

main features of the distribution of existing animals, not those of any or all past geological epochs. Should we ever obtain sufficient information as to the geography and biology of the earth in past epochs, we might indeed determine approximately what were the Pliocene, Miocene, or Eocene zoological regions; but any attempt to exhibit all these in combination with those of our own period must lead to confusion." This objection applies with equal force to any botanical division; and as a critical examination of Engler's scheme would involve the discussion of questions beyond the scope of the present inquiry, it is sufficient for the purpose to have brought it under notice, though it should be added that it is full of valuable matter, and has been largely utilized in the present work.

The other scheme referred to above is by Dr. Drude. It was originally published in 1884 *, and again in 1887 as an independent work †. As explained in the title given below, this is a representation of the present conditions of the distribution of plants; hence it has a greater demand on our attention. Drude divides the world into fourteen "floral kingdoms," namely—(1) Northern, (2) Central Asian, (3) Mediterranean, (4) East Asian, (5) Middle North American, (6) Tropical African, (7) East African Islands, (8) Indian, (9) Tropical American, (10) Cape, (11) Australian, (12) New Zealand, (13) Andine, (14) Antarctic. Most of these regions are subdivided, and the overlapping of the elements of different regions is indicated by lines and dots.

As Drude himself remarks, we are all striving and devising with the same aim in view, and we arrive by different ways to much the same conclusions. He claims that he obtains practically the same results as Engler, but by different methods; that Engler's scheme is, after all, based essentially on present conditions; and says that there is far more difference in the arguments of the writers on phytogeography than there is in their deductions and cartographical illustrations. This is doubtless true to a certain extent, because there are certain facts which no student can overlook or disregard; yet it is none the less true that one begins with four and the other with fourteen regions, and therefore there must be a wide difference in their value and extent.

Engler's scheme, based upon a small number of primary regions, commends itself because these are much more nearly of equal importance than are Drude's; but his old oceanic region is altogether inadmissible from the standpoint here taken, involving, as it does, the relegation of the Northern Island of New Zealand to one of his primary divisions and the Southern to another.

A small number of primary divisions undoubtedly offers the least difficult basis for further division. Equivalent regions and subregions it is impossible to define, because

* "Die Florenreiche der Erde. Darstellung der gegenwärtigen Verbreitungsverhältnisse der Pflanzen, mit 3 Karten." *Ergänzungsheft* no. 74 zu Petermann's Mittheilungen.

† Atlas der Pflanzenverbreitung.