# FEAR AND LOATHING AT THE GEOLOGICAL SURVEY:

# POLITICS AND SCIENCE IN CANADA, 1868-1910

by

James W. Daschuk

A thesis in partial fulfillment of the requirements
of the Universities of Winnipeg and Manitoba
for the Degree of

MASTER OF ARTS

ISBN 0-315-76678-6

# FEAR AND LOATHING AT THE GEOLOGICAL SURVEY: POLITICS AND SCIENCE IN CANADA, 1868-1910

BY

JAMES W. DASCHUK

A thesis submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements of the degree of

MASTER OF ARTS

ABSTRACT

In the four decades after Confederation, the development of Canadian science was stifled by the relationship of the federal government with the most important research institution in the Dominion, the Geological Survey of Canada. During the period under consideration, the GSC was under the administrative control of the Department of the Interior. Because the Survey was an appendage of government, the organisation was a tool used in the completion of the political agenda of the party in power and as a recipient of patronage appointments. Until the introduction of civil service reforms in 1907, the Geological Survey had no protection from the political meddling of elected officials. Merit was subordinate to party loyalty as a critierion for appointment to the institution. Members of the Survey were expected to place the will of their political masters above their own scientific neutrality.

**ACKNOWLEDGEMENTS**

I would like to thank the Manitoba Graduate Fellowship Committee and the J.S. Ewart Award Committee for their assistance in researching this manuscript. I would also like to thank J.M. Bumsted, Renée Fossett, D.N. Sprague and Giselle Marcotte for their patience and good humour in the editing of this text.

TABLE OF CONTENTS

# CHAPTER 1

## HISTORIOGRAPHICAL INTRODUCTION

The connection between the development of technology and the rise of the Canadian nation has been at the core of Canadian historiography since the work of H. A. Innis more than half a century ago. It has been two decades since the doyen of Canadian historians, W.L. Morton, stated that Victorian Canada's greatest achievements were in the sciences.[1] Serious scholarship dealing with the history of Canadian science, however, is scarcely a dozen years old. Recent developments in the field can be traced to the 1970s and the plea by T.H.B. Symons in his report, To Know Ourselves: The Report of the Commission on Canadian Studies, which called for the integration of science under the rubric of Canadian Studies.[2] The scientific community initially recoiled from this request, using the universality of scientific investigation as insulation from such banal issues as social and political contexts which set the parameters of their inquiries. In the past decade, the academic community has discovered that science in Canada does have a "past," and

---

[1] "Victorian Canada" in W. L. Morton, ed., The Shield of Achilles: Aspects of Canada in the Victorian Age (Toronto 1968), 311-333

[2] T. H. B. Symons, The Symons Report: An Abridged Version of Volumes 1 and 2 of To Know Ourselves, The Report of the Commission on Canadian Studies (Toronto 1978), 93

that the nature of scientific inquiry has been intimately connected to events traditionally the concern of the historical community. The political environment that set the stage for the evolution of Canadian science in the nineteenth century, not considered until recently, had as profound an impact on the development of science in Canada as improvements within those disciplines themselves.

Writing on the history of science in Canada has developed in three distinct and increasingly sophisticated ways. The first and most primitive is the commemorative biography. Hagiographic treatments often chronicled, in tedious detail, the life of a protagonist from cradle to grave.[3]

Among the first of the hagiographies was Bernard J. Harrington's treatment of the founder of the Canadian geological survey, Sir William Logan, which appeared in 1883.[4] Two decades later, Fifty Years of Work in Canada:

---

[3] This type of treatment was by no means limited to the Canadian scientific community. In England, Sir Archibald Geikie of the British Geological Survey produced a number of biographical works on members of the early geological community. These include The Life of Sir Rhetoric I. Murcheson. Two Volumes (London 1875) and The Founders of Geology (London 1905). American geology was chronicled by George P. Merrill in The First Hundred Years of American Geology (New York 1924).

[4] The Life of Sir William E. Logan, First Director of the Geological Survey of Canada (Montreal 1883)

Scientific and Educational,[5] a memoir by the founder of the first principal of McGill College, Sir John William Dawson, appeared. The work is a self-congratulatory collection of Dawson's papers. Similar in form but more entertaining was the autobiography of the Dominion's most influential botanist, John Macoun.[6]

To the modern researcher, the early biographies pose a problem. Because their intention was to honour their subjects, the narratives are devoid not only of critical comment, but of anything resembling controversy. The genre's utility as a primary source must often be relegated

---

[5] Rankine Dawson, ed. (London 1901). Its publication by the younger Dawson, resident in England, was against the family's wishes. Independent Research Paper for the Graduate School-Library and Information Studies: George Mercer Dawson: Notebooks and Diaries 1872-1901 (xerox copy 1989), 18. The Dawson family remains among the most influential and celebrated of science in Canada. Sixty years after the publication of the first Dawson biography, the life of Sir William's most successful son, George Mercer, underwent a similar hagiographic reconstruction. His niece, Lois Winslow-Spragge, had the collection of clippings and private papers published privately. The Life of George Mercer Dawson 1849-1901 (1962). G. M. Dawson's personal mythology was further extended a decade later in a narrative directed to young children by Joyce C. Barkhouse, George Dawson: The Little Giant (Toronto 1974). The title is derived from Dawson's affliction with Pott's Disease which halted his growth before puberty. The narrative is as saccharine as its title.

[6] The Autobiography of John Macoun, Canadian Explorer and Naturalist 1831-1920 (Ottawa 1922) A second edition was reprinted by the Ottawa Field-naturalist's Club in 1979. Part of the book's charm is Macoun's inflated sense of self-importance. An example of this is Macoun's rendition of an encounter with "one of the chief men of the Secret Service of England" during a trip to Ireland in 1886. (240-241)

to pointing the direction for further research. They are, however, valuable as records of contemporary attitudes towards a variety of issues. In the Macoun memoir, the intimate connection between personal politics and appointment to government positions is treated as a fact of professional life. Macoun's conservative politics destroyed his chances for a provincial appointment in Liberal Ontario in 1875 (p.134) but helped to seal his permanent placement to the Geological Survey by John A. Macdonald in 1882 (p.196).

Macoun has been the subject of a series of biographies by W.A. Waiser, the most recent of which is The Field Naturalist: John Macoun, the Geological Survey and Natural Science.[7] The reason for Macoun's success in government circles, stated Waiser, was that his skills served to portray western Canada "as an agricultural Eden" (p.204). Macoun's findings were precisely what was required to substantiate the decision of the Railway Syndicate, and of the conservative government, to locate the route of the C.P.R. along the southern route rather than through the "fertile belt".[8] Criticism, in Waiser's memoir, was

---

[7] (Toronto 1989). Waiser's entire career has been founded on Macoun's biography, see Macoun and the Great Northwest (M. A., U. of Sask. 1976) and Rambler: Professor John Macoun's Career with the Geological Survey of Canada, 1882-1912 (Saskatoon 1983).

[8] Waiser has defended Macoun's role in the location of the C.P.R. stating that Macoun's influence was "overrated.

(continued...)

reserved for Macoun's adversaries. Accusations regarding Macoun's doctoring of weather records in the creation of this prairie "Eden" by Henry Youle Hind, are dismissed by Waiser as "the ramblings of a senile old man" (p.156).

Waiser acknowledged that direct government intervention often played a part in the publication of Geological Survey of Canada (GSC) findings. The controversy over the report of the Peace River Survey involving Macoun's son James in 1903 is probably the most significant example presented (p.153-159). Conflict between the young idealist James Macoun and Frank Oliver, future Minister of the Interior, was presented as a clash of personalities rather than as a struggle between political expedience and scientific rigour. The discussion of the political wrangling leading to the appointment of Dr. Robert Bell as interim Head of the Survey after literally decades of lobbying (p.143-144) was lifted faithfully from a corporate history of the GSC.[9] Waiser's narrative suffers from biographical myopia, focusing on the Macoun family at the expense of the larger context, that is the relationship between science and government in Canada.

---

[8](...continued)
Rather, the decision to locate the rail line through the southern grasslands was based on the determination to meet the threat posed by the close proximity of the American Northern Pacific Railway.", W. A. Waiser, "A Willing Scapegoat: John Macoun and the Route of the CPR," Prairie Forum, 10, 1985, 65-81

[9] Morris Zaslow, Reading the Rock: The Story of the Geological Survey of Canada 1842-1972 (Toronto 1975)

Also in the commemorative biographical genre honouring the "pioneers of science" in Canada are the edited field journals of scientific explorers. The adventure narrative fixed on the exotic and the dangerous, and the explorer was often accorded celebrity status. The public profile of these investigators served to exaggerate their scientific contribution and led to subsequent biographies in later generations. The case of the Tyrrell brothers provides an excellent example of biographical momentum.

Across the Subarctics of Canada,[10] the memoir of the 1893 GSC expedition through the barren lands of what is now the Northwest Territories, written by James B. Tyrrell, made its protagonist, Joseph Burr Tyrrell, a celebrity and a fixture at Rideau Hall.[11] W. J. Loudon's A Canadian Geologist[12], a second biography of Tyrrell, included a collection of excerpts of field diaries. Another biography, Northern Vagabond: The Life and Career of J. B. Tyrrell,[13] concludes with the statement, "His deeds and accomplishments

---

[10] James W. Tyrrell, Across the Subarctics of Canada, A Journey of 3200 Miles by Canoe and Snowshoe Through the Barren Lands (London 1898) The danger of the expedition is recounted in such chapters as "Polar Bears" (p.189-197) and the compelling "Life or Death?" (p.199-209).

[11] John Saywell, The Canadian Journal of Lady Aberdeen, 1893-1898 (Toronto 1960), 63

[12] (Toronto 1930)

[13] Alex Inglis, (Toronto 1978)

stand out larger than life."[14] Tyrrell's life has also undergone the academic scrutiny of a Ph.D. dissertation by William Eagan.[15] Eagan's treatment of Tyrrell suffers from the same problem as the Waiser biography of John Macoun, concentration on the character at the expense of context.[16] The dedication of the Tyrrell Museum of Paleontology in 1985 was the culmination of the Tyrrell myth.[17]

The contributions of other explorers have been celebrated through the publication of field journals. In fact, some of the most respected members of the Canadian historical community have provided edited accounts of scientific expeditions. Irene Spry produced a narrative of

---

[14] Ibid., 245 The Tyrrell story was the subject of a book by the doyen of Canadian adventure writers, Farley Mowat. Tundra: Selections from Arctic Land Voyages (Toronto 1973)

[15] Joseph Burr Tyrrell (London U.W.O. 1971)

[16] Ibid., 12. Eagan is specific in the connection of J.B. Tyrrell's appointment and the relationship of his father, William Tyrrell, to both John A. Macdonald and M.P. for York, N. Clark Wallace, but does not pursue the matter.

