

chlorite and hydromica (sericite) schists, often full of ottrelite, rutile, biotite and other new constituents. The limestones have become compact, hard, fine-grained marbles. The geological position of these rocks has only in part been positively proved by fossils, and they are therefore designated on the geological map by different colors.

THE QUARTZITE.—Isolated areas of quartzitic sandstone of supposed Cambrian age are found developed along the eastern side of the Monocacy valley in Frederick county. A single outlier, already referred to, is found in the eastern division in northern Harford county, which is supposed to be of identical age, but this fact has not been as yet fully established. The most extensive deposit of this material occurs in Sugar Loaf Mountain, near the boundary of Montgomery county. Here the sandstone is very homogeneous, fine-grained and compact, and is very light, frequently white, in color. The massive sandstone strata of Sugar Loaf Mountain form a series of anticlines overturned toward the west. The formation continues toward the north in a few insignificant sandstone patches, while toward the south it soon disappears beneath the phyllite series. The Sugar Loaf sandstones pass on their eastern side upward by a gradual transition into the overlying deposits, which in their unaltered portion are somewhat shaley.

THE PHYLLITE AND CRYSTALLINE LIMESTONE.—The shaley layers just described pass over into sandy slates, and these again into the succession of sericite and chlorite schists, which compose the mass of the "semi-crystalline" area. Considerable deposits of limestone, which are now highly crystalline fine-grained marbles, also occur, particularly throughout the northern portion of the district in the area to the west and north of Westminster. As these rocks are followed across their strike toward the east they are seen to become more and more contorted, cleaved and faulted. Closely folded and puckered layers are frequent, and the secondary cleavage approaches nearer and nearer to the vertical. The succession of beds is well displayed along the main stem of the Baltimore and Ohio Railway between Araby and Hood's Mills. The alteration, or re-crystallization, of these rocks, attendant upon the increasing disturbance to which they have been