

can be little doubt that it more nearly approached to our existing cuttle-fishes than to any other living animals ; while there is no question that its contemporary the Ammonite is now most nearly represented, though of course only approximately, by the nautilus. The Belemnite existed in some of its species throughout all the formations of the great Secondary division, but neither during those of the Palæozoic nor yet of the Tertiary divisions ; the Ammonite, on the other hand, though in an extreme and aberrant form, preceded it by several formations, but became extinct at the same time—neither Ammonite nor Belemnite outliving the deposition of the Chalk.

The first great division of the animal kingdom, the vertebrata, was represented in Scotland during the Oolitic period by fishes and reptiles. Its fishes seem to have been restricted to two orders,—that placoid order to which the existing sharks belong, and that ganoid order, now well-nigh worn out in creation, to which the *Lepidosteus* of the North American lakes and rivers belongs, and to which I incidentally referred in connexion with the *Lepidotus* of the Weald. I have found in the island of Eigg beds of a limestone composed almost entirely of fossil shells, which were strewed over with the teeth of an extinct genus of sharks, the Hybodonts ; and I have seen the dorsal spines of the same placoid division occasionally occurring among the Oolites of Sutherland and the Lias of Eathie. And scales, cerebral plates, and in some instances considerable portions of individuals of the ganoidal species, glittering in the enamel to which they owe their name, occur in all the Oolitic deposits of Scotland. Of our Scottish reptiles of the Oolite we have still a good deal to learn. I was fortunate enough in 1844 to find in a deposit of Eigg, and again at Helmsdale, in 1849, the remains of several of its more characteristic Enaliosaurs, or bepaddled reptiles of the sea ; at Helmsdale I found vertebral joints of the *Ichthyosaurus* in a conglomerate lower in the Oolite ; and in Eigg, in a