Captain Maury writes[1] that "the dynamical force that calls forth the Gulf-stream is to be found in the difference as to specific gravity of intertropical and polar waters." "The dynamical forces which are expressed by the Gulf-stream may with as much propriety be said to reside in those northern waters as in the West India seas: for on one side we have the Caribbean sea and Gulf of Mexico with their waters of brine; on the other the great polar basin, the Baltic, and the North Sea, the two latter with waters which are little more than brackish. In one set of these sea-basins the water is heavy; in the other it is light. Between them the ocean intervenes; but water is bound to seek and to maintain its level; and here, therefore, we unmask one of those agents concerned in causing the Gulf-stream. What is the power of this agent? Is it greater than that of other agents? and how much? We cannot say how much; we only know it is one of the chief agents concerned. Moreover, speculate as we may as to all the agencies concerned in collecting these waters, that have supplied the trade-winds with vapour, into the Caribbean Sea, and then in driving them across the Atlantic, we are forced to conclude that the salt which the trade-wind vapour leaves behind it in the tropics has to be conveyed away from the trade-wind region, to be mixed up again in due proportion with the other water of the sea—the Baltic Sea and the Arctic Ocean included—and that these are some of the waters, at least, which we see running off through the Gulf-stream. To convey them away is doubtless one of the offices which in the economy of the ocean has been assigned

[1] Maury's Physical Geography of the Sea, op. cit.