

and from the waters. The occurrence of its remains in the stumps of *Sigillaria*, with land-snails and millipedes, shows also that it crept in the shade of the woods in search of food; and under the head of coprolitic matter, in a subsequent section, I shall show that remains of excrementitious substances, probably of this species, contain fragments, attributable to smaller reptiles, and other animals of the land.

All the bones of *Dendrorepeton* hitherto found, as well as those of the smaller reptilian species hereafter described, have been obtained from the interior of erect *Sigillariæ*, and all of these in one of the many beds, which, at the Joggins, contain such remains. The thick cellular inner bark of *Sigillaria* was very perishable; the slender woody axis was somewhat more durable; but near the surface of the stem, in large trunks, there was a layer of elongated cells, or bast tissue, of considerable durability, and the outer bark was exceedingly dense and indestructible.* Hence an erect tree, partly imbedded in sediment, and subjected to the influence of the weather, became a hollow shell of bark; in the bottom of which lay the decaying remains of the woody axis, and shreds of the fibrous bark. In ordinary circumstances such hollow stems would be almost immediately filled with silt and sand, deposited in the numerous inundations and subsidences of the coal swamps. Where however they remained open for a considerable time, they would constitute a series of pitfalls, into which animals walking on the surface might be precipitated; and being probably often partly covered by remains of prostrate trunks, or by vegetation growing around their mouths, they would be places of retreat and abode for land-snails and such creatures. When the surface was again inundated or submerged, all such animals, with the remains of those which had fallen into the deeper pits, would be imbedded in the sediment which would then fill up the holes. These seem to have been the precise conditions of the bed which has afforded all these remains. I may add that I believe all the trees, four or five in number, which have become exposed in this bed since its discovery, have been ransacked for such remains; and that while all have afforded some reward for the labour, some have been far more rich than others in their contents. It is also to be observed that owing to the mode of accumulation of the mass filling the trees, the bones are usually

* See a paper by the author, on the structures of coal; Journal of the Geological Society, Vol. xv; also supplement to Acadian Geology.