relation to the vegetable fossils still remains to be worked up. It is with the more striking fact of the discovery of the remains of a reptile in the coal measures that we have now to do.

The South Joggins Section is, among other things, remarkable for the number of beds which contain remains of erect trees imbedded *in situ* : these trees are for the most part Sigillariæ, those great-ribbed pillar-like trees which seem to have been so characteristic of the forests of the coal formation flats and swamps, and so important contributors to the formation of coal. They vary in diameter from six inches to five feet. They have grown on underclays and wet soils, similar to those on which the coal was accumulated; and these having been submerged or buried by mud carried down by inundations, the trees, killed by the accumulations around their stems, have decayed, and their tops being broken off at the level of the mud or sand, the cylindrical cavities left open by the disappearance of the wood, and preserved in their form by the greater durability of the bark, have been filled with sand and clay. This, now hardened into stone, constitutes pillar-like casts of the trees, which may often be seen exposed in the cliffs, and which, as these waste away, fall upon the beach. The sandstones enveloping these pillared trunks of the ancient Sigillariæ of the coal, are laminated or bedded, and the laminæ, when exposed, split apart with the weather, so that the trees themselves become broken across; this being often aided by the arrangement of the matter within the trunks, in layers more or less corresponding to those without. Thus one of these fossil trees usually falls to the beach in a series of discs, somewhat resembling the grindstones which are extensively manufactured on the coast. The surfaces of these fragments often exhibit remains of plants which have been washed into the hollow trunks, and have been imbedded there; and in our explorations of the shore, we always carefully scrutinized such specimens, both with the view of observ-