

# **Symmetrical talipes dorsalis in an acephalous foetus / by Joseph Griffiths.**

## **Contributors**

Griffiths, Joseph, 1863-1945.  
Royal College of Surgeons of England

## **Publication/Creation**

[London] : [publisher not identified], 1893.

## **Persistent URL**

<https://wellcomecollection.org/works/h4397r2q>

## **Provider**

Royal College of Surgeons

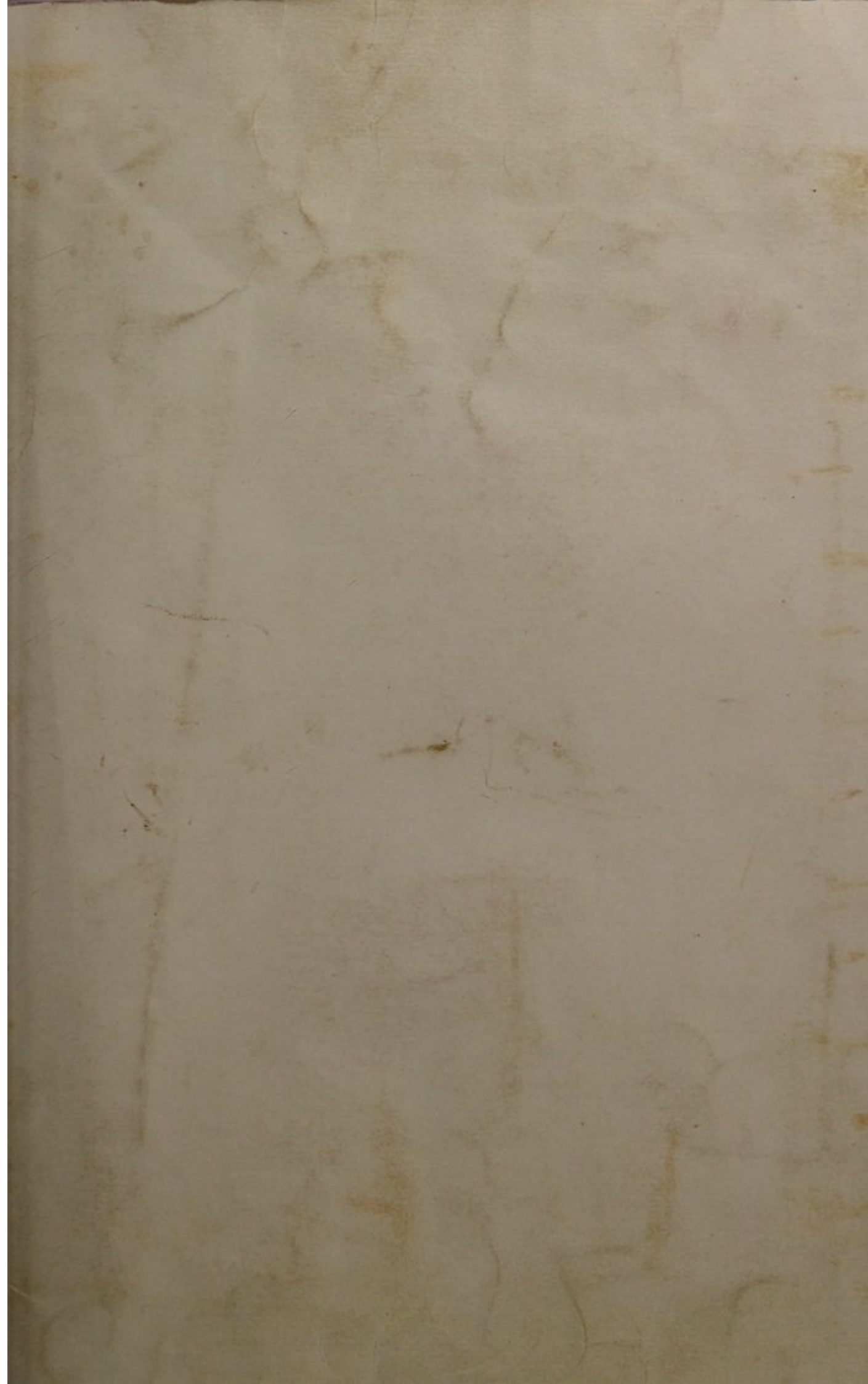
## **License and attribution**

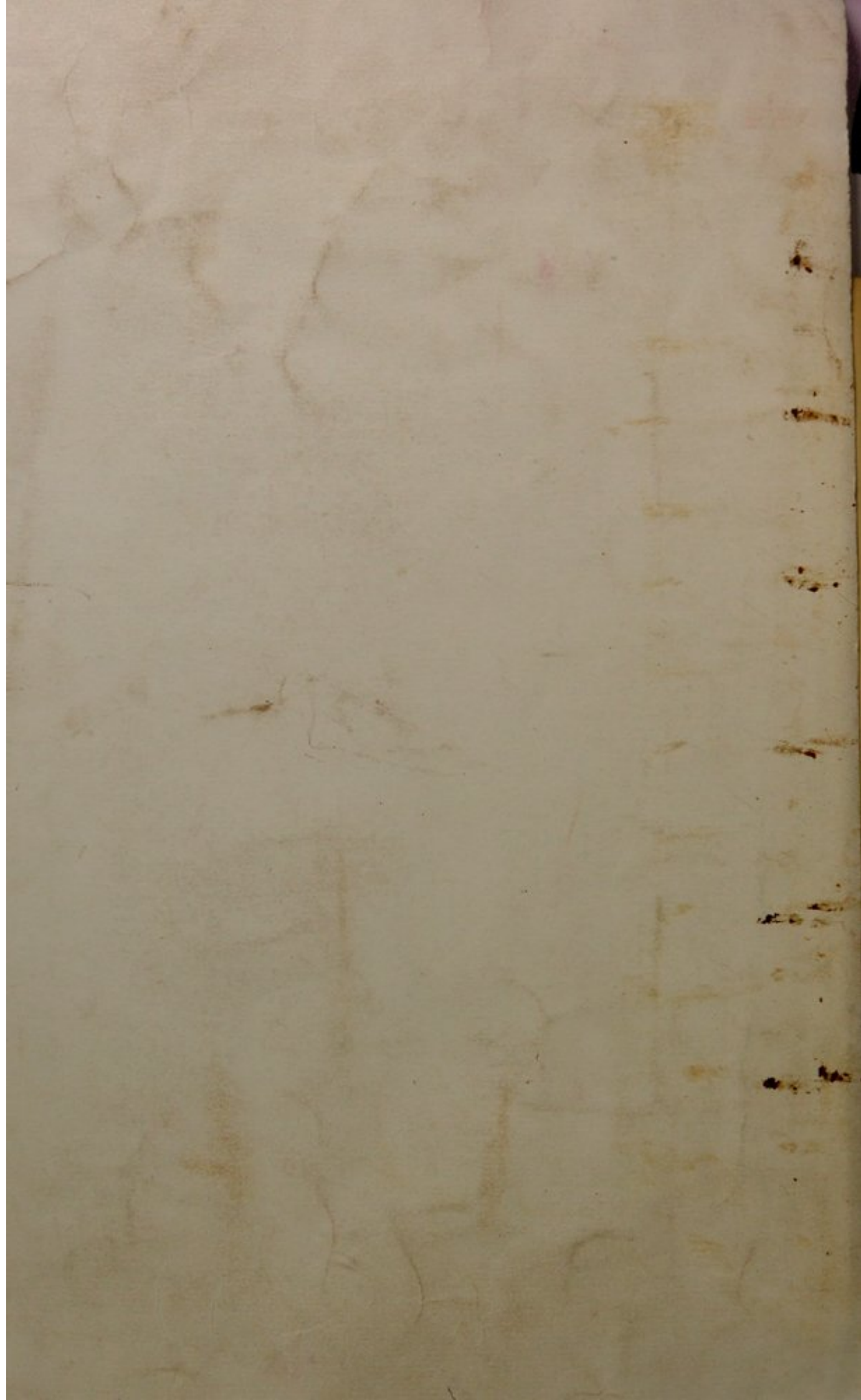
This material has been provided by This material has been provided by The Royal College of Surgeons of England. The original may be consulted at The Royal College of Surgeons of England. where the originals may be consulted. This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection  
183 Euston Road  
London NW1 2BE UK  
T +44 (0)20 7611 8722  
E [library@wellcomecollection.org](mailto:library@wellcomecollection.org)  
<https://wellcomecollection.org>









17.

## SYMMETRICAL TALIPES DORSALIS IN AN ACEPHALOUS FÆTUS.

BY JOSEPH GRIFFITHS, M.A.CANTAB., M.D.EDIN.,  
F.R.C.S.ENG.,

Assistant to the Professor of Surgery in the University of Cambridge.

