Stated Meeting, December 7, 1896.

A LEVER AND FULCRUM FOR TREPHINING.

DR. W. BARTON HOPKINS presented an instrument in which were combined a lever and fulcrum for elevating depressed fragments of the bones of the skull, where, owing to large gaps, edges of sound bone are too far removed to act as a fulcrum for an ordinary lever, or where the fragments have been so firmly impacted in their new position that great force is required to elevate them.

The instruments are adaptable to a very wide range of conditions incident to depressed fractures. The foot of the lever can be inserted into a very small trephine opening, the fulcrum resting directly on the surface of sound bone. On the other hand, in such cases as have involved the removal of large portions of bone and a depression still exists at one point, the fulcrum will span the opening in any direction which will bring it at right angles to the axis in which the lever is desired to act. The relations of the fulcrum, weight, and power being always constant and the lever being one of great advantage, the power can be exerted with nice precision. The fulcrum is milled longitudinally to avoid tendency to lateral slipping, its upper surface a half cylinder forms a pivot for the groove in the lever allowing a play of about thirty degrees.

LONGITUDINAL FRACTURE OF THE LOWER END OF THE TIBIA WITH FRACTURE OF THE FIBULA.

DR. DE FOREST WILLARD exhibited a patient who had sustained a comminuted fracture of the bones of the leg at the ankle seven months previous.

The patient is very seriously disabled, as the foot is everted in the position so frequently seen in Pott's fracture of the fibula. There is also great thickening and enlargement about the ankle-joint, preventing flexion even to a right angle and giving great pain after walking. The patient is totally disabled from following his occupation as a blacksmith.

A skiagraph reveals a most interesting condition. The fibula was broken about three inches above the ankle-joint and has united, overlapping one inch. Within the ankle-joint is a large fragment lying against the tibia, and the lower end of the tibia shows also a

longitudinal fracture which evidently split off the portion of the tibia which articulates with the fibula. This fracture extended up the shaft of the tibia about two inches. The portion which articulated with the fibula has been carried backward and permits the foot to assume the position of partial posterior dislocation. The skiagraph also shows a mass of bone lying within the ankle-joint between the astragalus and the tibia, thus practically blocking normal flexion. Whether this is a portion of the tibia or whether there has been a fracture of the astragalus, or whether this mass is a growth of callus, can only be positively determined at the time of operation after the joint is opened.

DR. G. G. DAVIS said Gosselin described a fracture more or less spiral in shape going into the ankle-joint. He himself had carefully looked for these fractures, but think they are extremely rare. Last year, however, at the German Hospital, he had a patient with a fracture of the fibula, but apparently no injury to the tibia. After a few days he had the resident put the limb in a fixed dressing. In ten days or so the patient complained of great pain, and on removing the dressing he found a protrusion at the ankle-joint next to the fibula,—that is to say, on the outer portion of the articulating surface of the tibia. It was a fracture going into the joint, chipping off the side of the articulating surface next to the fibula. He divided the tendo Achillis and pushed the fragment back. By keeping special watch it was kept in place. As the tendo Achillis pulled the foot up, in his case it turned the fragment out. In Dr. Willard's case the fractured tibia is displaced forward, and possibly the astragalus may also have been involved. The radiograph shows that the tibia is displaced considerably. Out of many cases of fracture of the tibia seen by him in the last four years he had only recognized one in which the fracture involved the ankle-joint.

OSTEOMA OF THE TIBIA.

DR. WILLARD presented a patient with a large osteoma springing from the lateral face of the tibia at its upper extremity below the tubercle. It had been growing for seven years, but had not given severe pain until recently, when the patient was injured by falling on a railroad track.

The exostosis extended in the direction of the opposite leg into the belly of the gastrocnemius and soleus, and had caused absorption of their fibres. The superficial portion of the growth lay almost be-

