

Labrador coast, at which tests of the currents were made, was three miles distant, and yet the position in which we would expect to find this cold branch current, if it does exist, is comparatively close to this Labrador coast, where the water is colder and deeper.

An instance to some extent parallel to that of the Gulf St. Lawrence and the Atlantic Ocean is the Black Sea in its relations to the Mediterranean Sea. There is a great body of fresh water poured daily into the Black Sea by the Danube, the Dnieper and other rivers, but even after taking into account the enormous evaporation constantly going on over the broad area which the sea presents, there is a slight outward surface current through the Dardanelles. On the other hand, there is also a current inward which is beneath and saline, and which, Dr. Carpenter explains in the *Encyclopædia Britannica*, is produced by the outward surface current creating downward and therefore lateral pressure on the Mediterranean waters, causing a current inward through the Dardanelles. Dr. Carpenter adds: "We have here a pregnant instance of the slight differences in level and salinity to produce even rapid movements of considerable bodies of water, and a strong confirmation of the doctrine that differences of density produced by temperature are adequate to give rise to still larger though slower movements of the same kind in the great ocean basins."

As bearing on the subject, Mr. Dawson has taken both surface and deep water temperatures at different points on three cross sections of the Straits of Belle Isle and one cross section at Cabot Straits, between Newfoundland and the Cape Breton coast. These temperatures are very interesting and establish the conclusions that the colder waters are always deflected against the Labrador or northern side of the Straits of Belle Isle, and against the Newfoundland or northern side of Cabot's Straits, whilst the warmer waters press against the southern sides in