

appear, however, to be restricted to certain subdivisions of the formation. Thus in the white chalk, there are many species of shells that do not occur in the other divisions of the group. The marl and gault are also characterised by peculiar forms, and the Shanklin sands abound in shells and zoophytes, that are wanting in the other cretaceous beds. The genera and species of the mollusca must therefore have varied during the period of the deposition of the chalk; some kinds prevailed at the commencement of the formation, and became extinct at a subsequent epoch; while other forms appear for the first time. Some localities are also found to abound in species which do not occur in others; these shells must therefore have been spread over limited areas; in other words, the inhabitants of the chalk ocean had geographical limits assigned them, as is the case with the existing species.

The mode of preservation varies in the different beds. The shells, stony polyparia, and radiaria of the white chalk, are generally transmuted into carbonate of lime having a spathose structure, doubtless the result of high temperature, acting under great pressure (see page 91). Their cavities are frequently filled with chalk, flint, or sulphuret of iron; in many instances they are hollow, or lined with crystals of carbonate of lime. The softer zoophytes are silicified, and there is scarcely a flint nodule in which their remains may not be traced. The bones of reptiles and fishes, and the coverings of crustacea,