are in relation with the genito-crural and anterior crural nerves, and anteriorly with the common and external iliac artery and vein, and these vessels with the ureter which passes into the true pelvis close to the sacro-iliac joint. The spermatic vessels are anterior to all these structures, and anteriorly and in the lower portion of the fossa the vas deferens is internal to them. The external iliac glands form a chain round the external iliac vessels and communicate by their lymphatics with the femoral glands below and the lumbar glands above. All these structures are covered by parietal peritoneum which forms the internal and anterior wall of the iliac fossa and is continuous with the internal margins of the crural and internal abdominal rings, with the investment of the spermatic cord and, when they exist, with the covering of hernias, and also with the mesentery, mesocæcum, meso-appendix, and meso-ascending colon. This fossa normally contains the organs which these prolongations of peritoneum have just been enumerated as attaching, and also the omentum. Pathologically, the liver, gall-bladder, and kidney may descend into this fossa. The crest of the ilium gives attachment to the erector spinæ, quadratus lumborum, latissimus dorsi, transversalis, and internal and external oblique muscles. The contents of this fossa are walled off anteriorly by the rectus abdominalis and by the last three muscles named; and these muscles—the external and internal oblique and transversalis—are pierced by the ilio-hypogastric and ilio-inguinal nerves,—the ilio-hypogastric first piercing the psoas and passing in front of the quadratus lumborum, and the ilio-inguinal first piercing the psoas and then passing in front of the quadratus lumborum and the iliacus.

All of the tissues enumerated are subject to inflammation, and, as the following illustrative cases will show, most of them to inflammation or abscess which has, on occasion, been mistaken as being of appendiceal origin.

INDEX TO ILLUSTRATIVE CASES.

Anatomical Classification.[1]

[1] Numbers are affixed only to the cases that have been erroneously diagnosed as appendicitis.

XIX. Liver.
(1) Subhepatic Abscess.

XX. Gall-Bladder and Ducts.
(1) Dilatation. Case CLXV.
(2) Rupture. Case CLXVI.
(3) Cholecystitis. Cases CLXVII to CLXXII.
(4) Empyema. Cases CLXXIII to CLXXVI.
(5) Cholelithiasis. Cases CLXXVII, CLXXVIII.
(6) Cholelithiasis and Dropsy. Case CLXXIX.
(7) Cholelithiasis and Cystitis. Cases CLXXX to CLXXXVII.
(8) Cholelithiasis and Empyema. Cases CLXXXVIII to CXCII.
(9) Cholelithiasis, Empyema, and Abdominal Abscess. Case CXCIII.
(10) Gall-Stones in and Obstructing the Intestines. Case CXCIV.

ILLUSTRATIVE CASES.

BONES AND JOINTS.

Vertebræ.—For permission to report the following hitherto unreported case, the writer is indebted to Dr. T. G. Morton.

Case I.—A woman aged thirty-six years, married, with negative family and past history, began to complain, nine months before, of pain in the right lower abdominal quadrant. This symptom gradually grew worse and a lump developed there. It pointed, and eight weeks prior to her admission to the Pennsylvania Hospital, the diagnosis of appendiceal abscess was made, and an incision above Poupart's ligament on the side evacuated a large quantity of pus. The discharge from this cavity continued to be profuse, and the patient was sent to the hospital suffering from hectic fever, emaciation, and a lost drainage tube in the abscess cavity. As the abscess opening was quite free, and the patient much exhausted by her journey and grave condition, she was kept under observation ten days. During this period her condition at first somewhat improved, but the temperature continued hectic, the discharge very profuse. Vaginal examination was negative; inspection and palpation of the spine were negative. The patient was in bed and too weak to undergo examination of the spine by manipulation. The exploration of the abscess cavity proved its walls to be within reach of the index-finger, except at its bottom, where a sinus led backward and slightly upward. The lost drainage tube was discovered by the Resident, Dr. Cross, and removed by him. Upon consultation with Dr. Le Conte, it was concluded that the diagnosis lay between appendicitis, psoas abscess, and abscess of tube or ovary. Exploratory operation was decided upon and performed with Dr. Le Conte's assistance. Under ether anæsthesia, the incision was enlarged about five inches upward and backward, along the crest of the ilium, so that, if the abscess should prove extraperitoneal, the peritoneum might not be needlessly entered. The cavity was found to extend backward and upward, to be extraperitoneal, and about eight inches in extent. It was found to be within the sheath of the psoas muscle. The patient's condition was so bad that the cavity was packed, and no further exploration made. Previous conditions became aggravated and the patient died six days later. The autopsy not only confirmed the operative diagnosis of psoas abscess, but discovered that the latter was of vertebral origin, and, though of considerable extent, was unaccompanied by deformity.

Sacrum and Ilium.—To Dr. J. Chalmers Da Costa the writer is indebted for the notes of the following hitherto unreported case.

Case II.—A man of twenty-three years, a foreigner, was left at the Jefferson College Hospital with a history of pain of some weeks' duration in the right lower abdomen. He exhibited on examination an abdomen that was rigid in the right lower quadrant, and contained a mass discernible on palpation and dull on percussion. There was much gastric disturbance, and there was elevation of temperature. The diagnosis of appendicitis was made. Dr. Da Costa operated, found the appendix normal, and drained an abscess arising from disease in the sacro-iliac joint.

Ilium and Femur.—Dr. John G. Clark, who saw this hitherto unreported case as consultant and operator, has kindly furnished the writer with the following notes.

Case III.—A woman aged about forty-three years, who had borne four children and did her own housework, had suffered with pain, considerable leucorrhœa, and marked uterine prolapse for

six months. At the end of this period, Dr. Clark saw the patient in consultation, and found the uterus fixed in the pelvis and connected with an inflammatory mass which filled up the right pelvic quadrant, and pointed at McBurney's point. There was board-like hardness of the rectus muscle, and retraction of it occurred on palpation. There was pain in the right abdomen running down the back of the right thigh, but not affecting the knee. This pain had been mistaken for sciatica. The hip-joint was not examined, and there was no complaint that led to suspicion concerning it. The patient was at this time in bed. The abdominal mass lay between the uterine and the pelvic wall and pushed the uterus to the left; the mass was distinctly fluctuating, and it extended as high as McBurney's point, and it pointed there. The case was diagnosed as pelvic abscess of tubal or appendiceal origin. Removal to a hospital and immediate operation were advised. This was refused, but consent was given, a week later, to operation at the patient's house.

Under ether anæsthesia, an incision over McBurney's point evacuated a quart of thick, yellowish pus. The abscess sac was found to communicate with a jagged opening into the acetabulum. The abscess was extraperitoneal. It was drained by gauze, and weight extension applied to the right leg for six weeks. The patient was ambulant in three months. The fistula closed in six months. With the exception of a slight limp, the patient's gait was very good. There was about an inch and a half shortening, no indication of marked fixation, and the patient was able to resume her laborious household duties.

Revised diagnosis: Purulent osteitis of the hip-joint with perforation of the acetabulum.

LESIONS OF MUSCLES.

Iliacus Muscle.—Case IV.—The President of the Academy (*Proceedings of the Philadelphia County Medical Society,* October, 1894), as already alluded to, reported four iliac abscesses, non-spinal in origin. He says: "I have seen a number of these pus accumulations either from direct or indirect violence," and again, "In the majority of cases a rupture of some fibres of the iliacus probably takes place, suppuration follows, and the pus slowly makes its way downward towards Poupart's ligament." He remarks of one of the cases he

reports: "The pus was at first believed to have originated from an appendicitis, but this supposition was afterwards proved ungrounded."

Psoas Muscle.—For the notes of this hitherto unreported case the writer is indebted to Dr. Taylor, Senior Resident at St. Joseph's Hospital.

Case V.—A woman aged thirty-six years, with a negative family history, and a recent past history of vague pains in the back and shoulders, was admitted to this hospital with hectic temperature and complaint of pain in the right lower abdominal quadrant, but not limited to McBurney's point. There was at first no swelling, but there was tenderness on deep pressure, and this tenderness was not most marked at McBurney's point. There was no muscular rigidity. The thigh could not be fully extended and was partially flexed. Five days after admission to the hospital, she was operated upon for appendicitis. The appendix, though normal, was removed, and a fluctuating mass was found beneath the parietal peritoneum of the right iliac fossa. This abscess cavity was drained through thigh and abdomen, and existed within the sheath of the psoas muscle. The patient made complete recovery, but the note is wanting whether the vertebræ were at fault. The promptness and completeness of recovery suggest that it was probably purely muscular in origin. Revised diagnosis should be that of psoas abscess.

External and Internal Oblique.—Case VI.—Sonnenburg (*Berliner klinische Wochenschrift,* 1897, xxiv, 810) reports the case of a boy, aged seventeen years, whose trouble had been primarily diagnosed as appendicitis. At his last attack, he complained of pain in the lower part of the right side of the abdomen, and a week later, immediately following a bowel movement, he was seized with violent pain in the right lower quadrant of the abdomen. He exhibited a little fever, a good pulse, slight abdominal distention, and a hard mass on the right side extending from the outer border of the rectus to the outer border of the abdomen. Tenderness existed over this mass, and dulness on percussion was continuous with that of the liver in the axillary line, but not in the mammillary. The diagnosis was then made of acute appendiceal abscess. On operation an abscess was discovered, but it was confined between the external and internal oblique muscles. The pus was yellowish-white, odorless, sterile, and containing muscle fibres. The peritoneum was normal and unopened. The patient recovered, and the diagnosis was revised to chronic interstitial myositis of the abdominal wall.

