

grand order of succession in the Laurentian system seems to be the same with that so often repeated in other parts of the geological scale,—coarse fragmentary beds represented by conglomerate and gneiss; calcareous and fossiliferous bands represented by the Eozoön limestones; and finer earthy deposits, represented by felspathic rocks. This brings the Laurentian into a cycle somewhat similar to that of the Potsdam sandstone, the Chazy and Trenton limestone, and the Utica slate and Hudson River in the Lower Silurian; or to that of the Medina sandstone, the Niagara limestone, and Lower Helderberg in the Upper Silurian; or to that of the Oriskany sandstone, Corniferous limestone, and Hamilton and Chemung groups in the Devonian; or to that of the Lower Carboniferous conglomerates and sandstones, the Carboniferous limestones, and the Coal-measures in the Carboniferous period. This recurrence of cycles of deposit cannot be accidental. It is more or less to be seen throughout the geological scale, and in all countries; and as I have elsewhere pointed out, it includes numerous subordinate cycles within the same formation, as in the coal-measures. Eaton, Hunt, and Dana have referred to it; but it deserves a more careful study as a means of settling the sequence of oscillations of land and water in connection with the succession of life. It will also be important in giving fixity to our geological classifications, and may eventually aid in establishing more precise views of the dynamics of geology and of the lapse of geological time. The progress of the earth has, like most other kinds of progress, been not by a continuous evolution, but by a series of cycles, of great summers and winters, or days and nights, of physical and vital changes, in each of which all things seem to revolve back to the place of beginning; only to begin a new cycle or new turn of a spiral, similar to the last in its general course, though altogether different in its details, accompaniments, and results.

There is another subject of great geological importance on which the publication of the Report enables strong ground to be taken. I refer to the conditions under which the *Boulder-Drift* of Canada was deposited. It has been customary to refer this to the action of ice-laden seas and currents, on a continent first subsiding and then re-elevated. But this opinion has recently been giving way before a re-assertion of the doctrine that land-glaciers have been the principal agents in the distribution of the boulder-drift, and in the erosions with which it was accompanied. I confess that I have stead-