genera, wholly unknown; and, as we have elsewhere observed, the fossil bones of the oviparous quadrupeds are so enormous, that it is even difficult to believe the evidence of our senses, when we attempt, from these remains, to restore the forms of the extinct monsters of the ancient world.

The next great change is the subsidence of the Wealden into the abyss of that extensive and profound ocean which deposited the chalk formation. Whether this mutation were effected suddenly, or by slow degrees; whether the Wealden subsided entire, or were broken up previously to its submergence; or whether, like the Isle of Portland, it constituted dry land at some remote period antecedently to its being buried beneath the sea, we have no data to enable us to decide. The principal lines of elevation of the Wealden are clearly referable to those movements which up-heaved the chalk and incumbent strata: but we may observe, that the deeper beds exhibit traces of extensive faults and dislocations, which seem to belong to previous disruptions, for the fissures and chasms are filled up with broken shale, and clay, and sand, the debris of the Wealden, and contain no intermixture whatever of the marine deposits which may be supposed to have once covered them.

The ocean of the chalk appears to have been of vast extent; it buried beneath its waters a considerable part of Europe; and, probably, like the Atlantic, its waves reached the western world, and covered a portion of the continent of North America.* The nature of the strata, and the organic remains which they enclose, prove that the chalk was deposited in the tranquil depths of a profound ocean; the abundance of *Ammonites*, *Nautili*, and other multilocular shells that inhabit the bottom of the deep; the almost entire absence of pebbles and gravel; the perfect state in which the fishes and other perishable organic bodies occur—not as in the Wealden, crushed, and disjointed, but as perfect as if they had been enveloped by a soft paste when living, or even while in a state of progression—all bear evidence in favour of such a conclusion.

There are but few, if any remains of terrestrial animals and plants, to throw light on the nature of the climate during the cretaceous epoch: we may, however, infer from the nautili and other tropical shells, as well as from the presence of the stony *polipidoms*, or corals, that the temperature was not much inferior to that of the Iguanodon period, for this division of zoophytes is not known to exist in low latitudes in our modern seas.† The *cretaceous* strata of the chalk, with

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* The occurrence of the remains of the *Mososaurus*, that extraordinary reptile of the Maestricht beds, in the strata of the United States, previously mentioned, is a remarkable fact in corroboration of such an inference. See Dr. Morton on the *Ferruginous Sand Formation of North America*, 8vo. 1 vol. with plates. Philadelphia. 1833.

† M. Lamouroux observes, that in the colder latitudes the *Cellarias*, and *Sertulariæ* alone are to be found; with a few closely woven sponges, and a small number of alcyonia. The minute *Pentacrinus Europæus*, recently discovered by Mr. Thompson in the Cove of Cork, is an exception; but the recent *Pentacrinus Caput Medusæ*, to which the pentacrinal stems that occur in the chalk bear considerable analogy, is found in the sea off the West India Islands.