in the levelling effects of landslides, and in the slow solution of soluble rocks like limestone Continued over millions of years, these agencies reduced even great mountain chains to flat or rolling surfaces. The debris was carried away and deposited in basins by streams, waves and winds as mud, silt, sand or gravel. In some places, such as a continental shelf, the thickness of sediments was relatively small, and in others huge thicknesses accumulated in large trough-like depressions called geosynclines (part of the Caribbean Sea near the Lesser Antilles is a modern example). Also, compounds dissolved in water were deposited chemically in the bottoms of seas and lakes. In time, sediments become solid sedimentary rocks by the compaction caused by overlying sediments and by the cementing of grains by material deposited from solutions. Thus mud, sand and gravel, respectively, become shale, sandstone and conglomerate; and chemical precipitates become limestone, dolomite or beds like salt or gypsum.

In addition to sedimentary varieties there are two other fundamental classes of rocks—igneous and metamorphic. Igneous rocks are commonly formed by the crystallization of molten material, of which lava is a surface manifestation. If crystallization takes place beneath the surface it is slow, resulting in coarsely crystalline rocks such as granite, which may be exposed at the surface long afterwards as a result of erosion. If, on the other hand, the molten material reaches the surface from a volcano it crystallizes quickly to form fine-grained stratified volcanic rocks such as rhyolite and basalt; often associated with lavas are clouds of volcanic ash which settle to form sedimentary rocks called tuffs. Metamorphic rocks are formed from sedimentary or igneous rocks by the action of heat or pressure, or both, which in some cases merely causes a different crystallization of the pre-existing minerals and in others produces new minerals by re-arrangement of the elements already present to form new minerals that are more stable under the changed conditions; the latter are commonly platy minerals like mica. Thus shale may become slate, sandstone may become quartzite, and limestone may become marble. Also common results of metamorphism are foliated or banded rocks like schist and gneiss, which may be formed from various rocks and in which the foliation is commonly caused by the parallel orientation of platy minerals; in some gneisses banding is caused partly by thin parallel injections of granitic material. Metamorphic rocks are commonly formed in the 'core' of a mountainous belt, where heat and pressures are increased. Granites and other coarse-grained igneous rocks are also commonly formed there. Some granites and related rocks appear to have been formed as a final stage of metamorphism and recrystallization, without having been melted.

Segments of the crust were elevated from time to time by forces connected with mountain building, earthquakes and volcanic activity. Sometimes segments were uplifted in flat or tilted manner, or in broad, gentle flexures, so that streams and other erosive agencies could again begin their work of degradation, transportation and deposition. Or, particularly where great accumulations of sediments took place in geosynclines, the rocks were cast into arched or crumpled 'folds' such as may be seen on the sides of mountains carved out of sedimentary or volcanic strata. Commonly accompanying such processes were dislocations along fractures, the strata at one side of a fracture no longer matching those at the other; these are called faults, and the vibrations caused by movement along a fault produce earthquakes. Thus the earth's crust is not static, but subject to slow cyclical changes that are continuing at various places today and that culminate from time to time in pronounced disturbances called orogenies. When the highlands formed by an orogeny have been worn down and covered by later rocks a pronounced change in the kinds or structural conditions of the rocks, called an unconformity, is marked by the ancient erosional surface.

Glaciation during the Pleistocene period brought Canadian landscapes virtually to their present forms. In many mountainous regions it has continued since then. Because of fluctuations in the climate, great ice-sheets pushed slowly across almost all Canada, from centres in the Cordillera, Keewatin and Ungava. Rocks frozen in the bases of the ice-sheets and glaciers gouged and smoothed rock surfaces, and vast loads of rocks and rock particles carried by the ice were dumped as gravel or sand, or deposited as silt or clay in large temporary lakes formed by the melted ice. Both the erosive and the depositional actions