

paleozoic age, and in the ensuing period, the Triassic, we take up the third great division of geologic time, the Mesozoic.

The development of the Triassic rocks in Eastern Canada is very limited, certain small areas in Nova Scotia, New Brunswick and Prince Edward Island, in all of only a few square miles in extent, comprising all that is present known of the formation between the Atlantic and the prairie section. Small areas have been recognized in the Rocky Mountain district, and on the Pacific coast, in Queen Charlotte Islands and in Vancouver, beds supposed to be of this age have been found underlying the Cretaceous and containing characteristic fossils.

The Cretaceous or third division of the Mesozoic is, however, largely developed in that portion of the Dominion lying to the east of the Rocky Mountains as well as in British Columbia. It both places it is remarkable for the *presence of immense beds of coal which at times almost rival in thickness the greatest beds of Nova Scotia.* The great abundance and variety of fossils in these localities clearly indicate the horizon of these beds, while the presence of such great seams of coal on either side of the Rockies renders this formation of the greatest economic importance. The newer Tertiary formations are sparingly developed in Canada, a few localities in the North-West Territories closely associated with the Cretaceous and for some years almost inseparable, having of late been judged to belong to this period of time. But the great thickness of formations which are found in England and France, and which there complete the geological record, are, in so far as yet known, almost absent from this portion of the American continent.

Throughout the long interval of the many millions of years which elapsed between the beginning of the fossiliferous rocks and the close of the Tertiary many eras of subsidence and elevation of the earth's crust must have taken place, and are evidenced very plainly by the varying character of the sediments. Thus conglomerates and coarse grits are supposed to represent shallow water and beach deposits, while fine slates represent deposition of sediment under deeper and quieter conditions. From the observation of these peculiarities some authors have developed the theory of geological cycles, by which is meant a regular periodical recurrence of the physical conditions of the earth's