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sometimes in opposing directions; wheels within wheels, layer over layer, ever going forward in circles and cycles all their own, and all in obedience to unvarying eternal law. The cold water from both poles, north and south, rushing along the bottom of old ocean to meet at the equator to heat up, imbibe new life from association with each other and with the atmosphere, and then resume their rounds north and south in warm vapor and genial warm surface water, to again descend in polar regions and again renew their equatorial journey.

The resolute but quiet marching in oblique opposite directions of the Labrador and Gulf Stream waters having, however, the amplest of space for peacefully adjusting the shock of impact that amplitude may have something to do with the very slight appearance of conflict in colliding. On the other hand the broken and disorderly jumble of waves in an Atlantic storm may be owing in large measure to the two waters pursuing contrary courses. The two days of observation were so calm with only a low swell on, we were enabled to see well what was transpiring on the surface; at both places there was distinct evidence of collision on a very gentle scale.

Regarding the St. Lawrence temperature mentioned, an offset may be attempted by stating the well known fact that inland shallow waters, with clear, sandy bottom like the north shore of Prince Edward, are considerably warmer than the deep sea, and may account for the high temperature there. In rebuttal I would advance that the loss of temperature to the suppositious "arm" of the stream by transmission would, I imagine, fully equal the gain from the warm shallow water. The Atlantic temperature averages 52° to 54° F.; the Gulf Stream averages 66° F., and the Prince Edward Island, Brackley Beach, during three consecutive July days, at about 15 fathoms from shore, and a depth of $5\frac{1}{2}$ feet, registered 68, 66, 67° F., the variations being due to the condition of the wind and sun, but in no one day was it under Gulf Stream temperature.

Admitting that there should be substantial evidence of the existence on the Atlantic side, of such an "arm," proceeding in the direction of Cape Breton, can it be had—i it in print? I confess to having made diligent search for it in Thompson's "Voyage of the Challenger," in Britannica under Gulf Stream, also in British Admiralty's Instructions to Pilots, without success. But in Captain Nares' little volume, "Voyage of the Challenger," there is mentioned a little incident that establishes that fact almost beyond question. About a day after crossing the north bank of the Gulf Stream, sailing towards Halifax, N.S., and after recording several entries of Atlantic temperature, he remarks, "We came upon a peculiar phenomenon "to-day, the temperature registering the same "as the Gulf Stream, but upon trying again "we were back to that of the Atlantic." The wording I give is from memory and may not be strictly accurate—in substance however it is correct. Now I hold that that one incident is sufficient authentication of the existence of sea water of the Gulf Stream temperature about half-way between the Stream proper and Halifax. It could not have been a temporary or transient affair, nor a local warm pool like a "pocket" of lead or silver as is occasionally found in mining. Its heel must be in the Gulf Stream and its foremost section must have some part of the Nova Scotian or Massachusetts shore.

Now in these days when great Empire building propositions like the All Red Line are being seriously discussed, and the possible linking of Newfoundland by tunnel with Labrador, has been mooted, the matter of this "peculiar phenomenon" should be worth bringing to the