[17] Zaslow, Reading the Rocks, 206. The scientific contribution of the Tyrrell expeditions was considered to be far less than what he was given credit for. The director of the GSC, George Mercer Dawson, stated that nationalist pressure rather than scientific inquiry was the rationale for the expedition. He said that "the only 'credit' heretofore resulting from the considerable popularization of these northern trips has taken the form of grumbling that the government should send expeditions to such regions when various districts nearer home have still remained to be examined."

John Palliser's 1850s Expedition to Rupert's Land.[18] W.L. Morton dealt with Palliser's Canadian contemporary, Henry Youle Hind, in a biography.[19] The surveying of the 49th Parallel was recounted by George F.G. Stanley.[20]

Douglas Cole contributed the most recent and sophisticated example of the field journal genre, the edited journals of George Mercer Dawson.[21] Cole introduced the field diaries of Dawson's British Columbia surveys of 1875-1878 with one of the first critical reviews of the life and work of this character, so long mythologized. In the introduction, the political influence of J.W. Dawson in securing his son's position is made explicit; the elder Dawson threatened the director of the GSC with "public controversy" if his son was not hired.[22] In addition to the context provided by the introduction, the journals

---

[18] Irene Spry, "Captain John Palliser and the Exploration of Western Canada," The Geographical Journal, CXXV, 1959, 148-184.
The Palliser Expedition: An Account of John Palliser's British North American Exploring Expedition, 1857-1860 (Toronto 1963).

[19] W. L. Morton, Henry Youle Hind, 1823-1908 (Toronto 1980).

[20] Mapping the Frontier: Charles Wilson's Diary of the Survey of the 49th Parallel, 1858-1862 (Toronto 1970)

[21] Douglas Cole and Bradley Lockner, eds. The Journals of George M. Dawson: British Columbia, 1875-1878. 2 Vols.(Vancouver 1989)

[22] Ibid., Vol. 1, 25

themselves serve as a valuable addition to the primary material on late nineteenth century British Columbia.

Commissioned institutional histories are another significant approach to the history of science in Canada. Commemorating corporate rather than individual accomplishments, the approach shares the main features and problems of the early biographies. An example is The History of Science in Canada, published to celebrate the meetings of the American Association of the Advancement of Science (AAAS), held in Ottawa in 1938.[23] A collection of articles surveying various disciplines under the auspices of the AAAS, its expressed purpose was to raise the profile of the scientific community in the Dominion (p.6). Government involvement in science was perceived as government support for scientific inquiry. The symbiotic relationship between Canadian science and the state was also celebrated. The chapter on the history of geology is unrestrained in its praise of the Geological Survey of Canada; "It has been the forerunner of civilization, the actual and veritable pioneer of our expanding nationhood."[24]

In the 1940s, anniversary histories of the Geological Survey of Canada and the Royal Canadian Institute were

---

[23] H.M. Tory, ed., The History of Science in Canada (Toronto, 1939).

[24] Frank Dawson Adams, "The History of Geology in Canada" in H.M. Tory, ed., The History of Science in Canada, 15

commissioned.[25] F.J. Alcock's A Century in the History of the Geological Survey of Canada recounted the history of the GSC in a series of short biographical chapters on each of the survey's directors. Successive directors are presented as respected elders of the institution, in step with the commemorative purpose of the publication.[26] Pioneers of Canadian Science,[27] produced in conjunction with the centennial by the Royal Society of Canada, is remarkably similar in its hagiographic consideration of the founders of the Canadian scientific community.

Another centennial commissioned work was Don W. Thompson's massive, Men and Meridians.[28] Its narrative begins with the mapping of Mesopotamia and ends with modern techniques of cartography. The second volume deals largely with the Dominion Lands Survey and the Geological Survey of Canada in the post confederation period. The first chapter,

---

[25] F.J. Alcock, A Century in the History of the Geological Survey of Canada (Ottawa 1947); and W. Stewart Wallace, ed., The Royal Canadian Institute Centennial Volume: 1849-1949 (Toronto 1949). This work is not simply a vestige of the past. See Lovat Dickson, The Museum Makers: The Story of the Royal Ontario Museum (Toronto 1986).

[26] Alcock's attempt to humanize his biographies is made at the expense of historical content. His chapter on the tenure of Robert Bell, for example, devotes 30 of 200 lines of print to a vignette surrounding Bell, a canoeman named "Joe" and a can of tomatoes (p.51).

[27] George F. G. Stanley, Pioneers of Canadian Science: Symposium Presented to the Royal Society of Canada in 1964 (Toronto 1966)

[28] Don W. Thompson, Men and Meridians: The History of Surveying and Mapping in Canada 3 Volumes. (Ottawa 1966)

"Confederation and the Red River Settlement," is interesting in its "surveyor's eye view" of the Red River Rebellion.[29] Thompson's interpretation of the Riel Rebellion is quite sophisticated and in some areas compares favourably with the most recent version of the events at Red River, D.N. Sprague's Canada and the Metis.[30] Thompson's narrative, for example, provides a more complex view of the relationship among the surveyors, the Canadian agitators under Dr. J.C. Schultz, and the Lieutenant-Governor designate, William MacDougall, in the events leading to the insurrection.[31]

The most influential of all the commissioned histories of science in Canada has been Morris Zaslow's chronicle of the Geological Survey, Reading the Rocks.[32]

---

[29] Ibid., 10-19

[30] D. N. Sprague, Canada and the Metis, 1869-1885 (Waterloo 1988)

[31] Sprague's version intimates that the Canadians were a cohesive group (p.34-46). The Thompson version indicates that on a number of occasions, the Canadians were in conflict. On December 1, Col. Dennis was send to Fort Garry from Pembina to read the MacDougall proclamation after being appointed "Lieutenant and Conservator of the Peace in Rupert's Land" (p.15). Dennis later complained to the Minister of Public Works, Hector Langevin, that both the "Proclamation and Commission issued by Mr. MacDougall under a misapprehension of the facts...were worth no more than waste paper.(Dennis to Langevin, 13 February, 1870 in Thompson,p.16)

[32] Morris Zaslow, Reading the Rocks: The Story of the Geological Survey of Canada, 1842-1972 (Toronto 1975). Zaslow's version of events at the GSC has virtually

(continued...)

Zaslow's narrative was an almost unreadable six hundred pages and the sheer volume of detail was inversely related to the evident insight of the author into the development of the GSC in the early years of the Dominion. Zaslow simply asserted that the GSC remained largely outside the realm of politics until after the turn of the century because of the quality of its employees (p.513). In another passage he stated that the acting director, Dr. Robert Bell, was put "in a very embarrassing position" for not suppressing a report that did not support the government's immigration policy (p.211). Nowhere did Zaslow investigate the friction between the conflicting agendas of the government and its scientists.

Zaslow made the point that the economic function of the Survey was central to the government and the people of Canada and that more scholarly investigations were secondary to its mandate (p.209). He stressed the economic function over the scientific, providing the corporate perspective in line with those who commissioned him to undertake the investigation.[33] For example, Bell, while responsible for

---

[32](...continued)
monopolized all discussion of the institution in the period before the first world war. (See footnote 9) The Eagan dissertation also relies almost exclusively on Zaslow in any reference to the internal workings of the GSC. Zaslow was Eagan's supervisor.

[33] The natural history and ethnology responsibilities of the GSC were shifted to the National Museum of Canada which remained under the auspices of the federal Department of Mines until the 1950s.

collecting materials for the Victoria Memorial Museum which was being built in Ottawa, was criticised for not adhering to the development agenda set by the Laurier government (p.211-215). Although weak in interpretation, the book does include a substantial section describing both primary and secondary sources pertaining to the GSC as well as useful appendices listing the members of the survey and their period of tenure. Reading the Rocks is valuable only as a source of information.

Biography has not been the only scholarly approach to the history of Canadian science. A second trend was to intellectual histories, which were part of the wave of national self-consciousness that crested in the years following the Canadian Centennial.[34] The preoccupation of the historical community generally, and of intellectual historians particularly, was the Canadian "identity" and the rise of the nation state.[35] While Carl Berger has written that all of Canada's historians have been "nationalists of various hues,"[36] the quest for a meaningful description of

---

[34] A.B. McKillop, Contours of Canadian Thought (Toronto 1987). McKillop provides a historiography of intellectual histories to the mid-1970s in his introduction (p.3-17).

[35] One of the most eloquent statements of this identity is W. L. Morton's The Canadian Identity (Toronto 1961). The work deals with the northern myth as the dominant metaphor in Canadian historiography (p.93).

[36] Carl Berger, The Writing of Canadian History Aspects of English-Canadian Historical Writing Since 1900 (Toronto 1976), 259

the Canadian condition often disintegrated into little more than a scavenger hunt for an ellusive (and perhaps bogus) Canadian identity.[37] An important facet of national soul searching was the production of a substantial literature on the intellectual climate of the late nineteenth century. Graham Carr, in his critique of the nationalist approach, noted that the sympathy of the authors for their protagonists often led to the production of apologies rather than history.[38] The technique of reconstructing the thought of historical figures through an investigation of their archival papers led, according to Carr, to the presentation of ideas in a form clearer than the subject himself would have been able to do. This criticism can be applied to Canadian intellectual history in particular and perhaps to ideas-based writing in general.

An example of this type of scholarship is Carl Berger's The Sense of Power.[39] Though skirting the issue of science in Canada, Berger provided some insights into the conditions that may have shaped its development before the first world war. Macdonald's nation-building policies, such

---

[37] Graham Carr, "Imperialism and Nationalism in Revisionist Historiography: A Critique of Some Recent Trends." Journal of Canadian Studies XVII, 1982, 92

[38] Ibid. Carr goes on to say that the underlying assumption of this genre is the inherent good of nationalism and that the self-conscious nationalism of the late 1960s was often imposed on the past, pp.95-96.

[39] Carl Berger, The Sense of Power: Studies in the Ideas of Canadian Imperialism 1867-1914 (Toronto 1970).

as the transcontinental railway and the settlement of the west, were dependent on the work of the scientific community for their successful completion. Carr has provided an extensive critique of Berger's study of imperialism elsewhere.[40] Berger's study did provide an insight into the ideology of a small portion of the Canadian establishment in the period after Confederation.

W.L. Morton's intellectual survey of Victorian Canada, The Shield of Achilles, stated that while Canadians were preoccupied with religion, its scholars' greatest achievements were in the sciences.[41] Morton pointed to the utilitarian trend of the sciences and to their antecedents in the "plain practical world of eighteenth century Whiggery" (p.331). The application of known principles and practices rather than the discovery of new ones characterised scientific inquiry in the period. The establishment of the GSC in 1842 is identified as "the first and greatest scientific achievement in Canada, and a natural undertaking to meet the need of understanding the grotesque structures of a titanically glaciated and most ancient terrain, and finding the minerals that would broaden the simple economy of pioneering days."[42]

---

[40] Carr, Ibid.

[41] "Victorian Canada," in W.L. Morton, ed., The Shield of Achilles: Aspects of Canada in the Victorian Age (Toronto 1968), pp.311-333.

