Glamorganshire	Feet.
Upper series: sandstones, shales, etc., with 26 coal-seams, more than . .	3400
Pennant Grit: hard, thick-bedded sandstones, and 15 coal-seams	3246
Lower series: shales, ironstones, and 34 coal-seams .	450 to 850
Millstone Grit.	

South Lancashire	Feet.
Upper series: shales, red sandstones, Spirorbis limestone, ironstone and thin coal-seams .	1600 to 2000
Middle series: sandstones, shales, clays, and thick coal-seams The chief repository of Coal .	3000 to 4000
Lower or Gannister series: flagstones, shales, and thin coals . .	1400 to 2000
Millstone Grit.	

Central Scotland	Feet.
Upper red sandstones and clays, with Spirorbis limestone; in Fife upward of .	900
True coal-measures: sandstones, shales, fire-clays, with bands of black-band ironstone, and numerous seams of coal. Thickness in Lanarkshire upward of . . .	2000
Moor Rock, or Millstone Grit.	

The numerous beds of compressed vegetation form the most remarkable feature of the Coal-measures. As already stated, coal-seams in Britain are usually underlain by fire-clay (*mur* of the Belgian coal-fields), which, traversed in all directions by rootlets, and free, or nearly free of alkalies and iron, appears to have been the soil on which the plants that formed the coal grew. A coal-seam accordingly marks there a former surface of terrestrial vegetation, and the shales, fissile micaceous sandstones, and other strata that overlie it show the nature of the sediment under which it was eventually buried.

The Coal-measures of Britain have not yet been very precisely subdivided into palæontological zones. The lower portions or Gannister beds of Lancashire contain at least 70 species of undoubtedly marine fossils, including species of Goniatites (G. Listeri), Orthoceras, Nautilus, Edmondia, Posidonia, Sanguinolites, Aviculopecten (A. papyraceus), Lingula (L. squamiformis), Discina, Productus, Spirifer, etc. Other horizons with marine fossils have been observed in England and Scotland even in the upper Coal-measures.[215] The middle and upper divisions are characterized by the prevalence of species of Anthracosia, Anthracoptera, and Anthracomya. These shells are not met with in association with the more typical marine fauna, but, on the contrary, are mingled with a peculiar assemblage of fishes and reptiles, annelids and crustaceans, such as might be supposed to inhabit brackish or fresh water, together

[215] J. W. Kirkby, Quart. Journ. Geol. Soc. xliv. 1888, p. 747.