

## Book Reviews

*Reading the Rocks: the Story of the Geological Survey of Canada 1842-1972*, by Morris Zaslow. Toronto: Macmillan (in association with the Department of Energy, Mines and Resources and Information Canada), 1975. Pp. 599, illus. \$25.00.

To date there have been very few studies of departments of the Canadian federal public service, and even fewer of real substance. This new work by Morris Zaslow stands as a remarkable exception and, in demonstrating the rich reward to be gained through such an endeavour, will stimulate similar assessments of other government departments and agencies.

It is apparent to most that much of Canada's achievement as a nation is closely associated with the exploration and settlement of its territory and the development of its natural resources. What has not been so apparent is the very significant role played for over a century by the Canadian Geological Survey in shaping and directing this development. That this role be better understood and that Canadians might be better acquainted with the Survey's work, a history of the Geological Survey was commissioned in 1972.

One is immediately impressed with the immensity of the task facing the author in this assignment. There is a time span of 130 years to be assessed, a field of operations that covered an area exceeding that of Europe, and along with the usual rigour of historical analysis, a passing acquaintance with the constantly evolving earth sciences and mining technology was essential. The complexity of the task however turns out, for the reader at least, to yield bountifully.

From within the larger study several histories emerge: the administrative history of an important federal agency, a history of Canadian geographical and geological discovery, as well as a history of the geological sciences in Canada. These histories are nonetheless effectively integrated and considered within the political context of the time. Those areas so

often avoided in commissioned histories — the old problem of political patronage and appointments, the nature and consequences of departmental animosities and differences, and the ever-present pressure to balance pure scientific research with demonstrated practical results to ensure continued funding from pragmatic legislators — are faced squarely.

Zaslow begins with an assessment of the Survey's activities in the Province of Canada in the 1840s and then goes on to examine the vastly expanded range of operations that came with Confederation and the sudden tenfold expansion of Canada's territory. Acquisition of the vast, unmapped and largely unknown western and northern interiors meant that the Survey's responsibility to explore, map and record the geology of the country dramatically expanded to cover a region equal to some 4 per cent of the earth's surface. The book deals at some length with the reconnaissance surveys and explorations undertaken by the Survey before the turn of the century to make the new territory better known to Canadians. As wide-ranging reconnaissance explorations were continued in northern areas — and particularly in the far north where the government was anxious to assert Canadian sovereignty — work in the southern areas after 1900 became more sophisticated and gave way to systematic mapping and detailed description of less extensive areas. This trend has continued to the contemporary period with geological examination becoming ever more technical and scientifically complex, which, in part, reflects the twentieth century development of a powerful mining industry that increasingly demanded of the government more advanced kinds of technical assistance.

Also woven into Zaslow's assessment are the many activities for which the Survey at various times was responsible, including the topographical survey, the collection of natural history and ethnological specimens, the operation of a geological museum, as well as the early appraisal of the state of waters, arable soils, climate and wildlife in the western and northern territories. In fact, because so much of the Survey's energies were focused in these latter regions, a good portion of Zaslow's study is devoted to the Survey's western activities; and for this reason the book proves an especially valuable source for those interested in the Prairie and Pacific West. The work of some of those employed by the Survey, J. B. Tyrrell and G. M. Dawson, director of the Survey from 1895 to 1901, is well known to students of western history. Tyrrell's many years of careful reconnaissance along the old fur trade routes eventually made him the pre-eminent authority on the fur trade period, while the historical papers

and outstanding work on Cordilleran geology by G. M. Dawson, were recognized internationally in the form of medals and honorary degrees, not to mention the lasting local tribute that came in the naming of Dawson City townsite.

The extensive work of Dawson, and over the years by other members of the Survey in British Columbia, is explained in part by the fact the federal government's obligation to conduct geological surveys was expressly written into the agreement under which the Pacific colony entered Confederation. During the 1870s and early 1880s the Survey's work in British Columbia was centred on those districts being considered for the route of Canada's first transcontinental railway system. The later 1880s and early 1890s saw an emphasis on reconnaissance in the unknown northern half of the province and in the Yukon territory. By the mid '90s interest moved back to the southern part of the Canadian Cordillera where more detailed investigations were undertaken. Work shifted gradually from the Slocan area to Rossland, to Trail, then east to the Salmo country. In 1898 the Survey's geologists worked over the area between the Arrow lakes; in 1899 parties struck out from Cranbrook examining the attractive mineral prospects at Moyie, Yahk and Kimberley. During 1900 and 1901 coal fields on the British Columbia-Alberta boundary were the centre of interest. The Kootenay region remained of paramount concern until about 1906 when developments on the coast — particularly the decision of the Britannia Copper Company to exploit an enormous low-grade copper deposit on Howe Sound — brought the Survey to look more closely at the coastal area and Texada Island. Indeed as one examines mining development in the province, it is clear that the Survey might rightly claim a major share of the credit for the remarkable growth of the mineral industry during this period.

In sum, one sees in the Survey and its activities in the frontier territories but another manifestation of the unrelenting and pervasive role played by the central government in western development. Though the profile of the surveyor, geologist and naturalist traversing the wilderness is usually obscured by the more visible presence of some of the other agents of the federal authority, like the North West Mounted Police, the role of the former in shaping and directing economic development in the west and north cannot be ignored. This fact is brought strikingly to our attention by professor Zaslow in his *Reading the Rocks*.