

From the above examples it is seen that very much the same functions may be performed by different feet by a great diversity of arrangements of the intrinsic pedal muscles. In the animals that we have compared, however, we must remember that we have only looked at the feet from one point of view, viz., that which bears chiefly upon the special mode of life adopted by the animal. We must not lose sight of the fact that the difference in structure in feet, which we might expect to find similar, may be due to many circumstances that we have not taken into account. The offices and duties required of the foot are very numerous and very diverse, and we cannot therefore classify them arbitrarily into burrowing, aquatic, terrestrial, and arboreal.

Dr. Young is of opinion that "the differentiation and development of the flexores breves" is for the purpose of providing for the maintenance of a "continuous and powerful flexion of the digits, without at the same time interfering with the free movements at the wrist." I am rather inclined to believe that the part which all the intrinsic muscles have to play is the production of the more rapid and precise movements of the digits, movements which could not be produced by muscles which arise in the forearm or in the leg, and which are inserted into the digits by means of long tendons. In a general sense, Dr. Young is decidedly correct in the observation which he makes, that those digits "which are endowed with the most independent powers, have invariably the most distinctly differentiated muscular arrangements; hence, even when the whole of the digits are supplied with the "typical" complement of muscles, the first and fifth are very commonly more favoured than the rest."

One cannot examine a large number of different Mammalian feet without being struck by the decided ordinal distinctions which the intrinsic muscles exhibit in their disposition. In Marsupialia, we have the tendency to the trilaminar disposition. In Monotremata there is the marked development of the adductors and the primitive condition of these as regards their insertion with reference to the middle line of the foot. In Carnivora the prominent feature is the coalescence (or shall we say the non-separation?) of the flexores breves and dorsal interossei with the frequent development of an opponens minimi digiti from the plantar layer. In the Solidungula and Ruminantia, the flexores breves are converted into the suspensory ligament. In Rodentia there is the pre-eminence of the intermediate layer of the flexores breves. In the Quadrumana the muscles of the hallux are inordinately developed, and the adductor hallucis becomes split up into an oblique and transverse portion. In Homo and his more immediate allies of the Quadrumanous order, viz. the Gorilla and Orang, there is the loss of the plantar muscles, with the exception of the adductor hallucis and the loss also of certain of the heads of the flexores breves so that the remainder take on the function of the absent adductors. In the Edentata, which is composed of so many diverse forms, there is apparently no feature peculiar to all.

*Nerve arrangements.*—At the outset of this chapter upon the intrinsic pedal muscles we referred to the view which is held by certain anatomists, that the relationship between