Case VII.—J. A. Hopkins (*New England Medical Monthly,* April,

1900, 121) reports the case of a woman whose past history was not stated, and whose symptoms suggested appendicitis. She exhibited pain in the right iliac fossa, and she suffered from swelling and tenderness. The possibility of appendicitis was kept in mind, but the diagnosis was limited to that of abscess of the abdominal wall. She was treated expectantly with poultices, and the sequel proved the abscess limited to the abdominal wall.

NERVES.

Iliohypogastric and Inguinal.—R. T. Morris (*New York Medical Journal,* 1899, i, 469) says that some of the diagnoses made primarily and erroneously as appendicitis are neuralgias of the ilio-inguinal and iliohypogastric nerves of the right side, and that in these cases procrastination is requisite for correct diagnosis.

Cases VIII, IX.—Janeway (*Medical Record,* 1900, lxxvii, 897) says that neuralgias of the nerves of the right side of the abdomen (involving the lower abdominal nerves) can usually be recognized by close observation, but within his knowledge two operations in two cases had been undertaken for the removal of the appendix, but were uncompleted, because of its healthy condition in each instance, the misleading symptoms being ascribed to neuralgias of unknown cause.

He also comments upon neuralgias in cases of right-sided pneumonia being referred to the right iliac fossa, and likewise mistaken for appendicitis.

Lumbo-Abdominal.—Case X.—Albert Abrams (*Occidental Medical Times,* 1898, xii, 281) reports that in a case diagnosed as appendicitis and recommended for operation, a local anæsthetic in the form of a freezing mixture was sprayed over the sensitive nerves at their exit from the vertebral column. The appendiceal symptoms, including a circumscribed sensitive swelling in the ileocæcal region, disappeared, and the diagnosis was revised to that of lumbo-abdominal neuralgia.

Sympathetic Neuralgia in Diseases of Lung and Pleura.—Cases XI to XXI.—Mirande (*Thèse,* Paris, 1900) reports ten cases of disease of the lung and pleura, which at the period of invasion were diagnosed as appendicitis. Pain and other symptoms referred to the iliac fossa were typical and pronounced. The chest symptoms seemed of secondary importance. Yet in all these cases—in some at operation, in others at autopsy—the appendices were found to be normal.

Case XXII.—Brewer (Annals of Surgery, 1901, xxxiii, 601) reports a case of Dr. Evans, seen in consultation by Drs. Janeway, Bull, and Brewer. They concurred in the opinion that the case was one of peritonitis due to appendicitis or cholecystitis. The post-mortem examination showed that not only the appendix, but the abdominal organs were free from inflammation, and that the case was one of pneumococcic septicæmia.

Case XXIII.—Morris (*New York Medical Journal,* 1899, i, 470) reports a case upon which he operated for appendicitis—the exploration of the abdomen was negative and the case proved to be one of pneumonia. He later saw a case with similar symptoms in which the diagnosis of pneumonia was correctly made.

Hysteria.—Cases XXIV to XXX.—Morris (*New York Medical Journal,* 1899, i, 470); Thalamon (*Bull. Soc. Méd. des Hôp.,* 1897, xiv, 430); Rendu (*Bull. Soc. Méd. des Hôp. de Paris,* 406, 1897); Nothnagel (*Wiener klinische Wochenschrift,* 99, 387); Brissaud (*Bull. Soc. Méd. des Hôp. de Paris,* 97, xiv, 414). Seven cases in all exhibited the symptoms of appendicitis and were so diagnosed, three of these cases were operated upon. They all proved to be cases of hysteria.

GLANDS.

Adenitis, Precæcal.—Case XXXI.—Gérard Marchant (*Bull. et Mém. de la Soc. de Chir. de Paris,* 1900, xxvi, 77) reports three cases, two with previous attacks, and one with a single attack, primarily diagnosed as appendicitis, tubercular appendicitis, and subacute appendicitis respectively. The first had pain in the interval. The second was a typical attack of appendicitis, but exhibited no fever in the last attack. The third was unaccompanied by fever or vomiting, but had persistent pain in the right iliac fossa. The first exhibited tumor in the cæcal region and was tender to the touch; in the second an irregular, elevated mass of firm consistency and movable, was very sensitive to the touch, and believed to contain the appendix. The signs of the third case are unstated. The operation in each instance discovered the appendix and cæcum to be apparently normal, but enlarged glands were discovered in all three cases and enucleated in the first two. In the second case a large suppurating gland was removed by curette and cautery. Each case recovered, and microscopic examination showed the appendix in the first case to be normal and in the second and third cases to be slightly inflamed. The glands in the first instance were caseous; in the second they were probably tubercular. The revised diagnosis in the first case was precæcal adenitis, without appendicitis.

Adenitis, Retrocolic.—Case XXXII.—Bazy (*Bull. et Mém. de la Soc. de Chir. de Paris,* 1900, xxvi, 133) reports the case of a girl, aged seventeen years, with a previous history of one attack of appendicitis, in which she suffered severe pain in the right iliac fossa She had but slight elevation of temperature, and exhibited a large mass sensitive to the touch situated in the right flank and iliac fossa. The earlier diagnosis of appendicitis was approved, but on operation the colon was found slightly congested. No mention is made of the condition of the appendix, but behind the peritoneum hard and firm masses were found in the retrocolic region. Prolonged suppuration ensued followed by recovery. The revised diagnosis is specifically stated to be retrocolic adenitis without appendicular lesion.

Adenitis, Retroperitoneal.—Case XXXIII.—Reynier (*Bull. et Mém. de la Soc. de Chir de Paris,* 1900, xxvi, 169) reports the case of a man suffering from intestinal obstruction, and exhibiting a mass in the right iliac fossa The diagnosis was appendicitis. Upon operation a mass of caseous glands was found extending back to the vertebral column. The patient died, and at the post-mortem his appendix was found to be normal. Revised diagnosis: intestinal obstruction due to large, broken-down glands.

Adenitis, Syphilitic.—Case XXXIV.—R. Condamin and J. Voron (*Arch. Prov. de Chir.* 1900, ix, 311) reports the case of a girl, aged seven-

teen years, who for two years had suffered abdominal pain, sometimes on the left and sometimes on the right side In the June of 1899 she contracted a labial chancre, and later developed secondary symptoms. In October she suffered from severe pain in the right iliac fossa; she exhibited tenderness there and vomited once. Other appendiceal symptoms were wanting. The pain lasted for months, for a while without influence on her general health, but latterly she did badly. Examination in January showed great tenderness over McBurney's point; the abdominal wall was rigid; no mass was detected; vaginal examination was painful in the posterior cul-de-sac. She also exhibited secondary specific eruptions. Diagnosis was made of appendicitis with possibly a retrocæcal abscess, but operation discovered the appendix and abdominal organs to be normal, with the exception of the glands, which were slightly enlarged. She recovered from the operation, but not from her symptoms prior to it. Mercurial inunctions were instituted, and all symptoms disappeared. The revised diagnosis being syphilitic adenitis in the right iliac fossa.

Tonsillitis.—Case XXXV.—Janeway (*Medical Record,* 1900, lvii, 898) reports that he saw a case for a complication in which the diagnosis of appendicitis had been proved in error by operation, the subsequent course of the case proving it to be one of tonsillitis.

PERITONEUM.

General Peritonitis.—Case XXXVI.—R. T. Morris (*New York Medical Journal,* 1899, i, 470) reports the case of a boy of ten years with a history of recent measles, who was suddenly seized with all the symptoms of acute peritonitis. The diagnosis was made of appendicitis with general suppurative peritonitis. Operation discovered the peritoneum thickened, infiltrated, but not reddened, and its cavity filled with viscid lymph, but the appendix normal. A protracted recovery was followed by an attack of meningitis accompanied by pleurisy and pericarditis. The diagnosis was revised to general serositis sequent to measles.

Omental.—For the notes of the following hitherto unreported case, the writer is indebted to Dr. T. G. Morton.

Case XXXVII.—A woman was admitted to the Pennsylvania Hospital with a history of one day's illness, four days of absolute constipation, and of an eight years' right-sided inguinal hernia. She had vomited twice on the day she was admitted to the hospital. Her abdomen was enormous, she had pain in the appendiceal region, and was so tender there that palpation for a mass could not be performed satisfactorily. She appeared to be in a condition of shock. The diagnosis of appendicitis was at once made and followed by incision under ether in the appendiceal area. The appendix was found to be normal and was left undisturbed.

The cause of trouble was a large mass of omentum weighing about two pounds, which was in a gangrenous condition. This mass was ligated and removed. The woman's condition forbade further exploration. Distention followed the operation. Constipation remained absolute for three days, when her bowels yielded to two minims of croton oil given in quarter-minim doses. She died later on that day.

