

been sufficiently dry to allow several feet of the imbedded hollow trunks to be free from water. In the highest of the three horizons the shells occurred in an erect tree, but without any other fossils, and they had apparently been washed in along with a greyish mud.¹

If we exclude the alleged *Palæorbis* referred to below, all the Palæozoic Pulmonifera hitherto found are American. Since, however, in the Carboniferous age, Batrachians, Arachnidans, Insects and Millipedes occur on both continents, it is not unlikely that ere long European species of land snails will be announced. The species hitherto found in Eastern America are in every way strangely isolated. In the plant beds of St. John, about 9,000 feet in thickness, and in the coal formation of the South Joggins, more than 7,000 feet in thickness, no other Gasteropods occur, nor, I believe, do any occur in the beds holding land snails in Illinois. Nor, as already stated, are any of the aquatic Pulmonifera known in the Palæozoic. Thus, in so far as at present known, these Palæozoic snails are separated not only from any predecessors, if there were any, or successors, but from any contemporary animals allied to them.

It is probable that the land snails of the Erian and Carboniferous were neither numerous nor important members of the faunæ of those periods. Had other species existed in any considerable numbers, there is no reason why they should not have been found in the erect trees, or in those shales which contain land plants. More especially would the discovery of any larger species, had they existed, been likely to have occurred. Further, what we know of the vegetation of the Palæozoic period would lead us to infer that it did not abound

¹ The discovery of the shells in this tree was made by Albert I. Hill, C.E. The tree is in Group XXVI. of Division 4 of my Joggins section. The original reptiliferous trees are in Group XV., and the lowest bed in Group VIII.