

favour of looking upon the dorsal muscles, as derived secondarily from the flexors. Fixity of structure is an impossibility. There are few cases, indeed, in which, either by comparative or developmental research, anatomists are able to penetrate so far into the obscurity which surrounds the history of the changes which structure undergoes as to find an absolute fundamental type. It is very questionable whether such is possible in any case. The three chief movements of a digit are adduction, flexion and abduction. When each digit is supplied with an independent intrinsic muscle for the production of each of these movements the three sets of muscles assume the trilaminar arrangement. Such a hand or foot is typical in so far as it presents an arrangement to which all other hands or feet can be referred.

The centre for the movements of adduction and abduction.—A decided tendency is exhibited throughout Mammalia generally for the adductors and abductors of the toes to arrange themselves with reference to the medius or middle digit. It thus comes about that the adductor medii disappears and two dorsal interossei or abductors are allotted to the medius, one for each side. There are a great number of exceptions to this rule. In *Echidna* adduction takes place towards the interval between the hallux and index; in the *Ornithorhynchus*, *Cuscus*, and *Phalangista vulpina* (?) towards the index; in the Koala, *Phalangista vulpina* (?), and *Tamandua* towards the annular digit. In other cases, where only one or perhaps two adductors are present, it is impossible to make out the exact point, although it may be presumed to be the central line of the foot. Exceptions in the case of the abductors are of rarer occurrence. We may quote, however, Man, the Gorilla, and the *Tamandua* as marked instances in which the centre of abduction is the index, and the Lemur, as an instance in which the annular digit constitutes the centre. It sometimes happens that the centre of adduction does not correspond with that of abduction. The *Tamandua* and the Lemur are examples of this. In the former there is no adductor of the medius; but the line of origin of the three remaining adductors is over the metatarsal of the annularis, and therefore we conclude that they operate towards this digit, and that the adductor indicis in acting upon the index has an indirect influence upon the medius as well. The abductors are, on the other hand, distinctly arranged with reference to the index—two being appropriated to this digit, and the others being inserted into the outer sides of the medius, annularis, and minimus, and into the inner side of the hallux respectively. In the Lemur, whilst abduction takes place with reference to the annularis, adduction is effected with reference to the medius. The adductor annularis, however, which is rendered useless by the fact that this digit is supplied by two dorsal interossei is evidently fast disappearing, indeed it is not described by Murie and Mivart.

In the foot of Man, the Gorilla, &c., certain of the flexores breves by the loss of one of their heads became adductors, and thus placed themselves in antagonism to the abductors. In tables A. and C. the centres of adduction and abduction are indicated as far as it is possible to do so by the introduction of an asterisk (*).