fractures of the leg, was the difficulty, unless the fenestra was exceedingly large, of applying efficient antiseptic dressings. For this reason he had followed the practice adopted by Dr. Bull. Volkmann's posterior splint gave adequate support to the limb, while it left the anterior part, where the wound in the skin usually existed, open for inspection, and allowed the application of antiseptic dressings without much disturbance of the fractured bones. Furthermore, it allowed the application of the bandage over the limb with just such an amount of pressure as was necessary to give proper support. He should, therefore, defer the employment of the plaster-of-Paris splint until all inflammatory swelling had subsided, when he thought it could be used with the best results.

Dr. LITTLE thought it a good plan to make a distinction between the plaster-of-Paris *bandage* and the plaster-of-Paris *splint*. The plaster-of-Paris bandage was a dressing which enveloped the limb entirely, whereas the plaster-of-Paris splint was an apparatus which could be applied to the posterior aspect of the limb, and did not render the limb liable to be injured from obstruction to the circulation, and, at the same time, it rendered the fractured bones immovable, and allowed them to be inspected at pleasure.

Division of the Tendon of the Flexor Profundus Digitorum.—Dr. POST narrated a case as follows: A male patient presented himself at his clinic, who, two months before, had wounded the palm of the left hand very nearly in front of the articulation of the first phalanx of the ring finger with the metacarpal bone. After that injury he was able to flex the finger with the other fingers for three days, and then suddenly, after tossing a child, something gave way in the finger, and he lost the power of flexing it entirely. After the lapse of two months the wound had healed entirely, and passive motion could be made, but the patient had no voluntary power over it. It was evident that there was division of both tendons belonging to that finger. Dr. Post made an incision down to the sheath of the tendon, which he divided, and found the distal end of the tendon lying loose in the sheath, entirely separated from the proximal end, and division had taken place just at the point where the tendon of the flexor profundus passes through the slit in the flexor sublimis. He found that the end of the tendon of the flexor profundus was smooth and rounded, and there were little rounded bulbs in the incision of the tendon of the flexor sublimis. He then extended the incision to the extent of about three centimetres, but was not able to find the proximal end of the tendon. He believed that there was incomplete division of the tendon at the time of the injury, and that the separation became complete at the time when the patient felt something give way in the palm of the hand three days afterward. The case was interesting, from the fact that the division was not perfect at the time of the receipt of the injury, and from the fact that there was such a wide separation of the ends of the tendon. A carbolic lotion was applied to the wound, and no unfavorable symptoms had followed the operation.

Dr. SANDS remarked that he had been similarly disappointed in such an operation, and he also had the impression that, as a rule, the separation of divided pieces of tendon was so great as to discourage any attempt to replace the parts after the lapse of any considerable period of time.

The PRESIDENT remarked that he had had the same experience in divisions of the tendons of the fingers.

Dr. POST remarked that when the tendon was within the sheath, it probably receded more than when elsewhere.

Dr. LITTLE remarked that he failed to reach the proximal end of the tendon in a case immediately after the injury.

Vesical Calculus. Bigelow's Operation.—Dr. LITTLE presented the fragments of a vesical calculus removed by rapid lithotrity, with the following history: A man, sixty-three years of age, a patient of Dr. A. H. Smith, had suffered from frequent micturition for six months. Symptoms of stone developed four weeks before he saw the patient. The patient was etherized, and Bigelow's medium-sized lithotrite was introduced. The stone was seized and crushed, and the fragments removed through the evacuating-tube, and the bladder irrigated until no further fragments could be found. The operation lasted only fourteen minutes. Before the operation, the patient was obliged to pass water every hour; after the operation, he could hold his urine for six or eight hours. Not the slightest unpleasant symptoms followed the operation.

Sequestrum from the Sternum.—Dr. POST presented a small sequestrum removed from the upper part of the sternum. The patient was a woman, forty-five years of age, who was under his care in the Presbyterian Hospital in August. She had had caries of the sternum for some time. He then removed portions of dead bone, and an opening was made extending into the anterior mediastinal space. The finger could be passed behind the sternum without unpleasant consequences following. She left the hospital, but subsequently came under his observation, and he found, on inspecting the wound, a piece of bone present at the deeper part of the cavity, which he seized with a pair of forceps and extracted, and it was the specimen presented. Since that time the sore had granulated, and the parts looked as if recovery would take place. There was no distinct syphilitic history in the case. The specimen was interesting, from the fact that it was a sequestrum from a spongy bone.

PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting November 7, 1881.