[42] Morton, "Victorian Canada," 331

The tension between the affirmation of religious faith and the pursuit of scientific inquiry is a characteristic feature of Canadian intellectual history. The turmoil of the Darwin debate is perhaps the single most studied event in the intellectual history of Canada. The seed for this branch of scholarship was sown in a paper by P. Roome entitled "The Darwin Debate in Canada: 1860-1880."[43] Among the individuals Roome considered were J.W. Dawson, Daniel Wilson, John Watson and William LeSeur. The responses of all four to the attack on the moral authority of scientific inquiry have been considered at length by other authors, including A.B. McKillop.[44]

The legacy of the Scottish "common sense" school and the defense of natural theology against the onslaught of moral relativism brought on by the acceptance of Darwin in England were central aspects of his A Disciplined Intelligence. Baconian scientists in Canada saw Darwin's conclusions as unsubstantiated by the evidence and therefore

---

[43] in Louis A. Knafla, Martin S. Staum and T.H.E. Travers, eds., Science, Technology, and Culture in Historical Perspective (Calgary 1976), 183-205. Another consideration of the response to Darwin by Dawson and Wilson is Clifford Holland, "First Canadian Critics of Darwin," Queen's Quarterly, LXXXVIII, 1981, 100-106.

[44] A. B. McKillop, The Critical Spirit: The Thought of William Dawson LeSeur (Toronto 1976); and A Disciplined Intelligence: Critical Inquiry and Canadian Thought in the Victorian Era (Montreal 1979). For a wider discussion of philosophy in Canada see Leslie Armour and Elizabeth Trott, The Faces of Reason: An Essay on Philosophy and Culture in English Canada 1850-1950 (Waterloo 1981)

outside the realm of legitimate scientific inquiry (p.101). Even the most vocal critic of the natural philosophers, William Dawson LeSeur, noted that science did not advance the interests of absolute truth and that ethics should be divorced only from the mechanism of evolution rather than from evolution itself (pp.159-164). McKillop presented LeSeur as a radical for conservative purposes, the preservation of the human community (p.168). The maintenance of morality within critical inquiry in Canada is celebrated in McKillop's conclusion which traces the strands of the disciplined intelligence to the Social Gospel movement and the establishment of the Cooperative Commonwealth Federation, the forerunner of the New Democratic Party.

Carl Berger's Science, God, and Nature in Victorian Canada[45] further developed the theme introduced by Morton and extended by McKillop. The book dealt with the rise and subsequent decline of natural history in Canada. While covering the same ground as McKillop, Berger extended the description of Victorian science to include its

---

[45] Carl Berger, Science , God, and Nature in Victorian Canada (Toronto, 1983). There has been a substantial literature on the unfolding of Canadian philosophy, on the development of the idealist tradition see Leslie Armour and Elizabeth Trott, The Faces of Reason: An Essay on the Philosophy and Culture in English Canada, 1850-1950 (Waterloo, 1981). Another addition to this genre is A.B. McKillop, Contours of Canadian Thought (Toronto, 1987) which considered the work of selected intellectuals and included, not surprisingly, another consideration of W.D. LeSueur.

accessibility to the public and its focus on practicality. As he noted in the introduction, "natural history was born of wonder and nurtured by greed" (p.3). Berger focused on Sir John William Dawson, an important member of the geological community and leader of the Canadian reaction against Darwin. For an investigation of natural history in Canada, Berger's work contained some significant errors in fact, for example, the mandate of the GSC was broadened to include a natural history component not in 1872 (p.16) but in 1877. A more thoughtful study of Sir William Dawson's ideas appeared more than a decade earlier.[46]

The end of religious control of scientific inquiry in Canada was described in Ramsay Cook's The Regenerators.[47] Again, the battle between the adherents of Baconian natural history and the Darwinists was fought. Cook's thesis was that the "regeneration" of Victorian culture, the quest for the spiritual renewal of English Canadian society led ultimately and ironically to the secularization of that society (p.6). The attempt of the church to become more socially relevant became a substitute for the adaptation of

---

[46] Charles F. O'Brian, Sir William Dawson: A Life in Science and Religion (Philadelphia 1971) The American origin of O'Brian's study is perhaps significant in that Dawson's contribution could be considered without being forced to offer a sacrifice at the altar of Canadian Identity. Berger, for example, concluded his study with the dubious connection between Dawson's form of natural history and the economic history of H.A. Innis. (p.78)

[47] Ramsay Cook, The Regenerators: Social Criticism in late Victorian English Canada (Toronto 1985)

Christian doctrine to the conditions of modern society (p.229). Again, the relevance of the work to the conduct of the scientific community must be largely extrapolated.

Intellectual histories of science have focused not only on religion, but on the ideology of Canadian expansionism. A direct relationship between scientific inquiry and the development of Canadian nationalism in the period leading to confederation has been identified. Suzanne Zeller's Inventing Canada argued that the growth of three "inventory sciences", including geology, served to inform the colonial population about the potential material benefits of national expansion.[48] The investigations of the GSC and the other sciences legitimized the expansionist ideology of the confederation period. The economic role of the Geological Survey and the tireless work of William Logan, which kept the survey on course during the difficult pre-confederation years, were considered at length. Zeller's work was in step with the march-of-nationhood approach of Morton, Berger and McKillop. The notion that the "inventories" produced by early Canadian scientists led ultimately and naturally to their exploitation by the fledgling Dominion can be considered a modern epilogue to Donald Creighton's Commercial Empire of the St. Lawrence.[49]

---

[48] Suzanne Zeller, Inventing Canada: Early Victorian Science and the Idea of a Transcontinental Nation (Toronto 1987)

[49] (Toronto 1937)

With the rise of regionalist sentiment in the late 1970s, nationalist intellectual histories were put under critical scrutiny. One of the most successful was Doug Owram's Promise of Eden.[50] Owram essentially turned the nationalist interpretation on its head. In the 1850s, the west was perceived as an arctic wasteland. It was reinterpreted under pressure from the Canadian expansionist movement as a veritable Eden, suited their materialist exploitation (p.218). The utility of science as a tool for achieving political and economic goals is evident in the "removal" of Palliser's triangle by John Macoun (p.153). Owram portrayed Macoun as both the toast of the Canadian establishment in the Macdonald era and as a scientist under constant challenge. At the peak of his influence, Macoun came into conflict with Henry Youle Hind as the latter tried to restrain the unbridled policy of westward expansion. His work did carry considerable weight in the formation of policy (p.161). Macoun's influence was due to the rationale his work provided for the politicians who were attempting to populate the west.

Douglas Cole provided a new avenue for the development of Canadian intellectual history with Captured Heritage: The

---

[50] Doug Owram, The Promise of Eden: The Canadian Expansionist Movement and the Idea of the West, 1856-1900 (Toronto 1980)

Scramble for Northwest Coast Artifacts.[51] Instead of an ideas-based approach to the first generation of ethnologists of the Northwest Coast, Cole concentrated on their actions in the field. The result may be unsettling to readers tied to a tradition of the history of ideas. Franz Boas, long considered the father of American anthropology, considered his grave robbing to be "repugnant work" but quieted his conscience with the notion that "someone has to do it" and that the plundered skeletons were "worth money" (p.119).

Cole made the point that Canadian scientists, and the institutions they represented, missed the bonanza in the trade of cultural materials from the area. Canadians had not developed some early form of cultural sensitivity; they were simply less interested than Europeans and Americans in the study of aboriginal cultures on the Northwest Coast. Cole recognised the contribution of George Dawson in the collection of ethnographic materials for the GSC, but chose to focus on the trade in artifacts, in which Canadians were marginal.[52] Cole's contention that when the Canadian Museum did become involved in the collection of artifacts

---

[51] Douglas Cole, Captured Heritage: The Scramble for Northwest Coast Artifacts, (Vancouver 1985)

[52] The marginality of Canadians in non-economically based research is further implied by the recent dissertation by Debra Lindsay entitled The Smithsonian and the Subarctic (University of Manitoba 1989). She provides a narrative of the activities of the Smithsonian Institution in the Mackenzie Delta during the 1860s. The great majority of scientific collectors in Lindsay's study were Americans.

just before the outbreak of the First World War, it did so with the coercive power of the state; he used the Halliday potlatch prosecutions and the removal of potlatch materials to the Victoria Museum in Ottawa to support this interpretation (p.249-254).

Aside from the intellectual approach, science in Canada has also been dealt with as an aspect of social history. In the mid-1970s, the Canadian Science and Technology Historical Association split from its parent group the Canadian Society for the History and Philosophy of Science.[53] The creation of a new sub-discipline led to the production of two introductory texts, Let us be Honest and Modest: Technology and Society in Canadian History[54] and A Curious Field-Book: Science & Society in Canadian History.[55] Both volumes were collections of contemporary imprints and provided snippets of the impact of science and technology on the lives of Canadians from the early seventeenth century to the end of the World War One. Levere and Jarrell confronted the issue of the political

---

[53] Trevor H. Levere, "The History of Science of Canada," British Journal of the History of Science , XXI, 1988, 422. Included in the article is a useful description of the development of the groups which are dedicated to the study of the history of science in Canada.

[54] B. Sinclair, N.R. Ball and J.O. Peterson, eds., (Toronto 1974)

[55] Trevor H. Levere and Richard Jarrell, eds., (Toronto 1974)

value of scientific institutions such as the GSC.[56] The volumes were aimed at the integration of science "in appropriate ways and to an appropriate extent, to Canadian circumstances," one of the issues addressed by the Symons Commission on Canadian Universities, established in 1972.[57]

A number of conferences were held under the auspices of the Association for the History of Science and Technology in Canada in the period following the publication of the Symons report. The first conference on the study of the history of Canadian science and technology was held in Kingston in 1978.[58] In his essay "What is Canadian about Science in Canadian History?", Levere again noted the importance of geology to the development of science in the Victorian era.[59] Government support for the GSC was legitimized by its status as an economic science (p.18). With this emphasis on practice, Levere stated that outside of geology, Canadian scientists tended to be "cautious, indeed conservative"(p.19). The volume includes a methodological

---

[56] Levere and Jarrell, 42-46. The introductory essay made a connection between science and the growth of nationalism that had not been developed by Canadian historians (p.17).

[57] Science Council of Canada, Science in the Schools: Canadian Context, "The Relationship of Canadian Studies to Science Education" , 11-13.

[58] Richard A. Jarrell and Norman R. Ball, eds., Science, Technology, and Canadian History: The First Conference on the Study of the History of Canadian Science and Technology (Waterloo 1980)

[59] Trevor Levere, in Jarrell and Ball, eds., 14-22.

section on the use of archival materials including a discussion of the Hudson's Bay Company Archives as a source for the historical study of science and technology.[60]

The second conference on the history of Canadian science, technology and medicine was held again at Kingston in 1981.[61] The presentations were of a more substantive nature than the earlier conference. Among the relevant papers was R.A. Jarrell's discussion of the social function of scientific societies in Victorian Canada.[62] A narrative of the politics surrounding the establishment of the National Museum is also presented.[63]

The Royal Society of Canada (R.S.C.) celebrated its centennial in 1982 and several publications commemorated the event.[64] Vittorio De Vecchi noted that the R.S.C. was

---

[60] Arthur J. Ray, " Opportunity and Challenge: The Hudson's Bay Company Archives and Canadian Science and Technology", 45-59.

