rence of certain classes of minerals and unfavourable to the occurrence of others. Areas underlain by certain types of rocks of Precambrian age yield the metallic minerals of lead, copper, nickel, gold and silver, but the Precambrian areas will be searched to no purpose for natural gas, petroleum and coal. When certain sedimentary formations of the Maritime Provinces, of the Prairie Provinces and of British Columbia were being laid down, conditions existed favourable to the accumulation of vegetable matter in sufficient quantities to form coal seams, but similar conditions did not exist during the deposition of the sediments now found in southern Ontario and Quebec. Certain parts of the country are unfavourable to the occurrence of alluvial deposits of gold or other valuable minerals. Dolomite, limestone, quartzite and other rocks suitable for chemical or metallurgical purposes are known to occur in certain localities and to be absent in others. What has been done in a broad way to determine the economic mineral possibilities of the whole country has been done in a more detailed way in particular localities, and a study of the mode of occurrence of developed ore-bodies has led to the discovery of other ore-bodies of similar character.

The geologist cannot see deeper into the ground than other men, but he can frequently determine the character of the rock at depth, through observations on the character and structural features of stratified rocks as exposed on the surface of the earth. These estimates are checked by samples from deep borings. As a consequence, information can be given as to the depth at which certain strata known to carry water, salt, natural gas or petroleum will be encountered in drilling, and as to the character of the rock to be penetrated.

The Survey has almost from its inception been the important exploring Department of the Government. A great part of the map of Canada has been based upon surveys made by its field officers, and to them we are indebted for much of our knowledge of the remoter parts of the country. Not only were the geological features made a subject of study, but records were also made of observed facts bearing on all natural resources and their possible future development.

The need for a geological survey of the country was felt almost a century ago, for as early as 1832 petitions were presented to the Legislative Assembly of Upper Canada praying that a sum of money be granted to provide for an investigation of the geology, mineralogy and natural history of the province. The sum of £1,500 sterling for the purposes of a survey was included in the estimates of the first United Parliament in 1841. In 1842 two geologists were appointed, W. E. Logan, principal and A. Murray, assistant, and the investigation commenced in 1843. A chemist, in the person of T. Sterry Hunt, was added to the staff four years later. During the 50's other scientists were employed, and under the able direction and through the indefatigable labours of W. E. Logan, a geologist who received world-wide recognition and who in acknowledgment of his services was afterwards knighted, a geological survey was made of the southern parts of Ontario and Quebec, and exploratory work was carried into the interior of Gaspé peninsula and into the then rather inaccessible areas drained by streams flowing into lake Huron and lake Superior. Reports on the progress of the work were published annually and in 1863 the results of the work of twenty years were admirably summed up in a large one-volume classic entitled "Geological Survey of Canada, Report of Progress from its commencement to 1863; illustrated by 498 wood cuts in the text, and accompanied by an atlas of maps and sections." A few years later a geological map of Canada was published on a scale of 25 miles to 1 inch. Geologists having occasion in more recent years to work in the area thus mapped have been amazed at the accuracy and breadth of vision