

rating the second and third system (the Oxford clay) forms the base of the cliffs, which are capped by the lower beds of the coral rag, and an overlying mass of green sand. Still further west by St. Comme, Arromarche, St. Honorine, Virreville, and Grandcamp, the cliffs present the inferior oolite resting on lias.

Hence, a zone of these formations extends, circling round the chalky and arenaceous border of the basin of Paris, by Caen, Alençon, Poitiers, Bourges, Auxerre, Bar le Duc, and Mezieres, the oolites stretching beyond all these places, succeeded at a wider distance by the subjacent lias;\* and still further by the red marle, which, with a few occasional inter-ventions of coal-measures, reposes on the transition and primitive chains of Bretagne and la Vendée on the west; of Limousin, Auvergne, Forez, Beaujolais, and Morvan on the south, and of the Vosges on the east.

Within the interior area of the basin of Paris, there is also a small denudation exposing the oolites, in a district called the Pays de Bray, a little north-west of Beauvais.

The extensive chains of the Jura mountains is principally composed of lias and the oolitic series. There is a very interesting description of the part of this chain near Lons de Saulnier by Mr. Charbant, in which it appears that its base is composed of red and variegated marle containing gypsum; that on this reposes an extensive formation of beds of gryphite limestone (lias), alternating with marles containing fossils exactly similar to those which characterise this formation in England; that these are covered by a series of oolitic beds, the lowest of which (like our inferior oolite) abounds in ferruginous particles, and is surmounted by a fine granular oolite and free-stone, forming the escarpment of the first terrace of these hills; and lastly that, above this first terrace, are others each presenting an oolitic series based on argillaceous beds which separate it from that beneath. Nothing can possibly present closer analogies to the arrangement of these formations in our own island.

Professor Buckland has the following observations on the oolite and lias of the Alps.† The two principal varieties of the oolite or jura limestone, are: 1. A compact grey marle; 2. A granular oolite; the latter occurs abundantly in the Tyrol, in the valley of the Adige below Trent, and occasionally in the Salzburg mountains; the former prevails in Switzerland, and

\* Mr. Omalius d'Halloy, or at least his translator in Thomson's Annals, calls all these formations Lias, including the oolites under that appellation.

† Annals of Philosophy, June 1821.