

thought, was more unique, because apparently it pathologically simulates traumatic asphyxia very closely and differs from the ordinary extravasation and discoloration seen in cases of epilepsy. The long duration of the discoloration differed from the ordinary discoloration of a bruise, as did also the way in which it faded. In Dr. Despard's case, as the discoloration paled, there was not the slightest yellow or greenish discoloration, as takes place in extravasated blood. This clinical observation would tend to corroborate the findings on skin section made in the Cobb and Beech case, and in one or two others referred to by Dr. Despard, namely, that there is a stasis of the blood in the capillaries with very little extravasation into the perivascular tissue.

DR. DUNCAN L. DESPARD said that it seemed to him that Dr. Alexander's case belongs in the same class with traumatic asphyxia. The discoloration in both cases must have been due to the same causes. In this connection, it is interesting to recall the case of Perth, in which the injury was in a boy who was lying in a soft, sandy road, and the wheels of a cart passed over the abdomen alone, not injuring the thorax, so that the increased pressure in the thorax and vessels of the neck was caused by the pushing up of the diaphragm and thereby increasing the intrathoracic pressure. In an epileptic the same condition may be produced, not only muscles of the thoracic wall but the diaphragm itself taking part in the rigidity, thereby preventing respiration. The limitation of the discoloration is a question of interest. Some of those who have reported cases, Tardieu for instance, say that the surfaces are free from the discoloration where pressure was made from the outside by clothing. Apparently the vessels were sustained and supported by this extravascular pressure. The same thing occurred where the inspector's cap was driven down over the forehead, in the case reported by Bolt.

DR. E. J. ALEXANDER (by invitation) said that he had had the opportunity of seeing another case of traumatic asphyxia occurring about the same time as Dr. Despard's. The patient was admitted to the Episcopal Hospital in the service of Dr. Frazier. The man was in a railroad accident, having his chest caught between two cars. He had some discoloration, as in Dr. Despard's case, with bloodshot eyes, but unfortunately he died within two hours of admission, and there was no autopsy.

STATED MEETING, HELD APRIL 5, 1909.

The President, DR. WILLIAM J. TAYLOR, in the Chair.

GREEN-STICK FRACTURE OF THE LOWER END OF THE ULNA COMPLICATING FRACTURE THROUGH LOWER PART OF THE RADIUS.

DR. JOHN B. SHOBER presented a series of radiograms which, he said, illustrated the importance of studying a radiogram made immediately after the setting of fractures.

On September 25, 1907, Margaret S., age 8 years and 10 months, fell from the back of a chair, striking on her right extended hand. The typical deformity of Colles's fracture of the radius presented itself. Twenty minutes after the accident, under chloroform anæsthesia, he set the fracture and applied a Levis splint. Though exercising great care he could not set the fracture to his entire satisfaction. The next morning he removed the splint and took the radiogram (Figure 1). It shows imperfect reduction of the fracture of the radius, which is accounted for by a green-stick fracture of the lower end of the ulna. The same afternoon he again anæsthetized the child, and by manipulation succeeded in straightening the green-stick fracture and obtained perfect reduction of the radial fracture, as can be seen in Figure 2, made through a Bond splint. Compare the lines of the outer and inner borders of the ulna and the relative position of the articulating surfaces in each picture. Also compare these pictures with Figure 3, a radiogram of the normal left wrist.

The point Dr. Shober wished to emphasize was, that without the aid of a radiogram the green-stick fracture of the ulna could not have been determined, and unless it was straightened the fracture of the radius could not have been properly reduced, and the surgeon's course would have been reflected upon for a resulting partially deformed and lame wrist.

BILATERAL WRIST DEFORMITY DUE TO OSTEITIS OF
RADIUS AND LUXATION OF THE ULNA.

DR. SHOBER reported the case of a little girl, 12 years old, who was referred to him December 10, 1908. She is a bright, intelligent, well-nourished child who, with the exception of an attack of chicken-pox when six years old, has always enjoyed good health.

Her parents have been married thirteen years and have one other child, born two years ago. Her mother states that she has had one miscarriage, which occurred one year before the birth of the last child, and that she has always been subject to attacks of so-called quinsy, and that before her marriage and for many years afterwards she had a series of abscesses in various parts of her body. There is no history of tuberculosis in her family. The father had an uncle who died of tuberculosis of the lungs. Otherwise his personal and family history is good.

Eight months before Dr. Shober saw the child she began to complain of dull, subacute and continuous pain in both wrists. Three months later, her mother noticed that the wrists were swollen, and they have continued to enlarge since then with some increase of pain.

