The first glance at this Chart shows the coincidence of the regions of concentration in the sea with those of the trade winds in the atmosphere, which in their turn coincide closely with the areas of maximum barometric pressure. On both sides of each of these regions the concentration diminishes and passes into areas of decided dilution, and also of diminished barometric pressure.

As the concentration of the sea water depends on the climate to which it is exposed, and as that is subject to certain variations, so the areas occupied by the various colours on the map will be subject to oscillations; hence properly there should be similar charts for every month of the year; for this purpose, however, many more observations are required than are at present available. The colours on the Chart will probably not differ very greatly from the mean positions of the regions which they indicate. To take only one instance, it is quite certain that the equatorial area of dilution will have a yearly oscillation corresponding to that of the equatorial calms; in the eastern seas too, where for one half of the year a dry trade wind is blowing, and for the other a moist monsoon, the state of the sea water may be expected to show great variations, and these variations are shown in a very marked manner in the observations made in the China Sea and neighbouring seas, which were traversed in one direction at the end of the southwest monsoon when the water was comparatively fresh, and in the other direction after the northeast monsoon, or true trade, had been blowing for some time. The average density observed in the China Sea in the beginning of November was 1·02510, while in the month of January it was 1·02534.

Taking the surface observations, it will be found that in the North Atlantic the specific gravity increases from all sides up to a maximum about lat. 22° N. and long. 40° W. In this they agree with those of Lenz and the German ship "Gazelle." It is an opinion, expressed by Lenz and by other travellers and navigators, that the specific gravity of the surface water of the North Atlantic is greater on the west and less on the east side; and this opinion is derived from a consideration of the observations on outward-bound and homeward-bound ships. The former keep close to the eastern margin of the North Atlantic, whereas the latter keep well out, passing usually to the westward of the Azores; and it is true that the water in the *centre* of the North Atlantic, between the parallels of 15° and 30°, is denser than on the eastern side, but it is also denser than on the western side.

	East.		Middle.		West.
	Buchanan.	Lenz.	Buchanan.	Lenz.	Buchanan.
Maximum, . . .	1·02755	1·02720	1·02778	1·02776	1·02739
Latitude of Maximum, .	24°	31°	23°	20°	27°