

WHAT IS THE AGE OF THE AUBREY LIMESTONE OF THE ROCKY MOUNTAINS?

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The Carboniferous rocks of the Rocky Mountains are divided lithologically and palaeontologically into two distinct groups: The Red Wall and the Aubrey groups. The Red Wall is divided on palaeontological grounds into the Upper and Lower Red Wall, and the Aubrey on stratigraphical and lithological grounds into the Upper and Lower Aubrey. The Upper Aubrey is usually called the Aubrey Sandstone, the Lower Aubrey the Aubrey Limestone. In this paper it is the writer's purpose to establish the age of the last named group.

This group of rocks rests conformably upon the Upper Red Wall and shows conclusively by its position that it is Palaeozoic. Then as the Upper Red Wall is Coal Measures in age (see paper on "The Fossils of the Upper Red Wall Compared with those of the Kansas Coal Measures"), the Aubrey Limestone must be either Upper Carboniferous or Permian. Its position immediately above the Red Wall suggests the former; that is, that it is Upper Carboniferous. This conclusion is attested by the fossils identified from the group. They are: *Seminaula argentia*, *Productus punctatus*, *Productus semi-recticulatus*, *Productus costatus* (?), a *Productus* closely allied to if not, *P. portlockianus*, *Spirifer cameratus*, *Bellerophon*, *Spirifer lineatus*, *Enomphalus pernodosus*, *Arinulopecten occidentalis* *Arinulopecten*, a *Hemipronites* (Gilbert), *McKella striata-costata*, etc.

These fossils were all obtained in the first 100 feet of the Aubrey Limestone. They are all Upper Carboniferous, not Permo-Carboniferous, in age, and therefore establish the age of the rocks in which they are found to be Upper Carboniferous beyond a doubt.

Note.—A few shells (*Pleurophorus*, *Schizodus*, and *Bakerella*) found by Mr. Gilbert (U. S. Geographical Surveys west of the 100th meridian, vol. 3, page 177) in the topmost layer of the Aubrey Limestone suggests the Permo-Carboniferous of the Mississippi Valley. This would seem to imply that the Aubrey Sandstone which is conformably superimposed on the Aubrey Limestone is Permo-Carboniferous in age.