Upon examination there was no limitation of motion of the wrist joint, with the exception of slightly diminished power of supination. The styloid processes of both ulnæ stood out prominently from the wrists and the skin over them seemed slightly congested. Pressure over the lower ends of the radii and ulnæ caused slight increase of pain, but there was no evidence of arthritis or enlargement of bone. The deformity was evidently due to dislocations of the radio-ulnar joints of the wrists. A radiogram not only confirmed the diagnosis but also showed the cause to be osteitis of the lower epiphyses and absorption of bone tissue of the inner side of both radii, allowing spontaneous dislocations (Fig. 4).

There being no marked tuberculous history in the family, and the lesions being bilateral and history of the mother suspicious, he was inclined to look upon the case as a late manifestation of hereditary specific disease. This theory is borne out by the result of the therapeutic test, under which improvement is taking place. The child is now taking 10 grains of potassium iodide

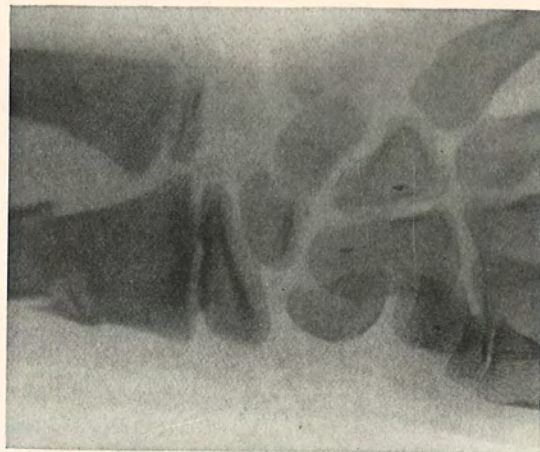


FIG. 1.

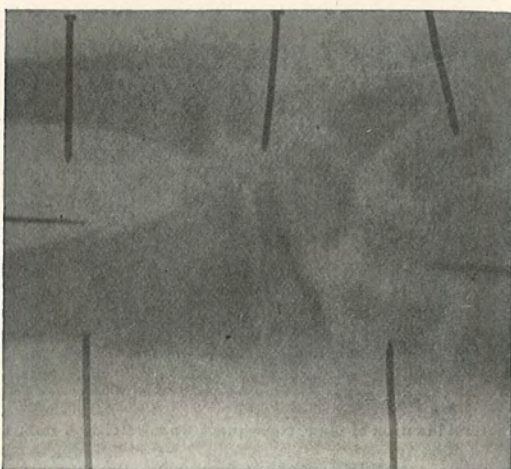


FIG. 2.

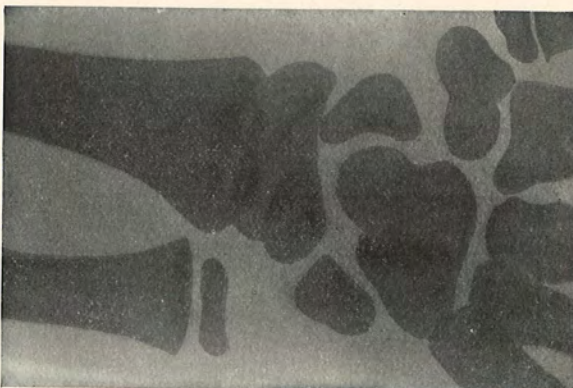


FIG. 3.

Fracture of radius near its lower end and simulating Colles' fracture, complicated by green-stick fracture of the ulna. Appearance after first attempt to reduce

Appearance after setting of green-stick fracture of ulna.

Normal left wrist.

three times daily, and since the beginning of treatment the wrists have been supported and put at rest by an easily applied splint which she wears during the day.

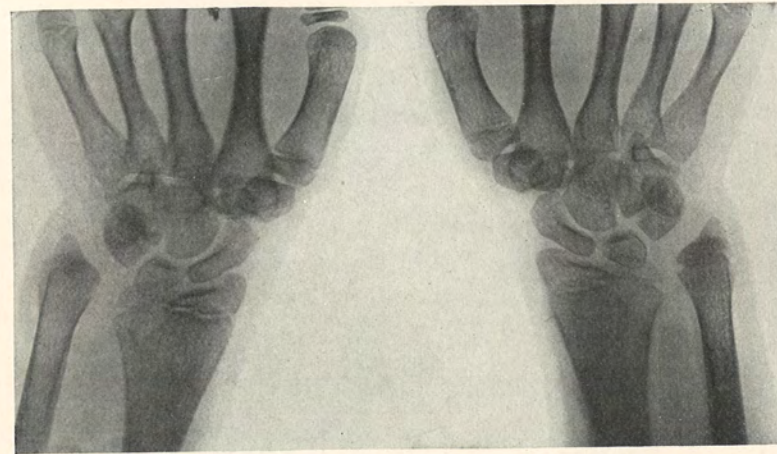
DR. RICHARD H. HARTE expressed the opinion that the condition of the bones of the forearm described by Dr. Shober was due to an arrest in development of the epiphyseal end of the radius, caused by either tubercular disease or syphilis. From the report, it would seem that the latter was responsible for this arrest in development, inasmuch as the patient undoubtedly improved upon specific treatment. Dr. Harte had, however, seen in a case in the Orthopædic Hospital, nearly the same condition, which was distinctly the result of tubercular disease, and improved very much upon appropriate treatment.

