

beds of impure limestone, and seems to graduate into the cement rock above.

2d. A blue limestone, with bands of chert. It is usually in moderately thin layers, and contains a little magnesia.

#### FORMATION No. 15a.

*Pre-Meridian Limestone of the Pennsylvania report. Lower Helderberg Limestone, New York do.*

This limestone varies in color from gray to blue, and also varies considerably in composition. Some of the layers are very pure limestone, whilst others are shaly and siliceous. It abounds in layers of chert, which near the western base of the North Mountain are of considerable thickness. It contains numerous remains of shells as well as of corals.

It appears resting upon No. 15b, near the western base of the North Mountain, and dips under No. 16. It crops out on both flanks of Tonaloway Hill, and passes under Sideling Hill, Town Hill, Ragged Mountain, Warrior Mountain, and Ewit's Mountain, and crops out in the city of Cumberland. We again find it on the west side of Wills Mountain, and dipping under Dan's Mountain again rises to the surface in the State of Ohio; its identity being fully established by its fossils.

These rocks rest immediately upon the limestone of No. 14b, and it is possible that we may hereafter determine that both belong to the same formation.

Their range in Maryland may be inferred from that of 14b, already inferred.

#### FORMATION No. 15b.

*Meridian series of the Pennsylvania report. Oriscany sandstone of the New York report.*

A dark colored slate forms the lower beds of this division in some parts of Pennsylvania, but I have not yet met with it in Maryland.

The sandstone is usually of a yellowish color, has a coarse open texture, is more or less calcareous, and contains numerous fossils. It rests upon the limestone last described, (15a.)

#### FORMATION, No. 16a.

*Cadent Slates and Shales of the Pennsylvania reports. Marcellus Slates, Hamilton group and Genessee Slates of New York reports.*

This group consists of—

1. A black bituminous Shale.