fallibly ascertained. For this reason it often happens that the same wood in different states receives different names, and that the woods of different species are confounded under one name. As an example of the latter case, while it seems certain that the wood properly called *Dadoxylon* has belonged to *Walchia*, yet there are two or three species of *Walchia* in the upper Carboniferous of Nova Scotia and Prince Edward island, and I have not been able, after examining great numbers of slices, to ascertain a similar specific distinction in the woods showing structure.

Mr. Howley's collection also contains a small stem, about two inches in diameter, showing a very distinct radiating woody structure, with indications of a pith destroyed by decay and compression. The wood of this specimen is more thin-walled than the former, with short and unequal medullary rays and the bordered pores less constant and continuous. These characters ally it with the wood of *Cordaites*, which I believe can always, when well preserved, be distinguished from that of *Dadoxylon*. Leaves of *Cordaites borassifolia* also occur in the collection.

Another remarkable specimen is a quantity of loose and soft fibrous carbonaceous material resembling the mineral charcoal of coal. It contains a small amount of calcareous matter, but not enough to give it coherence, and can be studied only after treatment with nitric acid, when it presents detached carbonaceous fibers. These show two to three rows of bordered pores and traces of the medullary rays, and I imagine it must have been a wood similar to the *Cordaioxylon* mentioned in the last paragraph. Material of this kind, as I have elsewhere shown,* constitutes much of the mineral charcoal of our coals.

Still another specimen, from Codroy river, presented to me some years ago by Dr. Robert Bell, is a black chert, which when sliced proves to be a limpid quartz filled with shreds of vegetable matter. It is, in short, a congeries of fragments of herbaceous plants, appearing as if chopped up finely or disintegrated by maceration, and imbedded in a clear silicious paste. The tissues observed are scalariform vessels, delicate fibers and elongated cells, and parenchymatous cellular tissue, with occasional remains of sporecases or macrospores. The mass may be characterized as a silicified vegetable mould composed of fragments of the more delicate tissues not usually preserved. In this it resembles some of the specimens found by Mr. Grieve under the trappean beds of Burntisland, in Scotland, which have been described by Professor Williamson. I hope to make further examination of this material, and in the meantime would direct attention to it as possibly affording, in some parts of it, more complete organs of plants than those in the specimens in my possession.

* Quart. Journ. Geol. Soc., vol. XV, 1859, p. 626.