DR. HENRY R. WHARTON thought the deformity to be largely due to an osteitis. There was no marked osteitis at the lower ends of the ulna in either arm. The osteitis has resulted in a certain lack of growth in the length of the radius which has tended to throw the wrists into the position they now occupy. He had seen a similar deformity in a child following an injury of the lower epiphysis of the radius. The most probable explanation of this condition was specific infection of the bones.

DR. ROBERT G. LE CONTE agreed in the diagnosis of specific disease in this case, because the disease came on insidiously, without traumatism, was symmetrical and occurred at the same time in both wrists. These combinations are certainly most unusual in any other disease. The peculiar deformity was due to the inner articular surface of the radii being more prominent than the outer aspect, which has prevented the hand from rocking over to the inner side. The growth of the radii has been interfered with, and that the seeming great growth of the ulna is due to their normal development. Therefore, as the radius forms the larger part of the wrist joint, the growing ulna could not get sufficient purchase upon the carpus to rotate it inward, and dislocation had to take place.

DR. ASTLEY P. C. ASHHURST suggested the possibility of this case being one of Madelung's disease—spontaneous subluxation of the wrists. This is an affection which, within the last year or two, it has become customary to classify among the congenital dislocations, though the speaker could not see on what grounds. Its first symptoms usually are manifested about the age of

FIG. 4.



Bilateral luxation of ulnæ, consequent upon osteitis of radius.

puberty; it affects particularly females; is characterized by the prominence of the lower ends of the ulnæ, by slight radial deviation of the hand, and, in its more advanced stages, by subluxation forwards of the radiocarpal joint. Especially characteristic is the widening of the interosseous space, due to the incurvation of the lower end of the radius, as is well shown in the skiagraphs presented. In the three or four cases which have come under his notice the disease was considerably more advanced, the ages of the patients varying from 15 to 18 years, and the deformity being so characteristic that no chance for error arose in making the diagnosis. In Dr. Shober's patient the affection of the wrists has existed for only a few months, and while of course it may not be a case of Madelung's disease, it would be interesting to know whether in the course of the next three or four years the progress of the case might not justify such a diagnosis.

THE TREATMENT OF DIFFUSE SEPTIC PERITONITIS.

BY ROBERT G. LE CONTE, M.D.,
OF PHILADELPHIA.

For the purpose of again bringing before the Society the subject of diffused septic peritonitis, I desire this evening briefly to report the cases which came under observation in my wards during the first month of my service this year in the Pennsylvania Hospital. They are nine in number, and in their admissions cover a period from February 5 to March 1, 1909. Three were operated upon by myself and six by my assistant, Dr. Francis T. Stewart. In my cases the essentials of the Murphy treatment were practiced: namely, a speedy operation; removal of the cause with the least possible traumatism to the peritoneal surface; no douching of the peritoneal cavity; the exaggerated Fowler position; and continuous enteroclysis by the drop method.

In Dr. Stewart's cases the peritoneal cavity was flushed with warm saline solution. The head of the bed was but slightly raised, the patients lying on the back or being turned on the right side, and salt solution was given by rectum—six fluid ounces every fourth hour.

In this series of cases there was but one death, which occurred on the fourteenth day after operation, probably from secondary infection of the liver plus secondary hemorrhage. A post-mortem examination was not allowed. In all instances the patients arrived in the hospital in such serious condition, that they were at once transferred from the receiving ward to the operating room.

CASE I.—*Gall-Stones in Gall-Bladder and Common Duct; Pancreatitis; Diffused Fat Necrosis; Diffused Peritonitis.*—S. B., white, female, ætat 42, born in the United States. Admitted February 5; temperature 98.6°, pulse 118, leucocyte count 32,650.

Previous History.—Twelve years ago she had a series of attacks of epigastric pain which lasted for a period of three years.

Present illness dates from October, 1908, when she began having severe attacks of pain in the epigastrium, which would double her up and last on an average about an hour, associated always with severe constipation. These attacks were always sudden in onset and sudden in cessation. After some of them she thought she was slightly jaundiced for a day or two. February 3 she had a sudden severe attack after supper, lasting three hours. The next morning at 6 A.M. the pain again began, but was diffused over the abdomen. The pain has been continuous since then, with vomiting. There is general tenderness and rigidity over the abdomen, most marked about an inch above the umbilicus in the median line. No bowel movement for three days.

