

tions, the dynasty of the crustacea. In all creation, as it exists in this period of dusk antiquity, we see nothing that overtops the Trilobite, with his jointed mail of such exquisite workman-

prints of this eldest of reptiles should be found so far in advance of what has been long deemed the vanguard of its order, — the thecodont Saurians of the Permian, — and this, too, in a system so carefully explored as the Coal Measures; and yet the occurrence is not without a parallel in the geologic scheme. The mammal of the Stonesfield Slate stands as much alone, and still further in advance of its fellows. I do not find that I have anything to alter in my statement regarding the introduction of the fish. In Professor Silliman's American Journal for January 1846, it is stated, that an ichthyodorulite had been just discovered in the Onondago Limestone of New York, and an imperfectly-preserved fish-bone in the Oriskany Sandstone of the same state. There seems, however, to be no reason to conclude from their contemporary organisms, — chiefly shells and corals, which closely approximate to those of the Wenlock Limestone, — that either of them belonged to a more ancient fish than the ichthyodorulite described by Mr. Sedgwick, to which I have already had occasion to refer. It seems not unworthy of remark, that while among the fish of the Old Red Sandstone considerably more than three-fourths of the species, and greatly more than nineteen-twentieths of the individuals, are of the Ganoid order, all the fish of the Silurian system yet discovered are Placoids. [The statement here regarding the absence of fish in the Lower Silurian, which I retain in a second edition, as it may serve to indicate the onward march of geological science, was in accordance, only a few months ago, when the first edition of this work appeared, with what was known of the more ancient rocks and their fossils. But it also illustrates, like my statement respecting the reptiles of the Permian, the unsolid character of negative evidence, when made the basis of positive assertion. It is now determined that the Lower, like the Upper Silurian, has its fish. "Alas for one of my generalizations, founded on negative evidence, on which you build!" says Sir Roderick Murchison, in a communication which I owe to his kindness. "The Lower Silurian is no longer to be viewed as an invertebrate period; for the *Onchus* (species not yet decided) has been found in Llandeilo Flags, and in the Lower Silurian Rocks of Bala. In one respect I am gratified by the discovery; for the form is so very like that of the *Onchus Murchisoni* of the Ludlow Rocks, that it is clear the Silurian system is one great natural-history series, as proved, indeed, by all its other organic remains." — *Second Edition.*]