

accepted. Dr. Carpenter believes, however, that the conditions in the Strait of Gibraltar and in the Baltic Sound aptly illustrate the general circulation in the ocean, and confirm his views.

I quote from the general summary of Dr. Carpenter's address to the Geographical Society:—

“The application of the foregoing principles to the particular cases discussed in the paper is as follows:—

“VIII.—A vertical circulation is maintained in the Strait of Gibraltar by the excess of evaporation in the Mediterranean over the amount of fresh water returned into its basin, which at the same time *lowers its level and increases its density*; so that the surface inflow of salt water which restores its level (exceeding by the weight of salt contained in it the weight of fresh water which has passed off by evaporation) disturbs the equilibrium and produces a *deep outflow*, which in its turn lowers the level. The same may be assumed to be the case in the Strait of Babelmandeb.

“IX.—A vertical circulation is maintained in the Baltic Sound by an excess in the influx of fresh water into the Baltic; which at the same time raises its level and diminishes its density, so as to produce a *surface outflow*, leaving the Baltic column the lighter of the two, so that a *deep inflow* must take place to restore the equilibrium. The same may be assumed to be the case in the Bosphorus and Dardanelles.

“X.—A vertical circulation must, on the same principles, be maintained between polar and equatorial waters by the difference of their temperatures: