CHAPTER X.

CLASSIFICATION OF TERTIARY FORMATIONS—POST-PLIOCENE GROUP.

General principles of classification of tertiary strata—Detached formations scattered over Europe—Strata of Paris and London—More modern groups—Peculiar difficulties in determining the chronology of tertiary formations—Increasing proportion of living species of shells in strata of newer origin—Terms Eocene, Miocene, and Pliocene—Post-Pliocene strata—Recent or human period—Older Post-Pliocene formations of Naples, Uddevalla, and Norway—Ancient upraised delta of the Mississippi—Loess of the Rhine.

Before describing the most modern of the sets of strata enumerated in the tables given at the end of the last chapter, it will be necessary to say something generally of the mode of classifying the formations called tertiary.

The name of tertiary has been given to them, because they are all posterior in date to the rocks termed "secondary," of which the chalk constitutes the newest group. These tertiary strata were at first confounded, as before stated, p. 91, with the superficial alluviums of Europe; and it was long before their real extent and thickness, and the various ages to which they belong, were fully recognized. They were observed to occur in patches, some of freshwater, others of marine origin, their geographical area being usually small as compared to the secondary formations, and their position often suggesting the idea of their having been deposited in different bays, lakes, estuaries, or inland seas, after a large portion of the space now occupied by Europe had already been converted into dry land.

The first deposits of this class, of which the characters were accurately determined, were those occurring in the neighborhood of Paris, described in 1810 by MM. Cuvier and Brongniart. They were ascertained to consist of successive sets of strata, some of marine, others of freshwater origin, lying one upon the other. The fossil shells and corals were perceived to be almost all of unknown species, and to have in general a near affinity to those now inhabiting warmer seas. The bones and skeletons of land animals, some of them of large size, and belonging to more than forty distinct species, were examined by Cuvier, and declared by him not to agree specifically, nor even for the most part generically, with any hitherto observed in the living creation.

Strata were soon afterwards brought to light in the vicinity of London, and in Hampshire, which although dissimilar in mineral composition, were justly inferred by Mr. T. Webster to be of the same age as those of