Geology in Some of Its Relations to Agriculture.

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OF all departments of science, geology seems to me to be the one that depends most on a specially trained "common sense," which brings, as it were, into one focus the light disclosed by a great variety of studies—physical and chemical, geographical and biological—and throws it on the pages of that Great Stone Book on which the history of our planet is recorded. No one who has even a general acquaintance with the evolution of this department of science, can fail to see that the geology of each epoch has been the embodiment of the reflections of the minds by which its study was then directed; and that its true progress dates from the time when the common sense method of interpretation came to be generally adopted. This consists in seeking the explanation of past changes in the forces at present in operation instead of invoking the aid of extraordinary and mysterious agencies, as many of the older geologists were wont to do.

Tennyson, though not a geologist, stated facts better than any of the fraternity when he wrote:

"There rolls the deep where grew the tree,
O earth, what changes hast thou seen;
There where the long street roars, hath been
The stillness of the central sea.

"The hills are shadows, and they flow
From form to form, and nothing stands,
They melt like mist, the solid lands,
Like clouds they shape themselves and go."

It is not, however, our purpose in this article to enter into a discussion of the advantages which geology has reaped from common-sense judgments, but rather to point out the relation of the science to practical agriculture.

Nearly everyone is aware that if we dig down through the soil to a sufficient depth, we come sooner or later to the solid rock. In many places the rock actually reaches the surface, or rises in ridges, hills, or mountains far above it. The surface of our planet, therefore, consists everywhere of a more or less solid mass of rock, generally overlaid by a covering of loose materials. The upper part of these loose materials is the soil.

When the earth is removed from the surface of any rock mass, and this surface is left exposed, summer and winter to the action of the winds, rains and other atmospheric agencies, it may be seen to crumble gradually away. Such is the case even with many of those which, on account of their greater hardness, are employed as building stones, and which, in walls, are generally kept dry; how much greater must