ations in thickness of the limestone may indicate inequalities in the downward movement, and perhaps to some extent irregularities in the growth of corals and the accumulation of calcareous débris. The great mass of 3000 feet of limestone in the Mendip Hills dwindles down to less than 400 feet in the Forest of Dean, a distance of only some 30 miles. The thickness rises in Monmouthshire to 1000 feet, but sinks in Glamorganshire to half that amount. Westward in Caldy Island it swells out again to 2300 feet, while still further west, on the coast of Pembrokeshire, it disappears altogether.[201]

Where typically developed, the Carboniferous Limestone is a massive well-bedded limestone, chiefly light bluish-gray in color, varying from a compact homogeneous to a distinctly crystalline texture, and rising into ranges of hills, whence its original name "Mountain Limestone." It is sometimes, especially near Bristol, distinctly oolitic, and often contains occasional scattered irregular nodules and nodular beds of dark chert (phtanite).[202] Though it is abundantly fossiliferous, little has yet been done in working out in detail the successive life-zones of this great mass of rock, as has been performed so well for the corresponding limestone series of Belgium. The fossils commonly stand out on weathered surfaces of the rock, but microscopic investigation shows that even those portions of the mass which appear most structureless consist of the crowded remains of marine organisms. The limestone has been derived entirely from the organisms of the sea-floor, either growing up into a solid mass after the manner of coral-reefs, or spreading over the bottom in sheets of crinoid detritus, or coral sand, mixed with the remains of foraminifera, mollusks, etc. Diversities of color and lithological character occur, whereby the bedding of the thick calcareous mass can be distinctly seen. Here and there, a more markedly crystalline structure has been superinduced; while along lines of

---

[201] De la Beche (Mem. Geol. Surv. i. p. 112) states that the limestone is there overlapped by the Coal-measures. It would be interesting to ascertain if the disappearance of the limestone may not rather be due to an overthrust of the Coal-measures upon it. De la Beche believed that the thickest zone of the limestone lay to the south, from Mendip westward through Caldy Island, and that the thickness rapidly diminished northward.

[202] The chert bands of the Carboniferous Limestone have been shown by Dr. Hinde to be largely composed of spicules of siliceous sponges, Geol. Mag. 1887, p. 435; and "British Palæozoic Sponges," Pal. Soc. for 1887, p. 98, 1888. Dr. Hinde has also described similar beds from the Permo-Carboniferous rocks of Spitzbergen, Geol. Mag. 1888, p. 241.