

adorned with vegetable clothing, what is the distribution of plants on the steep declivity of the volcano, and what is the aspect or physiognomy of vegetation in the Canary Islands.

In the northern part of the temperate zone, the cryptogamous plants are the first that cover the stony crust of the globe. The lichens and mosses, that develop their foliage beneath the snows, are succeeded by gramina and other phanerogamous plants. This order of vegetation differs on the borders of the torrid zone, and in the countries between the tropics. We there find, it is true, whatever some travellers may have asserted, not only on the mountains, but also in humid and shady places, almost on a level with the sea, *Funaria*, *Dicranum*, and *Bryum*; and these genera, among their numerous species, exhibit several which are common to Lapland, to the Peak of Teneriffe, and to the Blue Mountains of Jamaica.* Nevertheless, in general, it is not by mosses and lichens that vegetation in the countries near the tropics begins. In the Canary Islands, as well as in Guinea, and on the rocky coasts of Peru, the first vegetation which prepares the soil are the succulent plants; the leaves of which, provided with an infinite number of orifices† and cutaneous vessels, deprive the ambient air of the water it holds in solution. Fixed in the crevices of volcanic rocks, they form, as it were, that first layer of vegetable earth with which the currents of lithoid lava are clothed. Wherever these lavas are scorified, and where they have a shining surface, as in the basaltic mounds to the north of Lancerota, the development of vegetation is extremely slow, and many ages may pass away before shrubs can take root. It is only when lavas are covered with tufa and ashes, that the volcanic islands, losing that appearance of nudity which marks their origin, bedeck themselves in rich and brilliant vegetation.

* This extraordinary fact was first observed by M. Swarz. It was confirmed by M. Willdenow when he carefully examined our herbals, especially the collection of cryptogamous plants, which we gathered on the tops of the Andes, in a region of the world where organic life is totally different from that of the old world.

† The *pores corticaux* of M. Decandolle, discovered by Gleichen, and figured by Hedwig.