Examination.—The head appeared to be of normal dimensions; the occiput presented in L. O. I. A. position, and was unengaged at the brim. The surroundings were very unhygienic and no measurements were taken, though the antero-posterior diameter seemed shortened.

Delivery.—Simpson long forceps were applied and delivery was effected in an hour without undue force in the extraction. A feeling of crepitation was experienced while the head was descending, but it made no special impression at the time. The fetus was normal in appearance but was stillborn; its weight was eight pounds. There was a small perineal tear which was repaired. After a thorough examination there was discovered a separation at the symphysis about 1.5 cm. wide. The urethra was torn and displaced to the right with consequent partial incontinence of urine. There was a fracture of the right ascending ramus of the ischium about 3 cm. below the symphysis. The measurement between the anterior-superior spines of the ilium was 25 cm. in the relaxed condition.

Subsequent History.—The hips were bandaged. The patient had a septic temperature for a month and finally an abscess developed between the layers of the abdominal muscles on the left side, just above Poupart's ligament. It was opened and drained, but a sinus persisted. The fractured bone united promptly, but about the end of the second month septic pneumonia developed and the woman died Dec. 29, 1908, three months after delivery.

The pubic separation remained, notwithstanding the efforts at bandaging. The fracture was evidently produced by the passage of the head through the outlet, showing that even after a symphyseotomy the possibility of a fracture should be borne in mind in cases of contracted pelvis.

A DEVICE FOR MEASURING FLEXION DEFORMITY IN HIP-JOINT DISEASE

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As the increase or decrease of deformity in this disease is a most helpful guide to the efficiency of treatment, an accurate and easy method of measurement is demanded. It is probably true that months of treatment might often be avoided by the early recognition of an increasing deformity. Failure to appreciate the value of studying the slight variations in the signs of

a joint disease has been responsible, probably, for the retention of such gross mechanical treatment as the gypsum cast, with an unwarranted faith that air and eggs will accomplish the rest.

We already have a sufficiently accurate method in the one worked out by Kingsley,¹ but as it necessitates the use of a reference table it is difficult of application.

The device herewith presented transfers this table from the printed page to one side of a tape measure. Instead of reading one side of a triangle in inches and then referring to the table for the degrees of the angle opposite, the degrees of the angle can be read directly from the tape.

Kingsley's table consists of the computations of the angles subtended by a series of perpendiculars in right-

angled triangles, the hypotenuse of which is constant. With the patient on the examining table, the leg on the diseased side is held in its position of greatest extension, as indicated by the lumbar spine. A hypotenuse of twenty-four inches is measured from the table, opposite the joint, in the line of the limb, and from its end a perpendicular is dropped to the table and measured. By referring to Kingsley's tabulation the angle at the hip may be found.

Attaching a plumb-bob to a tape line, I measured inches from the tip of the bob and marked each with the angle which such a perpendicular would subtend in a right-angled triangle with a hypotenuse of twenty-four inches. In using this tape some one holds the leg in the deformed position. Twenty-four inches are measured along the leg and the plumb-tape dropped to the table. The angle of flexion is read directly from the tape.

THE USE OF ATROPIN SULPHATE IN ANESTHETIZING BIRDS FOR SURGICAL EXPERIMENTS*

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In 1907 an investigation was begun in this laboratory on the physiology of reproduction in the domestic fowl. It was the plan of this investigation to use in the main experimental surgical methods in the analysis of the problems involved. Such experiments were begun in the fall of 1907. Much of the detailed technic involved in these experiments had to be worked out *ad hoc*, both with reference to the character of the problems studied and to the nature of the material itself.

At the beginning of our operative work on birds a great deal of difficulty was experienced in the matter of anesthesia. Such a difficulty had not been foreseen and for a time greatly hindered the progress of the work. It is difficult for one who has been accustomed to the behavior of mammals under anesthesia to realize how differently birds behave under similar treatment. At the outstart of the work chloroform was used as an anesthetic. After a number of birds had been killed on the table by the action of the chloroform it seemed clear that some change in the technic must be made. Resort was next had to ether. Better results were obtained, but still a great deal of difficulty was experienced.

The difficulty which we have found to be inherent in anesthetizing the domestic fowl may be stated briefly in this way: If any anesthetic is pushed to the point at which the bird is in satisfactory condition for operative procedure, in about nine cases out of ten the bird will die on the table from the effects of the anesthesia before the operation, if extensive, can be completed. If, on the other hand, the anesthetic is given less freely the bird does not lose its reflex excitability. Every time a cut is made or a nerve is pinched with the forceps the bird will struggle. Our experience in anesthetizing birds, which has now covered a large number of individuals, leads us to believe that the only middle ground between these two extremes is afforded by those cases (unfortunately too few) in which the individual idio-

1. Boston Med. and Surg. Jour., July 5, 1888.

* From the Biological Laboratory of the Maine Agricultural Experiment Station.