

ing for hundreds of miles, from all the larger craters of the moon.

There are not a few interesting appearances in this Dudley coal-field. Its seams, like those of every other coal-field yet known, have been formed under very various conditions: some of them must have been deposits of vegetable matter washed by rivers into seas or lakes; some of them seem to have formed in marshy hollows, like our existing peat-mosses, or, if we must seek out analogies from somewhat warmer climates than those in which peat is elaborated, like the Dismal Swamp of the United States; and some evidently covered as great forests the sites which they now occupy as coal-seams. There is a colliery about a mile and a half to the south of Wolverhampton, where an outcrop of what is termed the *bottom coal* is wrought in the open air. The surface, in consequence, has been bared of the debris and diluvium, and in one corner the upper plane of a thin seam of coal exposed for about a quarter of an acre. It is found to present exactly the appearance of a moor on which a full-grown fir wood had been cut down a few months before, and only the stumps left behind. Stump rises beside stump, to the number of seventy-three in all: the thickly-diverging roots strike out on every side into what had been once vegetable mould, but which now exists as an indurated, brownish-colored shale. Many trunks, sorely flattened, lie recumbent on the coal, some of them full thirty feet in length, while some of the larger stumps measure rather more than two feet in diameter. There lie thick around, stigmaria, lepidodendra, calamites, and fragments of ulodendra; and yet, with all the assistance which these lent, the seam of coal formed by this ancient forest does not exceed five inches in thickness. It must have required no little vegetable matter to consolidate into the mineral which supplies us, year after year, with our