T. H. Manley (*Journal of the American Medical Association,* 1901, i, 1547), speaking of appendicitis in children, says among other things that in tubercular peritonitis, when limited to the mesentery or parietal peritoneum, and associated with intestinal paresis or ascites, it cannot be determined, prior to operation, whether or not the appendix is involved. Often have operations revealed no lesions of this organ. The acute fulminant type of tubercular peritonitis begins in the peri-appendiceal lymph tissue contiguous with the cæcum.

Tubercular.—Case XXXVIII.—R. T. Morris (*New York Medical Journal,* 1899, i, 469) reports the case of a young woman suffering from recurrent attacks of appendicitis for two years, which upon operation in the interval and removal of the appendix was discovered to be miliary tuberculosis, and the diagnosis was so revised, the appendix being found normal, excepting that its peritoneal coat, like the rest of the peritoneum, was studded with miliary tubercles.

Case XXXIX.—R. T. Morris (*New York Medical Journal,* December 22, 1900, 1093) reports two cases diagnosed as appendicitis, but which proved on operation to be suffering from tuberculous peritonitis; the appendices, not being particularly involved, were not removed.

VESTIGES AND DIVERTICULA.

The following quotation from the "American Text-Book of Surgery," 1899 (p. 760), written for its bearing upon appendicitis, applies with equal force to the cases reported under the above heading: "There can be no question that those structures which remain to us as functionless vestiges of parts once useful in our prehistoric ancestors are possessed of low vitality and but feeble resisting powers."

Vitello-Intestinal Vestige.—Case XL.—Friend (*Philadelphia Medical Journal,* 1899, iv, 181) reports the case of a girl, aged thirteen years, having a history of alternate constipation and diarrhœa. Her condition was primarily diagnosed as having being due to appendicitis or a strangulated intestine. She exhibited at her last attack, twenty-three days before, nausea, constipation, and a sudden violent pain in the abdomen. There was no vomiting, and the bowels later were moved by enemata. Improvement resulted until injudicious eating provoked nausea, vomiting, and an

intense umbilical pain, followed by a purulent discharge from the umbilicus. Upon operation general peritonitis was discovered, but no strangulation and no pus; the appendix was slightly congested, and behind it was found an abscess. She died, and microscopical examination of the appendix pronounced it normal. The diagnosis was revised to iliac abscess due to infection of the vitello-intestinal vestige through the intestine.

Testicular Funicular.—The writer is indebted to Dr. Wm. C. Lott for the notes of this hitherto unreported case.

A boy, aged sixteen years, kicked in the right iliac region at 9 A.M., while playing football, woke up at midnight with a chill followed by fever, sweating, nausea, vomiting, and sharp abdominal pain, most severe in the right iliac region, where there was much tenderness. Diarrhœa ensued on the following day, and he was admitted to the Presbyterian Hospital on the evening of the second day, on which he suffered less pain, but still exhibited tenderness. His temperature on admission was 100.6° F. and his pulse 112. A distinct mass was discernible in the right iliac fossa, just below McBurney's point. In this region there was dulness on percussion as far as the median line. There was no discoloration of the skin and the mass was evidently within the abdomen. While these symptoms pointed to appendicitis, that diagnosis was withheld on account of the clear traumatic history. Operation was performed by Dr. Lott assisted by Dr. Porter on the morning of the third day. The following entry in the history was personally made by Dr. Lott.

"A mass of tissue was found extending down to and apparently entering the internal abdominal ring. This mass contained the abscess, which was discovered after some searching and evacuated. It is my belief that the apparently fibrous mass composing the walls of the abscess was the incompletely obliterated tissues of the funicular process of the peritoneum which covers the testes and cord in embryo, and which sometimes remains in the abdominal cavity after the descent of the testes. The appendix was found rather low in the pelvis, was dangling freely in the cavity, and was absolutely normal. It was removed because of its proximity to the abscess." The cavity was drained, and the patient recovered. Diagnosis: traumatic peritonitis arising in the unobliterated funicular process that covers the testes in embryo.

Diverticula.—CASES XLI to LIX.—These may be summarized as eighteen cases in which a primary diagnosis of appendicitis was revised at operation or post-mortem examination to that of intestinal obstruction due to trouble involving Meckel's diverticulum. Fifteen of the cases were operated upon, of these eight were fatal. The total mortality was ten. In two of the eighteen cases the result was unrecorded. These cases are reported by the following observers:

Schmidt: *Deutsche Zeitschrift für Chirurgie,* 1899, xliv, 144.
Routier: *Bull. et Mém. de la Soc. de Chir. de Paris,* 1897, xxxiii, 645.
Bergman, cited by Sonnenburg: *Berliner klinische Wochenschrift,* 1897, xxiv, 810.
Morton: *Lancet,* i, 452, February 17, 1900.
Gildersleeve: *Medical News,* 1898, 392.
Carminiti, *Gaz. degli. osp. c. delle Chiriche,* November 18, 1900.
Guinard: *Bull. et Mém. de la Soc. de Chir. de Paris,* 1898, xxiv, 189.
Nicholson: *New York Medical Journal,* 1900, June 23.
Thurstan: *Lancet,* ii, p. 1799, December 22, 1900.
Mintz: *Deutsche Zeitschrift für Chirurgie,* xliii, 301.
Elliot: *Boston Medical and Surgical Journal,* 1894, cxxx, 586.
Alberti: 71. Vers. d. Nat. u. Aerzt., München, 1899.
Dennis: Two cases cited by Gildersleeve, *Medical News, loc. cit.*
Mixter, cited by "Dennis's Surgery," Vol. iv, p. 296.
Fowler: "Appendicitis," 1894.
Picque: *Cong. Franc. de Chir.,* 1897, xi, 480.
Darnall: *New York Medical Journal,* p. 62, January 12, 1901.

COLON.

Impaction.—CASE LX.—Dorsett (*Transactions of the American Association of Obstetrics and Gynæcology,* 1896, ix, 76) reports a case primarily diagnosed as appendiceal abscess, and revised, after operation discovering the appendix to be normal, to that of fæcal impaction of the colon.

Ulcer, Perforative, following Impaction.—CASE LXI.—Le Dentu (*Bull. et Mém. de la Soc. de Chir. de Paris,* 1900, xxvi, 185) reports the case of a woman, aged twenty-three years, giving a past history of gastric pain, vomiting, and chronic constipation throughout four years, and pain in the appendicular region throughout the past year. The diagnosis of appendicitis had been made, and the following symptoms were exhibited at her last attack. Violent pain existed in the region of the stomach and kidney, and the ingestion of any food was followed by vomiting. These symptoms persisted three days, when violent pain was experienced at the site of McBurney's point. Pain was aggravated by pressure, and the appendix was not discerned on palpation. On operation, the cæcum, liver, bile-ducts, gall-bladder, and stomach were found normal; also the appendix. The latter, however, was removed, and was found normal on pathological examination. In the upper part of the right iliac fossa the large intestine was bound down by adhesions; these were severed and a small perforation discovered. The diagnosis of appendicitis was revised to stercoral ulcer in the ascending colon.

Perforation from Foreign Body.—Case LXII.—B. B. Davis (*Journal of the American Association,* 1900, ii, 904) reports a case in which the accidental swallowing of a bone was followed in four days by pain in the right side of the abdomen, constipation, vomiting, general tympanites, with marked dulness on percussion from McBurney's point to the floating ribs. Progressive emaciation ensued. Malignant disease was suspected. Incision showed the ileocæcal junction and appendix to be normal, but that there was a perforation in the colon and behind it an inflammatory mass containing pus and fæcal matter. The bone was not found. Revised diagnosis, perforation of the colon, probably caused by a foreign body.

Malignant Disease.—Cases LXIII, LXIV.—Charrier (*Bull. et Mém. de la Soc. de Chir. de Paris,* 1900, xxvi, 924) and Mühsam (*Berliner klinische Wochenschrift,* 1899, xxxvi, 676) each report cases in which the primary diagnosis of appendicitis was revised on operation to that of carcinoma. The hepatic flexure in Charrier's case and the sigmoid flexure in Mühsam's case were the regions involved.

CÆCUM.

Foreign Body.—Case LXV.—Mumford (*Boston Medical and Surgical Journal,* 1899, cxli, 602) reports the case of a girl of twelve years seized three days before with sudden abdominal pain referred to the umbilicus. She vomited six hours after the onset of pain, which was especially severe in the right iliac fossa and extended to the back; her bowels were freely moved with castor oil, but the pain only increased in severity. On the third day her temperature was 103° F.; pulse, 112; her abdomen was distended; its muscles were rigid, exhibited spasm, and were especially tender over McBurney's point. Rectal examination was negative. Diagnosis of appendicitis was followed by operation, discovering the appendix normal; likewise the cæcum, except that it was distended. Incision into it revealed a compact mass of orange pulp, which was removed; the patient recovered, and the primary diagnosis of appendicitis was revised to that of foreign body in the cæcum.

Enteroliths.—Case LXVI.—Goldbach (*Prager medicinische Wochenschrift,* 1898, xxiii, April 21) reports the case of a boy of sixteen years, a gymnast, whose past history told of jaundice, vomiting, frequent colicky pain beneath the right costal margin, coexistent with constipation. These symptoms were subject to improvement and were of a year's duration. The history of his last attack dealt with pain in the ileocæcal region and back, constipation, flatus, and tenderness at McBurney's point. Examination revealed slight distention, dulness in the ileocæcal region, where a movable, resisting, soft mass was felt. The diagnosis was made of chronic appendicitis. Operation discovered the appendix and cæcum to be normal, but the latter contained a few fæcal stones. The primary diagnosis of appendicitis was revised to that of cæcal enteroliths.

