

lent illustration of the alternate deposit of sulphur and limestone. They consist mainly of a marly limestone, through which the sulphur is partly disseminated and partly interstratified in thin laminæ and thicker layers, some of which are occasionally 28 feet deep. Below these deposits lie older Tertiary gypseous formations, the decomposition of which has probably produced the deposits of sulphur in the overlying more recent lake basins.¹⁰ The weathering of sulphur is exemplified on a considerable scale at these Sicilian deposits. The mineral, in presence of limestone, oxygen and moisture, becomes sulphuric acid, which, combining with the limestone, forms gypsum, a curious return to what was probably the original substance from the decomposition of which the sulphur was derived. Hence the site of the outcrop of the sulphur beds is marked at the surface by a white earthy rock, or borscale, which is regarded by the miners in Sicily to be a sure indication of sulphur underneath, as the gossan of Cornwall is indicative of underlying metalliferous veins.¹¹

Iron, the most important of all the metals, is found only sparingly in the native state, in blocks which have fallen as meteorites, also in grains or dust inclosed in hailstones, in snow of the Alps, Sweden and Siberia, in the mud of the ocean-floor at remote distances from land, and in some eruptive rocks. There can be no doubt that a small but constant supply of native iron (cosmic dust) is falling upon the earth's surface from outside the terrestrial atmosphere.¹² This iron is alloyed with nickel, and contains small quantities of cobalt, copper and other ingredients. Dr. Andrews, however, showed in 1852 that native iron, in minute spicules or granules, exists in some basalts and other volcanic rocks¹³ and Mr. J. Y. Buchanan has detected it in ap-

¹⁰ Memorie del R. Comitato Geologico d'Italia, i. (1872).

¹¹ Journ. Soc. Arts, 1873, p. 170. E. Ledoux, Ann. des Mines, 7me. sér. vii. p. 1. The Sicilian sulphur beds belong to the Oeningen stage of the Upper Tertiary deposits. They contain numerous plants and some insects. H. T. Geysler, Palæontographica, xxiii. Lief. 9, p. 317. Von Lasaulx, Neues Jahrb. 1879, p. 490.

¹² See Ehrenberg, Friorieps Notizen, Feb. 1846; Nordenskiöld, Comptes rendus, lxxvii. p. 463, lxxviii. p. 236. Tissandier, op. cit. lxxviii. p. 821, lxxx. p. 58, lxxx. p. 576. See lxxv. (1872) p. 683. Yung, Bull. Soc. Vaudoise Sci. Nat. (1876), xiv. p. 493. Ranyard, Monthly Not. Roy. Astron. Soc. xxxix. (1879) p. 161. S. L. Phipson, Comptes rend. lxxxiii. p. 364. A Committee of the British Association was appointed in 1880 to investigate the subject of cosmic dust. See its reports for 1881-83.

¹³ Brit. Assoc. Rep. 1852, postea, p. 768.