

### THE INVESTIGATION OF THE ORIGIN AND NATURE OF THE SOILS.

The intimate relations which exist between geology and agriculture have come to be recognized in late years by those who are investigating the subject of soils and their formation. The character of a soil is determined by the underlying geological formation, since the soil itself is but the disintegrated surface of the subjacent rocks mingled with varying proportions of vegetable humus. The limits of a geological formation become then the limits of a particular type of soil, so that a geological map is at the same time an agricultural map. The latest investigations of soils show that their difference is dependent not so much upon their chemical composition as upon the physical arrangement of their particles, so that a study of the character of the rocks from which they come is of much significance. It is the intention of the State Geological Survey, by co-operation with the Maryland Agricultural College and the U. S. Department of Agriculture, to investigate the origin and the nature of the soils of Maryland from a geological standpoint, believing that such a classification of the soils will be of great benefit to the agricultural interests of the state, and will at the same time show to those who desire to settle in our midst the characteristic features of our arable land.

### THE INVESTIGATION OF ARTESIAN WELL PROSPECTS.

A very close relation exists between the water-bearing horizons of the state and the geological formations, and it is of much importance to the people that the most reliable information possible should be available upon this subject. A careful study and measurement of the thickness of the several geological formations throughout the eastern and southern portions of the state will readily afford data upon which estimates may be made of the depth at which water may be anticipated. In the more highly folded and crushed crystalline rocks of the Piedmont belt between Baltimore and the Frederick valley less accurate information can be given, but even here the geological relations often give indications of the depth of deep-seated water. Farther to the west, in the Appalachian district of the state, the geological relations are again much more distinct. The value of