

tails necessary for fully illustrating this proposition, I must content myself with indicating a few of the most general results of the inquiry.\*

As the food of birds varies, in different species, from the softest animal matter to the hardest grain, so we observe every gradation in their stomachs, from the membranous sac of the carnivorous tribes, which is one extreme, to the true gizzard of granivorous birds, which occupies the other extremity of the series. This gradation is established by the muscular fibres, which surround the former, acquiring, in different tribes, greater extent, and forming stronger muscles, adapted to the corresponding variations in the food, more especially in as far as it partakes of the animal or vegetable character.

In all the cold-blooded vertebrata, where digestion is not assisted by any internal heat, that operation proceeds more slowly, though in the end not less effectually, than in animals where the contents of the stomach are constantly maintained at a high temperature. They almost all rank as carnivorous animals, and have accordingly stomachs, which, however they may vary in their form, are alike simply membranous in their structure, and act by means of the solvent power of their secretions. Among *Reptiles*, only a few exceptions occur to this rule. The common Sea-turtle which is brought to our tables, is one of these; for it is found to feed exclusively on vegetable diet, and chiefly on the sea-weed called *zostira maritima*; but though very muscular, it has not the cuticular lining which forms an essential character of a gizzard. Some Tortoises, also, which eat grass, make an approach to the same structure.

In fishes, indeed, although the membranous structure of

\* The comparative anatomy of the stomach has been investigated with great diligence by the late Sir E. Home, and the results recorded in the papers he communicated, from time to time, to the Royal Society, and which have been republished in his splendid work, entitled "Lectures on Comparative Anatomy," to which it will be seen that I have been largely indebted for the facts and observations relating to this subject, detailed in the text.