of cases he had found one in a dissecting-room subject which supported the theory of the rupture of the tendon being due to disease of that structure. In the instance mentioned the tendon where it lay in the bony groove had almost entirely disappeared. Operation is indicated in cases of this injury in healthy individuals, provided they are seen early. Reasons why more cases of this injury are not operated upon are: 1. They are not seen early. 2. The disability often is comparatively slight, the other head of the muscle assuming the extra function. 3. The injury often occurs in people of rheumatic diathesis. It does not follow that severe trauma is necessary to cause rupture, as the tendon is often reduced to a mere thread. When such cases are operated upon, the tendon must be transplanted to the other head of the muscle.

Dr. Keen, in closing, said Dr. Davis's dissecting-room specimen was not subject to the criticism of specimens of supposed rupture of the muscle found in such bodies; the latter are more likely due to stretching, incident to moving the arms when rigor mortis is present, than to ante-mortem causes. In one case good results were obtained from operation three months after the injury, but if possible early operation is desirable. In cases not operated upon, the disability eventually is often quite marked. In the papers referred to are reported cases of laborers, porters, and soldiers who were rendered incompetent to perform their accustomed work. Only a few cases exhibit but little disability.

STATED MEETING, MARCH 6, 1905.

The President, Henry R. Wharton, M.D., in the Chair.

THE MATAS OPERATION FOR THE CURE OF ANEURISM.

Dr. John H. Gibbon presented a negro man, thirty-one years of age, whom he had subjected to the Matas operation for the cure of a popliteal aneurism. He stated that he believed this operation was as great an advance over the older ones as that of the Bassini operation for hernia is over its predecessors. The operation of Matas had been recently and completely described by the author in the Annals of Surgery for February, 1903. The possibility of performing this operation was suggested to Matas by the fact that the lining membrane of the aneurismal sac is the same as that of the vessel itself, and by the good results which have been obtained where arterorrhaphy has been practised.

In the case of sacciform aneurism where the sac is evacuated and the opening into the artery sutured without interference with the circulation, there can be no comparison between this operation and ligation. And even in fusiform aneurisms the advantages of this new method over the older one of ligation are paramount. Dr. Gibbon knew of no instance where the suggestion of Matas that it might be possible to reconstruct the artery by utilizing a portion of the sac in fusiform aneurisms had been done, but the method certainly seems worthy of trial. One of the greatest advantages in closing the arterial openings within the sac of an aneurism is the fact that the collateral circulation is not interfered with in the least possible way.

The Matas operation is applicable to all aneurisms in which there is a distinct sac, and in which the cardiac end of the main vessel can be thoroughly controlled.

The case reported by Dr. Gibbon was admitted to the Pennsylvania Hospital on October 27, 1904. At the time of his admission the aneurism was about the size of two fists, and could easily be seen projecting beyond the normal line of the leg on each side. The leg and foot were so enormously swollen as to resemble a marked elephantiasis. The patient said that he had been struck on the back of the leg eight or nine months previous, and he attributed the development of the aneurism to this injury; he denied syphilitic infection. A positive diagnosis of aneurism of the popliteal artery was made without difficulty, as all the typical signs were present. After two days' rest in bed the œdema of the leg greatly decreased, but no pulsation was ever detected in either the anterior or posterior tibials. Two days after admission, after elevation of the leg and the application of an Esmarch constrictor well up on the thigh, a long incision in the middle of the popliteal space over the aneurism was made. The sac was laid freely open from end to end and a quantity of liquid blood and clot in various stages of organization was evacuated. At the upper and lower part of the sac could be demonstrated the opening of the vessel. Dr. Gibbon thought for awhile that it was a sacciform aneurism, as he could not find the point of exit of the artery; but finally he was able to do so near the upper part of the lower end of the sac; in other words, the sac had developed posteriorly and extended under the inner head of the gastrocnemius. It was impossible, because of the shape of the sac, to re-establish the caliber of the vessel, and Dr. Gibbon therefore followed Matas's plan of closing the openings of the artery with a small chromicized suture carried on an ordinary curved intestinal needle. No openings of collateral vessels in the sac were found, and therefore the constrictor was loosened; as there was no bleeding even after this was done, he thoroughly cleansed the sac, rubbing its interior with weak bichloride solution followed with salt solution. The sac was then entirely obliterated with repeated rows of chromicized gut sutures. There was considerable oozing from the cut edges of the sac, but this was controlled by a whipstitch. The skin was closed entirely and a dressing applied. The patient did well after the operation, but on the second day his temperature rose to 103° F., and he complained of considerable pain in the leg; as he had had some temperature before the operation, it was not thought that this was due to infection; but this was an erroneous idea, as within a few days there was evidence of infection of the wound. The stitches of the skin were removed and a large quantity of pus evacuated, afterwards the temperature fell and the patient was much more comfortable. The circulation remained good in the foot. Some days after the operation there developed a necrotic area about the size of a silver dollar on the heel, which was undoubtedly due to pressure, which should have been avoided. This is now practically well, but has given the patient more trouble than the popliteal wound. There was considerable contraction of the leg after removal of the splint, but he is now able to extend it to nearly a normal degree. There still remains an irritated scar in the popliteal region, which is probably due to the want of care which the patient has given it since he left the hospital. During his convalescence he took very large quantities of potassium iodide with impunity, and he is now taking 30 grains three times a day. There is no evidence of a redevelopment of the aneurism.

