which constitutes a marked obstruction to the rectification of the varus. Sometimes a separate synovial membrane lines the false joint thus formed beween the tibia and the scaphoid.

The facet for articulation of the scaphoid is rather underneath and internal than at the anterior part of the head of the astragalus. The cuneiform bones follow the direction which has been assumed by the scaphoid, and are distorted in shape according to the amount of pressure they have withstood. The entire inner border of the foot when measured from the inner malleolus to the anterior extremity is sometimes not more than half the distance from the external malleolus to the extremity of the little toe. The cuboid bone is displaced inward and the anterior extremity of the oscalcis constitutes a part of the walking surface which may be readily outlined by palpation.

The oscalcis is drawn from a horizontal position to one approaching a vertical and is rotated on its long axis. This rotation is favored by the tendo Achillis being inserted more toward the inner aspect of the bone than in a normal foot. The external border of the oscalcis is sometimes elongated to the extent of one-sixth its own length and curved on its outer aspect thus accounting partially for the incurration of the distal portion of the foot.

The cuboid bone maintains its association with the oscalcis but is generally dislocated downward as well as inward and follows the trend of the anterior part of the foot. The cuboid generally deviates little in shape from the normal but there is sometimes a slight increase in the length of its external surface.

The scaphoid is generally much changed. Posteriorly it may present two facets, the inner articulating with the internal malleolus and the outer with the inner aspect of the head of the astragalus. The internal surface is often not more than one-third the thickness of the external. The greater part of the scaphoid lies internal to the astragalus instead of in front of it.

The deviation from the normal shape of the astragalus is very marked. It is tilted forward on its transverse axis, so that only the hinder part of its upper articular surface is in contact with the tibia; and the part which corresponds usually to the anterior portion of its upper articular surface projects beneath the skin of the dorsum of the foot. The body of the bone is deeper in front than behind; the posterior facet for articulation with the oscalcis is increased in

FIG. 3.—Corrected by tenotomy and *brisement forcé*.

extent to nearly twice the normal size. The external border of the neck is much elongated and convex from before backward, the neck being directed obliquely inward beyond the normal degree and its inner border is very short.

In the more severe varieties the normal depression on the dorsum of the foot just in front of the fibulæ will be occupied by an irregular mass of bone which is the astragalus placed so far forward that the bones of the leg behind are not resting on this bone but upon the oscalcis—this resulting from long continued contraction of the tendo Achillis. In such cases the astragalus is so altered in shape as to be unrecognizable.

Both the ligaments and tendons are shortened on the inner border and plantar aspect and relatively lengthened on the outer border and dorsal aspect. The normal longitudinal arch of the foot is shortened and twisted and its anterior pillars moved inward. The inferior calcaneo-scaphoid and the plantar calcaneo-cuboid ligaments and the various slips of the tendon of the tibialis posticus are all shortened. The plantar fascia also, which serves as a tiebeam between the extremities of the pillars of the arch and even the