It is well known that the Crinoids were equally plentiful in several former geological periods. In the British area, for example, there are the remains of enormous forests of Crinoids both in the Silurian and in the Carboniferous rocks. The marvellous abundance of these animals in beds of the same age in America is well known. In a less degree also the Silurian of Sweden, the Devonian of the Eifel, and the Carboniferous of Belgium and Russia were characterised by a great development of Crinoid life. This terminated, however, with the close of the Palæozoic epoch; but in the Lower and Middle Lias, both of Britain and of the Continent, there were enormous colonies of *Extracrinus*, slabs of which are so well known in every museum. Although the limestone bands which are made up of the fragments of the skeleton of *Extracrinus* are by no means so thick as the Palæozoic Crinoidal limestones, yet the association in one place of a large number of individuals must have been, for the time at least, as considerable as in the case of the Palæocrinoids. A similar band, 10 to 20 centimetres thick, which was discovered by M. Eudes-Deslongschamps in the Great Oolite at Soliers near Caen,[1] is evidence of a singularly localised colony or "Station" of *Pentacrinus* (*Extracrinus?*). For no trace of a similar bed occurs in other sections of the Great Oolite in the neighbourhood. Another horizon at the top of the Great Oolite, near Sennecey-le-Grand,[2] is marked by the very great abundance of a species of *Extracrinus* which is also found in corresponding beds elsewhere (in the Department de la Meurthe); while the Forest Marble of Gloucestershire contains numerous remains of Pentacrinidæ which occur associated in slabs much like those formed by *Extracrinus briareus*, though somewhat less extensive.

Although the Middle and Upper Jurassic rocks of this country and of the Continent have been found to contain numerous species of *Pentacrinus*, I do not know that any large forests of them have been met with, like those of the Lias, Great Oolite, and the Recent Seas; and the same may be said of the Cretaceous and Tertiary beds.

As regards the Apiocrinidæ, the abundance of *Apiocrinus parkinsoni* in the Bradford clay is well known, and the Sequanien (Coral Rag) of the Continent is exceedingly rich in *Millericrinus*. The same is true of *Eugeniacrinus* in the White Jura of Wurtemberg, though it does not occur in Britain at all. The coral bed at Nattheim is famous for the number of *Comatula*-remains which it contains; though as these, like the *Eugeniacrinus*-calyces, are all more or less rolled and fragmentary, we do not meet with evidence of gregarious habits such as is represented by either of the colonies of Lyme Regis, Soliers, or Sennecey-le-Grand.

The different modes of attachment which occur among the Crinoids have been discussed in Chapter II. In all the Bourgueticrinidæ there is a spreading root of variable extent, the subdivisions of which attach themselves by calcareous expansions to foreign bodies. *Holopus* is a permanently fixed type like the Bourgueticrinidæ. But the

[1] Études sur les étages jurassiques inférieurs de la Normandie, Paris, 1864, pp. 229, 235.

[2] See de Loriol, Notice sur le Pentacrinus de Sennecey-le-Grand, *op. cit.*, pp. 11–13.