It was stated that in a number of other cases which have been reported an infection of the wound had taken place, but in none of them has it interfered with the cure of the aneurism. The fact that suppuration seems to be frequently in these cases would lead Dr. Gibbon in another case to insert a superficial gauze drain not into the sac, but down to it.

SUTURE OF FEMORAL ARTERY.

Dr. Francis T. Stewart gave the details of a case of suture of the femoral artery. The patient was a young, robust man, whose femoral artery had been injured by a flying piece of steel, with the resulting formation of a large traumatic aneurism. At the operation, instead of applying a tourniquet, an incision was made directly over the sac and hæmorrhage from the vessel controlled from the wound. The sac was opened and the communication with the vessel sutured. There were no untoward postoperative effects, suppuration not occurring. The leg was kept elevated for two weeks. Pulsation in the artery was immediately restored and continued until the patient left the hospital. In answer to a question by Dr. Gibbon, Dr. Stewart said the length of time between the injury and operation was about eight days.

VARICOSE VEINS SIMULATING FEMORAL HERNIA; OPERATION; DEATH ON THE SEVENTH DAY FROM HEART-CLOT OF UNCERTAIN ORIGIN.

Dr. William J. Taylor reported the case of a young woman, aged thirty years, who consulted him first on May 21, 1904, stating that she had been ruptured, and had tried to wear a truss, but this had given her so much discomfort and uneasiness that she was unable to wear it. At the same time she complained of quite extensive varicose veins of the left leg and thigh. He found a swelling over the left saphenous opening which had every appearance of being a femoral hernia. This swelling was soft, and could be readily reduced with slight pressure; there was some impulse on coughing, and when she lay down the whole mass disappeared. In view of this history the conclusion was natural that she had a femoral hernia which could not be properly retained by a truss, and that the pressure of the truss was producing the varicose veins.

On May 25 he operated at the Orthopædic Hospital, and, upon cutting down upon the mass, found it to be an enormous varicose condition of the saphenous vein. The whole vein below this point was thickened and indurated, and she had evidently had a venous inflammation extending down the whole leg. There was no hernia. The mass felt was this varicose condition of the saphenous vein. He ligated the vein below the enlargement, very carefully emptying the vein, and then ligated it about three-quarters of an inch from the femoral vein. He ligated it also once in the centre. She did very well for three days, when she complained of a great deal of pain in the stomach and abdomen. Now, on carefully examining her, was elicited a very good history of gastric ulcer, extending back over several years, and particularly during the past year. Dr. Morris J. Lewis was asked to see her, and he agreed in the diagnosis. Nitrate of silver and opium were given, and she was fed entirely by the rectum. All this time the wound was doing perfectly well; the drainage had been taken out, and it was practically healed. She improved markedly, and at once after the rectal feeding was begun; but about half-past two, on June 2, she called out to one of the women in the ward that she was fainting. The head nurse saw her almost immediately, and found her in a condition