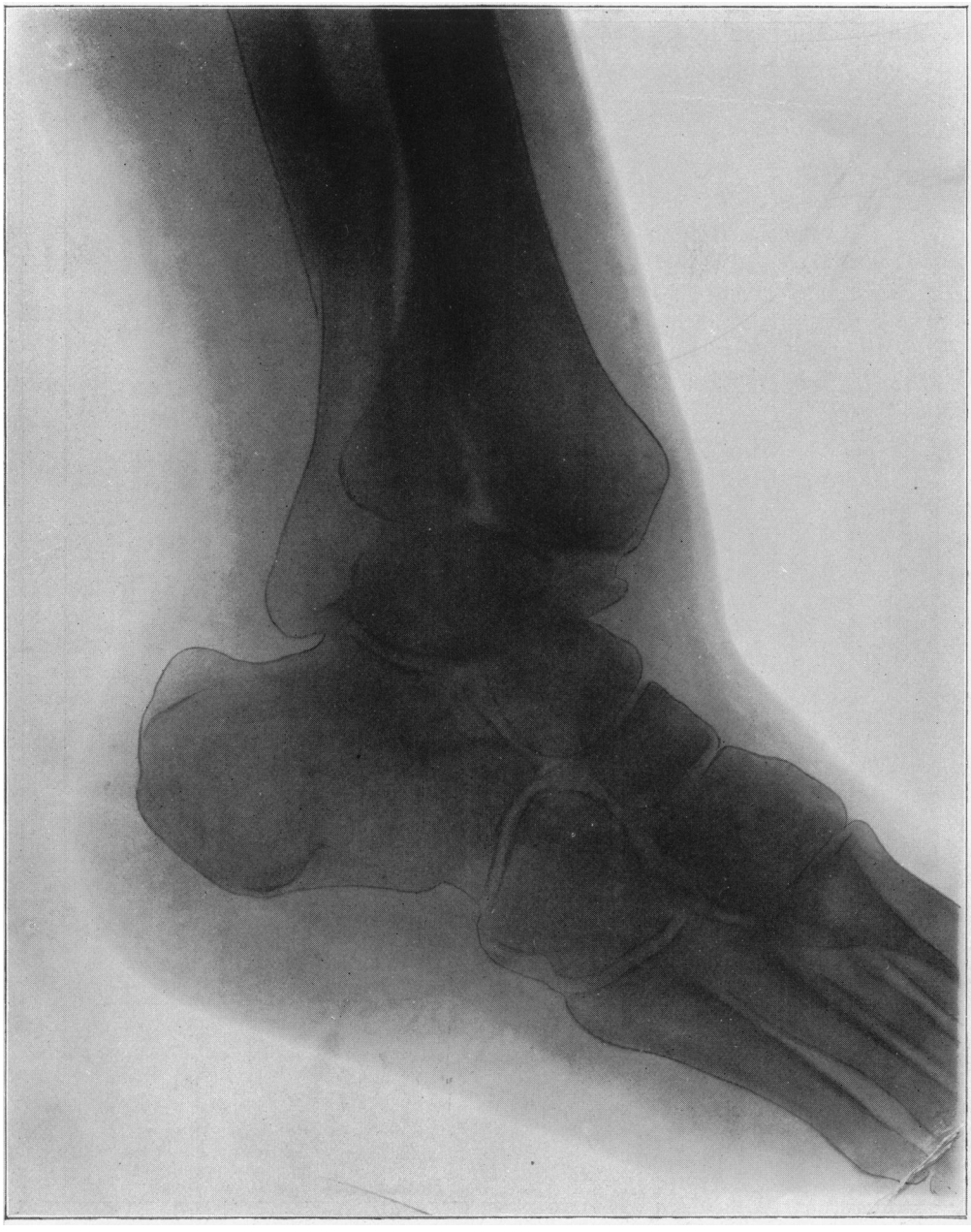

FIG. 1.—**Longitudinal fracture of tibia; also fracture of malleolus and fracture of fibula.** Skiagraph.

