

distinguished by the fact that dolomite is slowly dissolved, whilst the purer limestone dissolves rapidly in acids with a brisk effervescence.

The second series of limestones are those of the western flank of Parr's ridge in Frederick and Carroll counties, (also No. 11,) as shown on the map. They have usually a fine grain resembling that of Carrara marble, and they vary in color from white to grayish blue. They contain little siliceous matter, and in general but small proportions of magnesia or other impurities. They have sometimes a slaty structure. Near the southern limits of the formation the proportion of magnesia is somewhat larger.

The fourth series comprises the limestone of the Monocacy valley, (No. 10 on map.) It lies in strata dipping at a high angle, and is generally very pure, containing but small proportions of magnesia, quartz, or any other foreign matter. Some of its beds, however, which have a slaty structure, contain more or less silica, alumina, and oxide of iron.

On portions of the western side of the same valley I have already noticed the calcareous conglomerate, which constitutes the upper member of the new red sandstone formation, (No. 20.) This is also ranked among the limestones, but is little used for lime, because of its proximity to the better material last referred to.

Middletown valley appears to be destitute of limestone except to a small extent near its southern limits, but whether it exists there in available quantity I have not yet been able to ascertain. A careful survey of that region will be required to determine the fact.

The great limestone deposit of the Hagerstown valley also belongs to No. 10.

The strata there have been much disturbed by forces acting from beneath, sometimes highly inclined in one direction, and then the dip reversed. Many of its beds have a wavelike stratification, and others are much contorted.

Its colors are blueish gray, and various shades of blue; some of which are almost black. Along its eastern border, near the foot of the South Mountain, it is more or less slaty, and mixed with silica, alumina, and oxide of iron; but with the exception of this narrow belt, the stone of this formation contains but little foreign matter, except magnesia, in proportions varying from one or two to twenty, and even thirty per cent. in some of the strata,

The ranges of these limestones are indicated on the map and sections.

Progressing westward we next meet with the limestone No. 15a, near the western base of the North Mountain. Its geological position and the localities within which it is available, were shown in Chapter III, and it constitutes the main reli-