of collapse, blue, and in an excruciating agony. Dr. Taylor saw her himself within ten minutes of this seizure, and found her in a most distressing condition, although she had somewhat revived. The pulse was very rapid, and practically imperceptible at the wrist; she was blue about the lips, in profound collapse, and with intense pain in the region of the stomach. The first impression was that a gastric ulcer had perforated. She was given hypodermics of salt solution with adrenaline added to it, hypodermics of atropine, digitalin, and inhalations of oxygen. Dr. Lewis saw her later at half-past three. There was no abdominal rigidity, and, in view of this fact, it was concluded that the condition was one of heart-clot. She lingered on until Saturday, the 4th, at eleven o'clock, when she had a second collapse and died. During this whole time her pulse was always above 120, often 160, and she was kept alive simply by rectal stimulants, hypodermics, and oxygen. At no time was her general condition such that any surgical operation could have been attempted.

Post-Mortem.—Post-mortem examination was made by Dr. D. J. McCarthy. The examination, in brief, showed that she had a hæmorrhagic pericarditis and a clot in the auricle of the heart of the right side, which was dilated, and some myocarditis. There were no clots in either ventricle. The stomach showed an acute gastritis, evidently following upon an old and chronic condition, as there were two healed gastric ulcers, chronic gastritis at the pyloric, and acute gastritis at the cardiac end. The stomach was smaller than normal. The site of the wound was examined with care. The wound was entirely healed; there was no evidence of infection or of any untoward result; in fact, the wound was entirely well; but there was a small blood-clot removed from the left iliac vein just below the common iliac. The saphenous and femoral veins were normal. The etherization may have been a factor in producing excitement, which, added to her gastric condition, may account for the heart-clot.

Dr. John B. Roberts recalled an instance of unexpected death from a gastric condition not known to exist. Suprapubic operation for vesical calculus had been performed, and the patient was doing nicely, when abdominal pain developed and was shortly followed by death. Autopsy revealed a large gastric ulcer with cicatrized edges, perforation of which had caused the fatal peritonitis. There had been no symptoms of gastric ulcer,

and that condition was not suspected. The case, then, was one in which an operation wound was doing well, yet the patient suddenly died. A second case illustrates another point in Dr. Taylor's paper, that of mistaken diagnosis. Six or eight years ago Dr. Roberts operated upon a woman who, from the history and symptoms, was suffering from appendicitis. When the appendix was exposed it appeared perfectly normal, and, as it then was not customary to remove such appendices, the organ was allowed to remain. The patient recovered from the operation and was soon going home, when she sat up in bed and died instantly. Autopsy revealed fatty degeneration of the heart and kidney disease, although the urine had been reported as essentially normal. Cases of this nature belong to what have been termed the calamities of surgery. The patient died, although she did not have appendicitis as suspected. In such cases the friends, of course, attribute death to the operation, and thus make these occurrences doubly disagreeable to the surgeon.

PERFORATED GASTRIC ULCER.

Dr. Charles F. Mitchell exhibited a specimen of perforated gastric ulcer recently obtained at autopsy upon a patient whom operation had failed to relieve. The patient was a motorman, and was seen two hours after admission to the Pennsylvania Hospital. Two days previously he had been seized with sudden abdominal pain and fainted. The family physician sent the man to the hospital. There a diagnosis of peritonitis was made, and, because of the previous history of gastric catarrh, the origin was believed to be a perforated gastric ulcer; the entire abdomen was tender and rigid. Incision in the median line above the umbilicus was followed by escape of fluid under tension and the bulging of the omentum. Examination of the stomach showed a large opening in the anterior wall at a point supposed to be near the cardiac end. The stomach could not be drawn from the wound, and sutures introduced to close the perforation immediately pulled out. The man was in a desperate condition, so the lesion was packed off as well as possible and the abdomen washed out. The patient lived four days. At autopsy, two perforations of the stomach were found. The first, supposed to have been near the cardiac end, was near the middle of the anterior wall of the stomach, between the greater and lesser curvatures,

and the second in the greater curvature, and adherent to the pancreas.

