receive accessions of deposit with extreme slowness—and where therefore the present surface may contain the dust of a long succession of years—that it may be expected to be possible to detect them.[306]

The abundant deposit of peroxide of manganese over the floor of the deep sea is one of the most singular features of recent discovery. It occurs as an earthy incrustation round bits of pumice, bones, and other objects (Fig. 175). The nodules possess a concentric arrangement of lines not unlike those of urinary calculi. That they are formed on the spot, and not drifted from a distance, was made abundantly clear from their containing abysmal organisms, and inclosing more or less of the surrounding bottom, whatever its nature might happen to be. More recently Mr. J. Y. Buchanan dredged similar small manganese concretions from some of the deeper parts of Loch Fyne,[307] and subsequently Dr. John Murray found them abundantly at 10 fathoms in the Firth of Clyde. The formation of such concretions may be analogous to the solution and deposition of oxides of iron and manganese by organic acids, as on lake-floors, bogs, etc. (p. 810).[308] In connection with the chemical

Fig. 174.—Chondre (Cosmic Dust) of the ocean-bottom (Murray and Renard).
Spherule of bronzite (mag. 25 diam.) showing the aspect of the chondres found in the abysmal deposits. From a depth of 3500 fathoms, Pacific.

[306] Murray and Renard on Cosmic Dust, Proc. Roy. Soc. Edin. 1884; Nature, xxix. "Challenger" Expedition Report, vol. on "Deep-Sea Deposits," p. 327 *et seq.*

[307] Nature, xviii. 1878, p. 628. Brit. Assoc. 1881, p. 583. Proc. Roy. Soc. Edin. ix. p. 287. Trans. R. S. Edin. xxxvi. 1891, p. 459. Dieulafait, Comptes Rend. 1884, p. 589.

[308] Different views have been expressed by Dr. John Murray and Mr. J. Y.