S. D. GROSS, M. D., PRESIDENT, IN THE CHAIR.

Aneurism of the Femoral Artery Cured by Pressure.—Dr. S. W. GROSS exhibited a case, which he said was really under the treatment of Dr. S. D. GROSS, the President, with the following history:

About a year ago, a colored hod-carrier, aged twenty-seven years, began to suffer from a constant dull, aching pain in the left knee, which he attributed to rheumatism, and which was increased by hard work. Four months prior to his admission into the Jefferson Medical College Hospital, he noticed a beating just above the middle of the thigh, and he found at this point a rather soft pulsating swelling, about the size of a common marble. On admission, there was an aneurism of the superficial femoral artery at the apex of Scarpa's space as large as the fist, and the pain was still present in the knee. There was no history of syphilis, but he fell from a ladder and bruised the corresponding leg a few months previous to the appearance of the tumor.

On the 7th of October, pressure was maintained for three hours upon the common femoral artery by means of a pestle, when it was discontinued on account of the severe pain which it produced. On the 9th of October, the same measure was employed for five hours, but without any benefit. Four days subsequently, two five-pound bags of small shot and a leaden weight of ten pounds were applied to the artery and the circulation completely controlled. The constant movements of the abdominal muscles in respiration, and the restlessness of the patient rendered it necessary to hold the weights in place, and at times to make slight pressure with the hand to overcome the pulsation. At the expiration of an hour and a half, with a view to relieve suffering, one-third of a grain of morphia was thrown under the skin, and the dose was repeated in

two hours. At the end of another thirty minutes, or of four hours from the beginning of the treatment, all pulsation had ceased in the tumor, which had become hard and firm; but the compression was maintained for five hours longer as a matter of precaution. After the contents of the sac had consolidated, there was but little suffering and the patient slept most of the time. At the present date, the tumor is diminished one-fourth.

Traumatic Aneurism of the Posterior Tibial Artery.—Dr. JOHN H. PACKARD read the history of this case. Joseph D., æt. eleven years, a sturdy and well-conditioned boy, was admitted into the Episcopal Hospital October 8, 1881, with the following history: Two weeks previous, he had received a blow on the inner side of the left ankle, from a bit of iron thrown by a playmate. The part "swelled a good deal," but the hurt was not thought much of until the day before his admission, when, in his mother's words, "the ankle burst, and he lost a cupful of blood." Dr. Packard's attention was not called to the case until four days after the admission, when he found a small, pulsating tumor, just back of the inner malleolus. The next day he laid the tumor open, and applied two silk ligatures, one above and the other below. Three days afterwards, the bandage became suddenly saturated with blood, and the boy fainted. A compress was firmly applied, and Dr. Packard was summoned. Enlarging the wound somewhat, he found the upper ligature loose, apparently from the cutting through of some areolar tissue included along with the artery. A second ligature was applied, which held until the 18th, somewhat over forty-eight hours, when bleeding again occurred, in the evening. He then exposed the artery a little higher up, and tied it again, at a point about a quarter of an inch above the one previously chosen. After this there was no further trouble; the wound did well, and on the 23d, ten days after the first ligation, and five days after the third, both ligatures were found lying loose. Healing progressed very rapidly, and the boy is ready for discharge.

Hæmorrhage from a Wound of the Facial Artery, in which Ligation was Performed.—Dr. PACKARD related the following history: B. F. Z., æt. twenty-five years, was brought to the Episcopal Hospital on October 27, blanched and much prostrated by bleeding from a wound in the left cheek, about three-quarters of an inch from the angle of the mouth. Another wound about one and a half inches long, just over the edge of the lower jaw, seemed to be at right angles with the facial artery, and had been closed by means of a large pin and a figure-of-eight suture. The man stated that the wounds had been inflicted with a penknife, about ten days previous, and that two severe hæmorrhages had occurred, one on the eighth day, and the other on the evening before his admission. Ether was at once administered; the clots turned out of the upper wound, enlarged for the purpose, and a silk ligature applied to each end of the divided artery. The edges of the skin were then brought together by means of hare-lip sutures, and a wet dressing applied containing a small amount of carbolic acid. Healing took place rapidly, the ligatures coming away on the seventh day.

