

ing and reasoning faculties. The habit of direct observation of Nature is one of the most important that any human being can acquire. By bringing the observer into direct contact with Nature, it gives a healthy concreteness to his conceptions. He who misses this training in early life will not be likely to make good the deficiency in later years. Many men, who have naturally good reasoning powers, find themselves condemned to more or less of intellectual sterility, simply because what we may call the fact-grasping faculty has never been developed in them. If they had materials to work with, they could do good work; but they have not the materials, and do not seem to know how to gather them. They live in a too attenuated air: like the ancestral ghosts whom Myrtle Hazard saw in her dream, they call for "breath! breath!"—the breath that no living soul need lack who will but go to Nature for a supply. It may be said, indeed, that a logical faculty without a strong sense for the concrete is a source of danger to its possessor, leading him afar on the seas of speculation, with no guide but a few charts and his own dead-reckoning. He who can observe Nature, on the other hand, is like the mariner who can "take the sun," and know his exact position from day to day. Many of the intellectual evils of the present time spring from the too wide-spread use of intellectual faculties untrained by the study of Nature, and therefore unchecked by any due sense of the complexities which the problems of life present. Science teaches caution; it teaches the paramount importance of verification, and creates not only a distrust of, but a certain lack of interest in, conclusions that have not been reached by proper methods, and which do not admit of verification. Scientific men, in general, it will be observed, are not revolu-

tionary in their opinions; they work on patiently, and hate nothing so much as premature production of results. They often have occasion to smile at the confidence with which mere theorists undertake to tell the world what the whole significance of their work is.

The methods of science are, as we have said, the labour-saving devices of the human mind. They are the choicest and most precious results of the travail of the human intellect upon the phenomena of its environment. Not to know something of them is, in a wide sense, one of the worst forms of self-ignorance, for the intellect that has worked out and established these methods is not any individual intellect, but the intellect of the race. We are all entitled to our share in what the race has accomplished. And shall we supinely and ingloriously consent to be ignorant of the intellectual triumphs that the race has won? The man of culture must have a consciousness of his own best self, and must have it in his power to live his best habitually, and not be dependent upon critical occasions to reveal what his capacities are. The function of culture is to redeem us from the sway of chance, and make us fully masters of ourselves. We see, then, what it must be, from the point of view of culture, to know the ways of Science, and to be able to trace her shining footsteps along some of the grander paths of discovery. We see, too, what, from the same point of view, it must be not to know anything of all this, but to live in a world the phenomena of which never reflect back the light of law into the understanding, or convey any clear suggestion of the conquests which the human mind has achieved. To think that, not so long ago, this condition of mind was thought by many, yes, by most, quite compatible with "culture!" Times are