

delight which springs from the discovery of its secret truths; that we climb the steeps of knowledge, as the traveller ascends the mountain's unexplored cliffs, gladdened at every pause in his ascent with new grandeur and beauty in the widening horizon which opens on his delighted gaze.

But, while in thus leaving out of our present consideration the direct commercial and utilitarian results of Canadian science, our chief field of operation in Canada, and the immediate evidences of her scientific progress, are presented to us in the illustration of unknown gasteropods, crinoids, and foraminifera, discovered among the fossil forms of our older palæozoic rocks: we must not overlook the comprehensive generalizations to which the accumulation of such minute and seemingly isolated facts in ancient organic structure are leading.

With the original area of observation so immensely widened to the zoologist and naturalist by the comprehensive disclosures of palæology, all former conclusions are being subjected to revision and testing by such new evidence. The reality of the existence of very clearly discriminated specific forms, and the proofs of a continuous system of organization, development, displacement, and extinction, seem all more evident and indisputable. Yet the immediate result appears in the removal of many old land-marks of scientific faith, whereby we witness some of those conditions of ruin, which mark all transitional and revolutionary eras,—whether of thought or action. The old has been shaken, or thrown down, the new is still to build; and the casual and hasty observer is too apt to regard the indispensable clearing away of old and worn-out fabrics as the index only of ruin and desolation; while in reality it is the inevitable stage towards a higher replacement: like the ragged log-piles, the girdled-trees, and charred stumps of the pioneers of civilization in our Canadian wilderness, which are the needful precursors of the clearing, the farm-house, and the happy village homes.

In this light, I conceive, we must look upon that comprehensive question which now challenges revision in the hearing of new witnesses: *What is Species?* It is a question which forces us back to first principles, and equally affects the sciences of Palæontology, Zoology, and Ethnology; while it has also been made to bear in no unimportant degree on the relations of Science and Theology: involving as it does the questions:—In what forms has creative power been manifested in the succession of organic life? and, Under what