

secondary epoch, that of Pine Forests and Reptiles; the *fourth*, or tertiary epoch, that of Foliaceous Forests and of Mammals; finally, the *fifth*, or quaternary epoch, the era of Man and his Civilization. The divisions or *periods* which we distinguish in each of the five *long eras* (p. 14) are determined by the different *systems* of strata into which each of the five great *rock-groups* is divided (p. 15). We shall now take a cursory glance at the series of these systems, and at the same time at the populations of the five great epochs.

The first and longest division of the organic history of the earth is formed by the *primordial epoch*, or *the era of the Tangle Forests*. It comprises the immense period from the first spontaneous generation, from the origin of the first terrestrial organism, to the end of the Silurian system of deposits. During this immeasurable space of time, which in all probability was much longer than all the other four epochs taken together, the three most extensive of all the neptunic systems of strata were deposited, namely, the *Laurentian*, upon that the *Cambrian*, and upon that the *Silurian* system. The approximate thickness or size of these three systems together amounts to 70,000 feet. Of these about 30,000 belong to the Laurentian, 18,000 to the Cambrian, and 22,000 to the Silurian system. The average thickness of all the four other rock groups, the primary, secondary, tertiary, and quaternary, taken together, may amount at most to 60,000 feet; and from this fact alone, apart from many other reasons, it is evident that the duration of the primordial period was probably much longer than the duration of all the subsequent periods down to the present day. Many thousands of millions of years were re-