Arterial Hæmorrhage in a Case of Extensive Burn; Ligation of the Brachial Artery.—Dr. PACKARD also related the case of Hilda A., æt. eighteen, admitted into the hospital during the service of his colleague, Dr. Hunter, September 7, 1881, having sustained, two weeks previously, severe burns from trying to hasten the kindling of a fire by means of coal-oil. Her body and both arms were terribly injured, and when he came on duty, October 1, the process of granulation was going on slowly, while from the irritability of the stomach there was reason to fear serious involvement of that organ, or of the duodenum. This, however, was overcome after a few days, and her condition was greatly improved. On the 4th of November, at his daily visit, the resident surgeon, Dr. Robins, informed him that arterial hæmorrhage had occurred from the left arm, and had been controlled by a compress over the brachial artery. On removing this compress (the patient being etherized), several jets of arterial blood spurted from vessels opening on the granulating surface at the inner part of the arm. He immediately, with his fingers, broke away the tissues at the inner side of the biceps so as to expose the brachial artery at the usual point of ligation, when he applied a silk thread. No further bleeding occurred, and the case has progressed since as if no such alarming incident had threatened to interfere with recovery.

Dr. WM. HUNT recollected a number of cases of spontaneous aneurism in negroes, and inquired whether the disease was more frequent in the black than in the white race. He had recently seen a case of traumatic aneurism of the facial artery, to which Dr. Levis had also been called in haste, which had formed in the course of one day. Dr. Levis and he arrived at the house at the same time. The whole mass was dissected out and the bleeding vessels tied.

Dr. J. M. BARTON spoke of once seeing an aneurism which so resembled an abscess in the cervical region that it had nearly been laid open by the gentleman in attendance. He was deterred, however, by noticing the pulsation. The patient died from rupture of the sac, and the autopsy showed evidence of syphilis. The aneurism was of the carotid artery.

Fracture of the Patella Treated by Hooks.—Dr. T. G. MORTON exhibited a patient who had been under treatment for fracture of right patella. There was used lead water and laudanum for a week, when Dr. Morton's hinged modification of Malgaigne's hooks were applied. The ordinary hooks would not have obtained accurate apposition, since it was necessary to have the upper pair of hooks widely separated; while the lower ones were close together. No irritation followed. It is possible that bony union is favored by the fact that circulation is not interfered with when the hooks are applied, as when tight bandages are adjusted. The slight irritation due to the insertion of the points may increase the tendency to throwing out of callus for the bond of union. In this case, hooks had remained in position fourteen days.

Dr. PACKARD said he was probably the first surgeon in Philadelphia to apply Malgaigne's hooks.[1] The patient, after having what was thought to be bony union, fell and refractured the bone. There is no danger, as has been supposed by some, of penetrating the joint. He himself now usually employs the method of Sanborn, which consists in loops of adhesive plaster that bring the fragments together by twisting.

Dr. NANCREDE mentioned a case where there was no separation, though crepitus was present. He could just catch his finger-nail between the edges of fragments. Could such a fracture, without laceration of the tendon and fascia, be produced by muscular action?

Dr. HUNT had once treated a patient who had fracture of both bones without any separation. He needed no apparatus, and obtained a good cure.

Dr. WILLARD recently saw a case undoubtedly due to muscular contraction and no separation existed.

The PRESIDENT spoke of the recent successes in wiring old fractures where non-union had occurred; and also referred to the method of passing wire through the ligament of the patella and quadriceps tendon in order to bring parts together without interfering with the joint.

Dr. MORTON called attention to two cases he had

[1] See *American Journal of the Medical Sciences*, April, 1861.

seen; in one the tendon was ruptured above the patella; in the other, below it. No wiring was done. One patient is known to have a good limb for walking, but ascending steps is somewhat difficult.

Dr. WILLARD had had a case where the ligament of the patella was torn close to the tibia, but he had hesitated about using wire.

Dr. PACKARD thought it would be difficult to get a good hold for wiring so close to the bone, and feared trouble might arise from inflammation of the bursa beneath the patellar ligament. He had seen recurring bursitis in this region following injury of the part. Sutures might be better employed in rupture of the quadriceps above the bone.

Supernumerary Thumbs.—Dr. NANCREDE exhibited two supernumerary thumbs removed from two children who had double thumbs on the left hand. The additional digits sprung from the head of the metacarpal bones, and were well formed. There was no hereditary predisposition. A child born between these two presented no malformation.

Dr. MORTON recently saw an Italian infant without ears. There were little nodules on each side of the head, and an indistinctly felt depression under the skin, as though a meatus might exist there.

Urinary Calculi.—Dr. J. H. BRINTON reported the case of a man whom he had sounded three or four times, about eighteen months ago, and failed to find stone, though the rational symptoms were present. Last spring, however, he found stone, and employed Bigelow's rapid lithotrity method, by which a large amount of fragmentary matter was removed. He sent the patient home because the weather was hot, but on his return, this fall, removed over fifty calculi by lateral lithotomy. He stated that he believed Dr. Agnew had once removed about two hundred calculi. The patient he had just referred to was able to fish small calculi out of his own bladder by inserting a soft rubber catheter and entangling the stone in its eye.

