has been determined, the oxygen and nitrogen have also been collected, and have been preserved until our return home, where they will shortly be analyzed. It would be useless to attempt to discuss the results of the carbonic acid determinations at present, and before these analyses have been made, especially as there is likely to be some relation between the amounts of oxygen and of carbonic acid. Independently, however, of the relations which may subsist between the two bodies, it may be gathered from the inspection of the table (Appendix C) that, taking surface-waters alone, the amount of carbonic acid present is many times greater than would be contained in the same volume of distilled water under the same circumstances. Sometimes it is more than thirty times as much.

The amount of carbonic acid contained by surface-waters of the same temperatures increases with the density, and consequently is greater in the surface-water of the Atlantic than in that of the Pacific, the two oceans being very markedly distinguished from one another by the different densities of their surface-waters. Thus we have a mean of 0.0466 gramme CO_2 per litre in Atlantic surface-water of temperature between $20°$ and $25°$ C. and mean density of 1.02727; while in the Pacific the mean is 0.0268 gramme in water of 1.02594 mean density: and the mean amount of carbonic acid in Atlantic water of temperature above $25°$ C. and mean density 1.02659 is 0.0409; while in the Pacific the corresponding water is of mean density 1.02593, and contains 0.0332 gramme CO_2 per litre. As a rule, other things being equal, the amount of carbonic acid diminishes as the temperature increases; thus the mean amount of carbonic acid in waters whose temperature was between $15°$ and $20°$ was found to be 0.0446 gramme per litre, the mean density being 1.02642; while we have seen that in the Atlantic the surface-water of temperature above $25°$ C. and of mean density 1.02659 contains 0.0409 gramme per litre. Also there is usually more carbonic acid in waters taken from the bottom