

The initial idea was to convert osteometric measurements into anthropometric measurements by adding the length of the femur and tibia together to get an estimated pubic symphysis height. However, this method did not take into account the contribution of the tarsal bones to height. Therefore, an anthropometric examination of the lower limbs of twelve cadavers was undertaken, taking measurements on ten landmarks. These were the heights of the medial and lateral malleoli, the medial and lateral condylar edges of the tibia and femur, the greater trochanter, the anterior superior iliac spine, the highest point of the iliac crest, the pubic symphysis height, the intercristale breadth, and the interspinous breadth. All measurements except the pubic symphysis height were taken bilaterally.

In order to ensure that early 20th century and modern anthropometric measurements were taken from the same landmarks and consisted of the same measurements, the set of standards used by Wagenseil was consulted.¹⁷² Anthropometric measurements were taken on standing individuals, and all measurements used in the statistical analyses (stature, arm length, height of the anterior superior iliac spine, and pubic symphysis height) are based on skeletal landmarks (**see Figures 3.1-3.3**). The reliance of the anthropometric measurements on skeletal landmarks was especially important for the conversion of Wagenseil's Turkish castrates from anthropometric measurements into osteometric measurements. A series of twelve measurements was used to convert the larger anthropometric measurements discussed above into estimations of single long bone lengths (see Chapter Six for more detail).

3.2.5 Graphical Analysis

Zooarchaeological analysis of archaeological faunal collections has previously attempted to demonstrate the presence of castrated animals by showing how their bone measurements put them slightly outside the ranges of both male and female groups.¹⁷³ To do this, when known-sex contemporary populations of animals are assessed, long bone lengths and breadths are plotted to show that castrates are different from but tend to fall between males and females in individual bone measurements.¹⁷⁴ Using these methods as examples, a number of scatterplots were produced from the human anthropometric, chimpanzee anthropometric, human osteometric, and sheep osteometric datasets to show

¹⁷² (Martin, 1928, 1914)

¹⁷³ (Bartosiewicz et al., 1993; Davis, 2000; De Cupere et al., 2000)

¹⁷⁴ (Davis, 2000)

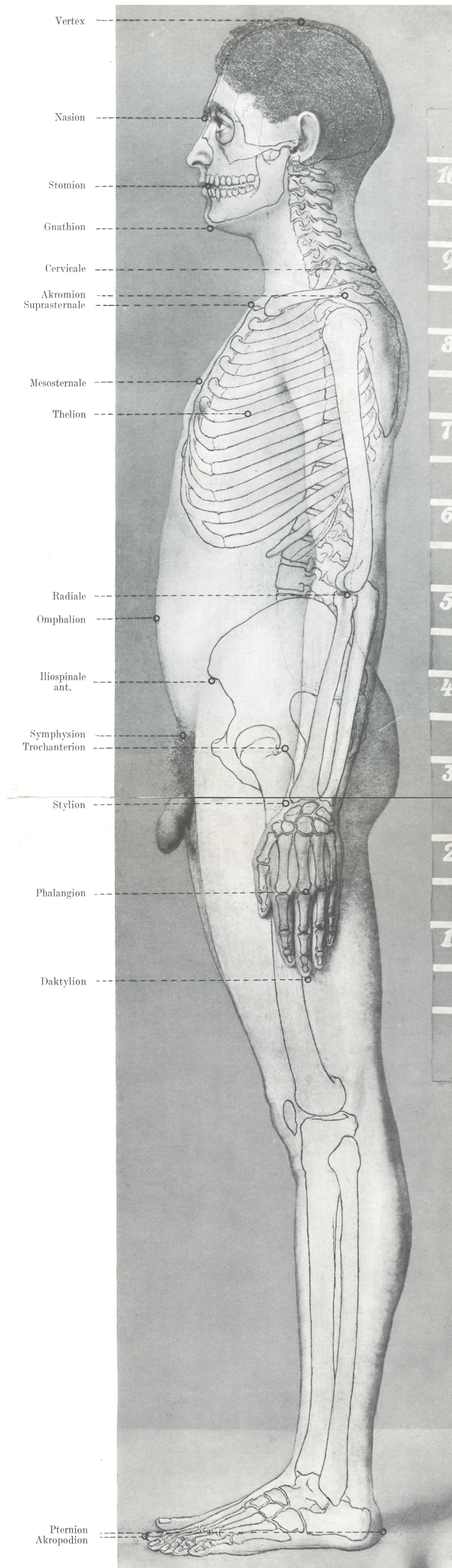


Figure 3.2: Lateral view of anthropometric measurement landmarks from Martin 1928, 1914.