

These surveys at once refute the idea of "sandy plains, a mingled series of estuaries, islands, &c., just rising above tide."

It is well to observe here that the coast survey shows the same general face of the country to extend all down this peninsula to a few miles of Point Lookout.

The above elevations of this ridge as to their lowest point, have been carefully determined by instrumental surveys made by the best engineers, and are therefore entitled to full confidence.

To the nature and composition of the soil, and the means at hand on it and under it, for its improvement, I shall now invite special attention. The conclusion might be fairly drawn from what I have said of the growth and productions of this State, that it has a fertile soil. A reasoning farmer would know this from the enumeration of its forest trees, but I shall give proof more direct and circumstantial than this, and shall give it of different kinds, each substantiating and confirming the other and each showing the truth of my statements and opinion.

To a proper understanding of what I say in relation to the several varieties of soil, some general remarks in relation to it is necessary.

The soil is that portion of the earth which forms its outer crust and is indispensable to the vegetable world, not only for its mechanical support, but also for furnishing it materials for growth and nourishment, and the fertility of a soil other things being equal is in direct ratio to its mechanical texture and crop nourishing substances which it may contain; the two factors are mechanical texture and nourishing substances, the product, the crop. When therefore soils are called fertile, it is meant that they have a proper mechanical texture for supporting the roots and stalks of plants to be grown in them, and also contain a supply of the nourishing properties or substances which vegetable life requires in a form and condition which the plant can readily appropriate to its growth and development. By a good soil is understood that variety of soil which, from its physical texture, is capable of being supplied, and one from which with ordinary care and attention remunerative crops may be gathered.

This idea of a good soil is presupposed on a knowledge of the nature and components of the several parts which go to make the sum of a fertile soil, and it is from knowledge of this kind that correct ideas only can be formed.

Since four substances, namely: Silicia, Oxide of Iron, Clay and Alumina, form by far the greatest proportion of a soil other substances existing comparatively only as traces, the physical properties of a soil must depend on the relative quantities of these four fundamental ingredients, and are therefore as different as the numerous proportions in which these four substances can be mixed, or as different as the various modes