

reached respecting the coal itself, and even some of the plants associated with it. I therefore submitted to Mr. Salter and published in my new edition the following facts, tending to show that my so-called Naiadites were fresh-water or estuarine shells.

1. Under the microscope the thicker shells, even those of the Anthracoptera type which most resemble marine species, present an internal lamellar and subnacreous layer and a thin layer of vertical prismatic fibres, covered with a well developed epidermis in the manner of the shells of the Unionidae or freshwater mussels.

2. The ligament uniting the valves was external, and there seem to have been no hinge teeth. The shells were closed or very slightly open posteriorly, and in some species there are indications of a byssus or "beard" for attachment. The general aspect is in some species that of mussels, in others that of Unios or Anodons.

3. I know of no instance of the occurrence of these shells in the marine limestones or in association with species known to be marine.

4. The mode of their occurrence precludes the idea that they were burrowers, and favors the supposition that they may have been attached by a byssus to floating timber and to one another.

5. The attachment of shells of spirorbis to the outer surface of many specimens seems to show that they were free in clear water when living, while the dense piling together of these shells in some beds almost unmixed with other material, and their occasional occurrence in patches associated with fossil wood, points to the same conclusion.

6. They are associated with fine sediments, vegetable debris, the crusts of minute crustaceans and remains of fishes more likely to have been inhabitants of fresh or brackish water than of the sea.

On these grounds, and being unable from the specimens in my possession to make out evidence of generic distinction, I continued to use the name Naiadites; using however, Salter's names as subgeneric, so as to keep our species in harmony with those of England as described by the Geological