It abounds in Italy and in some other countries, but does not exist in Maryland, unless the name shall be eventually applied to the calcareous rock above noticed.

4.—Clay Slates, (Argillite.)

This rock is supposed to have been formed by the deposition of fine mud, or sediment, from water, and consists of the debris of other formations, from which such water flowed. We would expect, therefore, a considerable variety in composition.

They appear, however, to consist principally of mixtures of silica chemically united to alumina and other earths.

Three European varieties, which have been analyzed, give the following results:

	1.	2.	3.
Silica	48.60	60.40	71.
Alumina	23.50	21.40	15.30
Oxide of iron	11.30	6.20	9.30
Potash	4.70	4.60	.....
Magnesia	1.60	.20	.....
Lime	.....	.20	.....
Water	7.60	7.00	3.30

We observe that the first and second are rich in potash, which is absent in the third. This fact materially affects the character of soils, which result from their disintegration. The third cannot but produce a barren soil.

There are also calcareous slates, some of which are rich in lime.

Clay slates are found of various colors, owing principally to the proportions and state of oxidation of the metals they contain. Those of a slate and of a lead color are found usually to contain carbonaceous matter of vegetable origin.

5.—Shales.

The origin of Shales is similar to that of slate, and they are generally of similar chemical composition. They mainly differ from the fact, that although both are often solid rocks at some distance beneath the surface, yet the slates are more apt to retain their form when exposed to sun, rain and frost, &c., while Shales are readily disintegrated when exposed to