the first year, the former preceding the latter; in the triangular, during the third year; in the lunate and greater multangular, during the fifth year, the former preceding the latter; in the navicular, during the sixth year; in the lesser multangular, during the eighth year; and in the pisiform, about the twelfth year

Occasionally an additional bone, the *os centrale*, is found on the back of the carpus, lying between the navicular, lesser multangular, and capitate. During the second month of fetal life it is represented by a small cartilaginous nodule, which usually fuses with the cartilaginous navicular. Sometimes the styloid process of the third metacarpal is detached and forms an additional ossicle.

The **metacarpal bones** are each ossified from *two* centers: one for the body and one for the distal extremity of each of the second, third, fourth, and fifth bones; one for the body and one for the base of the first metacarpal bone.[1] The first metacarpal bone is therefore ossified in the same manner as the phalanges, and this has led some anatomists to regard the thumb as being made up of three phalanges, and not of a metacarpal bone and two phalanges. Ossification commences in the middle of the body about the eighth or ninth week of fetal life, the centers for the second and third metacarpals being the first, and that for the first metacarpal, the last, to appear; about the third year the distal extremities of the metacarpals of the fingers, and the base of the metacarpal of the thumb, begin to ossify; they unite with the bodies about the twentieth year.

The **phalanges** are each ossified from *two* centers: one for the body, and one for the proximal extremity. Ossification begins in the body, about the eighth week of fetal life. Ossification of the proximal extremity commences in the bones of the first row between the third and fourth years, and a year later in those of the second and third rows. The two centers become united in each row between the eighteenth and twentieth years.

In the ungual phalanges the centers for the bodies appear at the distal extremities of the phalanges, instead of at the middle of the bodies, as in the other phalanges. Moreover, of all the bones of the hand, the ungual phalanges are the first to ossify.

THE BONES OF THE LOWER EXTREMITY (OSSA EXTREMITATIS INFERIORIS).

The Hip Bone (Os Coxæ; Innominate Bone).

The **hip bone** is a large, flattened, irregularly shaped bone, constricted in the center and expanded above and below. It meets its fellow on the opposite side in the middle line in front, and together they form the sides and anterior wall of the pelvic cavity. It consists of three parts, the **ilium**, **ischium**, and **pubis**, which are distinct from each other in the young subject, but are fused in the adult; the union of the three parts takes place in and around a large cup-shaped articular cavity, the **acetabulum**, which is situated near the middle of the outer surface of the bone. The **ilium**, so-called because it supports the flank, is the superior broad and expanded portion which extends upward from the acetabulum. The **ischium** is the lowest and strongest portion of the bone; it proceeds downward from the acetabulum, expands into a large tuberosity, and then, curving forward, forms, with the pubis, a large aperture, the **obturator foramen**. The **pubis** extends medialward and downward from the acetabulum and articulates in the middle line with the bone of the opposite side: it forms the front of the pelvis and supports the external organs of generation.

The Ilium (*os ilii*).—The ilium is divisible into two parts, the **body** and the **ala**; the separation is indicated on the internal surface by a curved line, the **arcuate line**, and on the external surface by the margin of the acetabulum.

The Body (*corpus oss. ilii*).—The body enters into the formation of the acetabulum, of which it forms rather less than two-fifths. Its **external surface** is partly articular, partly non-articular; the articular segment forms part of the lunate surface of the acetabulum, the non-articular portion contributes to the acetabular fossa. The **internal surface** of the body is part of the wall of the lesser pelvis and gives origin to some fibers of the Obturator internus. Below, it is continuous with the pelvic surfaces of the ischium and pubis, only a faint line indicating the place of union.

[1] Allen Thomson demonstrated the fact that the first metacarpal bone is often developed from three centers: that is to say, there is a separate nucleus for the distal end, forming a distinct epiphysis visible at the age of seven or eight years. He also stated that there are traces of a proximal epiphysis in the second metacarpal bone, Journal of Anatomy and Physiology, 1869.