

collection from the Old Red of Russia, and various other specimens from the same locality. Not only on account of their peculiar structure were the fishes of the Old Red interesting to Agassiz, but also because, with this fauna, the vertebrate type took its place for the first time in what were then supposed to be the most ancient fossiliferous beds. When Agassiz first began his researches on fossil fishes, no vertebrate form had been discovered below the coal. The occurrence of fishes in the Devonian and Silurian beds threw the vertebrate type back, as he believed, into line with all the invertebrate classes, and seemed to him to show that the four great types of the animal kingdom, Radiates, Mollusks, Articulates, and Vertebrates, had appeared together.<sup>1</sup> "It is henceforth demonstrated," says Agassiz, "that the fishes were included in the plan of the first organic combinations which made the point of departure for all the living inhabitants of our globe in the series of time."

In his opinion this simultaneity of appearance, as well as the richness and variety displayed by invertebrate classes from the begin-

<sup>1</sup> Introduction to the *Poissons Fossiles du Vieux Grès Rouge*, p. 22.