CYST OF THE PANCREAS.

Dr. R. P. McReynolds presented a woman forty-nine years of age, who had been subjected by him to partial excision and drainage of a pancreatic cyst. The history was as follows: The woman had borne twelve children. Normal menstrual history. No inflammatory diseases of the pelvic organs. Two years ago, slight soreness in abdomen was first noted. Gradual enlargement of abdomen ensued, and finally prompted her to consult her family physician, Dr. Mitchell, who sent her to hospital, where she came under the care of Dr. McReynolds. She presented a tense, fluctuating tumor, which filled nearly the whole abdomen, which was symmetrically enlarged to the size of a full-term pregnancy. When the abdomen was opened, November 8, 1904, the omentum was found adherent to a large cyst sac which apparently filled the greater part of the peritoneal cavity. After the removal of eight or ten quarts of dark chocolate fluid from the cyst, the sac was partially drawn out through the abdominal wound, but its entire enucleation was found impossible on account of numerous adhesions, especially to the liver. Part of the sac having been cut away, the remains were stitched in the abdominal wound and its cavity packed with gauze and with rubber drainage-tubes. Though but little blood was lost, the shock manifested by the patient was very marked. From this, however, she was soon rallied, and she made thereafter an uneventful recovery. It was apparent at the time of the operation that the cyst had grown up between the stomach and transverse colon; the colon had been pushed down as far as the fibres. The fluid collected at the dressing the day after the operation showed the presence of pancreatic ferments.

Dr. W. W. Keen approved Dr. McReynolds's condemnation of puncture of the abdominal wall in order to get fluid for diagnostic purposes; this expedient is fraught with too great danger of perforating the stomach or colon. Dr. Keen was one of the first surgeons in this country to operate upon a case of pancreatic cyst. The patient was a girl of fifteen. The cyst was the size of a head and presented in the epigastrium. Good recovery followed operation by essentially the same method as detailed by

Dr. McReynolds. Dr. Keen believes that in very few cases is extirpation of the cyst justifiable.

Dr. George Erety Shoemaker saw a case of pancreatic cyst twelve or fifteen years ago in dispensary practice. The patient was a woman of twenty, who had a tumor eight or ten inches in diameter presenting in the centre of the abdomen. The diagnosis of ovarian cyst was made, but the patient refused operation. Later she went to the University Hospital, where she was operated upon by the late Dr. Goodell, who found a cyst of the pancreas. The two layers of peritoneum and the cyst wall were stitched to the abdominal incision, and the patient made a good recovery.

Dr. John H. Gibbon spoke of a case of pancreatic cyst under his care in the Pennsylvania Hospital fourteen months ago. The patient was a colored man who had been kicked in the abdomen three days before admission. There was no evidence of peritonitis or of any profuse hæmorrhage. At the time of admission he complained of pain in the left loin, and there was a distinct tumor in the left renal region. The day after admission this tumor had greatly increased in size, fluctuated, and was somewhat tender. During the previous twenty-four hours the patient had passed but fourteen ounces of urine. The tumor was flat on percussion and the colon was internal to it. Diagnosis was made of hydronephrosis and operation advised. An incision was made exposing the left kidney, which was perfectly normal. In front of the kidney, however, could be felt the fluctuating mass, which was thought to be within the abdominal cavity. The patient was therefore turned on his back and an incision made in the upper portion of the left semilunaris. The abdominal cavity was found normal, excepting for some thickening of the gastrocolic omentum. The stomach was pushed forward by the tumor. The lesser peritoneal cavity was opened through the gastrocolic omentum, and a large cyst extending far over into the left side of the abdomen discovered. The cyst contents were evacuated and the cyst walls sutured to the peritoneal edges. The cyst contained a large amount of bloody fluid, which, on being afterwards examined, was found to possess the characteristics of pancreatic juice. It was thought in this case that the man had probably had a cyst of the tail of the pancreas, which had given him no trouble until he received the blow in the abdomen, which resulted in profuse hæmorrhage into the cyst cavity. The wound closed and the patient left the hospital perfectly well. He has not been heard from since.

