facts which have no clear connection with other established items of knowledge. Many among the so-called practical men of the world realize the value of the entomologist who can do something to check the ravages of insects injurious to vegetation, the botanist who understands problems of forestry, or who with the added knowledge of the chemist knows the food or the medicinal value of plants, the geologist who happens to discover a coal or a gold mine, the biologist who actually saves human life by his knowledge of bacteria, or who by his knowledge of their habits shows how the fish supply of the world may be increased. But they do not always understand that the scientific discoverers who are thus able to do some direct good to man would not in all probability have attained such knowledge had they attacked the unknown fields of science in any other spirit than that which recognizes that all newly discovered items of fact are infinitely valuable, whether we can at the moment put them to any direct use or not.

No one is wise enough to recognize the full value of a newly-discovered fact. One new fact may seem to have nothing to recommend it, except its anomalous character. Another may seem of enormous importance. But some later discovery may change all this, disclosing the value of the apparently anomalous fact and diminishing the value of that which seemed the most important. Our duty is to treasure every new truth or fact discovered, no matter how unimportant it may appear. We can readily understand that what seems now of trifling value may be intimately connected with the working out of some problem in which man is deeply interested.

This may seem an unnecessarily elaborate manner in which to draw your attention to the claims of palæontology, the subject in which I hope to interest you to-night. In its early history it was peculiarly a study in which patience was necessary in recording facts which seemed to have little more than mere stratigraphical value to the discoverers. And even now that it may claim to be a body of systematized knowledge, its value is certainly underestimated in this centre of colleges and universities.

The simplest manner in which to judge of the value of any particular branch of science, such as palæontology, is doubtless to consider its interdependence with other branches of science. In the ultimate analysis, of course, all science is interdependent, but I refer to that interdependence which at once occurs to the student who desires to be a specialist. The entomologist soon finds that he must know something of botany, the botanist that he must know something of entomology. Both soon learn, also, that without some knowledge of geology, if only of soils and altitudes, they cannot proceed very far.

Let us, then, first consider the value of palæontology to the student who is trying to work out the physical history of the globe. In the record of fossils he finds almost his only sure guide. If he tries to work backward through the crust of the earth, beginning with the most recent conditions on the surface, he finds that there is but one satisfactory guide proving the regular succession of the different strata of rocks, and this is palæontology. If he concludes that the stratigraphical arrangement of the sedimentary rocks is for practical purposes the most satisfactory measure of time, he must also conclude that without the palæontological record there could be no system of stratigraphy, and that where the stratigraphic sequence is broken there is little beside the correlation of the fauna in the two unconformable strata from which to measure the time represented by the break in the sequence. It may be well to recount very briefly how our present knowledge of stratigraphy has been gained and the extent to which this knowledge is due to palæontology. The first attempt to systematize the rocks comprising the crust of the earth was made by the Freiburg professor of mineralogy, Werner.(1)

(1) Many of the references to individual geologists have been taken from Sir Archibald Geikie's "Founders of Geology."