

## THE PIEDMONT PLATEAU.

An adequate comprehension of the crystalline rocks occurring within the limits of the state of Maryland can only be gained through a knowledge of the great Piedmont belt of the Atlantic border. A brief characterization of this province must therefore precede a more detailed description of the local geology. Along the eastern flank of the Appalachian and Green Mountain uplifts there is an area of highly crystalline or semi-crystalline rocks which extends from Alabama to Maine, its northward extension reaching into the British possessions. This zone attains its maximum width of 300 miles or more in the Carolinas; further north it narrows and is nearly buried beneath the Trias in New Jersey, but beyond New York it again broadens so as to embrace the larger part of New England. Within this whole province the rocks are so crystalline as to make fossils rare, while their structure presents some of the most puzzling problems in American geology.

Many theories have obtained regarding the age of the strata of the Piedmont belt, but it is only within very recent years that elaborate and detailed work has begun a satisfactory solution of the mystery. In New England the entire sequence of Paleozoic sediments is found more or less completely metamorphosed with occasional outcrops of more ancient crystalline rocks (Archean) showing beneath them, and with a variety of younger eruptive masses which have been intruded through them. South of New York the crystalline belt acquires a more homogeneous character both structurally and topographically, which fact, together with its position at the eastern foot of the Appalachian system, has occasioned its designation as the Piedmont Plateau.

The rocks composing the Maryland portion of the Piedmont Plateau are divisible into two distinct classes. The members of the first class are all completely crystalline, and whatever was their origin they now retain no certain evidence of clastic structure, although their sedimentary origin in part seems probable. The rocks of this type are confined to the eastern portion of the plateau province and disappear beneath the overlying deposits of unconsolidated materials which compose the Coastal Plain. The Piedmont rocks of the second class are