

proof that the humerus is not here shortened in compensation for the lengthening below.

(2.) *In the neck.*—No one will question the fact of a long-amplification of the neck and head in these species. It is however difficult to find a proper standard of length for definite comparisons. There is some special interest in the relations to the length of the humerus, and I therefore mention these relations, as has been done in the comparisons between the parts of the limbs.

In the species of *Felis*, the neck is not longer than the humerus; in the gross-amplificate Herbivores, as the Rhinoceros, and Hippopotamus, the same is true; but in the long-amplificate species, a very different relation exists. In the Horse the neck is *twice* the length of the humerus; in the Camel nearly *three times*; in the Camelopard over *three times*.

(3.) *In the head.*—The outer or more circumferential portion of the jaws, corresponding to the incisors and canines, pushes out, under this amplification, far away from the more basal or molar portion, making the void space between quite wide, much wider than in the Rhinoceros and Tapir. Referring to the humerus as a standard of length, as above, the cranium in the genus *Felis*, measured from the extremity of the jaws to the occiput, is from *four-fifths* to *once* this unit; in the Rhinoceros, *one and one-fourth*, to *one and one-third*; in the Horse, nearly *twice*; in the Camel, *one and one-third*; in the Camelopard, *one and a half*. The ratio for the Camelopard and Camel does not exhibit the true condition, because both species are cephalically vastly inferior animals to the horse and therefore have unusually small heads for the size of the animal. The Camelopard shows the long-amplification of its head in the narrow proportion of the skull, and the long void space in the jaws. This aberrant Ruminant is built, not only in its long legs and neck but also in its little elongate head, on the type of a Grallatorial or Wading bird.

This amplification or circumferential extension of the head appears in many species to be concurrent with that in the limbs, as if the two were of like dynamical origin, or had a dependent genetic relation in the structure.

Long-amplification in the head is still further exhibited in the typical Ruminants through an outgrowth of horns on the forehead. This is a frontal elongation, bony in its nature (or having a bony core at least), and peculiar to these *long-amplificate* species. In other words, those species in which the bones of the limbs grow long have generally long growths of horn from the forehead.

5. *Subdivisions in the classification of Herbivores.*—The distinctions which have been mentioned on the preceding pages point to the same general arrangement of the terrestrial Herbivores.