Operation (Stewart).—Longitudinal incision over right rectus. On opening the peritoneum there was an excess of bloody, turbid fluid; peritoneum injected. A fat necrosis 1 to 2 mm. in diameter was visible over the omentum and parietal peritoneum; gall-bladder small, contracted, thick-walled, filled with stones; intestines injected and hyperæmic; pancreas enlarged and firm. Gall-bladder opened, many faceted stones removed. One stone found in the common duct required an incision of the duct to remove it. Common duct and gall-bladder drained with rubber tubes. Abdomen irrigated with hot saline solution. Gauze drain in peritoneal cavity. Duration of operation, about an hour. Convalescence was slow but uneventful. Drainage ceased March 1. Patient was discharged March 10, wound entirely healed and in good condition. It is interesting to note that the drainage of bile from the common duct averaged about 6 fluid ounces a day, while from the gall-bladder but a little over 2 fluid ounces was recovered daily. Laboratory report on specimen of omentum: Fat necrosis.

CASE II.—Gangrenous Perforative Appendicitis; Walled-off Abscess which had Ruptured into the General Peritoneal Cavity.—W. S., male, ætat 18, born in United States. Admitted February 10. Temperature 101.6°, pulse 104, respiration 24. Has had pain in lower right abdomen for one week. Forty-eight hours before admission he was prostrated by this pain with vomiting. No chills noted. Abdomen tense, rigid, tender, with mass the size of a small fist in the right inguinal region.

Operation (Le Conte).—Small incision parallel with Poupart's ligament, over outer border of tumor. On entering the peritoneal cavity much thick, inflammatory lymph was seen, entirely masking the head of the colon. A flaccid abscess cavity was palpated through this walled-off area. As the abscess had evidently evacuated itself into the general peritoneal cavity, a second incision was made through the rectus muscle opening the general peritoneal cavity, where considerable free, foul-smelling pus was found. The intestines were injected and in places coated with lymph. Gauze packs were inserted and the abscess cavity freely opened through this second incision. The gangrenous, perforated appendix was excised. The abscess cavity was packed and drained through the first incision, and the pelvis drained with a rubber tube through the second one. Murphy treatment. Recovery was uneventful. Drainage ceased February 27, and patient was discharged March 11, with a small granulating area in the outer wound.

CASE III.—Gangrenous Appendicitis; Diffuse Peritonitis.—J. G., ætat 22, male, born in Russia. Admitted February 15, complaining of general abdominal pain. Temperature 101°, pulse 100, respirations 40, leucocyte count 26,200.

Present illness began two days ago with severe generalized abdominal pain and vomiting; no chill. Examination of abdomen showed signs of diffused peritonitis.

Operation (Le Conte).—Incision through right rectus; a considerable amount of free fluid and foul-smelling pus was evacuated on opening the peritoneal cavity. Appendix firmly bound down with recent lymph. At its base was a large gangrenous area, through which a concretion could be felt. No gross perforation was detected. Murphy treatment. Patient reacted well and improved nicely for four days. Some distention of the abdomen was then noted, with nausea and vomiting. For the next week there was an irregular temperature, with free discharge through the drains, but the abdominal distention continued with occasional vomiting. On the 25th and 26th the dressings were moderately saturated with blood. On the 27th several large blood clots were evacuated from the wound. The wound was irrigated with salt solution and firmly packed with gauze. At 10 P.M., signs of hemorrhage continuing, the wound was again irrigated and the cavity again firmly packed with

gauze. This seemed to control the bleeding. At 6 A.M. on the 28th the pulse rapidly failed, but no hemorrhage was visible from the wound. At 10 A.M. jaundice was noted in the skin and eyes. Pulse continued very poor in spite of free stimulation and enteroclysis. At 11 A.M. three pints of saline solution were given through the left brachial vein, but the patient did not respond and died at 11.50 A.M. Post-mortem not allowed. The examination of the wound after death showed but very slight hemorrhage in the abdominal cavity or on the dressings. The cause of death was attributed to a secondary infection of the liver, as evidenced by the jaundice, and secondary hemorrhage, due to a necrotic retroperitoneal area.

CASE IV.—*Gangrenous, Perforative Appendicitis; Diffuse Peritonitis*.—J. K., white, male, ætat 14, born in Russia, admitted February 17. Suffered at different times from indigestion. Had been ill three days with abdominal pain which began about the umbilicus and rapidly settled in the right lower quadrant, with vomiting and fever. On admission temperature 102°, pulse 96, respirations 32. Abdomen distended, rigid and tender, particularly over the region of the appendix.

