

As the knee-joint seemed to be intact and its movements perfect, it was decided to try to utilize it by applying an artificial limb without a joint at the knee, which would be attached to and move with the epiphysis. This, however, it was found could not succeed, as the epiphysis was too short to be of any use, and also because, during the operation I found that the head of the fibula entered into the joint, articulating with the epiphysis of the tibia, and forming the outer wall of the joint.

In removing the leg I made a long anterior skin flap, such as is usual in Teale's operation, and a rectangular flap behind. The head of the fibula was dissected out, as it came in the line between the anterior and posterior flaps. It was then discovered that it entered into the joint, which was opened by its removal, necessitating the use of a drainage tube, which, however, was only kept in twenty-four hours. The arteries were tied, the wound dressed antiseptically, the knee joint being flexed and fixed in that position by broad strips of plaster. Union took place through the greater part by first intention, the spot over the opening into the joint closing on the fourth day. There was no rise of temperature throughout, and recovery was very rapid. My thanks are due to Drs. Cameron, Primrose and Harrington for their kind assistance during the operation.

The following dissection of the leg and foot was made by Dr. A. Primrose shortly after amputation :

*External Examination.*—The fibula is apparently entire, and is the only bone which can be found in the leg. The external malleolus projects prominently as a pointed process.

The foot comes in contact with the ground on the following points, the limb being held vertical : 1. The projecting external malleolus ; 2. the external surface of the os calcis, which lies horizontally ; 3. the outer margin of the foot ; 4. the dorsal surface of the outer portion of the foot as far inwards as a line drawn so as to split the third digit longitudinally.

The resting surface extends posteriorly as far as the external malleolus, around which the skin is stretched at a right angle where it becomes continuous with the integument on the back of the calf. The resting part of the foot is limited anteriorly, extending as far forward as a point one and a quarter inches from the base of the first

phalanx of the fifth digit ; beyond this the outer margin of the foot turns somewhat abruptly upwards, the proximal phalanx forming an angle of about 130 degrees with the fifth metatarsal bone. The entire plantar aspect of the foot looks upwards and inwards. The great toe is turned so completely over that a vertical longitudinal plane passing through its centre passes backwards to the outer side of the fibula ; the plane of the little toe prolonged backwards in a similar manner lies to the inner side of the fibula.

The foot is further twisted at an angle of acute adduction, mainly at the tarso-metatarsal joints, so that the anterior and inner margin of the foot lies quite close to (three-quarter inch from) the anterior surface of the leg.

The heel is so twisted inwards and upwards upon the leg that a sulcus is left of considerable depth between them.

The bony points which could be felt and recognized were as follows : 1. The base of the fifth metatarsal bone ; 2. the tuberosity of the os calcis ; 3. the internal cuneiform at the apex of the angle formed between it on the first metatarsal ; 4. a continuous ridge of bone which could be traced from the internal cuneiform to the external malleolus ; 5. the external malleolus.

*Movements.*—1. The inner margin of the foot could be brought in contact with the anterior surface of the leg (adduction), the movement being apparently at the tarso-metatarsal joint ; 2. base of the great toe could be separated (adducted) two and a half inches from the anterior surface of the leg ; 3. the foot could be twisted inwards so that the ball of the great toe could be brought to a vertical longitudinal plane passing backwards to the inner side of the leg ; 4. the foot could be twisted outwards—increasing the deformity considerably—so that a vertical longitudinal plane passing through the great toe, when prolonged backwards, passed to the outer side of the leg surface ; 5. there was little or no appreciable movement of the os calcis at the proximal joint.

*Dissection.*—A bursa existed over the external malleolus musculo cutaneous nerve ; lay on the anterior face of the fibula, passed downwards and inwards in front of the external malleolus, and divided at the level of the malleolus into an inner and outer division. The inner passed to the inner