when close to the bottom, I was very careful in examining the thermometer, but could discover no other reason for it than the actual coldness of the water."

Notwithstanding these observations and several others telling in the same direction,—such as those of Lieutenant Lee of the U.S. Coast Survey, who in August 1847 found a temperature of 2°·7 C. below the Gulf-stream, at the depth of 1,000 fathoms, in lat. 35° 26′ N., and long. 73° 12′ W.; and of Lieutenant Dayman, who found the temperature at 1,000 fathoms, in lat. 51° N. and long. 40° W. to be 0°·4 C., the surface temperature being 12°·5 C., the impression seems to have prevailed among physicists and physical geographers that salt water followed the same law as fresh water, attaining its greatest density at a temperature of 4° C. The necessary result of this condition, were it to exist, is thus stated by Sir John Herschel: "In very deep water all over the globe a uniform temperature of 39° Fahrenheit (4° C.) is found to prevail; while above the level where that temperature is first reached, the ocean may be considered as divided into three great regions or zones—an equatorial and two polar. In the former of these warmer, and in the latter colder water is found on the surface. The lines of demarkation are of course the two isotherms of 39° mean annual temperature." Dr. Wallich gives an excellent *résumé* of this curious fallacy. He says: "But whilst the temperature of the atmosphere beyond the line of perpetual congelation goes on gradually increasing, that of the water below the isothermal line remains constant to the bottom.