Dr. Huntington said that he would hesitate to make end-to-end anastomosis between the small and large bowel by attempting to close a portion of the large bowel and then attaching the small bowel to the resulting aperture. There is a fault in that procedure that does not, however, minimize the value of the instrument. He personally did not approve of the metallic button, and believed, if accurate statistics of the operations done by the Murphy button throughout this country to-day could be furnished, surgeons would have a list of tragedies that would be appalling. He had used it fourteen times, and if he included one which was reported six days after the performance of the operation, and since he left home, as being probably a success, he had but two successes to record.

Dr. Davis remarked that the question of time in doing an anastomosis with this instrument as compared with that of the Murphy button had been raised. It seemed to him that it was perfectly easy to decide the relative time consumed by comparing the two procedures. In the first place, with the Murphy button, it is required to place the two ends in place and fix each with a purse-string suture. That would take probably longer than the clamping of these two forceps to the gut. In the second place, the Murphy button is usually reinforced by Lembert's sutures around the button. If that is done, then it is a question of surrounding the entire circumference of the gut by Lembert's sutures. That is all Dr. O'Hara does.

The gut being the same in both instances, the time consumed in applying the Lembert's sutures around the gut in both the Murphy button and these forceps would be approximately the same. Therefore, if the button was applied with a single row of sutures, and if Dr. O'Hara only used a single row of sutures in his operation, then it would appear that both operations could be done in the same time. In other words, it would take no longer to make the operation with Dr. O'Hara's forceps than it would take with the Murphy button reinforced with a single layer of Lembert's sutures.

TRANSACTIONS OF THE PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, June 4, 1900.

The President, De Forest Willard, M.D., in the Chair.

TUBERCULAR PERITONITIS; RECOVERY AFTER ABDOMINAL SECTION; FÆCAL FISTULA.

Dr. Robert G. Le Conte reported the following case: An Italian woman, aged seventeen, was admitted to the Pennsylvania Hospital on December 15, 1898. She had complained for more than two years of abdominal pain, associated with increasing fulness and swelling of the abdomen, and accompanied by general debility and anæmia. Family history negative, and her previous history negative, except that she had always been pale and sallow. The abdomen was large and tense and filled with fluid. The heart, lungs, and urine were negative to examination. Two days after admission the abdomen was tapped and ninety-four ounces of clear, straw-colored fluid withdrawn. Slowly and gradually the fluid reformed in the abdomen, so that by February 6, 1899, she was again greatly distended. She was again tapped, and 220 ounces of clear fluid withdrawn, of 1020 specific gravity, and containing a few leucocytes. A blood count at this time showed red corpuscles 5,600,000, white corpuscles 50,000, hæmoglobin, 60 per cent. By February 25 the abdomen was again considerably distended. The patient was etherized and the abdomen opened in the median line below the umbilicus. The peritoneum was much thickened, and an encysted cavity, extending from the umbilicus to the uterus, was opened. This contained fluid and cheesy material. The intestines were densely adherent around the cavity and covered with tubercular nodules. These adhesions were broken up, the abdomen was irrigated and closed with drainage. Two days later the drainage tube was removed. The drainage

tract persisted, discharging a small amount of pus, and on March 10 it was dilated and a considerable amount of pus and caseous material escaped. A drainage tube was then reinserted. Up to this time the patient had been steadily losing in weight, but now a slight improvement began, and she gained slowly. May 1 a blood count showed the red corpuscles 3,480,000, white corpuscles 8000, hæmoglobin, 60 per cent. The sinus still persisted and discharged pus. May 20 the discharge from the sinus became offensive, and on June 5 the discharge changed to dark-yellow fluid with a marked fæcal odor. June 8 a large round worm was passed from the sinus with some fæces. From June, 1899, to February, 1900, the patient remained in about the same condition, neither gaining nor losing much in weight. For the greater part of the time she was in bed, but some days she would be up in a wheel-chair. The sinus persisted, discharging from time to time small amounts of liquid fæces. At this time the patient came under Dr. Le Conte's care. Her weight was sixty-five and a half pounds and she was a most miserable-looking object. In a few days the sinus began to enlarge, and on February 10 something could be felt at the bottom. A pair of forceps was introduced and a piece of gauze about five feet long and a yard wide was removed. The large cavity that remained soon filled with fæces, and the entire intestinal contents were discharged through the abdominal wound, none being passed by rectum. As a result the skin about the wound soon excoriated, and her suffering from dermatitis was considerable. The patient's condition was such that operation was out of the question. The first week in March she passed some fæcal material by the rectum, which gradually increased in amount, although the larger part was still passed by the abdominal wound. Her condition then began to improve, and she commenced to gain in weight. May 4 the blood count was red corpuscles 4,880,800, white corpuscles 20,200, hæmoglobin, 57 per cent. May 7 the patient was etherized and the sinus was cleaned, curetted, and packed with sterile gauze. The skin of the abdomen, which was still excoriated, was then cleaned as thoroughly as possible, and an elliptical incision made, so as to include the sinus and all of the old scar-tissue. On reaching the transversalis fascia, dense, thick fibrous tissue was encountered, extending three inches or more to the right, and the same distance to the left of the median line. After considerable difficulty

