cases would be most suitable material for the production of bituminous coal. But this suitableness they share with the epidermal tissue of the scales of strobiles, and of the stems and leaves of ferns and lycopods, and, above all, with the thick, corky envelope of the stems of *Sigillariæ* and similar trees, which, as I have elsewhere shown,* from its condition in the prostrate and erect trunks contained in the beds associated with coal, must have been highly carbonaceous and extremely enduring and impermeable to water. In short, if, instead of "spore-cases," we read "epidermal tissues in general, including spore-cases," all that has been affirmed regarding the latter will be strictly and literally true, and in accordance with the chemical composition, microscopical characters, and mode of occurrence of coal. It will also be in accordance with the following statement, from my paper on the "Structures in Coal," published in 1859:

"A single trunk of *Sigillaria* in an erect forest presents an epitome of a coal-seam. Its roots represent the *Stigmaria* underclay; its bark the compact coal; its woody axis the mineral charcoal; its fallen leaves (and fruits), with remains of herbaceous plants growing in its shade, mixed with a little earthy matter, the layers of coarse coal. The condition of the durable outer bark of erect trees concurs with the chemical theory of coal, in showing the especial suitableness of this kind of tissue for the production of the purer compact coals. It is also probable that the comparative impermeability of the bark to mineral infiltration is of importance in this respect, enabling this material to remain unaffected by causes which have filled those layers, consisting of herbaceous materials and decayed wood, with pyrites and other mineral substances."

* "Vegetable Structures in Coal," "Journal of Geological Society," xv., 626. "Conditions of Accumulation of Coal," *ibid.*, xxii., 95. "Acadian Geology," 197, 464.