Operation (Le Conte).—Incision through the right rectus. On opening the peritoneal cavity, turbid, flaky fluid poured out; intestines injected and in places coated with lymph; appendix for the most part retrocæcal, gangrenous and ruptured; removed. Appendix region drained with gauze, and pelvis with rubber tube. Wound not sutured. Murphy treatment. Recovery uneventful. Out of bed March 5, and discharged March 13 with small granulating area in the region of the wound.

CASE V.—*Gangrenous Perforative Appendicitis; Diffuse Peritonitis*.—I. S., white, female, ætat 7, born in Philadelphia. Admitted February 17. Temperature 101.8°, pulse 128, respirations 32. Sudden abdominal pain forty-eight hours before admission, with chill and fever. Pain at first generalized over abdomen, became localized in the right lower quadrant, later again to become general. Vomiting frequent.

Operation (Stewart).—Incision through the right rectus. On opening the peritoneum foul-smelling, sero-purulent fluid was evacuated. Appendix was thick, highly inflamed, with a rupture of its distal end. Excised. Profuse lavage of the peritoneal cavity. Bed of appendix drained with gauze. Two silkworm-

gut sutures inserted to close the incision above the drainage. Recovery uneventful. March 15, out of bed, and discharged from the hospital March 20, wound entirely healed.

CASE VI.—*Gangrenous, Perforative Appendicitis; Diffuse Peritonitis; Pregnancy*.—V. H., white, female, ætat 27, born in United States, admitted February 23. Temperature 100.6°, pulse 120, respirations 22. Two days previous to admission was taken suddenly ill with severe pain in the right iliac fossa and almost continuous vomiting. Patient four months pregnant. Abdomen distended, rigid, and particularly tender in the right iliac fossa.

Operation (Stewart).—Incision through the right rectus, and on opening the peritoneum much turbid, foul-smelling fluid was discharged. The gangrenous and ruptured appendix was removed and copious lavage of the peritoneal cavity with saline solution instituted. Appendix region alone drained with gauze. The uterus was found enlarged to about the fourth month of pregnancy. Wound partially closed with silkwormgut sutures. This patient was at once placed on her right side, with the head of the bed slightly elevated. The recovery has been slow. On the 28th patient had colicky abdominal pains, with a gush of clear fluid from the vagina. March 1, there were again intermittent pains simulating labor. Examination showed the os slightly dilated. March 20, patient expelled a dead fetus with the entire placental membranes. From this time on the convalescence was uneventful.

CASE VII.—*Gangrenous, Perforative Appendicitis; Diffuse Peritonitis; Pregnancy*.—A. P., white, female, ætat 23, born in Italy. Admitted February 27. Temperature 101.4°, pulse 144, respirations 36. Has had two children, one miscarriage, and at the present time is five months pregnant. For the past twelve days has had intermittent pain in the right lower abdomen, which became very severe forty-eight hours before admission, associated with vomiting. Abdomen distended and tender.

Operation (Stewart).—Incision through the right rectus. On opening the peritoneum much free purulent fluid escaped. Appendix perforated and intimately adherent to the colon; was ligated at the base and removed from the base toward the tip. Intestines much injected and in places coated with lymph, as was also the gravid uterus. Copious saline irrigation of peritoneal cavity. Appendix region alone drained with gauze. Patient at

once placed on right side and head of the bed slightly elevated. Convalescence uneventful and without abortion.

CASE VIII.—*Abscess of Upper Abdomen, possibly Pancreatic; Diffuse Peritonitis.*—J. D., colored, male, ætat 38, admitted March 1. Temperature $101\frac{4}{5}^{\circ}$, pulse 96, respirations 28, leucocyte count 21,000.

Present illness began February 16 with pain in the lower right quadrant of the abdomen, diarrhœa and vomiting. After the first day vomiting ceased but diarrhœa continued. Forty-eight hours before admission pain localized itself in the upper abdomen and became very severe; abdomen much distended, tympanitic, rigid, especially tender in the epigastrium, and dull in the flanks.

