

the finest matter. The second contained the smaller and the third the larger Foraminifera. This difference in the quantity of carbonate of lime in the decantations shows how two samples of the same ooze may vary when it is allowed to settle after being shaken by carriage in bottles or by the action of the dredge or trawl during collection. For these reasons an average sample of the deposit was generally carefully selected for analysis, and this has usually been taken from the specimen obtained in the sounding tube, where this sorting is much less likely to have taken place.

The following analysis by Professor Brazier is from an average sample from the dredge :—

Loss on ignition after washing and drying at 230° F.,		1.40		
Portion soluble in Hydrochloric Acid = 97.11,	}	= {	Alumina,	0.65
			Ferric Oxide,	0.60
			Calcium Phosphate,	0.90
			Manganese Oxide,	trace
			Calcium Sulphate,	0.19
			Calcium Carbonate,	92.54
			Magnesium Carbonate,	0.87
Silica,	1.36			
Portion insoluble in Hydrochloric Acid = 1.49,	}	= {	Consisting of Alumina and Ferric Oxide, with Silica, }	1.49
				100.00

It will be seen that this deposit has a high percentage of carbonate of calcium, and a small residue. The slightly higher percentage of the carbonate of lime in this analysis than that given above (90.38) may be owing partly to the sorting of the materials of the ooze, and partly to the prolonged action of the hydrochloric acid in the complete analysis.

On Deep-Sea Deposits in General.—The foregoing example will serve to show the method adopted by Messrs. Murray and Renard in the examination of the deep-sea deposits. The description commences by indicating the kind of deposit (red clay, blue mud, Globigerina ooze, &c.), with the macroscopic characters when wet or dry. When a complete chemical analysis has not been made the amount of carbonate of calcium has always been determined.

This determination was generally made by estimating the carbonic acid; a gramme of a mean sample of the substance was taken for this purpose, using dilute and cold hydrochloric acid. However, as the deposits often contain carbonates of magnesia and iron as well, the results calculated by associating the carbonic acid with the lime are not perfectly exact, but these carbonates of magnesia and iron are almost always in very small proportion, and the process is sufficiently accurate, for, owing to the sorting of the elements which goes on during collection and carriage, no two samples from the same Station give exactly the same percentage. The number which follows the words