

offering two varieties; namely, indurated or *stone marl* and *earthy marl*.

These beds of shell marl occur at variable depths. They are sometimes covered by a thick stratum of gravel or sand, measuring from ten to thirty feet and upwards in thickness. At other times they reach nearly to the surface of the soil, and their limits, under this latter circumstance, are marked by a line distinctly undulating; whilst elsewhere the line of separation from the superincumbent soil is horizontal, and in some localities slightly inclined. In some places, the fossils in the marl bed, are its principal constituent; that is to say, consisting of numerous genera and species of shells, they are bound together by a cement of their own nature, which offers an admixture of foreign ingredients, either argillaceous or siliceous, not exceeding a ratio of fifteen or twenty per cent. Such beds are characterized by the great predominance of that species of shells known in popular language as *clam shells*. Other beds consist principally of *scallop shells*. Some contain both scallop and oyster shells; others oyster shells alone. Some beds are principally composed of these shells thickly imbedded in clay; while in others, the shells, and more especially the *scallop shells*, are firmly agglutinated by an argillaceous and ferruginous cement. A portion of these beds of shell marl offers an inexhaustible supply of the best material that can be used for improving the soil, in an extensive circle around the spots on which they are deposited.

Notwithstanding the great diversity of soils, (according to localities,) which is observable on the Eastern shore of Maryland, it would be easy to shew, that, excluding the vegetable and animal matter, contained in them, they may all be arranged under two classes; namely, those containing a predominance of silicious ingredients, and such as contain a predominance of argillaceous ingredients; in other words, *sandy* soils, and *clayey* soils. It is presumed that the great characteristic of the soil, in this portion of the territory of Maryland, is an absence, or deficiency of calcareous ingredients.

Taking this view, then of the constitution of the soil, in connexion with this well known fact, that to constitute a permanently good soil, there should necessarily be present in it a due proportion of siliceous, argillaceous and calcareous particles; and, in connection too with the fortunate circumstance of the existence of the immense deposits of shell-marl, which have just been referred to, the undersigned remain persuaded, that the system of Geological inves-