

subjected, becomes so great that it is not always easy to distinguish the line of contact between them and the underlying and more ancient crystallines of the eastern Piedmont region. The recent discovery of fossils in the phyllites east of Araby by Mr. Keith proves some of these rocks to be of Cambrian age.

#### THE TRIASSIC PERIOD.

The rocks of Triassic age are mainly confined to the western margin of the Piedmont Plateau and are represented by both sedimentary and eruptive materials which will be further described under the head of the Newark Formation and the Diabase.

**THE NEWARK FORMATION.**—The deposits of the Newark formation unconformably overlie the limestone and phyllite which have been above described and cover a considerable area along the western border of the Piedmont Plateau. Beginning as a belt some ten miles in width in northern Carroll and Frederick counties, the formation gradually narrows toward the south, until in the region of Frederick its full width does not exceed one mile, while at one point directly to the west of Frederick the continuity of the beds is completely broken. Farther southward in western Montgomery county the belt of Newark deposits again broadens to a width of several miles.

The rocks of the Newark formation consist largely of red and gray sandstones and conglomerates of both silicious and calcareous varieties. The finer grained and deeper colored deposits generally have their individual elements united by a ferruginous cement, while the calcareous conglomerate, which is largely made up of rounded limestone pebbles, is generally imbedded in a reddish calcareous matrix. All of the deposits present structures which indicate that they were formed in shallow water; the coarse conglomerates, the ripple-marked surfaces, and the tracks of animals all point indisputably to this conclusion.

**THE DIABASE.**—The sandstones and shales of the Newark formation, as well as the rocks of earlier age, are found penetrated by dikes of an igneous rock known as diabase. These dikes extend across the area, for the most part, in a north-south direction, and throughout