Bloomsburg by a transition of alternating red and gray beds. But, all above the first red beds is logically placed by Swartz and Swartz in the Bloomsburg, a practice in accord with my own concepts as applied to analogous, Devonian "transitional" beds. The Otisville member continues throughout much of the region north of Northampton County. Simultaneously, the lower portion of the Shawangunk is split up by Swartz and Swartz. West of the Delaware they recognize an upper member which they assign to the Clinton, while the lower part is designated as the eastern extension of the Tuscarora of central Pennsylvania.

**Bloomsburg red beds.**—(High Falls of New Jersey Geological Survey, Clinton of earlier Pennsylvania geologists). The 1,800 to 1,900 feet of the Bloomsburg "formation" is dominated by comparatively soft, deep-red shale and sandstone. Of this sequence a practically complete section may be seen at the Delaware Water Gap along the railroad and highway up the Pennsylvania side of the river, and a fine sequence is exposed on the Lehigh. Beds of gray or greenish-gray sandstone are not at all rare, and in its lower 150 to 200 feet appear gray sandstone and conglomeratic strata very like those of the Shawangunk. The formation is barren but contains occasional pseudofossils, principally ripple marks and mud cracks.

As far as the present discussion is directly concerned, the higher Silurian formations, that is, those above the Bloomsburg red beds, need not interest us particularly. However, a brief mention of them is not entirely out of place and is introduced below for completeness sake.

**Poxono Island formation.**—I. C. White described from farther up the Delaware Valley, a formation which he named the Poxono Island shale. At best, it is unsatisfactorily developed in the type locality. Presumably, it continues southwestward into the Water Gap section, and it has been identified with certain, non-red, sandy beds above the Bloomsburg, with which lower formation it is thought to interfinger. The Poxono Island is more truly a sandstone than a shale. The rock is brown or gray-green and weathers to a dark, rusty-brown hue. Exposures are to be seen at Delaware Water Gap village, where these beds are relatively massive and dip north under Cherry Valley. No fossils are known from the Poxono Island, although limy beds have been reported. An estimate of its thickness is unsatisfactory, but is probably of the order of 300 feet or more.

**Bossardsville limestone.**—The Bossardsville limestone is the highest Silurian recognized in our section, according to present usage, and is the highest formation which shall be mentioned in this account. The Silurian-Devonian boundary has been commonly drawn at the top of