SARCOMA OF PELVIC ORGANS NOT CONTROLLED BY THE X-RAY OR BY COLEY'S FLUID.

Dr. George Erety Shoemaker said that some months ago he had occasion to report a sarcoma of the abdominal wall associated with an infiltration which united the rectum, uterus, left tube, and ovary, the growth not being considered removable after opening the abdomen. The wound was closed, and, after removing a generous piece from the superficial tumor for the microscope, the X-ray was applied for about nine months by Dr. William S. Newcomet. The total number of exposures was forty-nine. The after-result, one year later, was the total disappearance of the growth from the abdominal wall, the gain of sixteen pounds in weight, and the disappearance of all pelvic enlargement except a slight increase in the size of the uterus. The case was originally referred to him by Dr. M. B. Hartzell. The microscopical diagnosis was given by Dr. J. Dutton Steele. The case was reported before the College of Physicians. (*Transactions of the College of Physicians*, 1903; *American Medicine*, vol. vi, No. 26, December 26, 1903.)

He now reported another case which offered a contrast to the former favorable result, and though, from the circumstances which surrounded the patient, she was able to secure the very best conditions, and ample time was given to her treatment, no definite influence appeared to be exerted upon the progress of the disease either by the mixed toxins of Coley or by the prolonged use of the X-ray.

The patient was single, forty-six years old, and was referred to him by Dr. A. A. Long, of York, Pa., because of a tumor in the right side of the abdomen, from which a sharp nodule projected against the right internal inguinal ring. As a right inguinal hernia had existed for six years, the pressure of the tumor against the hernia gave rise to a persistent pain and nausea, and was the principal source of the patient's distress. The tumor, which she had noticed about a year, reached to within an inch and a half of the navel on the right side, was nodular, sharply defined through the very thin abdominal wall, was evi-

dently connected with the uterus, and was movable. The inguinal hernia when opened was found to contain a pea-sized growth in the sac, which afterwards proved to be spindle-celled sarcoma. Radical cure of the hernia was done by the Bassini method, using kangaroo tendon.

On opening the abdomen in the median line with the intention of doing hysterectomy, the tumor was found to be made up of a number of small, tense cysts, very dark in color, protruding prominently from a fine granular base which was firm and solid. The uterus was completely covered in and its outlines could not be differentiated. No right broad ligament or ovary could be demonstrated; the growth involved the bladder superficially, and the rectum low down to a slight extent, and was not considered to be removable in the interest of the patient, though the entire mass, including the uterus, was movable. A nodule in the omentum was removed for examination and afterwards proved also to be sarcomatous. There was no unfavorable reaction from the operation, and immediately after aseptic convalescence X-ray was begun by Dr. W. S. Newcomet, and continued with slight intermission two or three times a week for about three months. While the patient at first improved in nutrition, no definite effect could be produced upon the size of the growth. Because of the radical cure of the hernia, it was no longer pressed upon by the tumor, and a distressing source of pain and nausea was completely removed.

The systematic use of the mixed toxins recommended by Dr. Coley was begun with a half-minim dose and gradually increased one minim per day. Reaction first occurred with twenty-one minims of the undiluted preparation. After this was secured, the injections were continued for seventeen days under his own observation in the hospital, and for several weeks longer in the very careful hands of her physician at her home. Though typical reactions were produced and though every possible arrangement was made for surrounding the patient with the best possible conditions, no permanent effect on the tumor was produced by the treatment, while the long-continued series of reactions was somewhat exhausting. The greatest amount of Coley's fluid used at one time was thirty-two minims. Specific treatment of the tumor was now abandoned. The patient gradually lost ground and died from exhaustion fourteen months after operation.

