

channel, in coal-making times, as is proved by the coal-beds in Newfoundland, Nova Scotia, and New Brunswick on the north, and in Rhode Island and a part of eastern Massachusetts on the south.

The Western Interior, Rocky Mountain, and Pacific Border regions of the continent were largely covered by the Mediterranean Continental Sea, so that the western part of the map for the Upper Silurian era, on page 536, answers sufficiently well for this portion of the continent in the Carbonic era.

### SUBDIVISIONS.

	PENNSYLVANIA.	MISSISSIPPI BASIN.
3. Permian Period.	{ The Upper Barren Measures.	Permian beds.
2. Carboniferous Period.	{ 4. Upper Productive Measures. 3. Lower Barren Measures. 2. Lower Productive Measures. 1. Pottsville Conglomerate, or Millstone Grit.	{ 2. Coal-measures.  1. Millstone Grit.
1. Subcarboniferous Period.	{ 2. Mauch Chunk group of Lesley. Umbral of Rogers. 1. Pocono group of Lesley. Vespertine of Rogers.	{ 4. Chester, or Kaskaskia group. 3. St. Louis group. 2. Osage group. { Warsaw. Keokuk. Burlington. 1. Kinderhook group.

The Subcarboniferous rocks of the Mississippi basin are mainly great limestone formations. The term *Subcarboniferous* was first applied to them by D. D. Owen in his Quarto Report, of 1852, on the Geology of Wisconsin, Iowa, and Minnesota. In this report (page 90) he divides the Carboniferous rocks of Iowa into "(1) the great calcareous formation at the base, (2) the coal-bearing strata in the middle, and (3) heavy beds of sandstone at the top," and gives (on page 92) a section of the "Subcarboniferous limestones." On the following page he presents a "table exhibiting the analogy between the Carboniferous limestones of Yorkshire, England, and those of Iowa," thus applying the term, in effect, to the corresponding rocks of Great Britain and Europe. The preposition *sub* is here used in the same sense as in *substructure*; and the great limestone formations of the Mississippi basin make a grand substructure for the coal-measures or the beds of the Carboniferous period. The term *Mountain limestone*, used for the British rocks, and for awhile employed in the United States, is not applicable to limestones of the plains.