

So far as we can judge, these shells appear to be formed of calcite. But whether the shells be calcite or aragonite they all disappear in the greatest depths of the ocean, while only those with very thin or very porous shells are removed from the shallower deposits. Any shells may be preserved in marine deposits if they be rapidly covered up by other shells, or may be removed if long enough exposed to the solvent action of normal sea-water. So far as we have been able to observe, the crystalline form of the carbonate of lime in these shells does not enter into the problem as to the causes of their gradual removal from marine deposits with increasing depth.

If we take the Challenger deposits as representative of those covering the whole floor of the ocean, then the average proportion of carbonate of lime in deep-sea deposits as a whole is about 37 per cent., and of this carbonate of lime it is estimated that fully 90 per cent. is derived from the remains of pelagic organisms that lived in the surface waters, and therefore belonging to the pelagic Plankton.

Coral Muds, Coral Sands, Pteropod and Globigerina Oozes are estimated to cover over 52,000,000 square miles of the sea bottom, and the average percentage of carbonate of lime in these deposits, taking the Challenger samples as a basis, is 76.44.

Beyond the fact that the sounding tube and dredge have occasionally penetrated about 18 inches or two feet into these deposits, there is little, if any, information as to the depth or thickness of these beds, but judging from what has taken place in past geological periods they may undoubtedly have a very great thickness.¹

The following table exhibits the percentage of carbonate of lime in each of the types of deep-sea deposits according to the analyses of the Challenger samples, together with the average depth of each type of deposit, and the estimated area which each type covers on the sea-floor, the extent of the areas being founded on a consideration of all available information on the subject.

Table showing the Mean Depth, Mean Percentage of Carbonate of Lime, and the Estimated Area of the various Deep-Sea Deposits.

	Mean Depth in Fathoms.	Mean Percentage of CaCO ₃ .	Area, Square Miles.
Red Clay,	2730	6.70	51,500,000
Radiolarian Ooze,	2894	4.01	2,290,400
Diatom Ooze,	1477	22.96	10,880,000
Globigerina Ooze,	1996	64.53	49,520,000
Pteropod Ooze,	1044	79.26	400,000
Coral Mud,	740	86.41	2,556,800
Coral Sand,	176		
Other terrigenous deposits, Blue Mud, &c.	1016	19.20	16,050,000

¹ Murray, *Scot. Geogr. Mag.*, vol. vi. pp. 468-473, 1890.