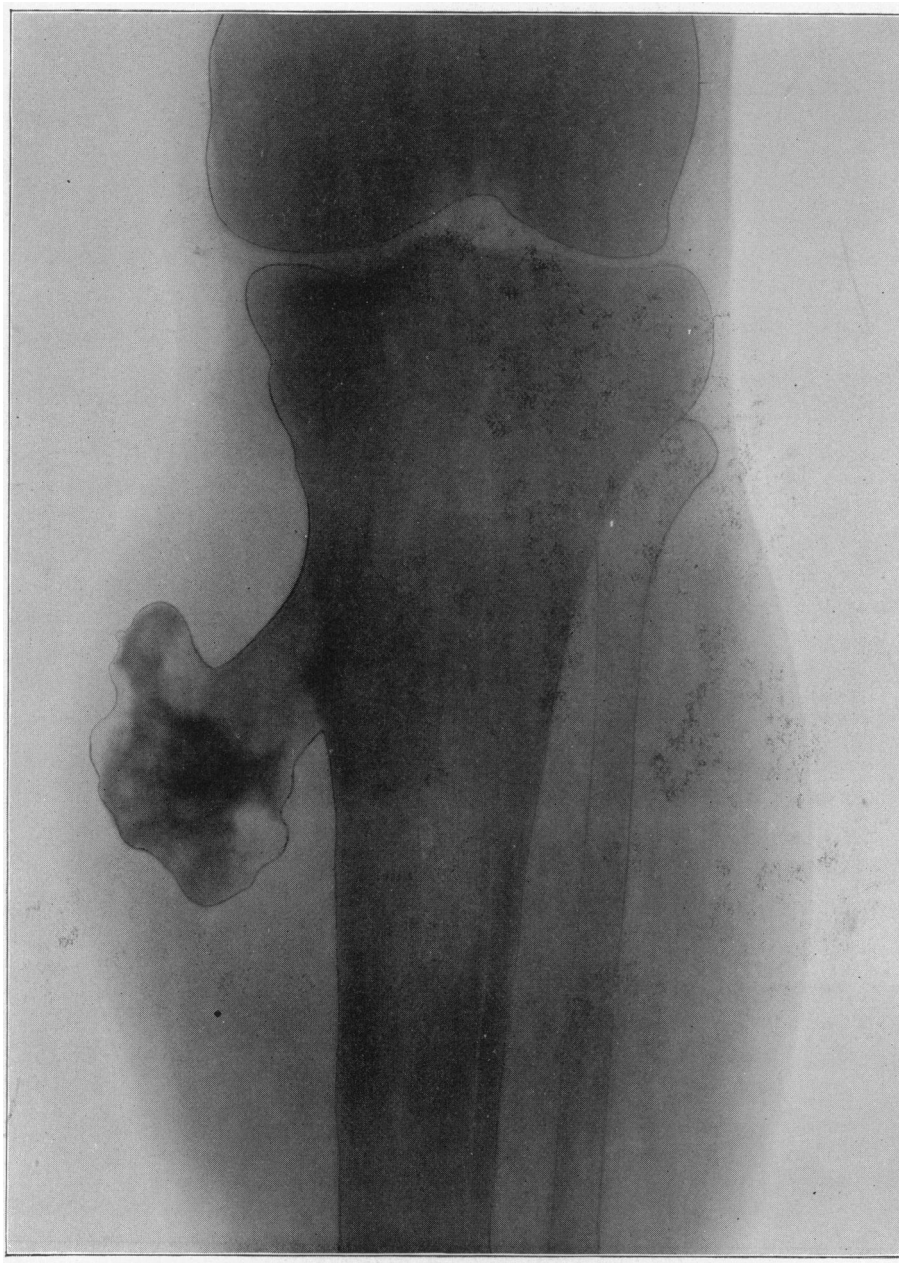

FIG. 2.—Osteoma of the tibia.

neath the skin. The pain was so severe from nerve pressure that it caused almost complete disability, and the man was compelled to walk upon crutches. The patient was not cognizant of any direct injury at the period of development, but he had been subjected to several concussions and had broken the astragalus upon the same side.

A skiagraph showed that the growth originated from the lateral face of the tibia nearly at its upper end; that it was in shape like a door-knob with pedicle and projecting double nodule. It had been removed by chisel.

URANOPLASTY.

DR. J. EWING MEARS showed a case operated on for cleft of the hard and soft palate to illustrate the method now employed by him in this operation. The patient, a little girl, was six years of age when the first operation was done, in October, 1895. The cleft of the hard palate extended through the horizontal plate of the palate bone and slightly into the palatine process of the superior maxillary. Instead of attempting at one operation to close both clefts, he closed simply the cleft in the soft and allowed the interval of a year to elapse before closing the hard. In children he allows a year because the bones are growing, and he finds the opening in the cleft contracts to a very material extent, just as is seen in cases of hare-lip, where a cleft in the alveolar process coexists. For closing the cleft in hard palates he employs Ferguson's method, making section of the bone with a chisel or with the saw and then drawing the two segments over into the median line, the sutures being fastened with shot and leaving a gap on each side. Before this is done the edges of the opening are freshened and the sutures are introduced. The openings thus formed are packed with 5-per-cent. iodoform gauze, and as this packing is changed it is gradually reduced in quantity until closure is effected, which occurs in about ten days or two weeks. The closure of these openings usually takes longer in adults than in children. He had never had such an accident occur as to have the opening remain after making a section through the bone. In adults he does operation in the same manner, closing the cleft in the soft palate first and following with the second operation after about four weeks, endeavoring at the first operation to get the segments into line if any irregularity exists. Where there is an attachment of the vomer to the palatine process he chisels it loose in order to free the edges, so that when the next operation is done there can be no difficulty in bringing the segments into the median line. In this operation the effort is made to