Operation (Stewart).—Vertical incision through upper right rectus. On opening peritoneum an excess of cloudy, turbid fluid was seen among the injected intestines. At the upper part of the wound between the omentum and intestines were numerous adhesions, which had to be broken up before the edge of the liver was exposed. Liver and gall-bladder normal. In the upper abdomen, to the right of the median line, an area of discharging pus was found. This reached deeply into the abdomen and communicated with a second pus cavity in the region of the head of the pancreas. The exploration of this cavity produced a considerable hemorrhage, necessitating firm packing to control it. The upper peritoneal cavity was douched with hot saline solution. Patient reacted well. Profuse pus drainage. Patient improved nicely until March 18, when the pus cavity was much diminished in size but still continued deep. At 6.30 P.M. on this day patient complained of abdominal pain, followed by vomiting. In an hour the temperature had dropped to 97° , and the pulse risen to 140; extreme pallor of the mucous membranes; pulse very poor, and thready. He was again anæsthetized, and the original abdominal incision explored with the finger. A loculated collection of pus was found on each side of the drainage tract. These were evacuated. An incision was made in the lower abdomen and free blood-tinged fluid was found in this part of the peritoneum. A second incision was made in the right flank, and both these openings were drained with rubber and gauze. Patient's condition very serious. Reaction slow in spite of free stimulation. All wounds drained freely, the one in the right flank especially well, from which large amounts of

necrotic tissue were discharged. Convalescence slowly established and the patient now seems in a fair way to recover, although he is still confined to bed.

CASE IX.—*Diffuse Peritonitis, cause unknown.*—P. E., male, white, ætat 22, born in Italy. Admitted March 1. Temperature 100.8° , pulse 96, respirations 28, leucocyte count 13,500. Had a moderate attack of typhoid fever in the fall, for which he was treated in the Hospital, recovery good. For the past nine days he has complained of pain in the right lower quadrant of the abdomen, no vomiting, no chills. Bowels moved daily. On admission there was a rigid, tender, distended abdomen, with pain most marked in upper rectus region.

Operation (Stewart).—Incision through upper right rectus. On opening peritoneum a considerable amount of straw colored serum exudes. Gall bladder normal. Intestines deeply injected and covered in places with patches of lymph. Appendix slightly adherent at tip, showing areas of congestion but no perforation. It was removed. The small intestine was examined for several feet from cæcum. No perforations found. Mesenteric glands palpable and enlarged. Copious irrigation of the peritoneal cavity. No cause for the diffuse peritonitis found. Wound closed without drainage. Recovery uneventful.

Pathological Laboratory Report.—Chronic disease of the appendix, with some acute congestion but no perforation.

DR. LE CONTE said that he had brought these cases before the Society because he thought they might again with profit enter upon a discussion of the treatment of diffuse septic peritonitis. It would be noticed that Dr. Stewart and he had varied in the treatment adopted. Dr. Le Conte firmly believed in the Murphy principles—short operation, removal of the cause of the peritonitis, the least possible manipulation of the peritoneal cavity outside of the area in which work must be done, the draining of the lowest portion of the peritoneum, and, in order that the fluids may gravitate there, the exaggerated Fowler position, with the ingestion of large amounts of water by the large bowel.

He had followed the above principles in his treatment of diffuse septic peritonitis for about three and one-half years, and

was sure that he had had a far greater number of cases recover than formerly. An examination of the nine cases here reported, perhaps too few to make any deductions, shows that he had operated upon three with one death, while Dr. Stewart, using a different technic, operated upon six with no death. In the case that died, it is quite probable that the disease had gone beyond the peritoneum before operation, and that the death was due to absorption through channels over which he could have no control. Without having made a definite analysis of all his cases of diffuse septic peritonitis, he estimated that the mortality is now in the neighborhood of 15 per cent. where formerly it was four or five times greater.

DR. RICHARD H. HARTE said that the results in cases of peritonitis vary a great deal with the time the surgeon gets the case, the duration of the patient's illness, and the character of the infection.

With regard to the after treatment in these cases, the question of drainage is of paramount importance: meaning thereby, drainage by posture, gravitating the intraperitoneal contents into the pelvis and then opening the abdominal cavity and inserting large pieces of gauze drain. This has two effects: first, the removal of the purulent contents from the pelvis, and, second, the relief of tension, which is also an important factor and undoubtedly does delay the tendency to septic absorption; then thorough enteroclysis, after the method of Murphy, in which large quantities of water are kept in the rectum and even up into the colon.

The methods as mentioned by Dr. Le Conte are pretty much the same as those followed in the Pennsylvania Hospital, where the results are most favorable. The speaker said that he was very fond of placing the patients upon their side, or even on their face, when their condition will permit, so as to facilitate drainage in abdominal incision, as in that way, an immense amount of septic material can be drained from the pelvis simply as the result of gravity.

At one time he was more in favor of general douching of the peritoneal cavity, but now he is getting further away from that, and will continue to mop out the field of operation, using as little fluid as possible, except when the peritoneal cavity is distinctly soiled as the result of the escape of intestinal contents, as follow-

ing typhoid perforation, duodenal ulcer, etc. The best results are when one does as little manipulation of the peritoneal cavity as possible.