Intussusception; Ileocolonic.—Case LXVII.—Mühsam (*Berliner klinische Wochenschrift,* 1899, xxvi, 676) relates the case of a little boy of five years of age, who a year previously had suffered with pain in the right iliac fossa, and also with nausea and vomiting. The recent attack had begun with sudden violent pain in the right iliac fossa and was accompanied by diarrhœa. Vomiting, but not of fæcal character, occurred on the following day, during which there was no bowel movement. On the third day symptoms of peritonitis and collapse set in. The abdomen was flat and not tender, except in the right iliac fossa, where a resisting mass as large as the fist could be felt, and it was dull on percussion. The diagnosis of perforative appendicitis was made. Collapse and death ensued. The post-mortem examination revealed the appendix to be normal, but the ileum was found to invaginate the ascending colon, and the diagnosis was accordingly revised.

Ulceration.—E. G. Janeway (*Medical Record,* 1900, lvii, 897) says varieties of ulcers, perforative and non-perforative, have been mistaken for appendicitis, and that he has known of operations for the removal of the appendix in cases in which the cæcum and neighboring peritoneum were the seat of tubercular inflammation.

Dr. W. Joseph Hearn (*Transactions of the Philadelphia Academy of Surgery,* 1899, i, 11) reports a case described as "Pericæcal Abscess without Appendicitis." The abscess was between the cæcum and the parietal peritoneum, and the appendix was three inches distant from the abscess. The cæcum at the inflammatory focus was almost gangrenous; the appendix on microscopical examination exhibited inflammatory change in its mucous and submucous coats, but not in the muscular and peritoneal. The inflammation observed in the appendix Dr. Hearn considered secondary to the trouble in the cæcum. Dr. John Ashhurst, Jr., reported a similar case, and one with less involvement of the appendix. As both these cases are of mixed character, they are not numbered as cases in illustration to the reply to this inquiry.

Perforative Ulcer.—Cases LXVIII to LXX.—Vincent (*Lyons Méd.,* 1900, xciv, 526), Monod (*Gaz. des Hôp.,* 1891, lxxi, 353), Delbet (*Bull. et Mém. de la Soc. de Chir. de Paris,* 1900, xxvi, 170) report three cases respectively diagnosed as appendicitis with local peritonitis, appendiceal abscess, and appendicitis with general peritonitis. The first had a history of a kick in the abdomen a month before, the second exhibited a fluctuating mass in the right iliac fossa with tenderness most marked at McBurney's point; the signs in the third case were described as typical. Operation in the three cases revealed normal appendices and cæcal perforation. The primary diagnosis of appendicitis was revised from appendicitis to perforating cæcitis.

Perforation and Malignant Disease.—Case LXXI.—Janeway (*loc. cit.*) mentions the case of a man he saw in consultation. Appendicectomy was prevented by fatal collapse. The autopsy revealed a colloid carcinoma of the cæcum with a perforated ulcer of the intestines, and the diagnosis was so revised.

Tumors.—Case LXXII.—Sonnenburg (*Berliner klinische Wochenschrift,* 1897, xxiv, 810) reports a case diagnosed as appendicitis which on operation proved to be a fibromyoma of the cæcum.

Cases LXXIII, LXXIV.—Mühsam (*Berliner klinische Wochen-*

schrift, 1899, xxxvi, 676) and Coley (ANNALS OF SURGERY, 1901, xxxiii, 631) were each diagnosed as appendicitis. On operation, in each instance, a carcinoma of the cæcum was discovered and the appendix found to be normal.

CASES LXXV, LXXVI.—Coley (ANNALS OF SURGERY, 1901, xxxiii, 631) and McCosh (*loc. cit.,* 630) were each diagnosed as appendicitis, but were discovered by operation to be sarcoma of the cæcum.

ILEUM.

Foreign Body.—CASE LXXVII.—Th. Weiss (*Rev. Méd. de l'Est.,* 1900, Feb. 15, 111) reports the case of a man aged thirty-five years, diagnosed as having appendicitis, and who had complained of pain in the right iliac fossa for two months He was without fever, and did not vomit, but he could not work or even move without exciting severe pain in the ileocæcal region. His abdomen exhibited marked rigidity and some induration over the region of the appendix; it was dull on percussion, and tenderness was most marked over McBurney's point. Operation discovered the appendix to be normal, but in the small intestine near the ileocæcal valve a bone, pointed at one extremity and the size of a two-franc piece, was found and removed by incision. The primary diagnosis of appendicitis was revised to that of foreign body in the ileum.

Lead Ileus.—CASE LXXVIII.—J. P. Lord (*Journal of the American Medical Association,* 1899, i, 800) reports a case of appendicectomy in which the appendix showed no signs of recent inflammation, but in which the ileum was contracted, the condition being due to lead poisoning.

CASES LXXIX, LXXX.—Murphy (*Journal of the American Medical Association,* January 4 and 11, 1896) and Le Gendre (*Lancet,* July 29, 1899) are similar cases.

Inflammation, Acute.—CASE LXXXI.—Quénu and Cavasse (*Bull. et Mém. de la Soc. de Chir. de Paris,* 1900, xxvi, 82) report the case of a boy of seventeen years with a negative abdominal history until three days before he came under observation. He then exhibited constant bilious vomiting, accompanied by violent abdominal pain and obstinate constipation throughout two days, at the end of which time his bowels were moved by enemata. On that evening his face was Hippocratic, there was slight abdominal distention, pain on pressure in the right iliac fossa, and contraction of the right side of the abdomen. There was slight fever. Diagnosis was made of appendicitis. Incision in the right iliac fossa, and subsequent microscopic examination, discovered the appendix normal, but the small intestines were congested and covered with a slight exudate, especially over the lower part of the ileum. The patient recovered, and the primary diagnosis of appendicitis was revised to that of inflammation of the ileum with localized peritonitis.

Inflammation with Adhesions.—CASE LXXXII.—Fowler ("Appendicitis," 1894, p. 120) reports a case with appendiceal symptoms operated upon by Dr. Delatour. The appendix was found to be normal, but the small intestine was bound down by old adhesions posterior to the cæcum. Separation of the adhesions was followed by recovery.

Perforation.—CASE LXXXIII to LXXXV.—Aimé Guinard (Dentu and Delbet, Vol. vii, p. 490), J. B. Deaver ("Appendicitis," 1900, chapter on Differential Diagnosis, p. 201), Kirmisson (*Bull. et Mém. de la Soc. de Chir. de Paris,* 1898, xxiv, 279), report, respectively, the following three cases: The first, that of Guinard, exhibited all the signs of appendicitis with suppuration. The second, that of Deaver, had eaten a hearty mean, which was followed by acute abdominal pain centring round the umbilicus, nausea, vomiting, and bile-stained urine; the symptoms improved on the following day, but by evening all the symptoms of appendicitis developed and the signs of general peritonitis. The third, that of Kirmisson, complained of pain referred to the right iliac fossa, accompanied by vomiting and constipation, marked tympanites, and fever. Excepting the temperature, the symptoms had grown progressively worse, and there was a mass in the iliac fossa. The case of Guinard was operated upon and died; the post-mortem discovered the cæcum and appendix normal; there was a perforation in the ileum thirty centimetres from the ileocæcal junction, the size of a fifty centime piece. In the case of Deaver, diagnosed as acute appendicitis with general peritonitis, operation was deferred in the hope of reaction, but death occurred, and the post-mortem showed the appendix and gall-bladder to be normal, but the ileum to be perforated. General peritonitis existed. In the case of Kirmisson, the diagnosis of appendicitis was modified on anæsthetization to that of localized peritonitis. Examination with the patient anæsthetized confirmed the presence of the mass, which was of regular outline, unfluctuating, of the size of an orange, and slipping on palpation to the left side just below the umbilicus. A median incision discovered intestinal obstruction and a small perforation at the junction of the contracted and dilated ileum. The patient recovered.

The primary diagnosis of appendicitis in these three cases was revised to that of perforation of the ileum; and the last case was caused by intestinal obstruction.

CASE LXXXVI.—Barb (*Thèse,* Paris, 1895 [Letulle and Monod]) reports the case of a man of forty-two years of age, who for two weeks suffered with fever, diarrhœa, alimentary vomiting, pain in the right flank, hypochondrium, and in the cæcal region, where it was most severe. A hard, indurated mass tender to the touch was discernible in the right iliac fossa. The diagnosis was made of localized appendiceal abscess. On incision the cæcum was found congested, the appendix was not seen, but the omentum was infiltrated, and behind it was a small cavity containing gangrenous *débris* and a sanious fluid, but no true pus. The cavity was cleaned and drained. Death occurred a month later. The autopsy discovered the appendix normal, but there was a large perforation in the small intestine at the level of the ileocæcal value and communicating with retrocæcal abscess cavity. There were other abscesses and a general peritonitis. The cause of the ulceration was unknown; it was not considered typhoidal or tubercular. The diagnosis was revised to perforating ulcer of the ileum.