The PRESIDENT stated that he had removed as many as fifty-four calculi, and that Physick had extracted nearly one thousand at one operation.

Cheap Water-Bed to Prevent Bed Sores.—Dr. MORTON mentioned the use at the Pennsylvania Hospital for the Insane of water-beds, made by stretching a piece of gum cloth over a shallow trough. Drs. LEVIS and MEARS also spoke of the cheapness and advantages of this substitute for rubber mattresses filled with water, which they had seen used in other cities.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 24, 1881.

FORDYCE BARKER, M.D., PRESIDENT, IN THE CHAIR.

The Cell Doctrine and the Bioplasm Doctrine.—Dr. LOUIS ELSBERG read a paper with this title. He stated that last May, at a meeting of the Laryngological Association, he presented an account of some histological investigations of the cartilages of the larynx, and, as the structure of hyaline cartilage has an important bearing on the subject of his paper, he gave a brief résumé of the views then advanced. As the result of his investigations, Dr. Elsberg is not only able to confirm the views of Heitzman and others, that there are cilia-like offshoots or prolongations of the substance of the cartilage corpuscles penetrating into the basis substance, but has been able to satisfy himself that these offshoots form an interconnecting reticulum through the basis substance, and that there exist in this network masses of living matter. Hyaline cartilage is, therefore, a mass of living matter, in which blocks of basis substance are imbedded; and the author believes that the communication of these protoplasmic processes with each other and with the surrounding tissues permit the processes of nutrition to be carried on without the assumption of "juice canals."

Pyæmic Parotitis.—Dr. CHARLES A. LEALE read a paper on this subject, and presented two of the patients on whom he had operated, one showing complete loss of the gland from suppuration, the other adhesions at the cheek over the duct of Steno. The latter case subsequently had goitre, which was treated successfully by the internal and external use of iodine.

Dr. Leale differed from the numerous writers who thought that suppuration of the parotid arose from a mechanical occlusion of the *ductus Stenonianus*, as a result of dryness of the mucous membrane of the mouth, and stated that his observations led him to believe that when it occurred in any of the enteric fevers, dysentery, or osteo-myelitis, it always arose from systemic poisoning from an ulceration of such a low grade where constitutional changes were constantly going on, that the glands of the body exerted their influence to eliminate the materies morbi, and therefore metastatic abscesses of the parotid, liver, lungs, brain, etc., were formed. As to the frequency of suppuration of the parotid, he stated that statistics showed it to be a not very uncommon disease, as Hoffman gives 16 cases in about 1600 typhoid fever patients, and subsequently, after the employment of the antipyretic treatment, 1 case occurred in every 550, or 2 in 1100 patients, both of which terminated fatally. In illustration of this disease, when suppuration of the parotid occurs, he gave the history of four cases: one from pelvic cellulitis, one from ulceration of the bowels in typhoid fever, one from general ulceration of the mouth and stomach, and one from suppuration of the kidneys following an acute attack of degenerative nephritis; and, in the same connection, gave the history of two cases of metastatic abscesses of the liver as illustrative of the same provoking cause.

He had never seen a case of pyæmic suppuration of the parotid end in recovery when the pus was not permitted an exit. In three of his cases he had opened by incision and in the other profuse discharge of pus ran from the ears for a period of seven months, the discharge coming through the perforations from the middle ear. In one case only had he seen perforation of the floor of the cartilage of the external auditory canal, and that was one of the patients exhibited to the Academy, who showed the deformity resulting from the complete loss of the gland, resulting in a large cavity under the angle of the jaw.

In explanation of the modus operandi of this exit through this firm cartilage, Dr. Leale thought pressure could accomplish this result, as the gland is so firmly bound down by dense fascia. If a small aneurismal tumor can produce perforation of the dense, loosely-attached œsophagus, and cause fatal hæmorrhage into the stomach, a specimen such as he had presented to the New York Pathological Society, why not perforate a cartilage held so firmly in place?

The first case shown was a lady, who at the age of forty-one years had a metastatic abscess of the parotid gland, with discharge of pus through an opening into the cartilage at the floor of the external auditory canal. Complete destruction by suppuration of the entire parotid gland followed, producing a permanent deformity on that side of the neck with a deep hollow beneath and under the angle of the jaw. This lady had an attack of general peritonitis and pelvic cellulitis, and death was nearly caused by suffocation in consequence of pressure on the pharynx. Dr. Leale opened the pharyngeal abscess, and then had through and through drainage; the director inserted just above the angle of the jaw could be pushed through the parotid gland and felt with the finger in the throat.

In this instance the cerebral symptoms were very