

lantic in such a way—they must have come, if they came by natural means at all, by way of Iceland, Greenland and Labrador.

This we find actually was the case with *L. palliata*. Where it originated the writer does not know, nor does it matter in the present connection, but certain it is that it is now common to England,<sup>1</sup> Greenland,<sup>2</sup> Labrador,<sup>3</sup> Acadia and New England. And not only does it exist in these places now, but it has for a long time past, for it is found fossil in Post-pliocene deposits in England, in Southern Greenland<sup>4</sup> (*L. grønlandica* = *L. palliata*) and in Canada, though not actually in Acadia. Dawson reports it from the Post-pliocene of Gaspé,<sup>4</sup> and Lyell from Beauport.<sup>5</sup> We may hence conclude that *L. palliata* is, in the sense in which we have used the word, indigenous to America.

But as to *L. litorea*, not only does the latest and best list of Greenland shells<sup>2</sup> make no mention of its occurrence there, nor does Packard in a list of the shells of Labrador<sup>3</sup> (though he mentions *L. palliata* and *L. rudis* as "abundant" and "not uncommon"), but no trace of it has as yet been reported from any Post-pliocene deposits of Greenland, Labrador, Canada or New England. It is a shell much more likely to be preserved in such deposits than *L. palliata*, being much larger and stouter—though neither, from their rock-loving nature, stand as much chance of being preserved as sand or mud-inhabiting species. All of these facts tend to show that *L. litorea* was not introduced from one continent to the other either at the same time or by the same means as *L. palliata*, and that if by any unknown agency whatsoever *L. litorea* had reached America, it must have been confined to Nova Scotia alone until the middle of the present century.

But we have another source of information about the shells which lived upon our coast before the advent of the Europeans. In the Indian shell-heaps along the coast of Maine and New Brunswick, most of the edible mollusks of the coast are found among the heaps of clam-shells. Dr. Wyman reports<sup>6</sup> that in a shell-heap at Crouch's cove, Casco bay, Maine, *Littorina palliata*

<sup>1</sup> Forbes and Hanley's British Mollusca, Vol. III.

<sup>2</sup> Manual and instructions for the Arctic expedition. London, 1876.

<sup>3</sup> Packard, Mem. Bost. Nat. Hist. Soc., Vol. I.

<sup>4</sup> Can. Nat., II, 408.

<sup>5</sup> Can. Nat., I, 345.

<sup>6</sup> AM. NAT., Vol. I, No. II, 1868.