[61] Richard Jarrell and Arnold Roos, eds., Critical Issues in the History of Canadian Science, Technology and Medicine (Thornhill 1983)

[62] Richard Jarrell, "The Social Functions of the Scientific Society in Nineteenth-Century Canada", 31-46. The author asserts that the societies did little to professionalize science in Canada. Government bodies such as the GSC did contribute to this process.

[63] W.A. Waiser, "Canada on Display: Towards a National Museum, 1881-1911," 167-177

[64] Vittorio De Vecchi and Trevor Levere, eds., "A Royal Society of Canada Symposium to Mark the 150th Anniversary of the Foundation of the British Association for the Advancement of Science (1831-1981) Held at York, England, 3 September 1981" in Proceedings and Transactions of the Royal

(continued...)

modelled more closely to the British model than the American Association for the Advancement of Science and was more concerned with pure science than its American counterpart.[65] Jarrell took exception to De Vecchi on this point, stating that Canadian science was not a branch of imperial science and that its development was independent of external influences.[66]

The history of science and technology group contained a strong French-Canadian component. The search for a "Quebec" science during the period of growing nationalism within the province is interesting in relation to the Anglo-Canadian search for its own intellectual experience in the post-confederation period. A French language historiography of Canadian science appeared in conjunction with the second Kingston Conference.[67] The article concluded that the

---

[64](...continued)
Society of Canada Centenary Volume (Ottawa 1982). The Symposium dealt with a number of topics related to the establishment of the R.S.C. and its relationship with its British parent.

[65] Vittorio De Vecchi, "The Pilgrim's Progress, The B.A.A.S. and Research in Canada: from Montreal to Toronto," in De Vecchi and Levere, eds., 519-532. The main point of the article is that the B.A.A.S. aided the R.S.C. at critical moments in its development.

[66] Richard Jarrell, "British Scientific Institutions and Canada: The Rhetoric and the Reality," in De Vecchi and Levere, eds., 533-547. Jarrell provided a quantitative analysis of the members of the R.S.C. and their affiliation with the British and American associations.

[67] Raymond Duchesne, "Historiographie des Sciences et des Techniques au Canada," Revue D'Histoire de L'Amerique Francaise, XXXIV, 1981, 193-215

development of the history of science in Canada was dependant upon work based in new methods of research and the realignment of problems in science within the problems of Canadian history generally (p.215).

A synthesis of French-Canadian science, Histoire des Sciences au Quebec,[68] provided a self-congratulatory view of the development of a variety of disciplines reminiscent of the commemorative histories described above. The reordering of past events to suit a current political agenda, the problem with a number of the Canadian nationalist histories, is celebrated by the authors; "a cause de la place que les sciences et la technologie ont prise dans notre societe, il devenait necessaire de relire le passe pour y retrouver les aspects scientifiques de l'histoire du Quebec" (p.10). The narrative was essentially a French rehash of previous works with an emphasis on the contribution of francophones to the development of the various disciplines. The authors concluded that the Quiet Revolution "en bonne partie" had its beginnings in the reforms of university science education in 1920 (p.438).

The death of Vittorio De Vecchi in 1983 was a significant blow to the development of the historiography of Canadian science. His dissertation, Science and Government in 19th Century Canada, completed at the Institute for the

---

[68] Luc Chartrans, Raymond Duchesne and Yves Gingras, eds., (Montreal 1987)

History and Philosophy of Science and Technology in 1978, is among the most important contributions to the history of science in Canada. Using an interpretive framework developed by Nathan Reingold,[69] De Vecchi considered a number of aspects related to the scientific community and the state. The author was explicit in his consideration of the negative influence of politics on the development of Canadian science, "the wide spread practice of political patronage reflected a disregard of expertise and exclusive knowledge -- two notions that were central to the scientist's gradual acquisition of professional status" (p.2). De Vecchi also argued that the relationship of government and the scientific community resulted in the development of an "implicit policy" which revealed aspects of Canadian intellectual and political life and ultimately characterised Canadian science (p.5-6). The half-hearted alliance of the federal government and the academic wing of the scientific community brought on by "the ideological and political vicissitudes of the seventies" (p.14) was presented as an example of "implicit policy".

---

[69] "The Professionalization of Science", in Alexandra Oleson and Sanborn C. Brown, eds., The Pursuit of Knowledge in the Early American Republic, (Baltimore 1976), 33-69. Reingold argued that the professionalization of science in America followed three distinct phases; the "cultivators," amateurs who join learned societies, typified by Thomas Jefferson (p.39);"practitioners," paid cultivators, who made up the bulk of the scientific community and "researchers," the elite, professional scientists who dominated the field after 1920.

Three chapters of De Vecchi's dissertation were posthumously published in Scientia Canadiensis. The first dealt with the political climate that led to the establishment of the Royal Society of Canada (RSC) in 1882. This was the crest of the wave of imperialist sentiment and the attempt by Lord Lorne to establish a Canadian scientific elite.[70] The tension that existed between government and members of the pure scientific community was discussed at length, including the trouble that members of the GSC found themselves in with Parliament for their ethnological collections which were not perceived as being of use to the country (p.48). Government suspicion of anything not obviously useful led to disinterest in the Royal Society and to demands upon the scientific departments of government (p.52). Science was subordinated to the exigencies of politics.

The second article described the political interests that were served by the activities of government scientific bodies from 1878-1896.[71] The piece included an extensive section on the development of agriculture in relation to the opening of the west. The exploration of Hudson Bay was presented as an investigation of a safe route to the west in

---

[70] Vittorio De Vecchi, "The Dawning of a National Scientific Community in Canada, 1878-1896," Scientia Canadiensis 8, 1984, 32-58.

[71] Vittorio De Vecchi, "Science and Scientists in Government, 1878-1896-Part 1," Scientia Canadiensis 8, 1984, 112-142.

case of trouble with the United States (p.122). The debate over the gathering of statistics by the government was considered one of the most important issues of the 1880s. At the time, politicians tried to stop the GSC from conducting sophisticated work and to get them to concentrate instead on mining (p.127). De Vecchi concluded that in Canada science was articulated by government, and that for government to sponsor science for its own sake a certain amount of faith or trust in rationality must be present. No such faith was recognizable among the federal Tories (p.137).

In the third segment, De Vecchi described the failure of government scientific bodies to professionalize successfully during the Macdonald years.[72] The careers of various leaders of the government scientific community are considered at length. Though expertise in one's discipline was considered of greater importance in the scientific branches of government, political allegiance, family connections and competence became concurrent criteria for employment in the partially professionalised government scientific community (p.109).

While the study of science is today a growing field within the Canadian historical community, it remains outside mainstream historiography. A recent survey of trends in

---

[72] Vittorio De Vecchi, "Science and Scientists in Government, 1878-1896-part 2," Scientia Canadiensis 9 (1985), 97-113.

Canadian Research, Writing About Canada: A Handbook for Modern Canadian History,[73] did not mention Canadian science at all. For science history to come out of the academic wilderness, it must reconcile the subject with contemporary approaches to Canadian history. The most pressing of the "issues" that must be addressed by writers on the history of science is the role of science in the development of the Canadian state. No one has attempted to study the connection between the scientific community and the governments that have ostensibly supported it since the pioneering work of De Vecchi more than a decade ago. No one has considered the workings of a single government scientific agency, the most important of which was the Geological Survey of Canada, as an appendage and instrument of government.

Because the Survey was forced to reconcile its dual role, as both a scientific organization and a government bureaucracy, the development of science in the Dominion was fundamentally distorted. Political rather than scientific considerations dictated its research program. To a significant degree, politics determined the personnel who would undertake its investigations. From temporary employees to the appointments to the directorship, patronage was the single most important factor in the selection of candidates. Ability and seniority were often overlooked as

---

[73] John Schultz, ed., (Scarborough 1990)

criteria for appointment or promotion until the end of the first decade of this century. Patronage was the central principle of management within the Survey. Elected officials viewed the Survey as a tool to be used in the completion of their political platforms and appointments to its staff as rewards for party loyalty. The government approached the Geological Survey as simply another bureaucracy under its control. For forty years after Confederation, the most important scientific institution in the Dominion was treated much the same as the Post Office or the Department of Fisheries.

Gordon T. Stewart's The Origin of Canadian Politics: A Comparative Approach[74] has suggested that the key to understanding the political culture of early Canada to the Laurier administration is patronage. Writers in Canadian science history have ignored the deeper meaning of the role played by patronage, though they have consistently mentioned it. A study of the articulation of government power through patronage within a scientific institution would not only be of value to the historical community whose focus is science, but would provide insights into the nature of government and the expansion of the Dominion through the Victorian period.

---

[74] (Vancouver 1986)

CHAPTER 2

THE GEOLOGICAL SURVEY, 1868-1878.

> "Corruption or its functional equivalent may be critically important to a developing nation."[1]
>
> "Political Patronage, so long as its distribution was not clearly to the disadvantage of the public good, has never been accompanied in the public imagination by a strong sense of disapproval."[2]

In 1868, the Geological Survey of Canada was the largest federal scientific agency, employing a dozen full-time personnel.[3] The "officers" of the Survey were appointed directly by the Governor General in Council on the recommendation of the Director, himself appointed on the recommendation of the Prime Minister. Their salaries came from the annual Commons appropriation. The Survey was ostensibly independent of government control and its employees were not carried on the Civil List, the official register of the civil service. Its channel of communication with the government was through the Department of the Secretary of State for the Provinces. Its focus was

---

[1] Joseph Palombard, Bureaucracy and Political Development, (Princeton 1963), 11

[2] D. Hugh Gillis, "Sir John Thompson's Elections," Canadian Historical Review (CHR), XXXVII, 1956, 23

[3] Vittorio De Vecchi, Science and Government in 19th Century Canada, (Toronto 1978), 43

economic rather than scientific.[4] From its formation in 1842, the GSC's mandate was maintained though a series of five year renewals of the Geological Survey Act, which was assented to again in 1868. Its founder, and only Director, was the seventy year old Sir William Logan.[5] J.E. Hodgetts, in his study of the administration of the United Canadas, believed that because of the ambiguous nature of the relationship of the GSC with the government, Logan "reigned in unmolested splendour through the whole period."[6] The retirement of Logan, in 1869, marked the end of the political neutrality that the Director had laboured so long to maintain.

