The transport of volcanic dust by wind, already referred to (p. 369), may be again cited here, as another example of the geological work of the atmosphere. Thus, from the Icelandic eruptions of 1874–75, vast showers of fine ashes not only fell on Iceland to a depth of six inches, destroying the pastures, but were borne over the sea and across Scandinavia to the east coast of Sweden.³⁹ The remarkable sunsets of Europe during the winter and spring of 1883–84 are ascribed to the diffusion of the fine dust from the great Krakatoa eruption of August, 1883 (p. 365). Considerable deposits of volcanic material may thus be formed in the course of time even far remote from any active volcano.

Transportation of Plants and Animals .--Besides the transport of dust for distances of perhaps thousands of miles, wind may also transport living seeds or spores, which, finally reaching a congenial climate and soil, may survive and spread. We are yet, however, very ignorant as to the extent to which this cause has actually operated in the establishment of any given local flora. With regard to the minute forms of vegetable life, indeed, there can be no doubt as to the efficacy of the wind to transport them across vast distances on the surface of the globe. Upward of 300 species of diatoms have been found in the deposits left by dust-showers. Among the millions of organisms thus transported it is hardly conceivable that some should not fall still alive into a fitting locality for their continued existence and the perpetuation of their species. Animal forms of life are likewise diffused through the agency of winds. Insects and birds are often met with at sea, many miles distant from the land from which they have been blown. Such organisms are in this way intro-

Maury, "Phys. Geog. of Sea," chap. vi.; Ehrenberg's "Passat-Staub und Blut-Regen," Berlin Akad. 1847. A. von Lasaulx on so-called "cosmic dust," Tschermak's Mineral. Mittheil. 1880, p. 517.

⁸⁹ Nordenskiöld, Geol. Mag. (2), iii. p. 292. F. Zirkel, Neues Jahrb. 1879, p. 399. G. vom Rath, ibid. p. 506, and ante, p. 370.