

upon the original types, although in numbers and variety there has been a great increase.

The plants now growing upon the globe, amounting probably to nearly one hundred thousand species, are divided into two great classes, by a very decided character. Some of them have distinct flowers, and others are destitute of them. The former are called phenogamian, or flowering plants; and the latter cryptogamian, or flowerless plants.

At present, the flowering plants very much predominate in the flora of every country. But in the earliest periods of organic existence, the reverse was the case. We find, indeed, but very few flowering plants, and these of a character, somewhat intermediate between flowering and flowerless; such as the coniferæ and cycadeæ, including the pine tribe. A few palms appeared almost as early, and some other monocotyledons. But most of the dicotyledons did not appear till the tertiary period, where more than two hundred species have been found. Of the three hundred species found in and beneath the carboniferous group, two-thirds are tree ferns, or gigantic aquisetaceæ. More than one third of the entire flora of the secondary formation consists of cycadeæ; whereas, this family of plants forms not more than the two thousandth part of the existing flora. In short, we find the more perfect plants as well as animals to be few in the earliest periods, and to have been gradually introduced up to the present time. But as to the flowerless plants, most of them seem to have been as perfect at first as they now are.

These facts teach us conclusively that the outlines of organic life on the globe have always been the same; that the great classes of animals and plants have always had their representatives, and that the variations which have been introduced, have been merely adaptations to the varying condition of the earth's surface. The higher and more complex natures, both of animals and plants, were not introduced at first, because the surface was not adapted to their existence; and they were brought in only as circumstances, favourable to their development, prepared the way.

There is another fact of great interest on this subject. Even a cursory examination of the animals and plants now on the globe, shows such a gradation of their characters that they form a sort of chain, extending from the most to the least