

In the tertiary beds of this group, nearly fourteen hundred species of shells have been found, of which thirty-eight species are analogous to existing species, or about three in every hundred. Only forty-two of these species appear in the upper tertiary, and none of the fourteen hundred species found in this group, have any analogy with those found in the secondary strata, not even in the most recent or chalk formation.

The second or middle group comprises the marls of Touraine, and other parts of the Loire, a great part of the basin of the Gironde, of ~~Dax~~ of Austria, Hungary and Poland, and a small portion of the sub-Appennine hills, in the environs of Turin. Geologists and naturalists had before only admitted one group of tertiary strata in Austria and Italy.

Of nine hundred species of fossil shells found in this group, and compared by M. Deshayes, one hundred and sixty are analogous to living species, or eighteen in every hundred, and one hundred and thirty species have continued to live, during the formation of the upper or more recent group.

The upper group comprises the sub-Appennine hills, the tertiary strata of Sicily, those of the Morea, the small basin of Perpignan, and the small basins bordering the Mediterranean. In this group M. Deshayes is inclined to place the Norfolk crag, at least until its characters shall be better known.

M. Deshayes has recognized seven hundred species in the upper group, of which the greater half are analogous to living species. Thirteen species alone, M. Deshayes observes, have yet been found common in all the three tertiary groups, and have resisted the destructive causes that have successively modified the organization of submarine animals. The living species, analogous to the fossil shells in the more ancient and middle groups, are chiefly inhabitants of tropical climates, whereas the greater number of species, found in the most recent group are analogous to those now living in European seas.

The results of M. Deshayes' researches, if fully confirmed, would establish the following rules for determining the relative ages of strata.

1. That in proportion to the greater number of fossil species in strata analogous to living species, such strata may be determined to be more recent.
2. That a great change in the organization of fossil species, and in the proportion of the number analogous to living species, ought to be considered sufficient to constitute different formations.
3. That the different tertiary basins, were not formed or filled contemporaneously.

Before admitting the conclusions of M. Deshayes, it will be right to pause, and consider well how little we know of the inhabitants of the shells which are divided by conchologists into such a multitude