

## ORDINARY MEETING, MAY 6TH, 1870.

PROFESSOR MORRIS, F.G.S., President, in the Chair.

W. B. Gibbs, Esq., Edward Hill, Esq., and Francis L. Smith, Esq., were elected members of the Association.

The following papers were read :—

## 1.—“On the Chalk of the Isle of Thanet.”

By GEORGE DOWKER, Esq., F.G.S.

*(This Paper has been published in a separate form by the Association)*

## 2.—“On the Geology of the Neighbourhood of Swanage.”

By THOMAS D. BOTT, Esq., F.G.S.

*(Abstract.)*

The strata described in this communication are those occurring in the section along the coast of Dorsetshire, extending from Durlstone Head, at the south-west, to Handfast Point, at the north-east, a distance of about three miles.

Durlstone Head forms the south-western limit to Durlstone Bay, and is composed of Portland Oolite, the beds of which dip at a considerable angle to the north-east, and disappear at a short distance under Purbeck strata. The Portlandian strata are here, as at Portland and Lulworth, capped by the remarkable stratum called the “Dirt Bed.”

That this was the soil of a Purbeck forest is evident from the numerous roots of trees with portions of silicified trunks attached and standing vertically, which it contains. Cycadeous plants, locally termed “Bird’s nests,” characterise this bed, and fir cones, resembling those of the Norfolk Island pine (*Araucaria excelsa*) also occur.

We have in this terrestrial stratum evidence that the Portlandian rock for a lengthened period continued above the waters of the ocean, that after the sun and the rain had disintegrated the surface of the recently formed rock, vegetation ensued, and that after a time Cycadeous plants and lofty coniferous trees afforded a fitting habitat for insects, as well as for their devourers, the Insectivora. Doubtless also the turtle and the crocodile peopled the rivers which watered these forests of the Purbeck land.

The Purbeck strata in this locality are in all about 275 feet thick, and are divided into Upper, Middle, and Lower; respectively, 55, 70, and 150 feet thick.