CASE LXXXVII.—Mühsam (*Berliner klinische Wochenschrift,* 1899, xxxvi, 676) reports the case of a woman who in six months had suffered

two attacks diagnosed as appendicitis. There were fever, pain, and a resistant mass in the right iliac fossa. Operation discovered an abscess containing fæcal pus and a needle. The intestine exhibited several minute perforations.

The Typhoid Ulceration of Peyer's Patches.—CASES LXXXVIII to XCI.—Richardson (*Providence Medical Journal,* April, 1901, p. 65) reports four cases, two of which were recommended for appendicectomy and two of which were operated upon. The revised diagnosis was typhoid fever in each instance. The following is an abstract of the last case.

A girl ill for a week exhibited marked tenderness in the right iliac fossa, little rigidity, and some resistance upon deep pressure on the right side of the abdomen. The attack began with a chill, headache, and abdominal pain. The diagnosis lay between typhoid and appendicitis. Palpation with the patient anæsthetized revealed an ill-defined mass, probably an inflamed appendix, in the right iliac fossa. Incision discovered the cæcum and appendix to be normal, and the mass to consist of seven or eight enlarged, juicy, reddish lymph glands clustering about the ileocæcal valve. A resistant mass that felt like a tubercular ulceration was located in the small intestine. This was believed to be the primary lesion and the enlargement of the glands to be secondary.

The diagnosis in this case was revised to typhoidal ulceration of the ileum by the pathologist who examined the glands, and who congratulated Dr. Richardson upon the "earliest diagnosis of typhoid on record."

CASES XCII, XCIII.—H. A. Hare (*Transactions of the American Physicians,* 1900, xv, 193) reports two cases of similar history. The notes of the first case are as follows: A boy, twenty-one years of age, exhibited pain and much tenderness in the right hypochondrium and epigastrium for a few days. His abdomen was scaphoid; he had slight fever and a rapid pulse. His pain became worse on the following day and more limited to the appendicular region. There was hardness and rigidity of the abdominal wall and marked tenderness over McBurney's point. The operation which was arranged for that afternoon was delayed because the tongue became suggestive of typhoid, which later developed, and the diagnosis was revised from appendicitis to that of typhoid.

CASE XCIV.—John B. Walker (ANNALS OF SURGERY, 1901, xxxiii, 633) and Gabriel Maurange (*Gazette Hebd. de Méd. et de Chir.,* 1899, xlvi, 925)

each report one case in which a primary diagnosis of appendicitis was followed by operation, and the discovery of a cæcal ulcer in the first case and enlarged retrocæcal glands in the second. Both cases developed typhoid fever, and the primary diagnosis of appendicitis was revised to that of typhoid fever. The appendix in the second case was removed; its microscopic examination suggested that it had been subject to chronic atrophic inflammation.

CASE XCV.—John B. Walker (*loc. cit.*) also reports in the same article a case diagnosed as appendicitis. Operation set for the following day was prevented by the development of typhoid symptoms. The case proved fatal in six weeks from hæmorrhage.

CASES XCVI to XCVII.—Morris (*New York Medical Journal,* 1899, i, 469) and Mühsam (*Berliner klinische Wochenschrift,* 1899, xxxvi, 676) each report a case in which a primary diagnosis of chronic appendicitis was made in the first instance and of appendicitis with peritonitis in the second. The first case went to operation, and adhesions of the cæcum and appendix were separated and the latter removed. These evidences of local peritonitis were ascribed to a broken-down Peyer's patch occurring during an attack of typhoid fever, microscopical examination of the appendix proving it to be normal. Mühsam's case was not operated upon, but at post-mortem section perforated typhoid ulcer was discovered. Primary diagnoses of appendicitis in both these instances were revised to that of typhoid fever.

CASES XCVIII to XCIX.—Alberti (71. Vers. d. Nat. u. Arzt., München, 1899, p. 129), Mühsam (*Deutsche medicinische Wochenschrift,* 1901, xxviii, 534), and Rendu (*Sem. Méd.,* 1901, xxi, 41) each report a case that was operated upon, the first for perityphlitic abscess, the remaining two for appendicitis. The diagnosis in each instance was revised to that of typhoid fever.

Peabody (*Medical Record,* 1900, lvii, 935) and Janeway (*Medical Record,* 1900, lvii, 898) also speak of cases of typhoid that had been operated upon by mistake for appendicitis, but do not describe them.

Malignant Disease.—CASES C, CI.—Brewer (ANNALS OF SURGERY, 1901, xxxiii, 590) and Berg (*Medical Record,* 1901, i, 1025) were each diagnosed as appendicitis. Operation proved Brewer's case to be a soft sarcoma of the intestines and Berg's to be a lymphosarcoma of intestine, omentum, mesentery, and glands.

DUODENUM.

Perforating Ulcer.—CASE CII.—Lennander (*Mittheilungen aus den Grenzgebiet der Medicin und Chirurgie,* iv, 105) reports the case of a woman of twenty-five years, a servant, who for several years had exhibited the signs of gastric ulcer. Her symptoms were not severe, and she never suffered from hæmatemesis. History of her last attack is one of severe gastric pain of a few days' duration. The entire abdomen was tender, but was especially so in the region of the cæcum, appendix, and ascending colon, and gave least trouble in the epigastrium. There was general distention. On rectal examination slight fulness was discovered in the right

iliac fossa but no evidences of gynæcological disease. Diagnosis was made of peritonitis due either to perforated appendix or gastric ulcer. Incision in the right iliac fossa discovered the peritoneum to be thick and injected, the abdominal cavity to contain a thin and flaky, odorless liquid, and the cæcum and appendix to be normal. The operation proceeded no further than the institution of drainage. Death occurred in three days, and post-mortem examination discovered a large abscess bounded by the abdominal wall, the left lobe of the liver, its suspensory ligament, the transverse colon, and the stomach. A small abscess was located in the lumbar region and ulcers found in the duodenum. Two of these were intact, and one situated near the gastroduodenal junction had perforated. Diagnosis of possible appendicitis was revised to general peritonitis due to perforation of a gastroduodenal ulcer.

Case CIII.—Mühsam (*Berliner klinische Wochenschrift,* 1899, xxxvi, 676) reports the case of a man of fifty-one years, who eleven years before was said to have had an attack of appendicitis. His present illness was characterized by sudden pain in the right side of the abdomen. He was not nauseated, nor did he pass flatus. On the following day his symptoms suggested grave peritonitis; his pain was greatest in the right iliac fossa and in the gastric region. His abdomen was distended and very tender to the touch. There was no dulness on percussion; no information was gathered from rectal examination, and retention of urine was relieved by the catheter. Diagnosis was made of perforated appendix or gastric ulcer. He died, and post-mortem section revealed a perforated duodenal ulcer. Diagnosis of possible appendicitis was limited to that of duodenal ulcer.

Cases CIV to CXLII.—R. F. Weir (*Medical Record,* 1900, lvii, 934) refers especially to duodenal perforations, of which he collected fifty-one cases, three-quarters of which (thirty-eight cases) had been operated upon for appendicitis.

STOMACH.

Perforating Gastric Ulcer.—Cases CXLIII to CXLVI.—Mühsam (*Berliner klinische Wochenschrift,* 1899, xxxvi, 676), Verdelet (*Gazette Hebd. de Méd. et de Chir.,* 1900, 227), Jacob (*Thèse,* Paris, 1893), and Kammerer (Annals of Surgery, 1901, xxxiii, 632) each report a case in which the primary diagnosis of appendicitis was made. Three of the cases were operated upon, that of Verdelet was not, but a post-mortem section was made.

In all four of the above cases the primary diagnosis of appendicitis was revised to that of perforated gastric ulcer.

Gangrenous Polyp.—McCosh (Annals of Surgery, 1901, xxxiii, 629) reports the case of a man with symptoms of general peritonitis and pain in the epigastrium and right iliac fossa, accompanied by fever, tenderness over the appendix, and abdominal distention, who was operated upon for general peritonitis due to perforative appendicitis, and discovered to suffer from general peritonitis due to a gangrenous gastric polyp, and the diagnosis was so revised. The appendix was but slightly and secondarily inflamed.

FOREIGN BODY IN THE ABDOMINAL CAVITY.

Case CXLVII.—Marx (*Medical Record,* 1899, ii, 868) reports the case of a woman of twenty-eight years who two years before was relieved of a dermoid cyst. At twenty-seven she had an attack of what was styled acute appendicitis, but she was not operated upon. She had three later attacks, the diagnosis was made of acute appendiceal abscess. At the operation an abscess was evacuated, but it arose not from the appendix, but a silk ligature.

HERNIA.

Several cases of hernia that were mistaken for appendicitis have been discovered in the search for reports pertinent to this paper, but, as the original scope of the paper was limited to abscess, they were rejected, and their references, with the exception of the following, are not now at hand.

Femoral Hernia.—Case CXLVIII.—Walter C. Wood (*Brooklyn Medical Journal,* 1898, 484) operated on a case referred to him with the diagnosis of appendicitis. He discovered on section that the trouble was due to a properitoneal hernia, only the ring of peritoneum was concerned in the constriction. The gut involved was only a portion of the circumference of the ileum; the lumen of the gut was not occluded, *i.e.,* the hernia was of the Littré variety. The location was that of the femoral canal, but the canal was not entered by the hernia.

