

hundred miles away in the mist of the distance, while at our feet were arranged in parallel lines the ridges and valleys of the lower land between us and the river. To the eastward, a confusion of mountains and ravines belonging to the Notre Dame Range, filled up several degrees of the circle, and one summit, which exhibited a patch of snow, we supposed might be higher than the point we stood upon. Many of the peaks were bare; and, as they retired one behind another, and occupied a smaller angle in the perspective, it became difficult to distinguish those of the Notre Dame from such as appertained to other ranges. Turning southward, a sea of parallel undulating ridges occupied the picture, the more distant of which we conceived might present a table land, with a few marked points rising in cones and domes; and through one gap, which probably was the valley of some south flowing river, we distinguished a faint blue horizontal line, which we fancied might be in New Brunswick. Prominent points became still fewer, veering westward, until the horizon was again interrupted in that direction by a well defined outline of a not very distant part of the range from which we looked.

"The highest summits within our view were generally bare rocks. Those next in the scale were crowned with sturdy dwarf spruce trees, many of them not five feet high, but springing up so close together that their branches interlocking, rendered it very difficult to make way among them. On those still lower, spruce became mingled with white birch, and the size of the trees gradually augmented in proportion to the decrease of elevation. One feature in the vegetation high up in the hills, that struck us forcibly, and gave us much satisfaction after confinement in the forest below, was the great extent of open glade that appeared on all sides but the north. Wide slopes on the east, the south, and the west, were carpeted with the most luxuriant growth and abundant specific diversity of ferns, from which clumps of spruce, or of white birch, or of both mingled, started up here and there, giving the hills occasionally almost the character of park scenery, as if art had arranged the distribution with a view to ornament, and often producing, in combination with peaks, ravines, and a distant horizon, landscapes of a very pleasing description."

There are several things that serve to lighten the toils of the practical geologist, and to form a sort of compensation for them, abstracting altogether from their value as a source of national wealth, or a professional occupation. It is neither the hope of discoveries, nor the expectation of any direct utility, that inspires the enthusiasm which is prophetic, and, at the same time, productive of success. Sir Walter Raleigh certainly made mention only of a subordinate motive, when he said, "Neither am I so far in love with that lodging, watching, care, peril, diseases, bad fare, and many other mischiefs that accompany these voyages, as to woo myself again into any of them; were I not assured that the sun covereth not so much riches in any part of the earth." He was, in truth, only thus betraying himself by "an imagination." That instinctive love of the miraculous and the beautiful, that unconquerable delight which many persons have in

beholding the pictures, and dwelling in the palaces of nature—these, as is evident from his rapturous descriptions, were undoubtedly a main source of his activity and adventure. There are no pursuits that better gratify these tastes than that of geology. Besides, that they are health and strength to the geologist, he is led by them into the rarest scenes which the surface of the globe presents—scenes which no ordinary tourist ever thinks of visiting, and that usually lie beyond the province of human duties. Many a fairy spot in the bending arm of a stream—many a glorious panorama it is his happiness to witness, as

High o'er the hill, and low adown the dale,
He wanders many a wood, and measures many a vale.

What, indeed, constitutes the charm of the practical study of geology, and often inspires the students or cultivators of it with extraordinary enthusiasm, is the gratifying of the many sensibilities which have a necessary affinity with it—"eternim omnes artes habent quoddam commune vinculum, et quasi cognatione quadam inter se continentur."

Conglomerate Limestone, Pillar Sandstones, and Graptolitic Shales.

The whole of the deposits given amount to about 1140 feet in thickness, and the distinguishing features they present are the bands of conglomerate limestone, and the bituminous mineral so much resembling coal. This is found not only in the septa of the cherty nodules which have been mentioned, but also in many small cracks across the strata, and in more parts than one of the vertical thickness. A similar mineral, in an analogous position, is found in the rocks at Point Levi and Quebec, and in the museum of the Quebec Natural History Society a block of it, procured in the neighborhood, containing about a cubic foot, is preserved. Some have been inclined to suppose that it might indicate the proximity of workable coal, and indeed I have been asked whether a mine upon it, in a position which I have not yet seen, but where according to information received, a cart load of it has been obtained, would be likely to be successful. Now none of the material where it has come before me in situ, bears any analogy in the mode of its occurrence to workable coal. This is always found in extensive by continuous beds conformable with the stratification; whereas the mineral in question occurs in cracks cutting the strata across for greater or less distances. It is true that where faults or dislocations exist among coal seams, there is often met with running across the stratification what by Scotch miners is termed a *vise*, and by Welsh, a *leader* of coal, which in general is a thin, confused, irregular interrupted black more or less carbonaceous sheet, conducting up or down, as the case may be, in the plane of dislocation, from the termination of a coal-bed on one side to that on the other; and there is no doubt it is the result of the grinding of the terminal edges of the strata against one another, when the slip producing the dislocation occurred. Without a slip or displacement, therefore, no leader would be found, and none in any case would hold true coaly mat-