

also, beds of a brown ferruginous cast are interposed, especially at the bottom of the series near its junction with the fullers' earth. The upper beds, in which the shells are more distinct, and which afford indifferent freestone, cannot be easily distinguished from the forest marble. The structure of the freestone is in thickly bedded masses, which, if traced to a distance, will often be found to thin out. Many of the other beds exhibit a laminated cleavage, not parallel to the greater lines of stratification, for which they have sometimes been mistaken, and thus given rise to accounts of highly inclined beds alternating with horizontal ones in this rock: many appearances of this kind may be seen in the quarries near Badmington park, the Duke of Beaufort's seat in Gloucestershire.

Traces of magnesia have been discovered in some of these beds on the Cotteswold hills, otherwise they appear to be a tolerably pure carbonate of lime, dissolving in acids with very little residuum. Thin partings of clay, and sometimes large irregular interposed masses of that substance, may be observed between the upper strata.

(b) *Mineral contents.* Scarcely any thing occurs in this series which deserves to be noticed under this head. Calcareous spar is almost the only substance which presents itself. Of this, the finest specimens are those from Stonesfield, which are of a bright transparent yellow; they occur as stalactitic masses, forming sometimes fine slender tubes, and sometimes beautifully radiated and plumose crystallizations. Quartz crystals have been found, but are extremely rare; and even that universal mineral, iron pyrites, is scarcely to be seen.

(c) *Organic remains.* The variety and abundance of these compensates, as is usual in the secondary rocks, for the barrenness in their mineralogical list: here we have also in one bed, the most singular assemblage of organic remains presented perhaps in any formation, comprising land animals, birds, insects, amphibia, fishes, shells, and vegetables. The organic remains are however chiefly to be sought for in the upper beds, the great oolite itself affording but few perfect specimens, although replete with comminuted fragments. We shall premise some general observations on the distribution of these remains in the different beds, and then give lists in parallel columns of the shells which have been figured from each of them.

The *Cornbrash*, as Mr. Smith observes,\* though altogether but a thin rock, has not its organized fossils equally diffused or

\* The following notices are principally copied from Mr. Smith, as far as the beginning of the notice on the particular families of organic remains.