CHAPTER I.—PHYSIOGRAPHY AND RELATED SCIENCES

CONSPECTUS

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi.

PART I.—GEOLOGY AND GEOGRAPHY

Section 1.—The Geology of Canada*

The bedrock foundation of Canada and its adjacent continental shelves seem rigid and unchanging to human eyes, yet, in terms of geological time, these rocks represent only a momentary stage in the evolution of the Continent, an evolution which began more than 4,000,000,000 years ago. Geological study of most of the present land surface of Canada has shown that at various periods and in various regions dark molten rocks rose from great depths, volcanoes erupted on the ancient land and sea floors, thick sequences of sediments accumulated, granites were either intruded as molten magma or derived from earlier rocks during intense folding and mountain building, erosion wore down or subdued the older mountain chains, shallow seas repeatedly encroached on and receded from the Continent of today, continental glaciers covered most of Canada and, as part of these geological processes, valuable minerals and fossil fuels became concentrated under exceptionally favourable conditions. These interrelated geological processes have produced the buried crust and the present face of Canada. They control the distribution of its economic mineral deposits, its physiography and, in large part, its present and potential land use.

The primary geological subdivisions of Canada are outlined in the following sections. The Canadian Shield forms the ancient nucleus of the Continent. As well as comprising the vast areas exposed in Central and Northern Canada, the Shield extends beneath the veneer of younger marine sediments exposed at the present surface in the Hudson Bay

* An outline extracted from a more detailed article on "Geology and Economic Minerals of Canada", prepared by W. D. McCartney of the Geological Survey of Canada, appearing in the 1967 Year Book, pp. 19–32.