

racter and circumstances of aggregation of the tertiary rocks are extremely various according to locality; and in this respect so closely resemble formations now in progress, that were the bed of the Adriatic raised to our view, it would, according to the observations of Donati, most closely resemble the subapennine tertiaries; the German Ocean would disclose shelly sand-banks, comparable, perhaps, to the Norfolk crag; and the coral reefs of Bermudas may be thought to resemble the leithakalk of Transylvania. The analogy of tertiary and modern shells and vertebral reliquæ is also very great,—so great, indeed, that nothing but very refined knowledge can establish differences between them.

When, in addition to these facts, we are further embarrassed by the intermixture of lacustrine, estuary, and marine deposits, which belong naturally to as many distinct *series* of operations, and certain organic exuviæ which may have unequal *degrees* of relation to existing types, what wonder if it be sometimes impossible to distinguish tertiary from modern accumulations? The progress of research has, indeed, shown us the necessity of separating from the tertiary class a considerable quantity and variety of superficial accumulations, more or less evidently related in their position to the present features of physical geography; but it has also placed the distinction on its true ground, viz. the difference of organic life in the modern and tertiary periods. This difference, however, is probably of a positive character only in the classes of vertebrated animals, which are chiefly met with in lacustrine sediments; and is with difficulty applied to marine races, which constitute by far the largest portion of tertiary fossils, and are the principal means of linking the history of supracretaceous deposits to those of the older periods, which contain almost no traces of mammalia or birds, and only a very limited number of fluviatile reptilia or lacustrine fishes.

It is hardly to be doubted, that hereafter the mode of studying supracretaceous deposits will be so far changed,