

in a vertical direction twenty-five times; so that while 1 mm. represents 10 miles in distance, 2.5 mm. represent one mile or 1000 fathoms in depth or height.

A reference to this section shows that the bottom of the Atlantic, along a line which corresponds roughly with the Tropic of Cancer, presents very much the same character which it does farther north—that of a plateau showing comparatively gentle undulations on a large scale. The section does not differ very materially from the general outline given in some of the latest atlases of physical geography—for example, in Plate XLI<sup>o</sup> of Stieler's Hand Atlas; and it confirms, upon the whole, to a remarkable degree, the soundings of Lieutenant-commanding Lee and Lieutenant-commanding Berryman, of the United States Navy, in the surveying-ship *Dolphin*, which have furnished nearly all the data for this particular region.

After passing over about 80 miles of volcanic mud and sand, products of the disintegration of the volcanic rocks of the islands of the Canary group, the first four soundings, to a distance of 300 miles from Santa Cruz at depths varying from 1525 to 2220 fathoms, yielded "globigerina ooze" of the usual character. This "modern chalk" consists, first of all, of a creamy surface layer made up of little else than the shells, most of them almost entire, of *Globigerina*, *Pulvinulina*, and *Orbulina*, with a relatively small proportion of finely divided matter, consisting chiefly of coccoliths and rhabdoliths, and a still smaller proportion of the spines and tests of radiolarians, and fragments of the spicules of sponges. Mixed with these there are usually a considerable number of the dead shells of pteropods of the genera *Cleodora*, *Diacria*, *Cavolinia*, *Triptera*, and *Styliola* in a more or less mutilated and disintegrated condition; and living among the ooze, at all events at moderate depths, there are scattered examples of many foraminifera of the crystalline and milioline groups, and the sponges, corals, starfishes, and higher invertebrates, which, with a few fishes be-