Retroperitoneal Hernia.—Case CXLIX.—Fowler ("Appendicitis," 1894, p. 119) reports a case of rare interest with appendiceal symptoms which were found by operation to be due to hernia of a portion of the ileum into the fossa duodenojejunalis of Treves, the musculus suspensorius duodeni of Treitz acting as a band. The case ended fatally.

SPLEEN.

Abscess.—Case CL.—Mühsam (*Berliner klinische Wochenschrift,* 1899, xxxvi, 676) reports the case of a woman of twenty years, having tuberculosis of the lungs and an enlarged liver, who suffered for three weeks with severe gastric pain. There was dulness in the right iliac fossa, which contained a resisting mass the size of a man's fist. This mass was tender to the touch; percussion discovered dulness extending as far as the left side of the abdomen, the bladder being empty at the time. Vaginal examination confirmed the presence of a fluctuating tumor. Diagnosis was made of a post-appendiceal abscess. On incision, and apparently before the peritoneum was reached, an abscess cavity was opened, and from it came odorless pus. No intestine was visible. Death occurred in two weeks, and post-mortem examination discovered a chronic adhesive peritonitis with multiple abscesses "and suppuration of the stomach and spleen;" also a purulent thrombophlebitis of the portal vein and other inflammatory lesions. The primary diagnosis of appendicitis was revised to that of splenic and gastric abscess.

PANCREAS.

Suppuration.—Case CLI.—Brewer (Annals of Surgery, 1901, xxxiii, 590) reports the case of a man of fifty-three years who had exhibited abdominal symptoms for a year. Seventeen years before an attack of abdominal pain and fever had been styled acute peritonitis. He was recently suddenly seized with abdominal pain, which gradually grew worse, and was accompanied by vomiting, malaise, fever, and sweat, but not by jaundice. His abdomen was distended. It was generally tender; there was no suggestion of its containing a mass or free fluid. Examinations of the rectum, of the liver, and of the urine were negative. The diagnosis was made of peritonitis due to a perforated appendix. On incision, there was no evidence of general peritonitis, and the pancreas, gall-bladder, and appendix appeared to be normal. The omentum was covered by numerous small white spots. Microscopic examination showed one of these to be subject to fat necrosis. The patient died. At the post-mortem the pancreas was found to contain numerous small abscesses. The primary diagnosis of appendicitis was revised to that of acute suppurative pancreatitis.

KIDNEY.

Floating Kidney.—E. G. Janeway (*Medical Record*, 1900, lxxvii, 897) says that fæcal impaction in cases of narrow hepatic flexure is often associated with movable right kidney, and the condition mistaken for appendicitis. He has also known intermittent hydronephrosis without calculus, hydronephrosis with displaced right kidney, and movable kidney to be mistaken for appendicitis. Finally, he has known operations for appendicectomy to be instituted in cases that were subsequently discovered to suffer from renal colic.

Case CLII.—Miller (*Medical Record*, 1900, lvii, 363) reports the case of a woman of forty-four years of age, a servant, who had suffered with pain in the right iliac fossa for one year. There was a distinct mass in the fossa, and there was tenderness one inch below McBurney's point. The diagnosis was made of appendicitis or ovarian tumor. Operation proved both the appendix and ovary to be normal, but discovered a right-sided floating kidney, and the diagnosis was so revised.

Cases CLIII, CLIV.—Morris (*New York Medical Journal*, December 22, 1900, 1093) and Wright (*American Journal of Surgery and Gynæcology*, 1901, xiv, 86) each report a case in which the primary diagnosis of appendicitis was responsible for operations that discovered normal appendices, but floating kidneys, and the diagnoses were so revised.

Hydronephrosis.—It is of interest to note that in Wright's case, the supposed appendiceal inflammatory mass disappeared on anæsthetization, which was followed by a copious discharge of urine. The notes of the case thus explained the phenomena observed: A floating kidney twisting on its pedicle resulted in hydronephrosis mistaken for appendicitis. The relaxation of anæsthetization permitted untwisting of the pedicle, relief from constriction, the escape of urine to the bladder and disappearance of the hydronephrosis.

Pyonephrosis.—Case CLV.—Marx (*Medical Record*, 1899, ii, 868) reports the case of a girl seized with sudden pain in the right iliac fossa, and who exhibited abdominal tenderness, a temperature of 102° F., and a pulse of 108, and was pronounced to be suffering from appendicitis. Incision discovered the appendix to be normal, but that back of the peritoneum there was a suppurating cavity. Two days later a suppurating kidney was removed. The patient recovered, and the primary diagnosis of appendicitis was revised to that of retroperitoneal abscess due to a suppurating kidney.

Perinephritic Abscess.—Case CLVI.—.—Halle and Bernard (*Revue Chirurg. Presse*, from Manley, *loc. cit.*) record the case of an infant eighteen months old having a mass in the right side diagnosed as encysted peritonitis with atypical appendix. Operation revealed the case to be one of perinephritic abscess

The writer saw the following hitherto unreported case in substitution for Dr. T. G. Morton, and is indebted to him for permission to report it.

Case CLVII.—A girl aged sixteen years, by occupation a seamstress, was brought to the Pennsylvania Hospital complaining of pain in the right lower abdominal quadrant, radiating to the back. She had been ill for a week and in bed for four days. The pain was first noticed in the right leg upon sitting down or arising from a sitting posture. Her trouble had been diagnosed as appendicitis, and she was sent to the hospital for operation. There was marked tenderness of the abdomen over McBurney's point, and muscular rigidity and retraction were observed on palpation, also a mass extending from the outer border of the rectus into the right iliac fossa and from McBurney's point downward. The right thigh was slightly flexed and her temperature was 102° F. Her abdomen, flank, and lumbar region posteriorly were examined by bimanual palpation without turning her back to view. When questioned regarding previous trouble in the back she denied its existence. The diagnosis of appendicitis was approved, and she was immediately prepared for operation. Under ether anæsthesia the abdomen was incised and the appendix brought into view. It was very slightly congested and was removed. There was no evidence of other inflammation. Instead of finding a mass in the right iliac fossa, its exploration showed it to be very shallow, and the question was raised of malformation of the ilium or of possible trouble with the spine with resultant iliac abscess. The complete absence of fluctuation, the discovery by the Chief Resi-

dent that the interior of the appendix was ulcerated, and so accounted for the symptoms, and the fact that the patient's back had not been sterilized and that she was much shocked, all determined the writer to conclude the operation and leave the investigation of the shallow iliac fossa for another occasion. On removal from the operating-room, the patient's temperature was 96.2° F. Her shock, however, was overcome by heat and stimulation. Her abdominal wound did well, but she was so noisy and restless at night that on the fifth day her general condition gave such anxiety that her abdominal wound was examined. It was found in perfect condition. She was then questioned whether she at that time had, or ever had any deformity of her right hip or of her back, or ever suffered any distress with either. She denied that her back occasioned her distress. An attempt to pass a fresh binder under her to secure her abdominal dressing was followed by a loud cry. Questioned as to its cause, she created surprise by contradicting her denial of but a moment before, and admitted that she suffered from pain in the back. She was turned upon her side and a large fluctuating mass was found extending over both lumbar regions and midway between the pelvic crest and the scapular inferior spines. A couple of hours later this was freely incised in three places with the aid of a local anæsthetic. Her alarming shock upon her previous anæsthetization, and her grave general condition, prevented a second resort to general anæsthesia. The mass proved to be a very large and foul lumbar abscess, containing much necrotic material. The deep origin of the pus could not be discovered, and the patient's condition forbade exploratory procedure. Her condition was more comfortable on the following day, but on the day after she died. Autopsy was denied, and the diagnosis is debatable. The examination of the urine the day after admission showed a specific gravity of 1030, a slight trace of albumen, a few hyalin casts, some epithelium, and leucocytes. Its examination four days later, upon the day the abscess was opened, discovered no albumen, but hyalin casts, epithelium, and leucocytes were still present. The origin of the abscess was probably either vertebral or perinephritic. The examination of the urine of the first case reported in this paper, one of extensive psoas abscess due to vertebral disease but without deformity, was very similar to the report just read, so that the pathological condition of the urine does not necessarily

show that the kidney was primarily in fault. On the other hand, the perfect health of the patient and her activity up to the time of her seizure, suggest that the suppurative process was of rapid formation, and therefore more probably perinephritic than spinal. The unfluctuating character of the thickening felt in the iliac fossa at the time of the abdominal operation may possibly be explained by the displacement into the fossa of the kidney by the collection of pus posterior to it, and so the primary diagnosis of appendicitis in this case is revised to that of perinephritic abscess; and it is the sin of omission in not viewing the patient's back in this case, despite her assertion that it was sound, which inspired this paper.

Renal Calculus.—CASE CLVIII.—A. D. Bevan (ANNALS OF SURGERY, 1901, xxxiii, 630) reports the case of a woman who suffered recurrent attacks attributed to appendicitis. Urinalysis discovered hæmaturia and the X-rays a renal calculus. Dr. Bevan commends the use of the X-rays in effecting differential diagnosis in such cases.