On December 20, 1868, Logan wrote to John Rose, the Minister of Finance, regarding the former's impending

---

[4] A.H. Lang, "Sir William Logan and the Economic Development of Canada," Canadian Public Administration, XII, 1969, 555. Logan once reported to a select committee of the legislature, "The object of the Survey is to ascertain the mineral resources of the country, and this is kept steadily in view. Whatever new scientific facts have resulted from it, have come out of the course of what I conceive to be economic researches carried on in a scientific way ... thus economics leads to science, and science leads to economics."

[5] For a summary of Logan's tenure at the Geological Survey, see Suzanne Zeller's Inventing Canada: Early Victorian Science and the Idea of a Transcontinental Nation, (Toronto 1987)

[6] J.E. Hodgetts, Pioneer Public Service: An Administrative History of the United Canadas, 1841-1867, (Toronto 1955), 270

resignation and his choice for a successor.[7] While in England the previous spring, Logan had met with Sir Andrew Ramsay of the Geological Survey of Great Britain to discuss Logan's replacement. Ramsay recommended Alfred R.C. Selwyn, the head of the Geological Survey of Victoria, Australia as a suitable, and available, candidate. On December 1, 1869, the same day that Canada was to have gained control of Rupert's Land, Selwyn was appointed Director of the GSC.[8] Although Selwyn's appointment was overshadowed by the events of the Riel Rebellion, it was not without political implications.

Selwyn had been in charge of the Geological Survey in Victoria, Australia, since its inception in 1852. De Vecchi has noted the similarity between Logan and the man who replaced him.[9] Both were well-connected gentlemen. Neither had formal training of any sort and both had worked

---

[7] National Archives of Canada (hereafter NAC), Records of the Privy Council Office, RG 2, vol. 263, Order in Council 179A, William Logan to John Rose, 20 December 1868.

[8] NAC, RG 2, vol. 272, PC 888, 24 November 1869. Selwyn was soon conferred the title "Doctor" by Sir William Dawson of McGill College. NAC, Robert Bell Papers, MG 29, B 15, vol. 28, file 10, p. 1, Robert Bell to Sir Oliver Mowat, 8 November 1897.

[9] De Vecchi, Science and Government in Canada, 47. Both are presented as scientific "practitioners" according to the Reingold model of the professionalization of science. Nathan Reingold, "Definitions and Speculations: The Professionalization of Science in America in the Nineteenth Century," in Alexandra Oleson and Sanborn C. Brown eds., The Pursuit of Knowledge in the Early American Republic: American Scientific and Learned Societies from Colonial Times to the Civil War, (Baltimore 1976), 33-69.

with the Geological Survey of Great Britain before their appointments in the colonies.[10] Both were influenced by the English geologist Sir Roderick Murcheson, known for his aristocratic bias and political Toryism.[11]

Selwyn's Australian career had been plagued by political trouble. The Geological Survey of Victoria, a branch of the Lands Department, was locked in what amounted to a turf war with the Mining Department under the control of the Victoria Board of Science.[12] Selwyn was attacked by members of the government and the press for his neglect of economic surveys and especially the search for gold and coal.[13] The conflict between Selwyn and Robert Brough Smyth, the Director of the Mining Department, was not only professional and political, but personal and vindictive. In 1867, the two engaged in a bitter dispute over a silver medal from the Paris Exhibition which, according to Selwyn,

---

[10] Archibald Geikie, Life of Sir Rhetoric I. Murcheson...Based on his Journals and Letters. Volume Two. (London 1875), 122

[11] Leroy E. Page, "The Rivalry Between Charles Lyell and Rhetoric Murcheson," British Journal of the History of Science, 1982, 159

[12] Thomas A. Darragh, "The Geological Survey of Victoria under Alfred Selwyn, 1852-1868," Historical Records of Australian Science, VII, 1987, 6-10.

[13] Ibid. Selwyn was also in conflict with John MacGregor, the Minister of Mines over the Survey's lack of attention to the discovery of "coal and other minerals." Report of the Director of the Geological Survey of Victoria (Melbourne 1868), 287-293.

was wrongly awarded to Smyth.[14] The feud continued past August 1868, when it was announced that the Geological Survey would be abolished from the end of that year.[15] The political root of the demise of the Survey, to Selwyn at least, was obvious. "I have not a 'Loyal Liberal' in my department and consequently we all go."[16] After a public outcry, the Survey was reorganised under the control of Smyth's Department.[17]

With his acceptance of the Directorship of the GSC, Selwyn jumped from an Australian frying pan into a Canadian fire. Logan, in his search for a worthy successor, had passed over his assistant, Thomas Sterry Hunt, who had joined the survey in 1846. He was a University trained chemist and co-author of Logan's most important work, The Geology of Canada,[18] published in 1863. He was described

---

[14] State Library of Victoria, Brough Smyth Papers, MS 8781, Alfred Selwyn to Sir Redmond Barry, 23 August 1867; Sir Redmond Berry to Brough Smyth, 27 August 1867; Brough Smyth to Sir Redmond Barry, 28 August 1867; Sir Redmond Barry to Brough Smyth, 28 August 1867; Brough Smyth to Sir Redmond Barry 28 August 1867.

[15] Darragh, 13

[16] Darragh, 13

[17] The Age, (Melbourne), 22 October 1870, 2. In 1876, Smyth was forced to resign in disgrace after a Board of Inquiry over his conduct towards his subordinates. Darragh, 16

[18] Geology of Canada: Report of Progress of the Geological Survey from its Commencement to 1863, (Montreal 1863)

as a democrat and "a self-made man,"[19] a characterisation which would not have fitted the upper class Tory-biases of Logan or Selwyn. Because of his social standing, Hunt was considered unsuitable for the Directorship although he had been in charge of the Survey during the last years of Logan's tenure.[20] Morris Zaslow has presented Logan's treatment of Hunt as "an act of kindness to his old colleague."[21] This view is highly questionable in light of Hunt's bitterness at being snubbed. After quitting the Survey in early 1873, Hunt moved to the Massachusetts Institute of Technology where "I expect to find ... more justice than I have got from the Canadian Government or the late Director of the Geological Survey, where I spent half a life-time."[22] Hunt, whose egotism and concern for personal recognition has been noted by a number of his biographers,[23] proceeded to attack Logan on the former

---

[19] Bahngrell Brown, "Thomas Sterry Hunt, The Man Who Brought Walt Whitman to Canada," Southern Quarterly, 10, n.d., 45

[20] Report of the Select Committee Appointed by the House of Commons to Obtain Information as to Geological Surveys, &c., &c., (Ottawa 1884), 93

[21] Zaslow, 98

[22] NAC, Robert Bell Papers, MG 29, B 15, vol. 22, Thomas Sterry Hunt to Mr. Scott, Institute of Technical Geology, 26 February 1873.

[23] W.H. Brock, "Thomas Sterry Hunt," in Charles Coulston Gillispie, ed., Dictionary of Scientific Biography, (New York 1970), 564. J.C.K. Laflamme, "Discours du President," Proceedings of the Royal Society of Canada, 1892, XLVIII

Director's interpretation of the geological history of the Eastern Townships. In an attempt to defend himself from what he considered slander, Logan spent the rest of his life working on the geology of the Townships, obsessed with the justification of his earlier conclusions which were soon considered to be obsolete by the geological community.[24]

The conflict over the Directorship of the Survey after the retirement of Logan was more than a clash of personalities. It personified the conflict of direction that would plague the Survey until at least the first decade of this century. Hunt was considered too academic in his interests and too impolitic in his comments about the politicians who controlled appropriations.[25] Selwyn was acceptable because he supported the expansionist agenda that Logan had established for the Survey.[26]

With the acquisition of Rupert's Land, the field of operations of the GSC grew tremendously. The Survey was charged both with the discovery of mineral deposits and with the fair distribution of resources among the provinces. As De Vecchi stated, the institution landed squarely in the middle of the wrangling over centralization that

---

[24] Zaslow, 101, Zeller, 110

[25] Hunt's non conformity led not only to the end of his career at the GSC but "to his being socially ostracised by the majority of his clean-thinking acquaintances." George Merrill, The First One Hundred Years of American Geology, (New Haven 1924), 448

[26] Zeller, 109

characterised the first decade after confederation.[27] This conflict stifled the development of a mature scientific community in Canada. According to De Vecchi, "the widespread practice of political patronage reflected a disregard of expertise and exclusive knowledge -- two notions that were central to the scientists' gradual acquisition of professional status."[28]

Political pressure was certainly not limited to the scientific community. The effect of patronage, the most direct and articulate form of party influence, shaped the development of all aspects of government in this period. Jeffrey Simpson called the civil service of the day the "motherlode" of patronage.[29] Its eradication from the civil service was, to Macdonald, "like trying to put Canada back to the age of Adam and Eve, before the apple."[30] The Royal Commission on the Civil Service, appointed in June 1868 to smooth the transition from colonial to Dominion

---

[27] De Vecchi, 51

[28] Ibid., 2

[29] Simpson, Spoils of Power; The Politics of Patronage, (Toronto 1988), 79

[30] This view was not shared by all of the Prime Minister's colleagues. Thomas D'Arcy McGee worked against what he called "a sterile system" as early as the mid-1860s. Sandra Gwyn, The Private Capital: Ambition and Love in the Age of MacDonald and Laurier, (Toronto 1984), 91

bureaucracy, virtually ignored patronage in its report.[31] R. MacGregor Dawson wrote that both parties were equally culpable of misusing patronage in the first decade after confederation.[32] In 1871, Macdonald asserted that the monopolization of government positions by supporters of the party in power was a constitutional principle.[33] Stewart recognized the function of patronage in this period, "Macdonald's great impact was owing to the fact that he made a continuing effort to ensure that patronage was used to build up permanent party loyalty and resilient party discipline."[34] Party discipline was essential for the survival of the Dominion in its early years. The fragile coalition of Provinces was faced with the very real threat of breakdown, particularly from the Maritimes.

As with Confederation, the Geological Survey had to reconciled with the East before it could turn its attention to the North West. On March 13 1868, the Geological Survey appropriation was introduced in parliament by John Rose, the Minister of Finance. The Bill provided for a yearly appropriation of $30,000 for five years during which time

---

[31] Two explanations were presented for the omission. First, that patronage was simply taken for granted and second, that the idea of a patronage-free civil service was "so remote as to be Utopian." R. MacGregor Dawson, The Civil Service of Canada, (London 1929), 23

[32] Ibid., 31

[33] Stewart, Origins of Canadian Politics, 58

[34] Ibid., 68

the Survey was to undertake investigations from Halifax to the "extreme western limits of the Dominion."[35] Rose stressed that Logan had agreed to carry out the geological survey of the east personally and to the satisfaction "of the Maritime Provinces and of the Dominion generally."[36] D'Arcy McGee baited the Nova Scotia "Repealers" with his pleas that they not rise to protest the infraction on the independence on the Province "by extending our geological researches down there ... to enable us to pry into her mineral riches."[37] He went on to reassure the Nova Scotia members that their interests would be cared for and that no injustice would be done to the people of the province.[38] Macdonald's use of patronage to assure stability was effective in pacifying the Maritime Repealers. Within two years, Joseph Howe, the leader of the anti-confederationists, became the Secretary of State for the

---

[35] Canada, House of Commons Debates, March 17 1868, 359

[36] Ibid.

