

ance will be noticed in the chapter upon the mineral resources of Maryland.

Most of the localities of intrusive rocks are shewn as far as is practicable in a map on so small a scale; in order to illustrate the geological character of this range it is proposed to locate on the large map the *exact* boundaries of these and of the numerous masses too small to be noticed in the "illustrations."

The metamorphic limestones No. 11, which exist in this range, are confined to Harford, Baltimore, and Howard, and include several minor ranges of dolomite. They are associated with a certain kind of mica-slate, which is continuous into Montgomery, and although so far supposed to be unaccompanied by the limestone, yet the indications are so favorable to its existence in that county that it is my intention to make a most minute examination, specially for the purpose of determining the point.

Near the northwestern limits of the mica-slate there are many intercalations of chlorite slate, which is included within what we may term a metalliferous range, in which there are both iron and copper ores, besides cobalt and gold to a small extent.

In some portions of the mica-slate we find garnets, stauroid, and cyanite disseminated in considerable quantity, and as these minerals are very slowly acted upon by atmospheric agents, the rock decays very slowly, and when they form a large proportion of the mass, furnish a light barren soil.

## FORMATION NOS. 6 AND 7.

### *Talcose-Slate, including Roofing-Slate.*

Allusion was made in the last chapter to the gradual passage of mica-slate into talcose-slate.

In point of fact, we find where these formations approach each other, that the spangles of mica diminish in size, and lose their distinctive characters by degrees, so that there are localities where it is impossible to determine to which of the two the rock belongs. The fine satinlike lustre of the talc-slate becomes more and more apparent, until at length the characters of the rock become clearly apparent.

In studying these talc-slates from their junction with the mica-slates, we find their talcose type becomes less apparent as we cross them in a northwest course, and the fertility of the soil seem greater also.

This formation occupies a small area in the northwest part of Harford, and thence ranges through Baltimore, Carroll, Howard, and Montgomery counties in a wide belt.