URETER.

Abscess.—CASE CLIX.—Charles McBurney ("International Text-Book of Surgery," Vol. ii, p. 405) says "a purulent cyst of the ureter has led to operation for a diseased appendix, the symptoms of the case, both subjective and objective, simulating those of appendicitis (Guitéras)."

Gonorrhœal Ureteritis.—CASE CLX.—Reynier (*Bull. et Mém. de la Soc. de Chir. de Paris,* 1900, xxvi, p. 169) reports the case of a man suffering from pain in the right iliac fossa and exhibiting a mass there. The diagnosis of appendix led to operate for that trouble. But the appendix was normal, and beneath it was an abscess due to gonorrhœal ureteritis. The primary diagnosis of appendicitis was revised to that of gonorrhœal ureteritis.

Calculus.—CASES CLXI to CLXIII.—Brewer (ANNALS OF SURGERY, 1901, xxxiii, 590) and William Russell (*Scottish Medical and Surgical Journal,* 1900, vii, 197) report three cases of primary diagnoses of appendicitis. Two of the cases were Brewer's and underwent three operations apiece. Russell's case was not operated upon, but passed a calculus. All three cases suffered revision of their diagnoses to that of ureteral calculus.

PROSTATE.

Gonorrhœal Prostatitis.—CASE CLXIV.—Brewer (ANNALS OF SURGERY, 1901, xxxiii, 600) reports the case of a man of twenty years, who four days previously was attacked with paroxysmal abdominal pain in the right lower quadrant. There was vomiting, but his fæces and condition suggested the existence of general peritonitis. The abdomen was enlarged, tender, hard, and very rigid. Diagnosis was made of general peritonitis due to a perforated appendix. Operation revealed that organ as

well as the gall-bladder, kidney, etc., normal, but the lymph glands on the right side were enlarged. A subsequent rectal examination discovered an acute follicular prostatitis preceded by a gonorrhœal discharge of recent existence. The primary diagnosis of appendicitis was revised to that of gonorrhœal prostatitis, with enlargement of the retroperitoneal lymph glands.

Acute Epididymitis.—Howard Lilienthal (ANNALS OF SURGERY, 1901, xxxiii, 631) invited attention to the abdominal pain preceding an attack of acute gonorrhœal epididymitis, as a condition that might be mistaken for appendicitis. Such cases may be accompanied by pain and tenderness at McBurney's point.

LIVER.

Subhepatic Abscess.—Weiss (*Rev. Méd. de l'Est.*, 1900, xxxii, 357) reports the case of a boy of sixteen years, who suffered from pain in the right iliac fossa, fever, vomiting, and diarrhœa for eight days. His temperature was subnormal, his pulse weak, and his general condition very bad. His countenance was Hippocratic; there was dulness in the right mass. A diagnosis was made of appendicitis with general peritonitis. Incision evacuated an abscess that was retrocæcal and subhepatic, and the diagnosis was so revised (condition of appendix not mentioned).

Dahlgren (*Upsala Läkareförenings*, iv, 197; *Centralblatt für Chirurgie*, 1899, 825) reports two cases in which the symptoms pointed to appendicitis, but the diagnosis was limited to abscess in the ileocæcal region. Incision and evacuation of the abscess were followed by a short period of improvement. A cæcal fistula persisted, and operation was again attempted in search for the cause of trouble. Pus was discovered to come from the subphrenic region; death ensuing, post-mortem examination discovered that in one case the appendiceal wound had drained the abscess. No general peritonitis existed, and the appendix was normal.

GALL-BLADDER AND DUCTS.

The following thirty cases were diagnosed as appendicitis. The diagnosis in each case was revised by examination at operation or autopsy to that of some lesion associated with the gall-bladder. These cases are as follows:

REVISED DIAGNOSES, WITH REFERENCES.

Dilatation of the Gall-Bladder.—CASE CLXV.—One case, Rotter (*Berliner klinische Wochenschrift*, xxiv, 832).

Rupture of the Gall-Bladder.—CASE CLXVI.—One case, Peabody (*Medical Record*, 1900, lvii, 935).

Cholecystitis.—CASES CLXVII to CLXIX.—Three cases, Janeway (*Medical Record*, 1900, lvii, 897).

Cholecystitis.—CASE CLXX.—One case, Elliot (Chute, in *Boston Medical and Surgical Journal*, 1899, cxl, 236).

Cholecystitis.—CASES CLXXI, CLXXII.—Two cases, Richardson (*American Journal of the Medical Sciences*, 1898, cxv, 629).

Empyema.—CASE CLXXIII.—One case, Taylor (*Virginia Medical Semi-Monthly*, 1898, p. 708).

Empyema.—CASE CLXXIV.—One case, Parmentier and Fossard (Adenot, in *Lyons Médicale*, February 24, 1901).

Empyema.—CASE CLXXV.—One case, Gérard Marchant (*Bull. et Mém. de la Soc. de Chir. de Paris*, April 23, 1897, p. 304).

Empyema.—CASE CLXXVI.—One case, Jacob (*Thèse*, Paris, 1893).

Cholelithiasis.—CASE CLXXVII.—One case, Means (*Journal of the American Medical Association*, 1899, ii, 311).

Cholelithiasis.—CASE CLXXVIII.—One case, Deaver, J. B. (*Journal of the American Medical Association*, 1899, i, 866).

Cholelithiasis and Dropsy.—CASE CLXXIX.—One case, Fowler ("Appendicitis," 1894, p. 123).

Cholelithiasis and Cystitis.—CASE CLXXX.—One case, Mynter ("Appendicitis," 1900, p. 126).

Cholelithiasis and Cystitis.—CASE CLXXXI.—One case, Terrier (*Gazette Hebd. de Méd. et de Chir.*, 1895, xxxii, 603).

Cholelithiasis and Cystitis.—CASE CLXXXII.—One case, Brewer (ANNALS OF SURGERY, 1901, xxxiii, 598).

Cholelithiasis and Cystitis.—CASE CLXXXIII.—One case, Reynes (*Rev. de Chir.*, 1900, xxii, 380).

Cholelithiasis and Cystitis.—CASES CLXXXIV to CLXXXVI.—Three cases, Richardson (*American Journal of the Medical Sciences*, 1898, cxv, 629).

Cholelithiasis and Cystitis.—CASE CLXXXVII.—One case, Guinard (Le Dentu and Delbet, vii, 513).

Cholelithiasis and Empyema.—CASE CLXXXVIII.—One case, Fowler ("Appendicitis," 1894, p. 122).

Cholelithiasis and Empyema.—CASE CLXXXIX.—One case, Kilgore (*Philadelphia Medical Journal*, 1900, vi, 1167).

Cholelithiasis and Empyema.—CASE CXC.—One case, Berg (*Medical Record*, 1901, i, 1025).

Cholelithiasis and Empyema.—CASES CXCI, CXCII.—Two cases, Adenot (*Lyons Médicale*, February 24, 1901).

Cholelithiasis, Empyema, and Abscess of Abdominal Wall.—CASE CXCIII.—One case, Gibbon (*Philadelphia Medical Journal*, 1901, January 19).

Gall-Stone in and obstructing the Intestines.—CASE CXCIV.—One case, Sonnenburg (*Berliner klinische Wochenschrift*, 1897, xxxiv, 810).

It is regretable that limitations of space prevent the presentation of the interesting details of these cases. An abstract of one case is appended because, in addition to the conditions of cholelithiasis and empyema of the gall-bladder, there were abscess of the abdominal wall, internal and external fistulæ communicating with it, and a history of the diagnosis of the

case as one of hernia, prior to its classification as one of appendicitis.

J. H. Gibbon (*Philadelphia Medical Journal,* January 19, 1901) reports the case of a woman, fifty years of age, who suffered for four years severe pain starting low in the right side of the abdomen and radiating to the umbilicus, and occasionally to the right shoulder. There was no history of vomiting, jaundice, collapse from pain, or of the passage of gall-stones. Her last attack was characterized by severe pain accompanied by chill and fever, headache and constipation, but no vomiting or jaundice. Pain was most severe in the right iliac fossa, and the diagnosis of appendicitis was made by her attending physician. The following summer, the patient came under the care of Dr. Stout. She was then wearing a truss to control a mass in the right iliac fossa, supposed by her last consultant to be hernial in character. The skin over the mass was perforated by a sinus discharging pus. Operation by Dr. Gibbon discovered an abscess in the abdominal wall extending in several directions. In one of its pockets was a small sinus; this when dilated led into the gall-bladder, which contained fifty-one gall-stones a little larger than peas. Diagnosis was revised to cholelithiasis with formation and rupture of an abscess of the abdominal wall.

CONCLUSIONS.

The mass of evidence furnished has been gleaned from the literature of the past four years and its references. No attempt has been made to make the evidence complete in quantity; the aim has been rather to make it illustrative of the *variety* of abscesses occurring in the right iliac fossa, with mention of some other lesions that have not been recognized for what they were, and that have been mistaken for appendicitis.

The question naturally follows: "Is the diagnosis of appendicitis difficult?"