this fibrous mass was separated from the abdominal wall. The condition present may perhaps best be described as follows: A cavity of irregular outline, varying from two to three inches in diameter, surrounded by thick, dense, almost cartilaginous, fibrous tissue, and communicating by a large opening with the small intestine. This fibrous sac was surrounded above, on each side, and behind by adherent bowel, in front by the abdominal wall, and below by the fundus of the uterus, and both tubes and ovaries. Except a small portion of the sigmoid flexure which was adherent on the left side, the remaining adherent bowel was all small intestine. These adhesions formed a series of loops in the small intestine varying from a few inches to perhaps a foot or more in length, simulating more or less a rosette formation. Where the bowel was sharply kinked or flexed in the short loops, these surfaces showed a few small tubercles, but for the rest the peritoneum was free from any evidence of tubercular disease. After freeing the sac from all adhesions, an undertaking which required considerable time, it was found necessary to remove both tubes, the left ovary, and part of the right. The opening into the small bowel was two and a half inches long by half an inch wide. The portion of bowel opposite the mesentery had simply disappeared, and a closure of the rent by suture was impossible. A resection of four inches of intestine was therefore done, with an end-to-end anastomosis. Dr. O'Hara's intestinal anastomosis forceps were used, and the time consumed in doing the resection was about five or six minutes. The abdominal cavity was then thoroughly wiped out and irrigated with hot salt solution, and as much of the solution as possible allowed to remain in. The abdominal wound was closed without drainage. Time of operation two hours and ten minutes. Although no blood had been lost, the patient was profoundly shocked, and two hours later the pulse was so weak and rapid it could not be counted. The median basilic vein was opened and three pints of normal salt solution thrown into the circulation. The pulse immediately became stronger and less rapid. From then on the convalescence was uneventful. The stitches were removed on the tenth day and the wound found perfectly healed, and on the twenty-first day the patient was out of bed. Her weight at present is seventy-seven pounds.

Dr. Le Conte called attention to the part taken by the gauze

sponge, left in the abdominal cavity, in the cure of the tubercular peritonitis. To his mind the necessary irritation of the peritoneum produced by the sponge was the important factor in the cure of the peritonitis, and while the gauze brought on a dreadful chain of evils, it in reality cured the patient.

Dr. G. G. Davis said that he operated on a case a few months ago of tubercular peritonitis; the peritoneum was found to be studded with tubercles everywhere, and was full of purulent material. The abdomen was washed out with salt solution and the incision closed. The condition of the patient was a little improved, but he afterwards died. The idea of additional irritation by gauze strips is perhaps worthy of a trial. In other words, if one opens an abdomen affected with tubercular peritonitis instead of simply closing it—after washing it out—would it not be wiser to insert gauze in various directions through the incision and then remove these strips of gauze afterwards? It would probably set up this very inflammatory process, which, in this case, would prove a constructive instead of a destructive one.

THYROID CYST.