DR. G. G. ROSS said it was a very interesting problem: What is the proper course to pursue in treating cases of purulent peritonitis? Dr. Stewart washes them out and gets them well, and Dr. Le Conte does not wash them out and also gets them well, and it seems to be the general experience that both methods give good results. However, one does better if one saves the time spent in washing out. Murphy explains that whether this treatment is or is not beneficial, the real question is whether the infection is confined to the inside of the peritoneal cavity or beyond it, in the retroperitoneal space and in the retroperitoneal lymph channels. If behind, it does not make much difference what you do—operate or not, wash or not, your patient dies just the same. If it is inside of the peritoneum the peritoneum will take care of the poison if you provide an outlet for the excess of the poisonous material. Dr. Le Conte's method seems the better one of the two—the removal of the cause in the shortest time, with the least amount of work inside the peritoneal cavity, and drainage, thus lowering the intra-abdominal pressure, a distinct advantage in the control of the infection.

DR. ROBERT G. LE CONTE, in answer to a question as to bacteriological observation in his cases, said that in some of the cases bacterial cultures were made of the peritoneal contents at the time of operation, but not in all. The colon infection is far more favorable than the streptococcus. He agreed with the statement made by Dr. Ross, that the cases one can save are those in which the infection is confined to the peritoneum, and that when the infection has already spread to the retroperitoneal spaces most of the patients die. The less done to a peritoneum coated with lymph, the better, and, for this reason he did not wash the peritoneal cavity except where he feared the presence of foreign bodies, as undigested food from perforation of the stomach. The relief from pressure which the incision gives in a lymph-coated peritoneum is usually sufficient to prevent further absorption of toxic materials, and the absorption of large quantities of fluid will tend to carry off such septic material as has already entered the circulation, through the action of the kidneys and the bowels. As to the use of morphia, he had not the slight-

est hesitancy in using this drug in sufficient quantity to make the patient comfortable after an abdominal operation, in either septic or non-septic cases. In the septic cases he was particularly prone to use it to check peristalsis and permit the inflammation to limit itself. Rest to the intestines is a great thing, and morphia gives this to perfection.

ŒSOPHAGOSCOPY AND GASTROSCOPY.

DR. BENJAMIN A. THOMAS reviewed the century from 1806, when Bozzini first examined the upper end of the œsophagus, to 1906, when Jackson devised and perfected his œsophagoscope and gastroscope, noting the earnest but futile efforts of such men as Mikulicz, Rosenheim, and Rewidzoff to place endoscopy of the upper alimentary tract on a sound basis. He noted the advantages of introducing the instrument by direct vision and strongly condemned the use of the bougie, coin-catcher and horse-hair probang. Attention was called to the advantages to be derived from the use of a straight tube, equipped with the light at the distal end and the elliptical form of the tube in cross-section.

The gastroscope should receive more frequent use in the early differential diagnosis of chronic gastritis, cancer and ulcer. General anæsthetic should always be employed in gastroscopy unless there exists some intercurrent grave organic disease to contraindicate the procedure. He rarely resorts to a general anæsthetic in simple œsophagoscopy.

He pleaded for more accurate methods in the diagnosis and treatment of conditions of the upper alimentary tract, and quoted statistics of the University Hospital to the effect that 50 per cent. of the cases diagnosticated "stricture of the œsophagus" died of carcinoma although the true nature of the stenotic process was undetermined at the time of admission; 75 per cent. of the cases of stomach disease suffered from carcinoma, ulcer and gastritis. He thought the differential diagnosis, therefore, between these conditions, especially early in the course of the disease, to be the most notable effort of the modern gastrologist, and believed this, at times, perplexing problem, to be nearer solution to-day by recourse to the straight, hollow-tube instrument than it has ever been. Its field of usefulness is not limited to a diagnosis of the various diseases of

the stomach and œsophagus per se, but in the removal of foreign bodies, etc., it plays an important rôle.

He cited four cases in which œsophagoscopy or gastroscopy or both were performed, submitting colored drawings of the lesions in situ, from some of which sections of tissue removed for microscopical diagnosis demonstrated carcinoma.

His conclusions are:

The straight tube is the most useful model of instrument which has ever been devised for purposes of diagnosis of lesions of the œsophagus and stomach, and its use is attended with uniform success.

By virtue of the fact that the instrument is always introduced through the lumen of the œsophagus under direct inspection, no danger can arise from injury to adjacent ulcers, venous varicosities, aneurism, neoplasm, etc.

Resort to the employment of the gastroscope offers a method for the early differential diagnosis of cancer, when the symptoms are vague and it is still in the curable stage.

General anæsthesia should always be used for gastroscopy and rarely for œsophagoscopy.

