

## RECAPITULATION OF THE DOMINANT FEATURES OF THE FLORA OF MEXICO AND CENTRAL AMERICA, AND REMARKS ON ITS PROBABLE DERIVATION.

WRITERS on Phytogeography have treated the subject from various standpoints, and as diversely interpreted the phenomena of the distribution of plants. One of the initial difficulties is the definition of the boundaries of the different floral provinces or regions, which are necessarily more or less arbitrary conceptions; and on this point, especially, we encounter the most divergent opinions. Practically there is no limit to division and subdivision, except the degree of precision of the data and the extent of the area under consideration; and the designations 'floral kingdom,' 'zone,' 'province,' 'region,' and 'district' have no generally recognized meanings. Zoologists have an intelligible method of dealing with geographical facts; but it is hardly applicable to plants, because their distribution is so much more dependent on climatal conditions, and in almost all large countries there are distinct vertical as well as horizontal regions of vegetation. The horizontal or latitudinal divisions adopted in this work are explained on page 138 \*, and the altitudinal range of the plants has been set forth as fully as the data will permit.

Grisebach's† Mexican floral province extends from Panama to the northern limit of the tropical zone, and is subdivided into vertical regions. Yucatan is regarded as a part of the 'West-Indian province,' while the eastern side of Central America is reckoned to the 'Cis-equatorial province.' This idea has not met with acceptance; and Engler‡ has devised a plan of division more in accordance with the facts, and closely approaching that proposed in this work. One of his primary divisions of the vegetation of the globe comprises the whole tropical flora of America, which he subdivides into four 'provinces,' namely:—South Brazil, North Brazil and Guiana, West Indies, and Subandine. The last includes Grisebach's Cis-equatorial province (except Guiana), tropical and subtropical Central America and Mexico below the region of oaks and pines, and the tropical and subtropical regions of the Andes. As Engler observes, each of these regions presents certain peculiarities in its flora, yet it seems better to treat them as parts of a whole. Engler regards the highlands of Mexico and Guatemala as subdivisions of a floral province; and he indicates the relationships between the flora of the dry uplands of Mexico and that of the country to the north. On his map Grisebach indicates his 'Prairie province' as extending southward to the tropics, though he does not appear to give it that extension in the text.

Drude§ includes an area embracing California, the Rocky Mountains, Texas, Virginia, Florida, &c., in a 'floral kingdom,' which he subdivides into four provinces; one of

\* See also the Map, Plate 110.

† *Vegetation der Erde*, p. 297.

‡ *Versuch einer Entwicklungsgeschichte der Pflanzenwelt*, ii. p. 187.

§ "Florenreiche der Erde," Petermann's *Geographische Mittheilungen*, *Ergänzungsheft*, No. lxxiv. p. 58.