

re-discovery. With Goethe it was, I think, a deductive process,—with Linnæus an inductive. Analyse Linnæus's observations and method, and I think it will prove a good example of inductive reasoning.

“P. 473. Perhaps Professor Auguste St. Hilaire of Montpellier should share with De Candolle the honor of contributing largely to establish the metamorphic doctrine;—their labors were cotemporaneous.

“P. 390. Linnæus pointed out that the pappus was calyx: ‘*Et pappum gigni ex quarti anni foliis, in jam nominatis Carduis.*’—*Prod. Plant.* 338.” (*J. D. H.*)

## CHAPTER VII.

### ANIMAL MORPHOLOGY.

THE subject of Animal Morphology has recently been expanded into a form strikingly comprehensive and systematic by Mr. Owen; and supplied by him with a copious and carefully-chosen language; which in his hands facilitates vastly the comparison and appreciation of the previous labors of physiologists, and opens the way to new truths and philosophical generalizations. Though the steps which have been made had been prepared by previous anatomists, I will borrow my view of them mainly from him; with the less scruple, inasmuch as he has brought into full view the labors of his predecessors.

I have stated in the History that the skeletons of all vertebrate animals are conceived to be reducible to a single Type, and the skull reducible to a series of vertebræ. But inasmuch as this reduction includes not only a detailed correspondence of the bones of man with those of beasts, but also with those of birds, fishes, and reptiles, it may easily be conceived that the similarities and connexions are of a various and often remote kind. The views of such relations, held by previous Comparative Anatomists, have led to the designations of the bones of animals which have been employed in anatomical descriptions; and these designations having been framed and adopted by anatomists looking at the subject from different sides, and having different views of analogies and relations, have been very various and unstable; besides being often of cumbrous length and inconvenient form.

The corresponding parts in different animals are called *homologues*.