2A. CHANGES IN CHARACTER, CONDITION, AND AMOUNT
OF SOIL ORGANIC MATTER

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It has been the natural process for a soil to increase in fertility, and this accumulation, although slow, has been going on throughout the ages of soil formation, long before man appeared to wrest therefrom his food and raiment. It is only when man interferes with these natural methods of accumulation that soil deterioration sets in. Viewing the soil as a whole, we must conclude that it is the product of its environment. In the beginning, when all was chaos and void, the all sustaining soil was not. We are all agreed that its formation is the result of the action of the water and air upon the rocks of the earth. Mere rock powder, however, is not fertile soil. The accumulations of fertile soils, which now feed the nations of the earth and clothe them and supply them with the products of field and forest in an industrial development unprecedented in history, was made possible by the development of organic life within the soil, aiding in the action of water on the rocks, in the action of air in furthering decomposition, and in living and in dying adding to the store of organic matter in the soil. Thus from the most primitive life forms, up through the ages, soil has been formed, through the interaction of organic life, air, water, and rock.

As time went on, with each generation of living forms the store of what we now call available food was augmented, since the original rock of the earth contains but little water-soluble or available plant food as compared with the fertile soils of our agricultural domains. These fertile soils are therefore the accumulations of rock and organic detritus, and have in a measure come to be in equilibrium, in each environment, with the climatic and vegetative factors which formed them. This equilibrium is a dynamic equilibrium and not a static one, but it is nevertheless, by and large, an equilibrium, which determines the natural inherent factors of soil fertility or of crop productiveness.

It behooves us to consider at this point that if the occupation of the land by man decreases the soil fertility or productiveness it must be through the influence which he exerts on this equilibrium between earth, water, and sky which constitutes the soil. To discuss

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