

river appears to be carboniferous limestone; it has been perforated to a depth of six hundred feet, and contains trilobites, orthoceratites, and other remains, which are characteristic of this formation. The limestone extends under the Alleghany mountains in the east, and the sand plains on the west, and rests on the granitic rocks of Canada on the north. The uppermost layer of the mountain limestone supports strata of bituminous coal and shale. This coal-field is 1500 miles in length, and 600 in breadth. Ironstone abounds in these deposits, and mines of lead occur over a district of two hundred square miles, between the Missouri and the Illinois.* Thus the coal basin of the Mississippi appears to possess all the essential features of the English carboniferous series.

Coal is found in Asia; and has long been worked in China. In Van Dieman's Land, carboniferous strata occur, associated with sandstone, and yield coal abundantly.†

12. VOLCANIC ROCKS OF THE CARBONIFEROUS EPOCH.—I have alluded to the intrusions of volcanic matter, which are found in the carboniferous strata, and will now offer a few remarks on the phenomena which these pyrogenous rocks exhibit. One of the most remarkable and well known volcanic substances of this era in Derbyshire, is the rock called *toadstone*, so named from its being

* Stuart's Travels in the United States.

† Conybeare and Phillips.