Dr. Robert G. Le Conte presented a man, aged twenty-seven years, who about four years ago noticed a slight swelling on the left side of the throat, which gradually increased in size until this winter, when the growth was very much accelerated. About that time—four or five months ago—he began to have some difficulty in respiration and considerable trouble the moment he laid down. He also had some slight difficulty in swallowing, and there was a slight huskiness of the voice. The growth was situated on the left side, extending from the hyoid bone to beneath the clavicle, and from a little beyond the median line to the outer border of the sternomastoid muscle. The skin over it was tense, but in no place adherent, and the growth felt cystic in character. He was admitted to the Pennsylvania Hospital on the 17th of May; he was etherized on the 19th, and Kocher's angular incision made. The superficial veins were tied, and the capsule of the gland was exposed. It was then found that the sternothyroid muscle had to be cut at its insertion into the thyroid, to deliver the tumor. The capsule was freed as far back as the inferior thyroid artery, the gland dislocated forward, incised, and the tumor enucleated. The wound was closed without drainage. The stitches were removed on the eighth day, and the man has had a perfect recovery. The growth is a cyst.

PERFORATING GASTRIC ULCER SIMULATING APPENDICITIS.

Dr. Richard H. Harte reported the following case. A man, thirty-one years of age, was admitted to the Pennsylvania Hospital, stating that he was perfectly well up to the day before admission, when he was taken with sharp abdominal pains. There was no vomiting or diarrhœa. He was treated at home, but the pain became worse, so that the ambulance was sent for and he was taken to the hospital. When seen his temperature was slightly elevated, features pinched and anxious, tongue coated, and he complained greatly of abdominal pain. On examination, the abdomen was slightly distended, very hard, and there was a great deal of muscular rigidity and exceeding tenderness on slightest pressure. The point of tenderness was decidedly over the region of the appendix.

With this imperfectly elicited history, the diagnosis of perforated appendicitis was made and an operation advised immediately. In less than an hour from the time of his admission he was etherized and an incision made over the region of the appendix. Immediately on opening the peritoneal cavity there escaped a considerable amount of gas, together with considerable yellowish fluid containing flakes of organized lymph. There were no adhesions to speak of. The appendix was soon exposed and a small ulcerated portion at its extreme tip was found; otherwise it seemed fairly normal. It was ligated and excised, and the abdomen thoroughly flushed with hot normal salt solution and a two-way drainage tube introduced and the wound closed. During the operation the patient's condition was almost *in extremis*. The tube was flushed out frequently, and on the next day the patient expressed a certain amount of relief; the pain was greatly diminished; but he had frequent attacks of vomiting of dark-reddish material which unquestionably was blood. The diagnosis was then made of ruptured gastric ulcer, causing the peritonitis from which the patient was suffering rather than the primary trouble in the appendix. These symptoms lasted for the next forty-eight hours, when the abdomen became much distended, the pulse failed, and the patient died. A post-mortem

examination was made through the abdominal wound, and with difficulty the stomach was removed and several small ulcers were found, one of which had perforated. Everywhere else in the abdominal cavity there were evidences of peritonitis. The stomach contained a considerable amount of bloody mucus.

From this case the reporter drew some practical deductions: First, in the matter of diagnosis, the history was misleading, the patient stating that he had never suffered from any gastric disturbance or from any abdominal pain, even of appendiceal character. Even if it had been possible to interrogate the patient before he became so engrossed with his present distressed condition, some points might have been elicited which would have materially assisted in making a more accurate diagnosis, especially in determining the cause of the peritonitis from which it was very apparent that he was suffering. The sudden escape of gas on opening the abdominal wound is almost significant of perforation from either gastric or duodenal ulcer owing to the rapid fermentative changes that occur in the visceral contents of this region, rather than to a ruptured appendix or gall-bladder, and under these circumstances it will be always well to seek for the trouble in the upper part of the abdomen rather than waste time in attempting to find a perforation lower down.

It has been advised by medical authorities that some coloring matter, as methylene blue, may be administered by the mouth, and its escape through the perforation into the peritoneal cavity will then facilitate the location of the ulcer after the abdomen has been opened. This may hold good in ulcer of the stomach, where the fluid would naturally pass out quickly without any digestive changes having taken place; although this procedure will hardly lend itself to the practical surgeon any more than the puncture of the abdomen with a hypodermic needle in the hope that gaseous bacteria and cellular evidences of perforation can be aspirated. Unfortunately in this class of patients, before operative procedure has been determined on, the general condition has become so grave that the time spent in prolonged search in the different parts of the abdomen will militate very materially against a favorable result.

