talus, about the seventh month; cuboid, at the ninth month; third cuneiform, during the first year; first cuneiform, in the third year; second cuneiform and navicular, in the fourth year. The epiphysis for the posterior extremity of the calcaneus appears at the tenth year, and unites with the rest of the bone soon after puberty. The posterior process of the talus is sometimes ossified from a separate center, and may remain distinct from the main mass of the bone, when it is named the *os trigonum*.

The **metatarsal bones** are each ossified from *two* centers: one for the body, and one for the head, of the second, third, fourth, and fifth metatarsals; one for the body, and one for the base, of the first metatarsal.[1] Ossification commences in the center of the body about the ninth week, and extends toward either extremity. The center for the base of the first metatarsal appears about the third year; the centers for the heads of the other bones between the fifth and eighth years; they join the bodies between the eighteenth and twentieth years.

The **phalanges** are each ossified from *two* centers: one for the body, and one for the base. The center for the body appears about the tenth week, that for the base between the fourth and tenth years; it joins the body about the eighteenth year.

Comparison of the Bones of the Hand and Foot.

The hand and foot are constructed on somewhat similar principles, each consisting of a proximal part, the carpus or the tarsus, a middle portion, the metacarpus, or the metatarsus, and a terminal portion, the phalanges. The proximal part consists of a series of more or less cubical bones which allow a slight amount of gliding on one another and are chiefly concerned in distributing forces transmitted to or from the bones of the arm or leg. The middle part is made up of slightly movable long bones which assist the carpus or tarsus in distributing forces and also give greater breadth for the reception of such forces. The separation of the individual bones from one another allows of the attachments of the Interossei and protects the dorsi-palmar and dorsi-plantar vascular anastomoses. The terminal portion is the most movable, and its separate elements enjoy a varied range of movements, the chief of which are flexion and extension.

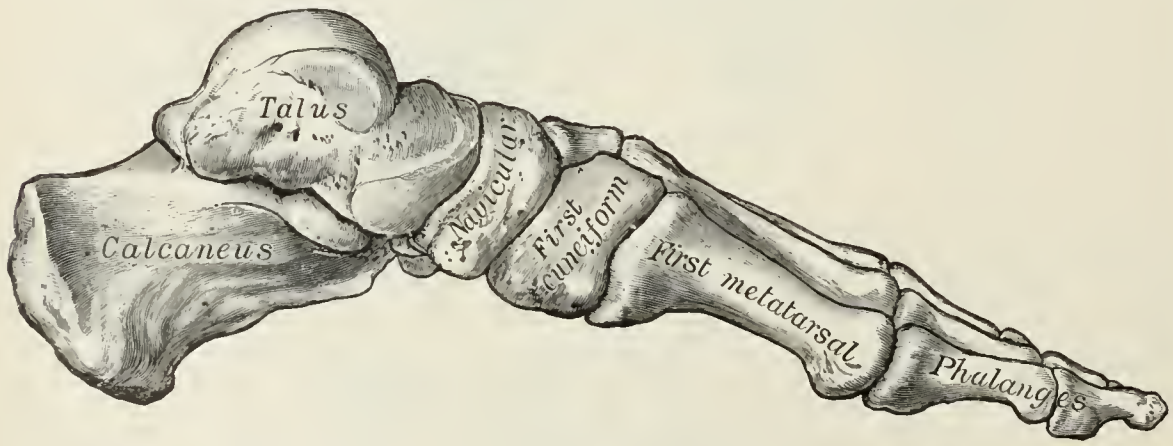

Fig. 290.—Skeleton of foot. Medial aspect.

The function of the hand and foot are, however, very different, and the general similarity between them is greatly modified to meet these requirements. Thus the foot forms a firm basis of support for the body in the erect posture, and is therefore more solidly built up and its component parts are less movable on each other than those of the hand. In the case of the phalanges the difference is readily noticeable; those of the foot are smaller and their movements are more limited than those of the hand. Very much more marked is the difference between the metacarpal bone of the thumb and the metatarsal bone of the great toe. The metacarpal bone of the thumb is constructed to permit of great mobility, is directed at an acute angle from that of the index finger, and is capable of a considerable range

[1] As was noted in the first metacarpal (see footnote, page 231), so in the first metatarsal, there is often a second epiphysis for its head.