The cystic degeneration of the sarcomatous growth probably rendered it less amenable to successful treatment by the X-ray. It was somewhat of a disappointment, however, to find that the toxin treatment failed to influence a sarcoma of the spindle-celled variety, which is the form most favorable for its use. Careful watch was maintained upon the blood condition during the use of both of the agents referred to, but no definite effect appeared to be produced upon the leucocytes. The lowest count was 6000 and the highest 10,600. The latter count was obtained during the period of X-ray treatment, and led to a cautious increase of interval so as to avoid breaking down the growth. The lowest hæmoglobin was 62 per cent. and the highest 79 per cent. The lowest red-cell count was 3,856,000 and the highest 4,960,000. Much of the improvement in the general condition of the blood occurred during the treatment with the X-ray, and may have been largely due to general hygienic and roborant measures, which were systematically carried out. Improvement in nutrition was also favored at this time by the absence of pain in the tumor and by its disappearance from the site of the former hernia.

Dr. John H. Jopson spoke of a round-cell sarcoma of the neck upon which the combined treatment was used with marked success. The tumor was situated above the clavicle, and was the size of an orange when operated upon in May, 1904. Operation was difficult and the tumor could only partially be removed. It extended below the clavicle, into the anterior mediastinum, and along the posterior triangle of the neck. The internal jugular vein was infiltrated, and was torn three times during the dissection. The prognosis was very bad, but under treatment by Coley's fluid and the X-ray the infiltration remained stationary for some months. The fluid was begun with minim doses and increased until thirty-five or forty minims were reached. Finally, the tumor again enlarged, and further operation was considered and also advised by Dr. Willard. In December, 1904, the second operation was performed, and this showed that the infiltration of the posterior triangle and of the mediastinum had disappeared, and what remained of the tumor in the old site was surrounded by fibrous tissue in the form of a capsule. This made removal of the entire mass comparatively easy. Now, ten months after the first operation, there is some limited induration at the site

of operation, but the patient's general health is good, and he is in excellent physical condition.

APPARATUS FOR RETAINING PATIENT IN ANY DESIRED POSITION.

Dr. W. W. Keen showed a posture retention apparatus, saying that it was demonstrated on board the Athos during their

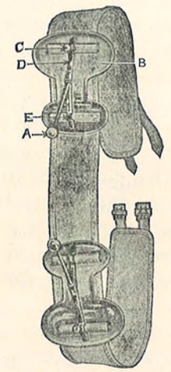

Fig. 1.—A. The retaining arm with ball attachment. B. The conformity supporting plate C. The thumb-clamp for adjusting plate, B, on the bandage for retaining the body at any angle or in any posture. D is a rib secured to the conformity plate; this rib possessed with elevations, E, under which the bandage (or belt) passes these elevations to allow of readily attaching and detaching the belt for washing.

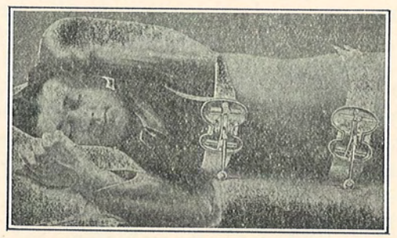

Fig. 2 shows patient being retained to the side during operation; two retainers (as seen in front resting against the operating table) are also on the back; thus the body is held rigidly to the lateral posture.

recent unfortunate trip to the tropics, by Mr. Lees, of the Physicians' Supply Company of Philadelphia. The apparatus is simply

a pair of broad bands of canvas, to each of which are attached two buckles carrying projections six inches long and terminating in spheres approximately three centimetres in diameter. It is used to retain patients in any position while sleeping, as, if properly applied, they cannot turn without first waking. While particularly to be used after operations, Mr. Lees believed it might also be of use in preventing nocturnal emissions. Dr. Keen also suggested that it would be useful in keeping patients in the lateral position during operations upon a kidney, the ilium, etc., as every surgeon knows the difficulty in keeping such patients from turning upon the back or face. He recently employed the apparatus upon a man from whom he removed a tumor of the buttock, applying one under the armpits, the other just below the hips. They retained the patient in the desired position throughout the operation without any difficulty, and were in every way satisfactory. The only objection to them is that they may cause pressure upon the chest, thus preventing free respirations. If modified by providing a slit for the arm or some similar device, they possibly might be employed for Estlander's or Schede's or other operations upon the chest requiring the lateral position.