The ordinary signs of perforated peritonitis are well known, namely, (*a*) pain, which is often misleading as to its position, (*b*) great muscular rigidity, (*c*) a flat abdomen, and (*d*) at times

the disappearance of liver dulness, especially when due to gaseous distention from the escape of the stomach's contents.

Again, the sex may be of some assistance in unravelling the diagnosis, perforating gastric ulcer being more common in women; according to Weir's tables 80 per cent. being thus affected, and in perforated duodenal ulcers the figures are about reversed, showing that men are much more liable to duodenal ulceration than women.

It is hardly necessary to say that the surgical treatment of perforated peritonitis cannot be too prompt. If the diagnosis can be narrowed down to either the stomach, duodenum, or gall-bladder, the incision should be along the edge of the rectus muscle, which may be supplemented by one at a right angle to it, across its upper portion; if more room is demanded, it is of great importance that the operative field should be sufficiently exposed to permit a rapid survey of the supposed site of perforation.

If food or material has escaped, the surgeon's action is rendered more certain, and a rapid, thorough inspection after wiping away any escaping fluid will accurately disclose the region of perforation. If nothing is visible in this region, the examination of the posterior gastric wall can be accomplished by either tearing through the gastrocolic omentum, or by turning up the omentum and large bowel and the lesser omental cavity through the mesentery, as in posterior gastro-enterostomy. From the lower end of the wound, which is large enough to admit the hand, the appendiceal region can, if necessary, be easily explored. When the perforation is found it should be closed by a double or triple row of sutures. No attempt should be made to excise the ulcer before suturing, as this takes time; and in the collected cases of operations it is shown that results are not any better where this procedure has been resorted to. The closure of the perforation, however, leaves much of the trouble still unfinished. The proper and systematic cleansing of the peritoneum is then of the utmost importance. If the extravasation is limited, careful wiping out of the affected portion of the peritoneal cavity with gauze will in most cases suffice better than the large, warm irrigations of sterile salt solution, which are more suitable in extensive or general peritonitis. The systematic cleansing of the peritoneal cavity

will be of the utmost importance, and too great care cannot be given to this procedure.

If there is any question in the mind of the surgeon as to his ability to close the perforation, a small packing of iodoform gauze may be left in around the sutures and allowed to remain forty-eight hours; but this is rarely necessary if careful and systematic suturing with two or three rows of carefully introduced sutures has been resorted to. It is needless to say that the mortality in this condition is very great, the percentage of recoveries being exceedingly small. In perforating gastric ulcer, according to the paper published by Weir, the mortality was 78 per cent., the patients dying invariably of shock or peritonitis.

TRANSACTIONS OF THE PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, October 1, 1900.

The President, DE FOREST WILLARD, M.D., in the Chair.

DISLOCATIONS OF THE TOES.

DR. GWILYM G. DAVIS reported the following case: Miss A., aged thirty-six years, rather stout, while jumping from a carriage to the ground felt a pain in the forward portion of her right foot. She thought she had sprained it, and kept off her foot for a few days, and then began walking about, though it still pained her. Her physician examined the foot, but could discover nothing but a sprain. Walking continued painful, and eleven weeks after the reception of the injury she consulted Dr. Davis. On a casual examination there appeared to be little except a tenderness to pressure on the metatarsophalangeal joint of the middle toe of the right foot. On more careful examination it was seen that when the foot was placed on the ground the affected toe was separated from the adjacent ones by a slightly greater space than appeared natural or when it was off the ground. On feeling for the head of the metatarsal bone in the sole of the foot it felt a trifle, but only a trifle, more prominent than the others. On following down the metatarsal bone on the dorsum of the foot the region of the phalangeal joint did not appear so clearly outlined as did those on each side; there seemed deeper sulcus at this point than there ought to have been. Pain on pressure was most marked over the head of the metatarsal bone in the sole of the foot. There was no apparent shortening of the toe. These signs and symptoms were such as to cause him to form the opinion that a dislocation was the cause of the trouble, and this diagnosis was confirmed by the X-ray.

The character of the injury having been ascertained, attempts