

seems chiefly remarkable for its strange forms of the vertebrate animals, exclusively fish. The Upper Old Red formation, so rich in Scotland in the remains of *Holoptychius*, *Platygnathus*, *Bothriolepis*, and their contemporaries, is comparatively barren in England. The middle formation, however, we find mottled with ichthyolitic fragments, representative of the two great orders of fish in which, at this early period, and for long ages after, all vertebrate existence was comprised. Fragments of the ichthyodorulites of Placoids are not unfrequent; and the occipital plates of the Ganoid Cephalaspides abound. The true fish seems to have overspread and taken full possession of the seas during the deposition of this system, as the Trilobite had taken possession of them in the preceding one. But we hasten on: the thick Old Red coils up and away, like a piece of old elastic parchment that had been acquiring for ages the *set* of the roll; and now the still more ancient Silurian system occupies the entire prospect. In this system the remains of the vertebrate animals first appear, — few and far between, and restricted, so far as is yet known, to its great upper division exclusively. We pass hurriedly downwards. The vertebrata vanish from creation. We have traced the dynasty to its first beginnings; and now an ignobler, though more ancient, race of kings occupy the throne.* We have reached, in our explora-

* Of course, in all cases in which the evidence is negative, the decision must be given under protest, as not in its nature irreversible, but dependent on whatever positive evidence the course of discovery may yet serve to evolve. In February last (1846), when this chapter was written, no trace of reptiles had been found earlier than the Lower New Red Sandstone, — the Permian system of Sir Roderick Murchison. I find, however, from a report of the proceedings of the meeting of the British Association, held last September at Southampton, that Mr. Lyell having examined certain footprints, the discovery of Dr. King, of the United States, which occur in Pennsylvania in the middle of the Coal Measures, he has determined them to be those of a large reptilion. It does seem strange enough that the