

of the dorsal interossei. Fusion of the constituents of the intermediate and dorsal layers is extremely common, whilst fusion between the plantar and intermediate muscles is a very rare occurrence. Suppression of certain of the muscles may take place in two ways. It may either be complete—not a trace of the lost muscle being left—or partial, in which case the place of the missing muscular belly is taken by a ligamentous structure, having the same connections, and probably a distinct function to play in the mechanism of the foot.

II. The presence of an opponens muscle is not accounted for in the foregoing disposition of the intrinsic muscles. When present, it may be regarded as being derived from one or two sources. Most commonly it is a development from the flexor brevis, but it may proceed, as in many of the Carnivora, from the plantar layer, and thus be associated with the adductors.

III. The last point which I am anxious to prove is, that in many animals, the relation of the intrinsic muscles to the metatarsal bones, both as regards their origin and position, corresponds with transitory conditions in the foot of the human embryo.

Let us take up the first of these generalisations, and examine the facts upon which it is founded.

MARSUPIALIA.

Thylacine (Pl. VI. figs. 1, 2).

The pes of this animal closely resembles that of the Dog. The hallux is suppressed, but in connection with the remaining four digits the typical disposition of the intrinsic muscles in three layers is very manifest.

The plantar layer (p^2 , p^4 , p^5) consists of three muscles, which have as their function the adduction of the toes, towards a line drawn through the medius. They are—

1. Adductor indicis (p^2).
2. Adductor annularis (p^4).
3. Adductor minimi digiti (p^5).

The adductor indicis and the adductor minimi digiti arise in the middle line of the foot by a single pointed origin from the fibrous structures at the base of the metatarsus. Separating and then diverging from each other the former is inserted upon the fibular side of the base of the proximal phalanx of the index, whilst the latter is inserted upon the tibial side of the base of the corresponding phalanx of the minimus. In both cases the insertion is partly into the sesamoid bone, and partly into the extensor tendon on the dorsum of the digit. In some cases the adductor indicis is double (*vide* fig. 1).

The adductor annularis springs from the base of the middle metatarsal, under cover of the two preceding muscles, and swelling out into a fusiform belly, it is inserted upon the tibial side of the proximal phalanx of the annular digit in a manner similar to the other adductor muscles.