

Ocean and in the seas around the Shetland Islands living diatoms sometimes form vast floating banks of a yellowish slimy mass, which impedes the prosecution of the herring fishery.³⁵³ The frustules of these plants accumulate at depths of from 1260 to 1975 fathoms, as a pale straw-colored deposit, which when dried is white and very light (Fig. 181).³⁵⁴

6. Chemical Deposits.—But, besides giving rise to new formations by the mere accumulation of their remains, plants do so also both directly and indirectly by originating or precipitating chemical solutions. The most conspicuous example of this action is the production of calc-sinter. Some plants (several species of *Chara*, for instance) have the power of decomposing the carbonic acid dissolved in water, and precipitating calcium-carbonate within their own cell walls. Others (such as the mosses *Hypnum*, *Bryum*, etc.³⁵⁵) precipitate the carbonate as an inorganic incrustation outside their own substance. Some observers have even maintained that this is the normal mode of production of calc-sinter in large masses like those of Tivoli. It is certainly remarkable that this substance may be observed incrusting fibrous bunches of moss (*Hypnum*, etc.), when it can be found in no other part of the water-course, and this, too, at a spring containing only 0.034 of carbonate. It is evident that if the deposit of calc-sinter were due to mere evaporation, it would be more or less

³⁵³ Murray and Irvine, Proc. Roy. Soc. Edin. xviii. 1891, p. 231. On the source whence marine plants and animals obtain their silica, see ante, p. 755 and postea, p. 828.

³⁵⁴ Messrs. Murray and Irvine estimate the area of sea-bottom covered with diatom ooze at 10,420,600 square miles, and the mean depth of the surface of the deposit at 1477 fathoms below sea-level, Proc. Roy. Soc. Edin. xvii. 1889, p. 82.

³⁵⁵ Also phanerogams, as *Ranunculus* and *Potamogeton*.