

The *humerus*, for example, bears approximately the same proportion in length to the *radius* and to the whole limb, and also to the neck, in the Elephant, Rhinoceros, Hog and Hippopotamus as it does in the Carnivore. The length of head is increased in each of these groups by an amplificate snout—as remarked on the preceding page; but this is in part a *fleshy* elongation; and it is sometimes increased also by means of a horn, but only an *epidermic* horn. The bony-structure of the head has an elongation beyond that characteristic of the lower Carnivores; but it is independent of any in the limbs.

The Bovine species are examples of gross-amplification on a *long-amplificate* structure.

The *long-amplificate* species include all the Ruminants, together with the Solipeds or species of the Horse-family among the Non-ruminants.

This long-amplification is exhibited prominently in the *limbs*, *neck* and *head*.

(1.) *In the limbs*.—As in other cases, it is manifested most strikingly toward the circumferential limits of the system. The *humerus* shows no elongation, and is often even shorter, as compared with the size of the body, in these amplificate species than in more typical kinds. Below the *humerus*, amplification is apparent in the fact that the *radius* exceeds in length the *humerus*; it is still more manifest in the great elongation of the bones below, especially the *metacarpals* and *phalanges*, the former alone being sometimes as long as the *radius*. The same general facts are true of the hind-limb. Owing to this extension of the extremities, the joint which seems like the knee in the leg of a Horse, Deer, Ox, etc. is really the commencement of the foot. In the fore-limb of a Horse, the *humerus* is hardly *one-fourth* the whole length of the limb; the *radius* is nearly *a fourth* longer than the *humerus*; and the *cannon-bone* is *two-thirds* as long as the *radius*. In the Camel the proportions are not very different; the *radius* is relatively a little longer, and the *cannon-bone* as much shorter. In the Camelopard the *humerus* is but a little more than *one-fifth* of the whole limb (measured, as in the Horse, from the commencement of the *humerus* to the extremity of the digits); the *radius* is *one-half* longer than the *humerus*; and the *cannon-bone*, or *metacarpal*, is *as long as* the *radius*. The facts strongly contrast with those among the Elephant, Tapir and Hog groups, the *humerus* in these species being between *one-third* and *four-ninths* of the length of the whole limb, and longer than the *radius*.

It would seem, therefore, that *the length of the humerus in the long-amplificate species may be taken as an approximate indication of the true type-size, or as a standard from which to measure the degree of amplification of the structure*. Still, I see no positive