

**OLDER PLIOCENE.**—The deposits of this age probably at one time extended over a large part of the south and south-east of England, but they have been reduced by denudation to a few widely separated patches, the largest of which, around Oxford in Suffolk, does not cover more than about ten square miles. They consist chiefly of shelly sands known as the Coralline Crag of Suffolk, but a small outlier of fossiliferous sand occurs on the edge of the North Downs at Lenham, and other ironstone patches, probably of the same age, cap the Down as far as Folkestone. Far to the west, at St. Erth in Cornwall, an isolated deposit of older Pliocene age has been detected. These thin and scattered fragments convey no adequate conception of the length or importance of the geological period which they represent. It is not until we pass into the north of Italy and the basin of the Mediterranean that we discover the Pliocene system to be represented by thick accumulations of upraised marine strata comparable in extent and thickness to some of the antecedent Tertiary series.

A strongly marked break, both stratigraphical and palæontological, separates the Pliocene deposits of Britain from all older formations. They lie unconformably on everything older than themselves, and in their fossils show a great contrast even to those of the Oligocene series. The sub-tropical plants and animals of older Tertiary time are there replaced by others of more temperate types, though still pointing to a climate rather warmer than that of southern England at the present time.

A conglomeratic deposit (Nodule beds) forms the base of the Red Crag, and appears generally to underlie also the Coralline Crag. It includes fragments of various rocks such as flints, septaria, sandstones, quartz, quartzite, granite, and other igneous materials, together with a miscellaneous assortment of derivative fossils, including Jurassic ammonites and brachiopods, sharks' teeth and other fossils from the London Clay, the teeth of many land mammals (pig, rhinoceros, mastodon, tapir, deer, hipparion, etc.), and pieces of the rib-bones of whales. Many of these organic remains must have been derived from some older Pliocene deposit which has otherwise entirely disappeared. They have been to a large extent phosphatized, and hence have been extracted as a source of phosphate of lime. Among the contents of the deposit some of the most interesting and important are rounded pieces of brown sandstone, known as "box-stones," evidently derived from the denudation of a single horizon,