

And here the archives of the nation have a role which can be demonstrated by attention to Nader's purposes and use of history.

He begins (p. 2) with the tantalizing statement that "urbanization is a socio-economic process in which the territorial units of human organization become more specialized and therefore more interdependent, and in which the social system becomes more complex." But, of course, of the three variables (social, economic, territorial), it is really the last which preoccupies him in an analysis of physically observable urban systems. The book does not demonstrate internal social workings of cities and only shows interest in the territorial aspects of its economic development. His purpose, by contrast, is comprehensive: to facilitate urban planning in order to maximize the social and economic benefits of urban residents. The greatest failure of urban planning to date is its inability to achieve "a clear understanding of how a city functions" and beyond that, of "the functioning of the urban system." Nader presumably seeks to overcome that failure, but ironically repeats the same serious shortcoming of which he complains.

Much of the substance of the book, particularly in volume two, is historical, for the author is conscious of the dangers of "static" models of urban development which cannot take into account "dynamic" factors. It is, however, historical information derived from secondary and statistical sources, certainly not from archival sources. The secondary sources available are themselves either limited in chronological or topical scope, or based on less than adequate primary research. Many of Nader's generalizations will undoubtedly be called into question in the aftermath of analyses based on archival research down to the level of individuals and organizations within historical cities. Nader's work fits generally propounded theories to the available historical record; the well-known role of archivists is to acquire the actual information against which can be tested the hypotheses which geographers and others bring to the real and socially influential business of urban planning. In this role archives and archivists can have a significant social impact.

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**Reading the Rocks: The Story of the Geological Survey of Canada, 1842-1972.** MORRIS ZASLOW. Toronto: Macmillan Company of Canada in association with the Department of Energy, Mines and Resources and Information Canada, 1975. 599 p. illus. maps (part col.), ports. ISBN 07705 1303 4 \$25.00.

This large and detailed volume is an excellent example of what can be accomplished in the field of departmental history. Professor Zaslow is a thorough researcher and *Reading the Rocks* is based on a great variety of federal government records, private manuscripts and non-government published sources. The result is a carefully measured book which effectively carries the reader through the various stages of the history of the Geological Survey from Sir William Logan's non-permanent, quasi-government agency of 1842 to the prestigious, sophisticated, permanent government research institution of today.

During this journey, one common theme ties the work together: the constant struggle by members of the Survey to maintain a workable balance between the needs of science for a comprehensive study of Canada's geology and the immediate demands of the mining industry for the location of deposits of minerals for exploration. The Survey functioned largely within this context, Zaslow feels. It was charged with exploring and

studying the geology of Canada, with publishing its findings, with sustaining and aiding the expansion of the mineral industries, with advising the Canadian government on the management of mineral resources and finally with the furthering of geological and earth sciences research in Canada. (p. 516) This was and is a large responsibility and, as Zaslow points out, the Survey, in pursuing these goals, has usually been caught in the difficult situation of trying to professionalize science in Canada at the same time as it was forced to work more and more within the confines of a burgeoning Canadian bureaucracy and be responsible to political criticism about its lack of positive, tangible results.

Zaslow finds that most of the Survey's directors were, at least until World War II, unequal to this task. Logan was a good administrator and talented scientist who combined wealth, reputation and good political instincts to maintain a highly professional and active Survey. His successor after 1869, Alfred Selwyn, was another eminent scientist but a far less talented administrator who won for the Survey a permanent place within the federal bureaucracy but could not maintain the stature it had enjoyed as a quasi-independent agency. The organization's integration into the civil service added to the administrative and political lobbying necessary to maintain the Survey's role as the prime agent of the federal government in mineral development. In Zaslow's judgement only George M. Dawson, director 1895-1901, and R.W. Brock, director 1907-1914, were adroit and influential enough to renew the reputation of the Survey and to expand its activities. Others, such as Robert Bell, attempted to maintain the reputation of the Geological Survey as an exploratory agency, but for the most part the Survey fell in prestige, lost several of its previous functions and suffered from curtailments in its budget. The worst blow came during the directorship of William H. Collins, 1920-1936, whose disagreements with Charles Camsell, Deputy Minister of Mines, led to the demotion of the Survey to a mere unit within the Bureau of Geology and Topography of the Mines and Geology Branch of the new Department of Mines and Resources in 1936. This situation existed until World War II when the need for new mineral exploration and the government aid to research which followed has, in Zaslow's view, re-established the Survey as a prestigious research arm of the Canadian government.

