the ancient and modern finny races of lakes, rivers, and the sea, and many attempts were made to ascertain these analogies. But until modern times, the knowledge of the structure and functions of fishes, their comparative osteology and lepidology (to coin a useful word) was of small value, and it was reserved to Cuvier and Agassiz to introduce precision and certainty where all before had been error and confusion.

To the latter of these eminent men M. Cuvier bequeathed his labours; and M. Agassiz, with a happy boldness, deviated from the ordinary modes of classification, and entered on a totally new contemplation of the subject. The dermal system, as a natural index of important structural and functional differences, has not, in general, been much attended to among vertebrated animals; though the *hair* of mammalia, the *feathers* of birds, the *naked* or *plated skin* of reptiles, the *scales* of fishes, might have allured inquiry into the variations which they undergo, and the uses they might furnish to systematists. M. Agassiz has seized this neglected thread of system, proved the importance of the indications afforded by the nature of the dermal covering, and applied it to the classification of fishes with peculiar success.

Instead of the divisions usually adopted from the nature of the skeleton,—cartilaginous and osseous fishes, he distinguishes four great orders of fishes from the nature of their scales, and finds that with these differences of scales other great and important distinctions harmonize; but that the possession of a bony or cartilaginous skeleton is a question of comparative unimportance. The abundance and perfection of scales of fishes in a fossil state render this view, valuable as it is in recent zoology, absolutely essential to a study of the fossil kingdom; for thus a few scales remaining may lead to a knowledge of the species or genera belonging to each epoch; and as portions of fishes are found in every one system of strata, from the ancient silurian to the most recent of lacustrine deposits, we are presented