[37] Ibid.

[38] Logan proceeded to spend the summer of 1868 investigating the Pictou Coal Field. Donald Macleod, Faith, Hope and Geology: Practical Geology in Nineteenth Century Nova Scotia, (unpublished paper 1988), 18. Alfred Selwyn spent his first years with the Survey investigating the gold regions of Quebec and Nova Scotia. Ibid., 35-36. In later years, the Survey would encounter its most sustained demand for work from the Maritimes. Zaslow, 231

Provinces and the Minister responsible for the GSC.[39] By the end of 1871, the Survey was criticised for the intensity of its activity in the East. Leaders of the Nova Scotia geological community complained of the GSC's failure to recognize the work of local geologists by promoting them rather than "some favourite son or nephew of some nabob in authority" in Ottawa.[40]

Opposition to the 1868 appropriation was not limited to the Maritimes. J.S. Macdonald, an Independent-Liberal from Ontario, opposed the bill on the grounds that the benefits of such a survey would not be commensurate with its cost.[41] Dr. Parker objected to the insider trading of information related to the mineral wealth of the country.[42] The charges were not without substance. Robert Bell, an officer of the GSC since the late 1850s, was at the time heavily involved in Nova Scotia mining speculations.[43] Almost two decades would pass before conflict of interest guidelines were introduced for the institution.

---

[39] A recipient of patronage himself, Howe found its administration to be taxing. J. Murray Beck, Joseph Howe, Volume II: The Briton Becomes a Canadian 1848-1873, (Montreal 1983), 272-273.

[40] Zaslow, 118

[41] Debates, 24 March 1868, 395

[42] Ibid., 21 April 1868, 526

[43] Macleod, 2

With the grievances of the East addressed, the focus of the GSC shifted westward. The Geological Survey Bill received Royal assent on May 22 1868.[44] A week earlier, on May 14 1868, Robert Bell was asked by Logan to investigate the country between Lake Superior and Red River, along the Dawson Road.[45] The Road had been surveyed a decade earlier by Simon James Dawson and construction had been started in earnest as a relief measure because of a crop failure in Red River and to facilitate Canada's acquisition of the colony. The jurisdictional problems involved with this project have been considered elsewhere.[46] Logan found it "impossible to give precise instructions"[47] to Bell who may have been investigating country outside of Dominion jurisdiction.

A year later, Canadian control of the Northwest was at hand. On June 15, 1869, Simon Dawson met with William Logan to inform him that the government had resolved to send an expedition to Lake Superior to scout a line for the railway to Red River.[48] In May, 1869, the Minister of Public Works, William MacDougall, had provided Robert Bell with

---

[44] Debates, 22 May 1868, 762

[45] NAC, Robert Bell Papers, MG 29, B 15, vol. 24-43, Sir William Logan to Robert Bell, 14 May 1868.

[46] H.A. Innis, A History of the Canadian Pacific Railway, (Toronto 1971), 45-46. G.F.G. Stanley, Louis Riel, (Toronto 1963), 50-51.

[47] NAC, Ibid.

[48] NAC, Ibid., William Logan to Robert Bell, 16 June 1869.

specific instructions "with a view to ascertaining the practicability or otherwise of a railway to the North-west Territories."[49] On June 19, the bill to provide for the annexation of the Northwest was given its final reading.[50] The events surrounding the Red River Rebellion, which served to delay Canadian control over the Northwest are among the most discussed in Canadian historiography and need not be recounted here. Manitoba was brought into the Dominion without control of its unclaimed public lands, partly to ease implementation of the American-inspired plan of free homesteads, and partly to allow for future railway land grants along a still undetermined route.[51] Federal investigations into the resource potential of the west fell increasingly to the Geological Survey.

Within a year of adopting the policy of western expansion, the government was negotiating the entry of British Columbia into the Dominion. The urgency of

---

[49] Bell's survey would cover approximately one hundred miles of the route from the mouth of the Nipigon River. Robert Bell, "Report of Robert Bell," (23 May 1869) in Alfred Selwyn, Director, Geological Survey of Canada, Report of Progress from 1866-1869, (Montreal 1870), 315, 317.

[50] The precise nature of the government's plan for the Northwest was vague to the point of being misleading. When pressed, Macdonald did admit that some of the $1.5 million dollars set aside for the "North West" account was to be spent on a wagon-water route from the Lakehead to Red River. See Sprague, Op cit., 29 for a discussion.

[51] Leonard Irwin, Pacific Railways and Nationalism in the Canadian-American Northwest,1845-1873, (New York 1968), 82

building a Pacific railway was acknowledged by Macdonald even before the arrival of the British Columbia representatives.[52] The biographer of George Etienne Cartier presented Macdonald's lieutenant as the source of British Columbia's railway demands.[53] The exploration of the proposed railway line from the Ontario border to the Pacific was central to the work of the GSC through the end of the first Macdonald administration. Robert Bell, a civil engineer, continued to investigate the shield north of Lake Superior for its resource and settlement potential, and its suitability for railway construction.[54] Field-work in British Columbia began the day that Province entered

---

[52] The Northern Pacific plan to circumvent an all-Canadian route was presented to MacDonald by C.J. Brydges of the Grand Trunk Railway in January 1870. W. Kaye Lamb, History of the Canadian Pacific Railway, (New York 1977), 12-13.

[53] Alistair Sweeney, George Etienne Cartier: A Biography, 225-226. In parliament, Cartier emphasized the fiscal responsibility of the government, "it was not the intention of the government to construct the road, but it would be undertaken by companies to be assisted mainly by land grants...It was not the intention of the government to burden the exchequer much to obtain this railway." See also Innis, A History of the Canadian Pacific Railway, 75

[54] Robert Bell, "Report on the Country North of Lake Superior, Between the Nipigon and Michipicoten Rivers...," (1 May 1871) in Alfred Selwyn, Director, Geological Survey of Canada, Report of Progress for 1870-71, (Ottawa 1872), 323-351. "Report on the Country Between Lake Superior and the Albany River," Geological Survey of Canada, Report of Progress for 1871-72, (Montreal 1872), 101-113. "Report on the Country Between Lake Superior and Lake Winnipeg," Geological Survey of Canada, Report of Progress for 1872-1873, (Montreal 1873), 87-111. The location of a practical line through the Nipigon area was one of the most troubling tasks of the 1870s. Innis, 77

Confederation. Alfred Selwyn left Victoria on July 20 to investigate the interior of British Columbia.[55] His instructions required a preliminary survey of the Saskatchewan Valley.[56] Coal deposits on Vancouver Island were also explored the same season.[57]

The urgency of an all-Canadian railway route was but one manifestation of Macdonald's approach to national development.[58] The debate over the renewal of the GSC appropriation in April 1872 provided another forum for the conflicting visions of the new nation. Joseph Howe introduced the bill, which was essentially the same as the one passed in 1868. The amount proposed for the annual grant was increased by fifty percent to $45,000.[59] Alexander Mackenzie questioned the wisdom of committing funds to an institution outside the control of the House and suggested that the members of the Survey be brought into the

---

[55] The expedition was financed in part by the "Pacific Railroad Exploration Fund." Alfred Selwyn, "Journal and Report of Preliminary Explorations in British Columbia," Report of Progress for 1871-72, 17

[56] Time did not allow for the prairie survey and the Selwyn party returned to the east through San Francisco. Ibid., 18

[57] James Richardson, "Report on the Coal-Fields of Vancouver Island," Ibid., 73-100.

[58] For a discussion of the issue of all-Canadian railway and the debate over railway politics in the election of 1872, see W. Kaye Lamb, 24-31.

[59] De Vecchi, 53

civil service.[60] J.S. Macdonald and David Mills both complained of the inadequate circulation of GSC Reports to the business community. Mills proposed the establishment of a central museum in Ottawa and the development of a number of practically-oriented surveys under provincial control. To the majority of Liberals, industrial development was a provincial concern and the role of the Geological Survey was considered by them to "consist in charting the geological structure of the country and giving maximum publicity to its findings, so that immigrants and investors could freely choose and compete."[61] Government members defended the current Survey policy, emphasizing the vital role of the GSC in industrial development and the urgency of the Western surveys.

The objections voiced by the opposition to the policy of western development were dampened by the pressures of expansionism. On June 1, 1872, the Canadian Pacific Railway Act introduced by Cartier received unanimous passage.[62]

---

[60] Politicians on both sides of the House agreed that institutions which used public funds should be controlled as directly as possible. Support for the increase in the Survey appropriation was strongest among politicians of both parties from areas without provincial surveys. De Vecchi, 55

[61] The decentralization proposed for geological surveys by the Liberals was indicative of their desire to reduce the power of the State. Ibid., 56

[62] The Liberals considered the timetable for completion of the railway to be too hurried, the cash subsidy to be unrealistic and objected to cabinet control of the project. Sweeney, 277

The House was soon dissolved and an election was called for late summer.[63] The Conservatives won a narrow majority on a platform based on the prompt construction of a railway to the Pacific to assure economic rather than simple statutory union.[64] The victory, however, was short lived. In the spring of 1873, the improprieties of the election were revealed and the scandal which ensued eventually drove the Tories from office.[65]

The most celebrated account of CPR exploration described a journey that took place soon after the passage of the new railway bill. The expedition from Halifax to Victoria in the summer of 1872 was popularised by George M. Grant's narrative, Ocean to Ocean.[66] The leader of the expedition was the Engineer-in-Chief of the Canadian Pacific project, Sandford Fleming.[67] The field of exploration was

---

[63] For a synopsis of the election of 1872 see Murray J. Beck, Pendulum of Power, Canada's Federal Elections, (Scarborough 1968),13-21.

[64] D. Owen Carrigan, Canadian Party Platforms, 1867-1968, (Toronto 1968), 10

[65] Lamb, 31-35, Sweeney, 278-313.

[66] The book was an unabashed celebration of Canadian expansionism. The railway plan "was wise because it was necessary. By uniting together, the British Provinces had declared that their destiny was-not to ripen and drop, one by one, into the arms of the Republic-but to work out their own future as an integral and important part of the grandest Empire in the world." Ocean to Ocean, Sandford Fleming's Expedition Through Canada in 1872. (Edmonton 1967), 24

[67] The Fleming expedition was organised under the auspices of Sir Hugh Allan's Canadian Pacific Railway

(continued...)

the Yellowhead Route, through the "fertile belt" of the northern prairie described earlier by Henry Youle Hind in the late 1850s.[68] Because of its agricultural potential, the route along the Saskatchewan Valley remained the favoured course of the railroad until 1880. It was hoped that the railway would serve as more than a tangible sign of the economic and political relationship between the Province on the Pacific and the Dominion. According to at least one propagandist, it would populate the west with as many as one hundred million people.[69]

The Fleming party acquired the services of John Macoun, a botanist whom the group met by chance while steaming to

---

[67](...continued)
Company. The Geological Survey also conducted investigations along the route. Alfred Selwyn travelled with Robert Bell on a survey of the area between Lake Superior and Fort Garry, the original choice for the railway crossing of the Red River. Alfred Selwyn, "Notes of a Preliminary Geological reconnaissance from Lake Superior by the English and Winnipeg Rivers to Fort Garry," Geological Survey of Canada, Report of Progress for 1872-73, (Montreal 1873), 8-18.

