

Notwithstanding the different and often greater means of dispersal possessed by plants, it is surprising how very similar are the broad features of the distribution of plants and animals. Doubtless this is owing in part to interdependence; and extensions of area of members of the two kingdoms have probably often been contemporaneous. Still, there are important divergences, and the primary regions of plants and animals cannot always be held as conterminous; assuming, of course, that Wallace has adopted the most natural divisions that could be found. This is most strikingly exemplified in the northern floras. Wallace was able to keep separate the eastern and western hemispheres, even in the north; and his palæarctic and nearctic regions he defends against the opinion of Huxley*, the endemic element being nearly equal in the two. On the merits of the question of one or two primary northern zoological regions it is not proposed to enter; but such a division cannot well be sustained in the vegetable kingdom, the alternative being more than two. Dr. Asa Gray long ago† pointed out the intimate relationships existing between the floras of Japan and North America, especially eastern North America: and the rich collections from Central China received at Kew within the last two years have added considerably to the number of genera, and almost identical species, common to Eastern Asia and Eastern America. Many of these extend to the mountains of North India, and a very few farther westward; but the affinities of the Floras of Eastern Asia and Eastern America are vastly greater than either exhibits with that of Europe. It is only in the higher latitude of North Corea and Mandshuria and northward that the vegetation bears a strong likeness to the European; but even there the relative proportion of woody plants is much higher than in Europe‡. However, it seems clear that the whole north temperate and arctic flora is better considered as forming one primary botanical region, with extensions, or remains of extensions, through the mountain-chains to the Australasian Alps, Tierra del Fuego, and the mountains of Tropical Africa, with only very faint traces in South Africa§.

The alternative of more than two primary northern botanical regions seems quite inadmissible; and this is the opinion of Engler, who has also specially examined the palæontological evidence, which proves that many of the genera of E. Asia and Eastern N. America formerly existed in Europe. If more than one primary northern region be admitted, we must, like Drude, recognize five or six; and, after all, there are no

* See 'Proceedings of the Zoological Society of London,' 1868, pp. 313-319: "the Geographical Distribution of the Alectoromorphæ," where the author suggests the propriety of two primary zoological regions, namely, a northern and a southern. As an alternative he proposes four primary regions, namely: 1. Arctogæa (practically Europe, Asia, North America, and Africa); 2. Austro-Columbia (South and Central America); 3. Australasia (Australia and New Guinea to Celebes and the Philippines); and 4. New Zealand.

† 'Memoirs of the American Academy of Arts and Sciences,' n. s. vi. 1858-59; and more fully elaborated by Engler, 'Versuch,' i. pp. 22-43 (1879).

‡ Maximowicz in Bull. Congr. Intern. Bot. et Hort. St. Petersburg. 1884, p. 152.

§ Sir Joseph Hooker enters fully into the distribution of "Scandinavian Forms," Transactions of the Linnean Society, xxiii. p. 251.