DURING the past summer Dr. Grove, of St. Ives, kindly sent me an acephalous fœtus, in which there was also a condition of spina bifida extending from the skull to the mid-lumbar region of the column. The spine was strongly bent forwards in the dorsal region, as is not infrequently the case in spina bifida. The spinal cord could not be discerned in any part of its length, but the spinal nerves could be displayed by careful dissection. The fœtus was in other respects normal and well formed, but the feet were symmetrically deformed in an unusual manner, as may be gathered from the accompanying sketches taken at the time. (See Fig. 1.)

This deformity at first sight resembled that known as talipes calcaneus, but an inspection of the sketches will show that the heel is not drawn down, but slightly drawn up, and the whole bone (os calcis), with that part of the foot, is horizontal, this position being due to extension of the astragalus on the tibia; and the foot is sharply bent upwards upon itself at the mid-tarsal joint, so that the dorsum is applied to the anterior surface of the leg. The toes are flexed. In other words, there is extension at the ankle with hyperextension, which is preternatural, at the mid-tarsal joint.

In talipes calcaneus, on the other hand, there is extreme flexion at the ankle-joint, so that the tip or hinder part of the heel only would come to the ground, the foot remaining natural, or it may be hyperflexed, at the mid-tarsal joint.

The feet were frozen, and mesial sections were made in order that the relative positions of the bones might be seen and sketched. These sections are illustrated in Figs. 2 and 3, and, in order that they may be compared with a similar section of a normal foot at the time of birth, I have added Fig. 4.

In the deformed feet the plantar arch is convex downwards, the head of the astragalus forming its summit. The os calcis lies in an almost horizontal position instead of rising upwards and forwards from the heel as it does in the normal foot. It is well formed and normally ossified, as are all the other bones. The astragalus lies with its long axis almost vertical, whereas normally it lies almost horizontal; the hinder part of the superior articular surface only is in contact with the tibia, and the head articulates in the main with an unusually



long calcaneo-scaphoid ligament. This bone (astragalus) is natural in its shape and size, and there is no change in its neck that would account for this deformity; but the calcaneo-scaphoid ligament is much elongated, and also the long and short plantar ligaments, though not to the same extent. It appears, therefore, that the deformity in this instance is not due to any malformations of the bones, but rather to want of due balance between opposed sets of muscles, the ligaments adapting themselves to the altered position. The scaphoid, which bears its normal relation to the cuneiform bones, rests upon the dorsum of the neck of the astragalus, the lower part only of its hinder articular surface being in contact with

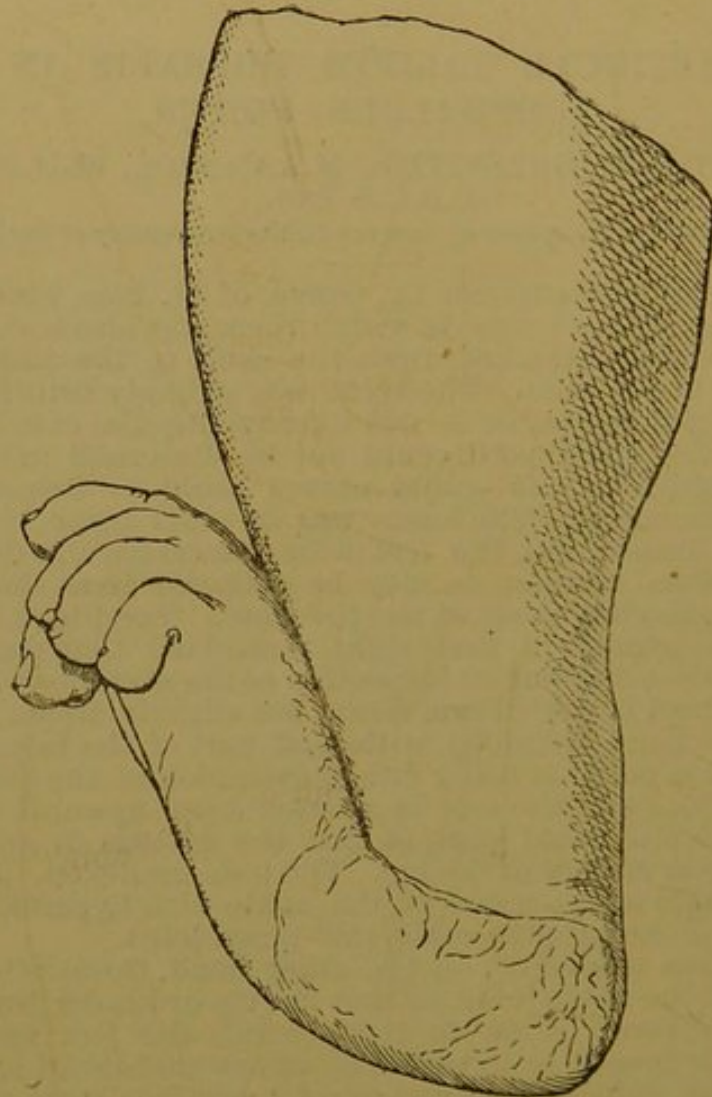


Fig. 1.—Talipes dorsalis, left foot.

the head of the astragalus. The cuboid is also displaced slightly upwards. The remaining bones of the foot bear the natural relation to one another.

