

dunes 200 feet high, united at the base and stretching in straight lines as far as the eye could reach."³⁵

Some of the most remarkable æolian formations are in course of accumulation at Bermuda and other coral-islands. The finer coral-sand, with remains of shells, echinoderms, calcareous algæ, and other organisms, is driven by the wind into dunes, the surface of which by the action of rain-water soon becomes cemented into coherence, while by degrees the whole mass of calcareous débris is converted into a hard compact rock which rings under the hammer. The highest point of Bermuda is 245 feet above the sea, and the whole land up to that height is composed of these hardened calcareous æolian deposits."³⁶

Dust-showers, Blood-rain.—Besides the universal transport and deposit of dust and sand already described, a phenomenon of a more aggravated nature is observed in tropical countries, where great droughts are succeeded by violent hurricanes. The dust or sand of deserts and of dried lakes or river-beds is then sometimes borne away into the upper regions of the atmosphere, where, meeting with strong aerial currents which may transport it for many hundreds of miles, it descends again to the surface, in the form of "red fog," "sea-dust," or "sirocco-dust." This transported material, usually of a brick-dust or cinnamon color, is occasionally so abundant as to darken the air and

³⁵ For accounts of sand-dunes, their extent, progress, structure, and the means employed to arrest their progress, the student may consult Andersen's "Klitformationen," 1 vol. 8vo, Copenhagen, 1861; Laval in *Annales des Ponts-et-Chaussées*, 1847, 2me sem. Marsh's "Man and Nature," 1864, and the works cited by him. Forchhammer, *Edin. New Phil. Journ.* xxxi. (1841), p. 61. Élie de Beaumont, "Leçons de Géologie pratique," vol. i. p. 183. Winkler, *Cong. Internat. Geol.* 1878, p. 181. Information regarding the sands of the interior of continents will be found in Palgrave's "Travels in Arabia"; Blake, in *Union Pacific Railroad Report*, v.; Tristram, "The Great Sahara," 1860; Desor, "Le Sahara, ses différents types de déserts," *Bull. Soc. Sci. Nat. Neuchâtel*, 1864; E. Fuchs, *Petermann's Mittheil.* 1879; A. Pomel, *Assoc. Française*, 1877, p. 428; G. Rolland, *Bull. Soc. Geol. France*, 3me ser. x., *La Nature*, 1882, *Soc. de Geog.* 1890; Richthofen's "China," i.; J. C. Russell on the subaerial deposits of North America, *Geol. Mag.* 1889, p. 289.

³⁶ Nelson, *Q. J. Geol. Soc.* ix. p. 226. Wyville Thomson's "Atlantic," vol. i., and ante, p. 226.