[68] The suitability of Rupert's Land for settlement was a basic issue in the British parliamentary hearings on the future of the Hudson's Bay Company monopoly in the 1850s. John S. Galbraith, "The Hudson's Bay Company Under Fire, 1847-62," CHR, XXX, 1949, 322-335. In the late 1850s explorations by John Palliser, an Englishman, and Hind, a Canadian, both reinforced the notion that the prairies were a northern extension of the great inland desert. William Waiser, The Field Naturalist, John Macoun, The Geological Survey and Natural Science, (Toronto 1989), 17-18. Douglas Owram, The Promise of Eden: The Canadian Expansionist Movement and the Idea of the West, 1856-1900, (Toronto 1980), 38-78.

[69] Owram, 111

the Lakehead. The Yellowhead survey was the basis from which he became the most influential naturalist of the Dominion.[70] Macoun took on his work in 1872 with "infectious enthusiasm."[71] Over the next decade, Macoun was instrumental in changing the public image of the prairie from a desert to an Eden of boundless potential.[72] This revision secured him a position with the GSC in the early 1880s.

In November, 1873, the government of Alexander Mackenzie assumed power under circumstances that were anything but optimistic. C.P. Stacey has noted with understatement that Macdonald was forced to resign "as the result of certain accompaniments of its western railway policy."[73] Sir Hugh Allan's contribution of over $300,000 to the Tory campaign in 1872 was rewarded with his appointment as President of the Pacific Railway Project.[74] With the fall of the Macdonald administration went Allan and the CPR. At least one author has recognised the irony of the failure of the Canadian railway and the Northern Pacific

---

[70] William Waiser, The Field Naturalist, 16-23. John Macoun, Autobiography of John Macoun, Canadian Explorer and Naturalist 1831-1920, (Ottawa 1979), 46-64.

[71] Waiser, 19

[72] Ibid., 149-167.

[73] C.P. Stacey, "The Backbone of Canada," Canadian Historical Association Report of the Annual Meeting Held at London, June 4-6, 1953, (Toronto 1953), 12

[74] Irwin, 213

under Jay Cooke in the same year.[75] Both projects were legitimised politically by the threat of the other. The failure of the American scheme also signalled the beginning of a recession that would continue to the end of the decade.[76]

While the economic prognosis for the new administration was generally unhealthy, its political outlook was particularly jaundiced. Although the antagonistic righteousness of Mackenzie made him the political antithesis of the previous first Minister,[77] circumstances dictated that his standards be compromised. No less than five deserters from the previous cabinet were rewarded with positions in the Liberal administration. Some ranking Liberals refused to be named. Edward Blake, the future leader of the Liberal party, embarrassed the government by waffling on his acceptance of appointment.[78] Those members who did not have connections with the previous Tory administration or the Ontario Liberals suffered from

---

[75] Ibid., 226

[76] Edward Chambers, "Late Nineteenth Century Business Cycles in Canada," CJEPS, XXX, 1964, 397

[77] Teresa Avila Burke, "Mackenzie and His Cabinet," CHR, XLI, 1960, 129

[78] J.D. Livermore, "The Personal Agonies of Edward Blake," CHR, LVI, 1975, 46

inexperience. A Conservative paper said of the Liberal cabinet, "The whole thing is as green as a cucumber."[79]

The election of January-February 1874 has been described as a Conservative defeat rather than a Liberal victory.[80] So determined was Mackenzie to avoid scandal and provide an honest administration that "he neglected one of the primary means of attaining it, a party strong enough to keep his government in power."[81] While promising to reform election laws, including the introduction of simultaneous voting, the secret ballot, the judicial consideration of controverted elections and the extension of the franchise, Mackenzie's most important pledges concerned the railway project.[82]

The plan was not abandoned, but was severely curtailed. Mackenzie assumed personal responsibility for the railway by taking on the Public Works portfolio. By 1875, the plan for a railroad from Lake Nipissing to the Pacific was shelved. The Liberals proposed the extensive use of a "virtually continuous" water route from Lake Superior to Red River.[83]

---

[79] Waite, 18

[80] Burke, 130

[81] Ibid., 148

[82] Beck, Pendulum of Power, 23-24.

[83] The effectiveness of the Dawson route as a path for immigration was limited. The adoption of the "water stretches" policy was politically useful however. It served to postpone the need for the construction of a difficult railway at a difficult time. Waite, 59-60.

The completion date set by Macdonald in the terms of union with British Columbia was considered unrealistic and was extended, evoking vigorous protest from the new Province.[84] From the prairies, expansionists such as Charles Mair denounced the new policy and the new Prime Minister, "I fear Canada raised up a Grit Frankenstein in this Mackenzie ... If Mackenzie is a reformer ... then being a man of liberal mind, I confess myself a Tory."[85]

Mackenzie was faced not only with problems from politicians, but also from bureaucrats. Before leaving office, Macdonald made over one hundred patronage appointments to the civil service which Mackenzie recognised as impugning the integrity of the bureaucracy he inherited.[86] "All the offices are crammed with hostile people and we can trust no one."[87] He cancelled some of Macdonald's more cynical appointments, but, to his credit, a

---

[84] British Columbia appealed to the Imperial authorities that the terms had been contravened. Innis, 84-86. The Governor General, Lord Dufferin, was brought into conflict with Mackenzie following the former's visit to British Columbia. Dale Thompson, Alexander Mackenzie: Clear Grit, (Toronto 1960), 279-292.

[85] Owram, 123

[86] Macdonald admitted to making at least 101 appointments, George Casey, an anti-patronage reformer accused him of 147 while the Ottawa Free Press charged that he made as many as 659. Hodgetts, et. al., Biography of an Institution, 21.

[87] Waite, 19

wholesale purge of the civil service did not take place.[88] Although patronage was not eliminated from the civil service, his administration made a concerted effort to diminish its influence.

The most persistent voice for civil service reform in the Mackenzie period was that of George Elliot Casey, whose agitations led to his appointment as Chairman of a Select Committee on the issue in 1877.[89] The Committee sought to improve the Civil Service Act of 1868 through the introduction of reforms based on the Northcote-Trevelyan Report which had successfully modernized the British civil service a generation earlier.[90] Casey's report was a scathing attack on the bureaucracy that, according to Macdonald "was approaching perfection."[91] Casey found that patronage was the "guiding principle of the whole organization, particularly in the making of appointments and promotions."[92] It recommended open examinations, an

---

[88] Ibid.

[89] R. MacGregor Dawson, The Civil Service of Canada, (London 1929), 37-38.

[90] The reforms included competitive entrance examinations and promotion by merit. For a detailed consideration of the effect of the report on the British civil service see, Peter Richards, Patronage in British Government, (Toronto 1963), 43-52.

[91] R. MacGregor Dawson, 39

[92] Ibid. The report continued, "the exercise of political patronage seems to be almost unchecked...(the public service is) not an organization for conducting public

(continued...)

independent Civil Service Commission and elimination of political considerations from the selection and promotion process. Unfortunately, parliament was slow to act on the proposals. The defeat of the Liberals in 1878 meant that the recommendations were never implemented.[93]

The Mackenzie government brought changes to the Geological Survey. By the end of the Liberal term, the GSC had undergone the only significant reforms since its establishment. The Survey was reorganised as a branch of the Department of the Interior and its officers brought into the civil service.[94] Even before these changes were implemented, the role of the Survey was altered and augmented. With the failure of Sir Hugh Allan's CPR venture, the responsibility for the Pacific railway fell, by default, to the public sector.[95] Mackenzie was saddled with the promise of the former administration even though he opposed the prompt construction of a railway that the

---

[92](...continued)
business (but) as a means of rewarding personal and political friends." Stewart, Origins of Canadian Politics, 75

[93] Casey went on to introduce a "Public Service Reform Bill" in 1878, 1879, and 1880. Though all his attempts failed in the House, he was instrumental in securing a Royal Commission on the condition and needs of the civil service in 1880. Dawson, Ibid., 42-43.

[94] Selwyn attempted to have the officers put on the civil service list before the end of 1875 but was unsuccessful. Zaslow, Ibid., 124

[95] The construction of a railway to the Pacific with private capital was not possible in 1874. Waite, 55

Dominion could not afford. The Geological Survey was increasingly used by the Liberals to give the impression of diligence in pursuing the project while allowing the government to drag its heels in its construction.[96]

While separate CPR surveys were not abandoned in the Mackenzie period, the role of the GSC in surveys of direct bearing on the railway project increased.[97] Even before the demise of the Macdonald government, the Survey had conducted studies of direct relevance to the CPR. In his Report of Progress for 1873-74, Selwyn reported on his investigation of the country between Fort Garry and Rocky Mountain House undertaken "especially in connection with the determination of facts relating to water supply and the occurrence of valuable beds of coal and other useful

---

[96] The Liberals used the promise of the Nanaimo-Esquimalt railway to calm the unrest in British Columbia caused over the meagre progress of the Pacific railway. Its cancellation came with $750,000 compensation for delays in construction of the CPR. Schull, 145-148. George Dawson commented on the complicity of the surveyors "now engaged in locating a line between here (Victoria) & Nanaimo, which line by the way, is a perfect farce, passing over difficult country & running parallel all the way to the coast & Gulf of Georgia, which is splendid water all year round. I do not think the line will ever be built, but carrying on an expensive Survey on it is hardly in conformity with Mr. Mackenzie's idea of 'utilizing the magnificent water stretches &c.' " Cole and Lockner, 106

[97] The fire at the CPR survey office in the winter of 1874, which resulted in the loss of three to four years worth of surveys at a cost of three hundred thousand pounds sterling may have also contributed to the shift. Sandford Fleming , Reports and Documents in Reference to the Location of the Line and a Western Terminal Harbour 1878, (Ottawa 1878), 87

minerals in proximity to the proposed course of the CPR."[98] The same year, Robert Bell was sent to explore the coal fields of the Saskatchewan Valley.[99]

Selwyn complained in his report for 1874-75 that his staff was inadequate for the extended responsibilities of the Survey and of the increasingly topographical nature of the work.[100] Bell was again sent to the prairie, this time to conduct a survey from the elbow of the Saskatchewan River to the headwaters of the Souris. He commented on the desiccation of the prairie and the absence of timber for want of sufficient moisture.[101]

The movement of the GSC away from matters of simple economic geology was also evident in the increased contact between the Survey and botanist John Macoun. The fall of Macdonald's Tories was doubly troubling to Macoun. First, CPR funded surveys were curtailed with the failure of the project. Second, Macoun was a strong Conservative who maintained few illusions about his prospects under a Liberal

---

[98] A.R.C. Selwyn, Report of Progress for 1873-74, (Montreal 1874), 3

[99] Ibid., 66

[100] A.R.C. Selwyn, Report of Progress for 1874-75. (Montreal 1876), 4-5.