The differences between the normal relation of the bones of the foot to one another and to the tibia and those obtained in this deformity are well illustrated in the sketches—Figs. 2, 3, and 4 that are appended. The muscles of the leg and foot appeared natural.

This condition may, perhaps, have been produced in the following manner: During the later months of intrauterine life the most common position of the foot is one of extreme flexion at the ankle-joint, the dorsum of the foot being applied to the anterior surface of the leg. If this natural

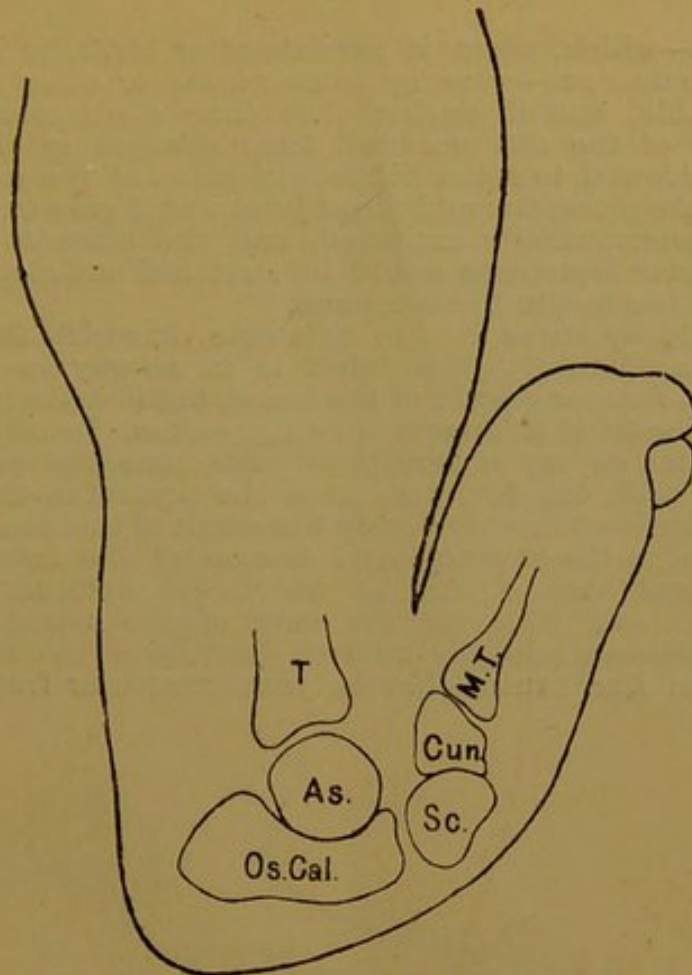


Fig. 2.—Section of left foot in talipes dorsalis.

