of the *Globigerina* shells present in these deposits. Take for example a sample with about the highest percentage of carbonate of lime, 91·32 (Station 302), where there is 0·30 per cent. of carbonate of magnesia, while in that with the least carbonate of lime, 37·51 per cent. (Station 64), there is 1·13 per cent. of carbonate of magnesia.[1]

In examining the insoluble portion of the analyses, it will be seen that, generally speaking, this portion indicates that the mineral particles are relatively less numerous than in a Red Clay. In some samples, however, the percentage of silica indicates the presence of quartz and of silicates in some abundance. In all these respects the analyses confirm the macroscopic and microscopic examination in showing the presence of silicates, similar to those in other pelagic deposits, in the residue of a Globigerina Ooze. This view is confirmed by the following additional analysis of a Globigerina Ooze from the Tropical Pacific, at Station 176, in 1450 fathoms :—

Station.	Depth in Fathoms.	No.	SiO_2	Al_2O_3	Fe_2O_3	MnO_2	CaO	MgO	K_2O	Na_2O	CO_2	H_2O	Cu	Ni	Co	P_2O_5	Total.
176	1450	56	17·71	4·86	6·80	1·69	35·08	1·64	0·32	0·65	29·10	2·95	tr.	tr.	tr.	tr.	100·80

In comparing the figures in this analysis with those given in the previous table for a sample from the same station, there is a coincidence in most cases, but in some cases there are small divergences which cannot be accounted for by different methods of analysis, and this shows how samples from the same station may vary in composition. This remark is applicable also to the results indicated in the Tables of Chapter II., which again are different from the results of this complete analysis. It will thus be seen that, notwithstanding the care taken in selecting a medium sample, we are in reality not dealing with a homogeneous substance; this is true for all the deposits, as might be expected, and as we have already pointed out. However, the examination of the preceding analysis leads to the same general results as the others; that is to say, the percentage of carbonate of lime is that of a Globigerina Ooze. Along with the carbonate of lime organisms there is a residue composed of argillaceous matters united with hydrated silica, siliceous organisms, and anhydrous silicates containing alumina, iron, magnesia, and alkalies, referable to minerals and fragments of rocks of volcanic origin.

In order to know as exactly as possible the nature of this mineral matter mixed with the remains of *Globigerinæ*, the residues of two samples of Globigerina Ooze have been submitted to a detailed examination. The samples were in the first place boiled for a long time in distilled water to remove the soluble salts. They were then treated with dilute acid

[1] This fact may be easily explained: admitting that the carbonate of magnesia comes from the action of the sulphate of magnesia in the sea-water on the *Globigerina* shells, it will be seen that this action must be stronger on a given quantity of shells, when the rate of their deposition is slow than when they are abundant, and accumulate rapidly in the deposit. It may, however, be urged that the carbonate of magnesia has accumulated in the greater depths simply from the removal of the carbonate of lime in solution.