Œsophageal bougies, coin-catchers and horse-hair probangs have no place in modern surgery.

In addition to advantages in diagnosis, the use of the scopes for purposes of treatment, as in the removal of foreign bodies, is inestimable.

DR. JOHN H. JOPSON said that Dr. George Clymer Stout and he had had a small series of cases at the Presbyterian Hospital in which they had used the Jackson instruments, and he would make brief mention of three cases:

The first patient was under the care of Dr. Musser, a boy with a tack deeply lodged in the right lung, where it had been embedded for some months. The skiagraph showed it very plainly opposite the head of the eighth rib, and located in the posterior portion of the lung. The tack was below the bifurcation of the right bronchus and a careful use of the tube failed to remove it.

The next case was in the person of a child of 10 months who was referred with a diagnosis of a safety pin in the œsophagus, where it had been embedded for between three and four weeks. The X-ray showed the pin open in the œsophagus, with the point upward, open to its fullest extent behind the clavicle and first

and second ribs. They undertook its removal by the cesophago-scope and the safety-pin closer of Dr. Sidney G. Ankauer of New York. They saw it, then it became dislodged and they did not see it again. An X-ray made immediately after the sitting disclosed the pin the stomach, and three days later he successfully removed it by gastrotomy.

The third case was one of laryngeal papilloma, in a child who had been under their care for four years and is now about seven years of age. When he was three years of age a tracheotomy was done on account of an increasing obstruction of the larynx due to laryngeal papilloma. He had worn a tracheotomy tube since then. By the use of the bronchoscope on two occasions they were able to thoroughly clear out the papilloma from above. He has had the tracheotomy tube corked up for a month and is breathing and talking in a very satisfactory manner. In these young children in whom removal of the papilloma by aid of the laryngeal mirror is very unsatisfactory, the Jackson tubes offer a very good means for their extirpation under direct inspection.

DR. BENJAMIN A. THOMAS, commenting upon the difficulty of examinations of the bronchial tubes, recalled the case of a colored child six years old which illustrated that the younger the child the more difficult is the operation, because of the necessity of employing smaller sized tubes. This child had the history of a tack in his lungs and the X-ray showed it to be presumably in the left bronchus about its bifurcation into the second division. The introduction of the 5 mm. bronchoscope showed an area of partially necrotic mucous membrane extending from the division of the left bronchus down into the left inferior lobe bronchus for 3 or 4 centimetres. In the lumen of the left inferior lobe bronchus was a quantity of pus, about an ounce or an ounce and a half. The tack was not visible, being evidently embedded in the mucous membrane which was considerably swollen and partially necrotic. After a rather prolonged search the operation was abandoned and two months later the child was running around and was in fairly good health, excepting for an occasional cough. About a month ago he had looked up the history of this case to see what the end result was, and learned that three months after the child left the hospital the tack was expelled one night in a paroxysm of coughing.

STATED MEETING, HELD MAY 3, 1909.

The President, DR. WILLIAM J. TAYLOR, in the Chair.

MULTIPLE FRACTURES, INVOLVING THE FACE BONES, THE LEFT ELBOW, AND BOTH FEMURS.

DR. ASTLEY PASTON COOPER ASHHURST said that in a paper on Multiple Fractures, which he read before the Philadelphia Academy of Surgery in April, 1907 (*ANNALS OF SURGERY*, 1907, xlvii, 263) statistics were presented showing that multiple fractures form only about 1.44 per cent. of fractures in general, and that the mortality at the present day is at least 25 per cent., even when cases of crush of the extremities calling for immediate amputation and other cases dying in a few hours from shock are excluded. The mortality of fractures in general was found to be about 2.7 per cent., so that the outlook in a case of multiple fractures is just about ten times as gloomy as in ordinary cases. The case now reported, with the kind permission of Dr. Chas. H. Frazier, is one in which, in addition to numerous other fractures, both femurs were broken and could not be reduced without operation. Among the 73 cases of multiple fractures from the statistics of the Episcopal Hospital, reported in 1907, there were only two in which both femurs were fractured; both of these patients died. Among 121 recent fractures of the femur at the Episcopal Hospital, reported a year ago (*ANNALS OF SURGERY*, 1908, xlviii, 748) in collaboration with Dr. Wm. A. Newell, there was not one case in which operation had to be done. So that the present case is remarkable both for his recovery, and from the fact that operation was required on both femurs.

Frank R., a sailor, aged 26 years, was admitted to Dr. Frazier's service in the Episcopal Hospital at 7 P.M., December 5, 1908. While at work on a ship lying at the dock he had fallen a distance of fifty-five feet into the hold, landing on piles of copper ore.

Examination showed the following injuries: There was no vision in the left eye, the pupil being widely dilated, with hem-