

THE ANTARCTIC FLORA.

ORIGIN OF THE VEGETATION OF THE ISLANDS OF THE SOUTH INDIAN OCEAN.

Many recent writers on phytogeography allude to the American element in Australasian vegetation, and some have recognised the fact that the composition of the flora of the coldest southern zone in which flowering plants grow is essentially the same in all parts; but nobody, except Engler,¹ has very fully discussed this subject. Sir Joseph Hooker (*Flora Tasmaniae: Introductory Essay*, pp. 89–91) follows Forster in designating this vegetation “Antarctic;” and he gives a list of species occurring in Australia and New Zealand, or in one or both of these countries, and Kerguelen, Tristan da Cunha, or Fuegia. Grisebach (*Vegetation der Erde*) defines an “Antarctic Forest Region” in South America, but the vegetation of all the southern islands, including New Zealand, is treated of under the general head of “Oceanic Islands.”

Engler (*loc. infra cit.*) divides the vegetation of the earth into kingdoms, and the Antarctic flora is included in his “Old Oceanic Kingdom,” which is subdivided into several regions and provinces, and comprises New Zealand, except the northern island, the greater part of Australia, the islands in the South Indian Ocean, South Africa, the Antarctic forest region of South America (which does not embrace the Falklands and Juan Fernandez), and the Tristan da Cunha, St Helena, and Ascension islands. We have not space to discuss the merits of this plan, which we believe the author himself would considerably modify with our data before him; but we agree generally with Drude that insular floras should be attached to the continental ones to which they exhibit the greatest affinity.

Drude (*Petermann's Mittheilungen: Ergänzungsheft*, No. lxxiv. p. 70) regards Fuegia, the Falklands, South Georgia, South Shetlands, Tristan da Cunha, Prince Edward, the Crozets, St Paul, Amsterdam, Macquarie, and Emerald Islands, as forming a distinct subregion, which he calls the “Antarctic Islands.” *Fagus* he looks upon as properly belonging to this subregion and overlapping in other regions. Though this is a much more philosophical method of dealing with the subject than Grisebach's, it is not altogether satisfactory, because the proposed subregion is not correctly limited. It includes either too much or too little. As shown in Part II., pp. 143 and 261, the vegetation of the Tristan da Cunha group, and of Amsterdam and St Paul, consist largely of the same species, and is quite different in its main features (*Phyllica* and *Spartina*) from that of Kerguelen and the other islands in a higher latitude. Further, there is no good reason why Macquarie Island should be placed in a different subregion from Auckland and Campbell Islands. Perhaps it would be better to extend this subregion, both in America and New Zealand, in spite of the large endemic element with which the types common to

¹ Versuch einer Entwicklungsgeschichte der Pflanzenwelt; in which work he has tabulated and fully analysed, among others, the floras of Australia and New Zealand.