

are provided with organs fitted for aquatic respiration, called *branchiæ*, or gills, and with instruments of progressive motion, termed *fins*, by which they are enabled to propel themselves through the water with great velocity. The apparatus for seizing, tearing, and crushing their prey, presents numerous and important modifications, corresponding to the habits and economy of the different genera; and their teeth offer as great variety of form and structure as those of the higher orders of animals.

The cartilaginous or osseous nature of the skeleton, and the number and position of the fins, were the characters formerly employed in the classification of Fishes; but M. Agassiz, conceiving the structure of the skin to afford a natural index to the essential modifications of organization and functions, has, with great sagacity, adopted an arrangement founded upon the form and structure of the scales; and divided the whole class into four orders, each distinguished by essential differences in the dermal (*skin*) system. To the geologist this method has proved of inestimable value; for it is simple, easy of application, and, so far as our present knowledge extends, may be relied upon as affording accurate conclusions as to the nature and relations of the originals, to which a few detached fossil scales may have belonged. Another important aid has been derived from the microscopical examination of the structure of the teeth; and a splendid work on this subject, by Professor Owen, has opened a wide field of palæonto-