Turning to "Appendicitis" by Dr. G. R. Fowler, 1894, we find that he agrees with Talamon, saying (page 117), "In the average typical case of appendicitis there should be no greater difficulty in making a diagnosis than the physician ordinarily finds in arriving at a conclusion in a case of pneumonia." This book contains twenty excellent pages on diagnosis and differentiation, and is illustrated not only by abstracts of cases of appendicitis that have not been primarily recognized, but also by cases of other lesions that have been mistaken for appendicitis, and to which this paper is indebted.

In Dennis's "Surgery," published in 1896, the article on

appendicitis written by Hartley contains no comment on Differential Diagnosis.

In "Surgery by American Authors," the chapter on Appendicitis, written by Richardson and Cobb, says: "The diagnosis of acute appendicitis is rightly regarded as easy," and devotes five lines to enumeration of diseases from which it should be differentiated.

The "American Text-Book of Surgery" (1899) takes the question of diagnosis seriously, devoting half a page to it and a full page to differential diagnosis. The tone of the author suggests that error is possible and care required to avoid it.

In the "International Text-Book of Surgery," 1900, the article on Appendicitis is written by McBurney, who says: "An attack of appendicitis accompanied by the characteristic symptoms is rarely mistaken for any other condition; but other diseases within the abdomen may present many of the symptoms of appendicitis."

The "Cyclopædia of Practical Medicine and Surgery" (Gould and Pyle), 1900, thus introduces the topic of diagnosis: "Typical cases of appendicitis are frequently easy of diagnosis, but in the large majority of cases an unending variety of symptoms difficult to read or to explain are present." Further on, some earnest lines warn the necessity, in all cases, of only making a diagnosis after a careful review of the history and an exhaustive examination of the existing conditions. A column and a half are devoted to "conditions that may simulate the disease (appendicitis) or create confusion in diagnosis."

In "Appendicitis and its Surgical Treatment," 1900, Herman Mynter, in eighteen pages on diagnosis and differential diagnosis, gives a comprehensive review of the published opinions on these topics, and, like Fowler, quotes cases of appendicitis that were mistaken for other lesions, and *vice versa.* This paper has quoted from the latter class. No general opinion is expressed as to the ease or difficulty of diagnosis. Yet one is impressed on completing these chapters that the author believes that the diagnosis of appendicitis is not usually difficult.

"Appendicitis," by Dr. John B. Deaver, 1900, devotes one-sixth of the book (forty-four pages) to an elaborate and able chapter devoted to consideration of Diagnosis and Differential Diagnosis, and gives perhaps the most complete enumeration of lesions that may be mistaken for appendicitis. One of the cases reported has been quoted in this paper. The chapter on diagnosis opens with the sentence, "The diagnosis of appendicitis is ordinarily unattended with special difficulties."

The opinions of these authorities may be considered representative, and the initial sentence of Dr. Deaver descriptive of present opinion.

It is because "the diagnosis of appendicitis is *ordinarily* unattended with special difficulty" that the possibility of other lesions occurring in the right iliac fossa is not sufficiently borne in mind. If the variety or quantity of evidence furnished by this paper is not sufficient to carry conviction, it can be increased by referring to the illustrative cases accompanying Dr. Deaver's excellent chapter on Differentiation; it is written from the point of view that other lesions may be erroneously diagnosed in place of appendicitis, and it well establishes that fact. And so from both points of view, that of mistaking appendicitis for other lesions and that of mistaking other lesions for appendicitis, the conclusion is reached that *a diagnosis in cases with symptoms pointing to the right iliac fossa should not be made without a routine, conscientious examination for, and exclusion of, the various troubles that may exhibit misleading symptoms and signs.*

It was only fifteen years ago (April 23, 1887) that a member of this Academy, Dr. Thomas George Morton, performed the first appendicectomy for a previously diagnosed appendicitis.

The intervening years have developed a keen and necessary apprehension of the danger of this disease and of the necessity of meeting it by early diagnosis and prompt operation, and this paper must not be misunderstood as detracting from these dangers and necessities.

Zeal for a cause, however good, may lead to the disregard

of claims equally just. The other ills of the iliac fossa have their claims as well as those of the appendix, and an opinion on the plainest case of trouble in this region should only be reached after careful *differential diagnosis*, and the question of *differential diagnosis* is omitted, with the hope that it will be honored in discussion.

The author desires again to express his earnest thanks to the gentlemen who so kindly contributed their cases to the paper, and to Dr. Cross, from whose notes two of the author's cases were reported.

DISCUSSION.

DR. DAVIS called attention to a case that came under his notice that presented a form of possible origin of abscess which he had never seen before. A patient had an ischiorectal abscess which was followed by the appearance of a swelling in the region of Scarpa's triangle. It then apparently appeared above Scarpa's triangle in the right iliac fossa, whence it was opened, a sinus leading downward and inward to the region of the lesser trochanter and downward towards the perineum. It was not an appendiceal abscess, because the appendix was afterwards looked at and found to be perfectly normal. If one were allowed to theorize on the subject, it could be suggested that the pus might have arisen in the ischiorectal fossa and then worked its way up possibly through the upper portion of the thyroid foramen, appearing in Scarpa's triangle and thence upward striking the fascia later and working its way farther outward. It is true that this seems a rather far-fetched route; but, as a matter of fact, the abscess did begin in the ischiorectal fossa, and was also opened and pus evacuated in the iliac fossa.

DR. WHARTON recently had a case bearing upon Dr. Spellissy's paper. A young man received a fall in a gymnasium and struck the right side of his pelvis. He got up and walked home, but that evening he had severe pain in the right iliac fossa. His family physician was summoned, and he thought at first it was an injury to his hip. He thought possibly the young man had received an injury to the neck of the femur, and examined him under ether with a negative result. The speaker saw him two weeks after the injury, when he was in bed, his thigh flexed almost to a right angle with the pelvis. He had tenderness and

induration low down in the right iliac fossa. He had the patient removed to the hospital, and a day or two afterwards made an incision just above Poupart's ligament, and as soon as the tissues were divided there was an escape of pus and blood-clot, which he found arose from the separation of the iliacus muscle in the pelvis. He could pass his finger down over the surface of the ilium, the periosteum being stripped off and the peritoneum being pushed upward into the muscle. The amount of material collected under the iliacus muscle was certainly a pint, and consisted partly of pus and blood-clot. This case presented at first many of the symptoms of appendiceal abscess.

Dr. Jopson spoke of a case of abscess arising in the soft parts of the iliac fossa. It was in an infant two or three months old, arising without apparent cause, and appeared as a swelling above and to the outer side of Poupart's ligament. Its deep origin was not suspected until it was opened, where the speaker found that he could pass his finger deeply into the iliac fossa. This case healed rapidly.

The other case was a boy of sixteen or eighteen who presented a swelling of rather rapid growth above the outer border of Poupart's ligament. In some ways it resembled a rapidly growing sarcoma, although its cystic nature was rather apparent. There were no symptoms of hip or spine disease; it was very evident that it contained fluid. It proved to be an abscess of the sacro-iliac joint which had followed the iliac fascia, pointing above Poupart's ligament instead of in the back.

Dr. Willard said that the erratic course frequently taken by pus originating from the spine or from various portions of the ilium is so common that we ought to be on our guard for abscesses appearing in the right iliac region. We are so liable, of course, at the present time to look upon all these accumulations as appendiceal. He had seen a number of large abscesses which were undoubtedly purely iliac not psoas abscesses,—not from the spine,—but caused by a rupture of, or severe injury to, the iliac muscle by violent contraction, the fibres of the muscle being torn. In two cases very probably the injury to the muscle would have ended in resolution, but, owing to attacks of influenzal grip, degeneration occurred, abscesses formed, and large quantities of pus were evacuated. Various abscesses may creep down from the vertebral column or from the region of the kidney or liver, and present themselves in the right iliac fossa.

STATED MEETING, FEBRUARY 3, 1902.

The President, Richard H. Harte, M.D., in the Chair.

INTESTINAL SUTURE.

Dr. Edward Martin, in a discussion upon the above subject, said that for some time Drs. Carnett, Levi, and himself had been trying the various methods of sewing animal and human intestines. The speaker wished to detail some of the conclusions which they had reached.

The difficulty incident to making an end-to-end intestinal suture is dependent upon the loose, flabby, slippery nature of the tissues involved, its deep position, and particularly the tendency of the mucous membrane to prolapse. Of the many different methods of end-to-end suture, those which now are received with most favor are the Murphy button apposition, the Maunsell invagination, the Lembert suture, the suture facilitated by the O'Hara forceps, and, latest, and in some respects best, the Connell method of suture, all the knots being placed within the lumen of the intestine.

Considering the use of the different devices for facilitating sewing, they found the Murphy button and the O'Hara forceps perhaps the most practicable. By the O'Hara forceps the junction is a little more rapid. His own experience with the Murphy button was comparatively limited. He had used it in one case of resection of the pylorus with part of the stomach, and the final junction between the stomach and duodenum was made by means of the Murphy button. The man ran a smooth course until the seventh day, when he was given, by inadvertence, a full-sized eggnog. He vomited, went into collapse, and died. The Murphy button had given way; moreover, the swollen mucous membrane had entirely occluded its lumen. Sometimes the button is the only thing that can be used; but, under ordinary circumstances, after intestinal resection where the parts are fairly accessible, we have other and better means.