

2. NOTES ON THE KIMMERIDGE CLAY OF THE ISLE OF PURBECK.

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(Abstract.)

The Kimmeridge Clay commences below St. Alban's Head, where it is overlaid by Portland Oolite and Purbeck Limestone. Beds of a grey-coloured limestone containing marine shells, oysters, and ammonites, immediately underlie the Portland Beds. These may be the Upper Passage-beds or the uppermost beds of the Kimmeridge Clay shales. They continue from St. Alban's Head through Chapman's Pool, and extend towards Encombe Park. They are lost sight of inland, but reappear on Gadcliff several miles to the westward.

At Chapman's Pool, in paper-shales, the following fossils have been obtained:—Jaws of small saurians, belemnites large and small, *Coccoteuthis latipinnis*, Owen, several species of squids, and marine shells.

Eastward of Encombe Park occur remains of fish and Crustacea in black pyritous shales, which give an offensive odour. At Encombe Point we find *Pliosaurus grandis*, spine of *Hybodus*, and other fish remains, cuttle fishes, and ammonites. In black oolitic shales, at the same locality, in beds running out to sea, jaws of reptiles and fish differing from those found at other points, Saurian vertebræ, three species of *Pterodactyle* resembling those from the Dorsetshire Lias, zoophytes and fruits.

Three or four miles to the westward is Kimmeridge Bay, where the paper-shales and the black bituminous shales are again met with. Not very far from Gadcliff, at the termination of the outcrop of the Kimmeridge Clay, *Coccoteuthis latipinnis*, figured and described by Professor Owen, was first discovered by the author, who also claims to have first found remains of cuttle fish in the Oolites of that part of England. At this place there have been found a jaw with teeth of a crocodilian reptile (in the thin shale beds), operculum associated with ammonites, reptilian bone described by Owen (Pal. Soc. Vol. for 1875), several species of ammonites, and fossil wood.

At Bucknowle, south-west of Corfe Castle, we find black earth with pottery, human bone, and flint implements, covering a thin seam of loam, which reposes on a deposit containing stones from a

distance, flint implements, burnt wood, &c. The flints in the lowermost deposit are of the largest form, and differ much from those in the uppermost bed. Land, freshwater, and marine shells occur, along with remains of deer, ox, bear, lion, and fox. A limestone implement has also been found. Remains of elephant, deer, and ox have been found in gravel in Encombe Park. North of this locality a section shows the presence of the following beds:—

Middle Chalk, with flints.

Upper Greensand.

Gault, with fossils.

Lower Greensand, with fossils.

Wealden Beds.

Upper Purbeck or Middle Wealden.

Marble beds, with freshwater turtles, *Cypris*, and *Unio*.

EXCURSION TO HATFIELD.—MAY 13, 1876.

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Watford Natural History Society.

(Report by MR. HOPKINSON.)

On this occasion the Association for the second time met the Watford Natural History Society and Hertfordshire Field Club, the members of which arrived at Hatfield mostly by special train from St. Albans, and at the place of meeting, the principal entrance to Hatfield Park, the two societies were represented by a party of about 130 ladies and gentlemen. Permission to see over Hatfield House, and to visit the Hatfield Park Kiln, had been kindly granted by the noble owner, the Marquis of Salisbury.

The house, which was first visited, is necessarily more of historical than geological interest. It is built on the site of the palace of Bishop Morton, which was erected about the end of the fifteenth century, and of which a fragment still remains; and on its site again, from the commencement of the twelfth century, an episcopal residence had existed. The present mansion was commenced in 1607, and the materials used in its construction by its