

and intermediate depths than in surface-water; but if regard be had to the temperature of the water, it will be seen that there is but little difference in the amount in waters of the same temperature, from whatever depth they may have been derived. This seems to indicate that the animal life at the bottom and at great depths can not be very abundant, otherwise there could hardly fail to be a decided excess of carbonic acid in the deep water, owing to constant production and want of the means of elimination of the gas. On this subject, however, it would be premature to speculate before the determination of the oxygen, from which we may hope for much information.

At a meeting of the Royal Society of Edinburgh, on the 4th of June of the present year, Mr. Buchanan communicated the results of an examination of the gases dissolved in sea-water at different depths, especially with reference to the amount of oxygen contained.

He finds that at the surface the amount of oxygen varies between 33 and 35 per cent., the higher number having been observed in a water collected almost on the Antarctic circle: the smallest percentages have been observed in the trade-wind districts. In bottom-water, the absolute amount is greatest in Antarctic regions, diminishing generally toward the north. The oxygen percentage is greatest over diatomaceous oozes, and least over red clays containing peroxide of manganese: over blue clays it is greater than over globigerina oozes. In intermediate waters the remarkable fact was observed that the oxygen diminishes down to a depth of 300 fathoms, at which point it attains a minimum, after which the amount increases.

The following figures show the nature of this phenomenon:

Depth (fathoms). }	0	25	50	100	200	300	400	800	{ Between 800 and the bottom.*
Oxygen O + N = 100 }	33·7	33·4	32·2	30·2	33·4	11·4	15·5	22·6	23·5

* *Nature*, July 26th, 1877.