accomplish the improvement of deglutition, so that food will pass naturally into the pharynx, and to improve articulation. The results vary considerably in each case as they depend a good deal upon the structure and conformation of the parts. He has had some cases in which articulation was almost, if not quite, perfect, but in the majority of them there is more or less difficulty in articulation, although in children, by education and care, this may be considerably improved. One of the good results accomplished is the moral effect upon the child. Many children who suffer from cleft palate are timid and suffer considerably from being teased by their playmates, and the relief afforded by the operation removes this condition.

As to the etiology of cleft palate, Dr. Mears said that while possibly maternal impressions may have something to do with the occurrence of the deformity, yet he thought it might be accepted that it is caused by defective nutrition during intrauterine existence. He had gotten the family histories as thoroughly as possible in his cases, and had generally found that the mothers, when pregnant, were not in a state of health which would give the fœtus the nourishment which it should have. He referred to experiments which had been made in Dublin in the Zoological Garden under the care of Professor Cunningham. Before the experiments were undertaken, lion whelps born in the garden would invariably have cleft palate, and as a result they could not take nourishment and died. The subject was taken up, and it was found that by taking care of the nourishment of the mother during the time she was carrying the young, giving her crushed bones and food containing phosphates and other elements of bone, it was possible to overcome this, and the whelps after that were all normal. The director of the Zoological Garden of Philadelphia had told him the same thing. He also had informed him that it was a matter of observation that among the lions of travelling circuses this condition did not occur, and he attributed it to the fact that the animals had more air and were fed on food containing more of the elements of bone.

DR. G. G. DAVIS said that, as regards operating in two stages, he thought that in a considerable number of cases one was sufficient. If the operation is not entirely successful, the opening left is usually so small that applications of silver nitrate will close it, wherefore he would not ordinarily consider it necessary to divide the operation into two parts, although it may be desirable in dealing with large clefts. He did not think obturators were ever necessary, nor that

there were many clefts so wide that they could not be closed by operative measures. No one can universally achieve success at the first trial, sometimes the best of operators fail. These failures are fewer as one's experience increases, and many clefts, even though extending from the teeth back through the soft palate, can be closed in a single operation.

DR. DE F. WILLARD said that in his experience small openings that remain after unsuccessful operations upon the hard palate will often close subsequently, especially if they are stimulated with iodine, etc. If good union is secured in the soft palate a second operation will, in ordinary cases, accomplish much towards narrowing or closing the opening in the roof.

DR. MEARS rejoined, saying that he had come to this method of operating after twenty years of trial and many experiences. At first he had ambition to do as has been suggested, but his results were not satisfactory. With regard to doing the operation at one sitting, if the cleft extends through the entire hard palate, a section through the hard palate interferes very seriously with the blood-supply, as the arteries which run along the base of the alveolar process send branches across the hard palate, and in making this section they are divided. In some instances the nutrition was so much interfered with that necrosis followed. For this reason, and for the reason that the operation is sometimes very tedious and quite a strain on some patients, he had found it desirable to do the operation in two stages.

As to the anæsthetic, he used chloroform and ether,—one-third of the former to two-thirds of the latter,—finding this mixture to give prompter anæsthetic effects and less secretion from the mucous membranes. He had never had any unpleasant results following the use of this mixture.

As to cutting or stretching the pillars of the fauces, he did that when he found that they were tense and that they drew the palate down. He sometimes cut the muscles, but did not do so until the palate became stretched by use. Success in articulation depends largely upon the conformation of the pharynx, which differs in each individual. In some cases there is a large pharynx, while in others there is a very narrow, constricted one, and in these the soft palate can come in contact with the posterior wall. This is the normal condition, the soft palate coming into contact with the posterior wall of the pharynx.