

with its surprising analogy in mineral and fossil characters to that of Europe—the same white grits or sandstones as are used for building near Edinburgh and Newcastle—similar black shales, often bituminous, with the leaves of ferns spread out as in an herbarium, the species being for the most part identical with British fossil plants—seams of good bituminous coal, some a few inches, others several yards in thickness—beds and nodules of clay iron-stone; and the whole series resting on a coarse grit and conglomerate, containing quartz pebbles, very like our Millstone Grit, and often called by the American as well as the English miners the “Farewell Rock,” because when they have reached it in their borings, they take leave of all valuable fuel. Beneath this grit are those red and grey sandstones already alluded to as corresponding in mineral character, fossils, and position, with our “Old Red.”

I was desirous of ascertaining whether a generalisation recently made by Mr. Logan in South Wales could hold good in this country. Each of the Welsh seams of coal, more than ninety in number, have been found to rest on a sandy clay or firestone, in which a peculiar species of plant called *Stigmaria* abounds, to the exclusion of all others. I saw the *Stigmaria* at Blossberg, lying in abundance in the heaps of rubbish where coal had been extracted from a horizontal seam. Dr. Saynisch, president of the mine, kindly lighted up the gallery that I might inspect the works, and we saw the black shales in the roof, adorned with beautiful fern leaves, while the floor consisted of an under-clay, in which the stems of *Stigmaria*, with their leaves or *rootlets* attached, were running in all directions. The agreement of these phenomena with those of the Welsh