

over the barrier, or very nearly so; for if there be any appreciable *vis a tergo*, a little water at a slightly lower temperature will force itself over the barrier and sink to the bottom.

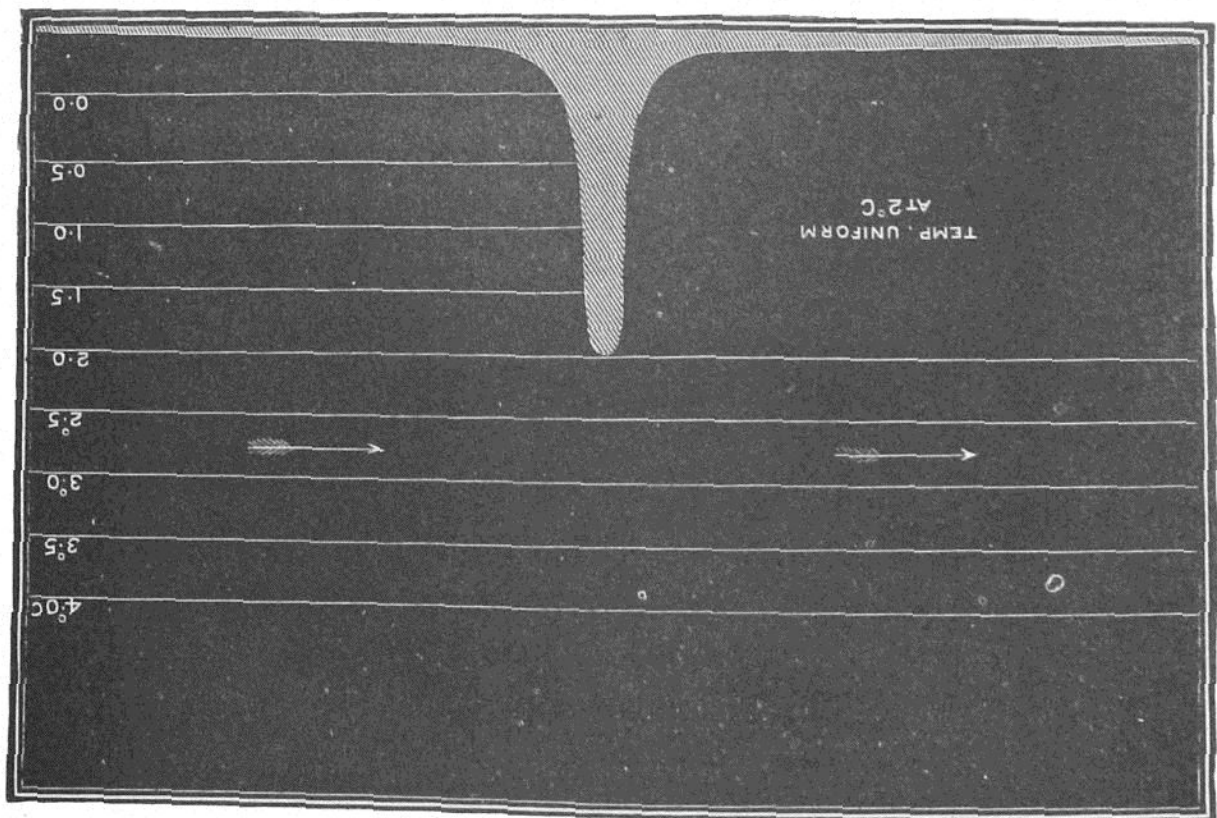


FIG. 57.—Diagram showing the Effect of a "Continuous Barrier" on Ocean Temperature.

Now, if we admit that the water in the basin of the Atlantic consists of a continuous indraught welling into it, from some cause, from the Southern Sea, the southern water is welling into a space honey-combed by such barriers. On the eastern side it meets with a barrier not far to the north of the Cape of Good Hope, uniting the coast of Africa with the central ridge, and no water can pass into the eastern basin at any lower level than the lowest part of that barrier and of that ridge. On the western side of the central ridge the water passes freely up in the south-western basin nearly as far as the equator; but opposite British Guiana it is met by the barrier uniting the coast of South America with the central ridge, so that here again the ingress of all water below a certain temperature is stopped, and although the extreme depth of the north-western basin is at least 3875 fathoms, the temperature of