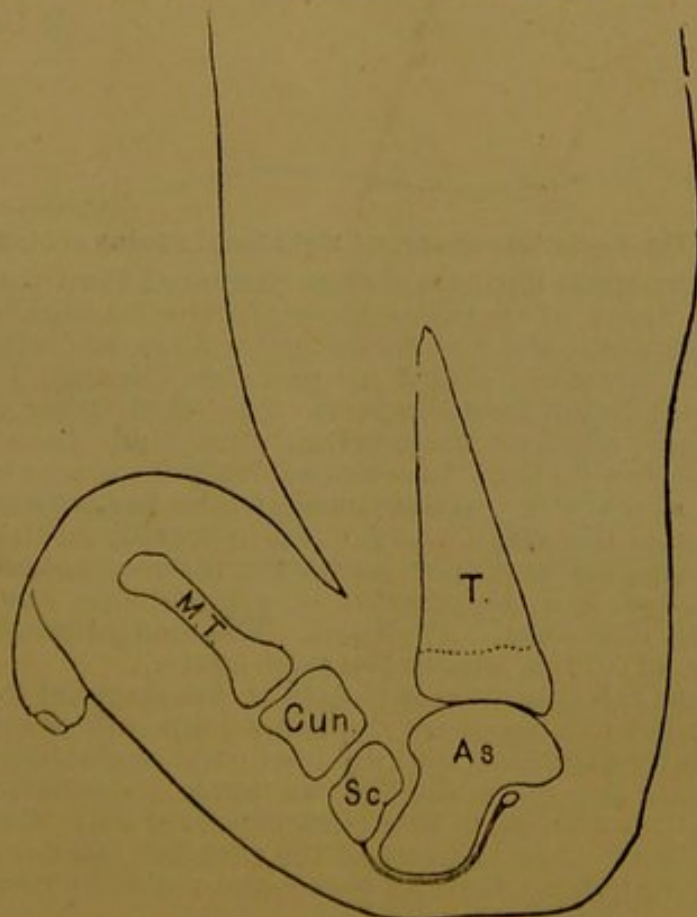


Fig. 3.—Section of right foot in talipes dorsalis.



position—which, when it persists after birth, is known as talipes calcaneus—were by some means or other fixed and unalterable, and if during that time contracture of the muscles of the calf occurred from changes in the spinal cord incidental to spina bifida, extension of the ankle-joint would take place, the mid-tarsal joint would give way and become preternaturally extended, and the calcaneo-scapoid and plantar ligaments would be stretched and elongated, as in these two feet in the specimen.

I would lay stress that in this case, in which there is so marked a deformity, the defect is in no way due to abnormality in form or growth of the bones, but is entirely dependent upon want of balance of muscular action. In talipes varus, also, as far as my observations have gone, the same thing may be said, any deviation from the normal in the neck of the astragalus being obviously the result of traction upon the bone due to the preternatural flexion of the astragalo-scapoid (mid-tarsal) joint in which the deformity chiefly consists; and it is not the neck of the astragalus only which becomes slightly altered, but the os calcis likewise, from the like cause—that is, from muscular traction—be-

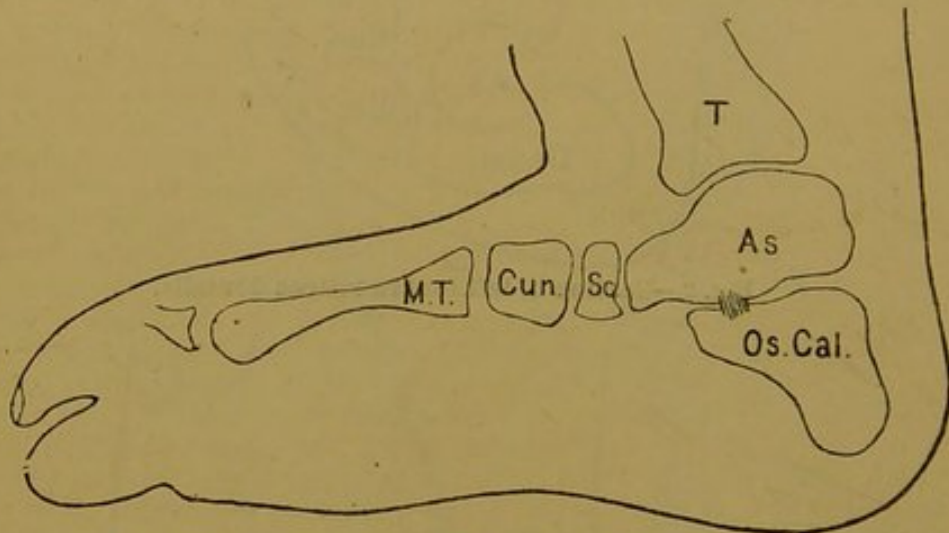


Fig. 4.—Section of normal right foot in foetus at birth.

comes somewhat flatter and more incurved than natural. In one specimen of extreme varus in the Cambridge Pathological Museum, the metatarsal bones have undergone slight abnormal flexures; and it is probable—though I have not been able distinctly to observe this—that other bones undergo slight changes in form from abnormal stress in these cases. Bones do thus become modified in shape under abnormal pressure or traction, as shown by the ordinary lateral curvature of the spine, and no less markedly in that hardest of all bones, the lower jaw, under the influence of contraction of cicatrices and the pressure of a prolapsing macroglossia (see Spec. 1228 Camb. P. Mus.). The elongation of the ligaments is, of course, due to the same cause.

Further, the specimen is clearly an exaggerated form of the ordinary flat foot in which the same joint (mid-tarsal) is preternaturally extended, and the heel bone rendered horizontal. That is, in the main, due, as we know, to superincumbent weight. It is also, as in this case, attended with want of muscular balance, the extensors of the toes and the flexors of the ankle being preternaturally tense, and resisting return to the normal position.

