

But again, what is the meaning of its wonderfully rapid spread, and why, if it existed in Nova Scotia previous to say 1850, did it not begin to spread before? Its spreading as rapidly as it has, shows that it was only waiting for the opportunity to take advantage of it, but why, if it is indigenous, did it not begin to spread sooner? Surely the same causes which have carried it south since 1850 were in operation before. If they were natural, such as currents, etc., they certainly have been present substantially unchanged for centuries. Professor Verrill suggests that it may have existed formerly in Nova Scotia, but have "become more diffused in recent times by commerce." But surely there was commerce between Nova Scotia and New England before 1868 (in which year it was first reported from Maine), and enough of it to satisfy the most exacting demands of this theory. In all probability the rapid diffusion of the shell since 1857 is in a measure due to both of these causes, but the fact that they did not have a like effect before, seems very strongly to show that the shell was not in Nova Scotia for them to spread. The waters which bathe the Atlantic coast of Nova Scotia are carried by the strong Fundy tides across to the New Brunswick and Maine coasts, and if currents had anything to do with carrying *L. palliata* from one continent to Greenland and thence to the other, it should have carried the free-swimming embryos of its ally, *L. litorea*, from the Nova Scotia to the New England coast.

But granting again for a moment that *L. litorea* has existed in Nova Scotia for an indefinitely long time as an indigenous species, we have it existing under conditions very different from those in which it thrives in England, having, as has been shown, no connection with the latter, and yet retaining its specific identity. It is possible for a species to keep its identity in widely separated localities, where the conditions of life are not precisely the same, only by a continuous intercourse between the different localities. This is in all probability the case with *L. palliata*, for we find it ranging freely around the North Atlantic in England, Greenland, Labrador, Acadia and New England, and the agencies which carried it from one land to the other have in all probability been in operation ever since. But with *L. litorea* the case is different; if it existed in Nova Scotia it must have been cut off from all communication with England, and that it should retain its

¹ We have found no list of the shells of Iceland.