

has cooled, the material has slowly crystallized, so that the glass is now a quartz-feldspar mosaic, as the product of devitrification. In color, when fresh, it is dark blue or gray or occasionally red, although these colors change when the rock becomes weathered until the resulting tones are grayish or pinkish white. These acid volcanics have been known under the name of quartz-porphyrines, quartzites, aporhyolites, etc., and have been the source of much discussion.

**THE BASIC VOLCANICS.**—The acid volcanics were preceded and followed by extrusions of more basic materials which now show considerable differences as the result of the varying conditions under which they were formed, and the earth movements to which they have been subsequently subjected. The rocks have been classed under the head of "Andesite" and "Catocin schist" by Keith, who has made a special study of their occurrence. Both are affiliated in chemical composition with the Gabbro-Andesite family. The andesite as above distinguished is not developed in Maryland, the basic volcanics being alone represented by the Catocin schists. On the Potomac river the schists seem almost crowded out by the numerous intrusions of granite. In the Middletown valley, however, about Middletown and to the north, as far as the state line, the schist is by far the most prominent type of rock. The fresh exposures of this rock are light bluish green in color and are usually covered with the schistose dull gray or yellow slabs which arise from weathering, or by the blocks of quartz and epidote which lie scattered over the surface after the rest of the material has been removed. The original rock was a diabase, which now has lost most of its characteristic features through the metamorphism which has developed the marked schistosity. The presence of amygdaloidal structures and textural variations, combined with the character of the field relations, makes it highly probable that these schists represent at least two lava flows (separated by longer or shorter intervals) which cooled slowly near the surface under conditions of low pressure.

**THE GRANITE.**—Intimately intermingled with and cutting the preceding acid and basic volcanics is an intricately anastomosing body of granite which occurs in long narrow belts varying in width from a