which the surface of the globe had been much fractured and displaced; for the upper series do not lie parallel with the lower, but they cover the edges of the lower strata unconformably.

To make this better understood, suppose a number of books to be laid regularly upon each other, and the lowest volume to be tilted up so as to give an inclined position to the whole, if we then take other books and place them horizontally, or nearly so, on the upper edges of the inclined volumes, we may then form a distinct idea of the unconformable position of the upper series of secondary strata over the lower series. This position is represented Plate 1. fig. 3.; it will be more fully described in the 4th chapter.* The last of the upper secondary strata is chalk, a rock well known in the south and south-east parts of England, though entirely wanting in the north-west and in Scotland.

Tertiary Strata comprise all the regular beds that have been deposited subsequently to the chalk strata, on which they frequently repose. It was formerly supposed that tertiary strata were very limited in extent, and were confined to a few districts in Europe; recent observations, however, prove that strata of this class cover considerable portions of the surface in various countries, though there are other countries in which they are entirely wanting. Tertiary strata are the most recent or uppermost of all the regular rock formations. They consist chiefly of clay, marle, limestone, and friable sandstone: the lower series of these strata contain numerous marine shells, while some of the middle and upper strata contain shells resembling those found in our present rivers, or in fresh water lakes. The most remarkable fact respecting the tertiary strata is, that some of them contain numerous bones of large terrestrial quadrupeds of the class Mammalia, the greater part of which, belong to genera or species which no longer exist upon the earth.

Volcanic and Basaltic Rocks have been either ejected from volcanoes, or poured out in a state of fusion from rents and openings on the earth's surface. They cover in an irregular manner the rocks of the preceding classes. In some situations the melted mineral matter has taken a columnar form in cooling; in other situations it fills vast fissures, called by miners *dykes*. Basaltic rocks are very common in the northern part of our island. Volcanic and basaltic rocks are of different ages: the most ancient approach in their nature to rocks of the primary class, and appear to be formed chiefly of the same mineral substances, more or less softened by subterraneous heat, and protruded through the crust of the globe.

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* There are some situations in which the lower strata have not been subjected to any great dislocations prior to the deposition of the upper strata upon them, for the latter occur in a position parallel with that of the lower strata