

Jacksonburg and some of the underlying beds were removed; elsewhere there was little denudation. Later in Trenton time the county was again submerged beneath the waters of an inland sea, and the earliest Martinsburg shales were laid down on a sea floor whose underlying bedrock varied from Jacksonburg limestones to Allentown limestones.

Local details.—A large quarry 0.7 mile north of Breinigsville supplies one of the problem localities in the county. Along the north quarry face the beds resemble lower Jacksonburg limestone, though somewhat more massive and lighter in color than normal. Crinoidals and small bryozoa are abundant in some of these beds, which strongly supports the Jacksonburg designation. The floor of the quarry is composed of massive and partly dolomitic, unfossiliferous limestones more closely resembling the Beekmantown. The lithologic change between the two rock types is slight, however, and no horizon is exposed that appears to represent a contact between the two formations. If the contact is indeed present in this quarry, then the tendency for the Beekmantown-Jacksonburg contact to be obscure in Lehigh County has here reached the stage where it is no longer recognizable.

Several small areas of Beekmantown are included within the Jacksonburg areas. These are in most cases in fault contact with the surrounding limestones. Several of these are shown on the geologic map but others are so insignificant that they were not included in the mapping. One of these deserves special mention. The Beekmantown beds were uncovered by construction work in the ditch along the highway ascending the hill south of Egypt and 0.2 mile east of the mill of the Giant Cement Co. The dolomitic beds were flat-lying, and could be seen to have been thrust northward over upper Jacksonburg beds. Although the exposure is no longer available, the occurrence is of interest as a clear case of a low-angle thrust fault, on which there must have been several hundred feet of displacements as a minimum.

MARTINSBURG FORMATION

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The younger Ordovician formations, like the limestones, are of a sedimentary origin. That is to say, they were deposited layer on layer in water. But, unlike the limestones, they are not precipitates. Examine them, and they are seen to consist of various sized particles of mineral matter derived from older rocks which have been broken up by weathering and erosion. The pieces were swept away by agents of transportation, chiefly moving water, and laid down in layers by that same agent. Such rocks are called elastic sedimentary rocks. Chiefly they are conglomerates, sandstones, and shales. In Lehigh County the second and third are commonest. Of the sandstones, many are truly arkoses or more correctly graywackes. They are highly feldspathic. Much of the original shale has been altered to slate through processes of metamorphism.