Zaslow's analysis is convincing. He handles highly technical and scientific problems well and integrates them easily into his historical interpretation to buttress his arguments. His theme concerning the need to balance first-rate scientific research with political needs and realities provides an excellent vehicle for telling the story of the Geological Survey. Indeed, this reviewer has only three points of criticism. First, I wonder to what extent the Survey did and does serve as an adviser to government on resource management questions. The author has outlined this as an important role of the organization but says little about it in the text. Certainly men like Robert Bell had definite ideas about resource use problems, but did such individuals have to present their views outside the framework of the Survey, and how effective were they in influencing the politicians?

My second criticism has to do with conflict of interest. Zaslow repeats several times that members of the Geological Survey were noted for their probity, but did they try to place any distance between themselves and the mining industry? The author seems to think that they did not and tended to accept the industry's point of view. If that is the case, I think these civil servants cannot be absolved from charges of some sort of collusion, if not conflict of interest, as easily as Professor Zaslow would have us believe.

Finally, I think the author should have delved more deeply into the relationship between the Survey and the other parts of the Department of Mines (later Mines and Resources), particularly the relationship between Charles Camsell and the Survey. Professor Zaslow claims that Camsell felt that Collins was not carrying the Survey forward

in directions relevant to the modern role of his department. It is necessary, therefore, to define what these directions were and to describe what Camsell did see as appropriate roles for the organization. The author does not provide any detail about these questions. Perhaps it is impossible to document since the file disposal clerk has ravaged the Geological Survey files for these vital years. Yet, much more attention could have been paid to Camsell and his actions.

These criticisms aside however, Professor Zaslow has produced an important book, one which should serve as a model for other departmental histories. Of particular use to further research in this field of study is the exhaustive bibliographic essay at the end of the volume.

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**The Canadian Northern Railway: Pioneer Road of the Northern Prairies, 1895-1918.** T.D. REGEHR. Toronto: Macmillan of Canada, Maclean-Hunter Press, c1976. xv, 543 p. illus., plates, ports. ISBN 07705 1285 2 \$27.50.

This book, subtitled "Pioneer Road of the Northern Prairies, 1895-1918," is the first to chronicle, in more than a cursory manner, the history and accomplishments of this railway which was destined to become the largest single component of Canadian National Railways. It is also the first to thoroughly cover the Canadian railway activities of two of Canada's greatest railway entrepreneurs, Sir William Mackenzie and Sir Donald Mann. Both men and their railway have received scant space and less justice in most railway or transportation studies. Even if this book were less voluminous and the research less comprehensive, it would fill a major need. In short, Regehr's work is a landmark in the publication of Canadian transportation history.

The author sums up the popular current impression of the Canadian Northern as "the project of two rather unsavoury promoters. When they got into trouble the Canadian Government had to nationalize their railway. . . ." While he does not appear to set out deliberately to refute this theory, Regehr does so most effectively. Mackenzie and Mann are not whitewashed, but they emerge as hard-headed businessmen who so fervently believed in the future of the Canadian West, and particularly the northern prairies, that they created an enormous railway system to develop the area. Contrary to contemporary public opinion they invested their own resources in the construction of this system and its ancillary enterprises. They were also unique in their willingness to work with governments and to accept a measure of government control (for example, in the establishment of freight rates). The story of the expansion of this system from a single Manitoba line of 84 miles in 1896 to more than nine thousand miles in seven provinces by 1917, its financial, political and construction history, the decision to make the system transcontinental with its implications and implementation, and the final crisis when the First World War disrupted essential financing and development, are all recorded in meticulous detail.

In addition to its intrinsic historical merits, this book is of particular interest to archivists. Regehr was an archivist in the Public Archives of Canada from 1960 to 1968 and Head of the Public Records Section there from 1965 to 1968 before accepting a post as Associate Professor at the University of Saskatchewan, Saskatoon. He admits