About fifty years later, Grisebach (1872) admitted the evolution-idea, though without taking full advantage of it. Every species diffuses from its centre of origin, but is met by climatic and topographical limits, which have resulted in the local peculiarities now observable. Moreover, in the course of diffusion new species may arise in consequence of climatic change and spatial isolation.

The next great step was taken in 1882, when Engler, following Unger's lead, sought to connect the present vegetation with that of Tertiary times, and to show how the known differences might be definitely accounted for by known changes such as the Ice Age and changes of elevation. Drude (1884) also based his system on the past history of the plant world, but for the details he returned to Schouw's statistical method.

This brief retrospect shows that climate and soil, geological changes, topographical and other boundaries, means of dispersal, original headquarters and past history were gradually recognized as factors determining the present state of affairs. The difficulty is to combine them.

Factors in Distribution.

There is much scientific utility in an ordered map of the distribution of plants and animals over the earth and through the seas, but it would be a more valuable result if we could show how the present distribution has come to be. It is certainly instructive to note the resemblance in the fauna of areas so widely separated as Britain and Japan, the difference in the fauna of areas so near to one another as Florida and the Bahamas, or as Bali and Lombok (the two islands separated by "Wallace's line"), the distinctiveness of the Australasian fauna, the peculiarly discontinuous distribution of tapirs, Camelidæ, and Lemurs, and similarly in regard to plants, for these are among the outstanding facts of geographical distribution, but our standard of biological interest was greatly raised by Darwin. The real interest of the facts is only appreciated when we reach some solution of the factors.

Our knowledge of the factors is still incomplete, and