

bodies are met with in clay. The part soluble in hydrochloric acid consists thus of clay, in addition to carbonates, sulphates, and phosphates, with ferric hydrate and a small quantity of manganese. In this analysis it is evident that the percentage of iron is very high, which is due to the fact that the hydrate of iron is proportionally more easily attacked by hydrochloric acid than clay properly so called.

The loss on ignition cannot be entirely attributed to water; a part must be referred to organic matters and carbonic acid, and a determination was made with the object of estimating the quality of this organic matter in the Globigerina Ooze from Station 224, 1850 fathoms, the analysis of the residue of which is given above.

(No. 58) 0.9905 gm. of the substance dried at 100° C. lost on ignition 0.0537 gm. = 5.42 per cent.

0.9588 gm. of the substance dried at 100° C. lost on ignition 0.0558 gm. = 5.82 per cent.

(I.) 0.4413 gm. of substance dried at 100° C., burnt with oxide of copper, gave 0.0453 gm. of carbonic acid, corresponding to 0.01235 gm. of carbon.

(II.) 0.9012 gm. of substance dried at 100° C., mixed with oxide of copper and burnt in a current of carbonic acid (barometer, 743.95 mm., mean temperature, 22° 5 C.) gave 6.4 cubic centimetres of nitrogen = 0.0753 gm.

The percentage composition of this organic substance is thus:—

C	.	.	.	.	.	2.80 per cent.
N	.	.	.	.	.	0.785 „

The proportion of carbon and nitrogen in this organic substance is 53.48 : 15, which is the proportion of these two elements in albumen.

To conclude then, it may be said that the foregoing analyses confirm the macroscopic and microscopic observations in showing a Globigerina Ooze to be a deposit formed essentially of the remains of calcareous organisms, while the portion insoluble in dilute acid consists of matters similar to those met with in a Red Clay, and having the same origin.

From the state of our knowledge up to the present time it appears that Globigerina Ooze is one of the most widely distributed of the marine deposits, the area which it covers being estimated at about 49,520,000 square miles, inferior only to that of the Red Clay. It attains its maximum development in the Atlantic Ocean, occupying by far the larger portion of the sea-floor of this ocean, and stretching from within the Arctic Circle to the Southern Ocean as far as 60° S. latitude. The total area of Globigerina Ooze in the Atlantic from north to south is estimated at about 22,500,000 square miles.

In the Indian Ocean, Globigerina Ooze is estimated to occupy about 12,220,000 square miles, covering nearly the whole of the western portion of the basin, extending into