[101] Robert Bell, in A.R.C. Selwyn, Report of Progress for 1873-74, 51-53.

regime.[102] On this, Macoun's biographer remarked, "It was a time when politics as much as ability, whether scientific or otherwise, determined appointments to many civil service positions."[103] By the spring of 1875, Macoun had landed a temporary position on Selwyn's exploration of the Peace River Pass, with the assistance of the Liberal patronage broker for Belleville.[104] After the expedition, Macoun had an interview with the Prime Minister who "would not believe one word I told him about the Northwest."[105] Macoun's report to the Prime Minister in 1877 included an estimate of 200,000,000 acres of arable land but Macoun "recoiled from making public this number on the ground that the very immensity would deny the amount of credence I desired."[106] According to Macoun, "At the time politics engrossed the minds of the people ... my statements were looked upon as an honest but cracked brained enthusiast and little attention

---

[102] In his memoirs, Macoun recounted his anxiety upon hearing of the events of November 1873; "Mr. Fleming and myself were both conservatives and he at once told me that my allegiance was to Mr. Mackenzie and to do what was right in my report." John Macoun, Autobiography, 89

[103] Waiser, 40-41.

[104] Macoun, 90

[105] When Macoun reported that one could travel two hundred miles and not see an acre of bad land, Mackenzie replied "I canna believe it." Ibid., 132

[106] Ibid. 158 In his book on the Northwest, Macoun wrote, "I wrote as much truth about the country as I dared for I saw that even best friends believed me rather wild on the "illimitable possibilities" of the country." Manitoba and the Great North West, (Guelph 1882), 609

was paid to them."[107] The botanist would have to wait until the change of ministry to have his work fully appreciated.

Macoun's appointment was not the only one of significance in 1875. George Mercer Dawson was hired to continue the exploration of the CPR route in British Columbia.[108] Selwyn had been ready to acquire his services three years earlier but at the last moment he accepted the position of naturalist and geologist with the joint British and American survey of the 49th parallel. Dawson was pressured to accept the boundary survey appointment by his father, John William Dawson, the most influential scientist in the Dominion.[109] While he was miserable about the decision, he "got both the eating and the cake: Selwyn kept British Columbia open until he finished his boundary work two years later."[110] In 1876, J.W. Dawson secured his son's permanent appointment with the assistance of Samuel Tilley and Joseph Howe and with threats of public

---

[107] Macoun, Autobiography, Ibid., 158

[108] George Mercer Dawson, "Report of Explorations in British Columbia." in Alfred Selwyn, Dir., Geological Survey of Canada, Report of Progress, 1875-76, (Montreal 1877), 233. Dawson's surveys of British Columbia have been recently published. Douglas Cole and Bradley Lockner, eds., The Journals of George M. Dawson: British Columbia, 1875-1878, (Vancouver 1989)

[109] The elder Dawson wrote to his son regarding the position, "Consider boundary decided." Ibid., 8

[110] Cole and Lockner, 8

controversy against Selwyn.[111] Though George Dawson was appointed during the Liberal administration, he made no secret of his opposition to the Mackenzie government.[112]

The shift away from the Logan-Macdonald economic agenda was completed with the passage of the "Geological and Natural History Survey Act" in 1877.[113] The bill was steered through the House by the newly appointed Minister of the Interior, David Mills.[114] Mills was a close associate of Edward Blake, and as such was "certainly an enemy of the railway."[115] De Vecchi noted that with his appointment,

---

[111] George Dawson was not consulted before his father began his lobbying campaign. Ibid., 25. Howe was not, however, simply at the beck and call of Dawson. Howe once wrote to Dawson that in writing letters to members of cabinet he ought not to "forget that the imperative mood is apt to give offense." Beck, Joseph Howe, 279

[112] Dawson wrote to his sister from Victoria on December 20, 1875. "I hope those fools at Ottawa are not going to throw away their last chance of consolidating the Dominion because there happens to be a commercial depression in the year of grace 1875." Cole and Lockner, 124

[113] The natural history component of the Act included the investigation of the paleontology, ethnology, fauna and flora of the Dominion. Statutes of Canada 1877, 40 Vict., Chap. 9, 49-51.

[114] The Department of the Interior became the liaison between the Survey and the government from its establishment in 1873. Mills was assigned the Interior Ministry after the resignation of David Laird on October 10 1876. Laird's resignation was a result of his disaffection with both federal parties. Laird felt "no fealty to Macdonald, we are not bound by strong party ties to Mackenzie. Both of these leaders are to us but abstractions.." Burke, Ibid., 143-144.

[115] Mills was called an "echo" of Blake. Blake's opinion of the railway was that it had been nothing more than an empty election promise of the former government.

(continued...)

the issue of decentralization entered a new phase.[116] Mills had sided with Mowat over the question of provincial rights and considered the search for economic minerals to be the responsibility of the provinces. The new legislation increased both the mandate of the Survey and parliamentary control over it.[117] The Survey was made permanent, the five year appropriations were abandoned in favour of a yearly grant from the House of Commons. The offices of the GSC were to be transferred to Ottawa from Montreal and its officers were brought into the civil service as members of the Geological Survey Branch of the Department of the Interior.

The placement of the officers of the GSC under the civil service act was not achieved without difficulty. Selwyn had tried unsuccessfully to have the permanent members of his staff placed on the list in 1875. In June 1876, the Department of the Interior heard applications from officers of the Survey for superannuation under the Civil Service Act. Their request was denied.[118] Three deaths

---

[115](...continued)
Joseph Schull, Edward Blake, The Man of the Other Way, (Toronto 1975), 172-176.

[116] De Vecchi, Ibid., 58

[117] The finances of the Survey, for example, fell under the scrutiny of the Auditor General, J.L. McDougall. Selwyn was repeatedly taken to task over his failure to administrate efficiently. Zaslow, Ibid., 131-132.

[118] NAC, RG 2, vol. 346, PC 629A, 26 June 1876.

among members of the Survey between 1870 and 1875 underlined the importance of the demands for protection under the Civil Service Act.[119]

While better conditions of employment were sought by some members of the Survey, others had more personal goals. Robert Bell pressured Mills for an improvement in his own circumstances. Bell's request was for "some kind of name or title."[120] He noted that no one had been appointed Assistant Director since the departure of Alexander Murray for Newfoundland in 1864. He also reminded the Minister that he had been on the GSC staff for twenty years and that, with the retirement of James Richardson, he would be the Survey's senior geologist.[121] Mills replied that he did not intend to appoint anyone to the position at present and that the whole matter would be considered in the reorganization of the Survey.[122] The Minister ultimately let Selwyn resolve the issue of the Assistant Directorship,

---

[119] Zaslow, Ibid., 124

[120] NAC, MG 29, B 15, vol. 27-50, Robert Bell Papers, Robert Bell to David Mills, 15 February 1877.

[121] Bell made no secret that he was a strong Liberal. Ibid.

[122] Mills avoided any particular decision on staffing and left the details to the Director. He stated that he was "finding a good deal of difficulty in reference to a provision for the organization of a staff in any definite terms in the bill, I propose simply to provide for the appointment of a Director and such other officers as may be necessary." NAC, MG 29, B 15, vol. 27-50, Robert Bell Papers, David Mills to Robert Bell, 19 February 1877.

to the disappointment of Bell. He was named to the position but had to share the title with three others, including the son and son-in-law of J.W. Dawson.[123]

The appointments of George Dawson and Bernard Harrington to the Assistant Directorship were representative of the influence of J.W. Dawson on the Survey during the Montreal period. The plan to move the Survey to Ottawa met with persistent criticism from the Montreal scientific community and even from within the GSC. Selwyn opposed the plan as early as 1873. The strongest opposition to the move came from the person who had most to lose by its incorporation into the Dominion bureaucracy, John William Dawson.[124] He charged that the proposed move, within months of the deaths of the founders of the GSC, Logan and Elkanah Billings, would undermine the position of the Montreal scientific community and of the Natural History Society of Montreal in particular. As co-executor of Logan's will, along with G.R. Grant, a clerk with the

---

[123] The "precious and unique link" of the Survey with the Montreal scientific community led by J.W. Dawson before the move to Ottawa has been discussed at length. De Vecchi, 21-23.

[124] Following the passage of the bill, Dawson charged that the reforms were "in the spirit of a narrow bureaucracy rather than of an enlightened regard for science." De Vecchi, 61

Survey, Dawson refused to allow the geological collection of the former Director to be moved to the capital.[125]

The relocation of the GSC to the capital was but one source of criticism of the new bill. Charles Tupper, the future Minister of Public Works, insisted that the government should not be spending money on the elucidation of geological theories, but rather to enrich the country.[126] With the change of government, Tupper's Ministry would be the main beneficiary of the reforms that he protested.[127] Macdonald also protested the increased scope of GSC activity and pointed to the apparent contradiction between the increased costs of the proposed Survey and the supposed economical inclination of the Liberals.[128] Mills assured Macdonald that paleontological, faunal and floral investigations had direct economic relevance to the development of the new territories and

---

[125] Dawson and Grant complained to the Governor General that the move would seriously interfere with the terms of Logan's will and asked that he withhold assent to the bill. They were unsuccessful. De Vecchi, 61-62.

[126] Ibid., 57

[127] John Macoun and George Dawson both contributed reports on the agricultural potential of the CPR lands. See Appendix S by Dawson and Appendix X by Macoun in Sandford Fleming, Report on Surveys and Preliminary Operations on the Canadian Pacific Railway up to January 1877, (Ottawa 1877) and Appendix no. 7 by Dawson and Appendix no. 14 by Macoun in Sandford Fleming, Report and Documents in Reference to the Canadian Pacific Railway 1880, (Ottawa 1880)

[128] Debates. 40 Vict., 27 February 1877, 314

should be seriously pursued.[129] The bill was assented to on April 28 1877.

While the new Survey Act reformed certain aspects of the GSC, it did not reduce the influence of political pressure on it. The introduction of the Civil Service Act brought a degree of security to the officers of the Survey but the ostensibly free rein of the director over his staff served to perpetuate the role of patronage within the institution. Pressure on the Mackenzie administration to show interest in the completion of the railway determined the research agenda of the Survey. Mackenzie's search for a principled government undermined his control over a coalition that was tenuous at best. The dilemma of the Liberals in power can be seen in the conflict over the railway policy. Edward Blake considered that British Columbia was bought at too high a price.[130] His former allies, Canada Firsters such as Charles Mair and J.C. Schultz, argued that no expense should be spared in the completion of the western survey, and the development of the west.[131] The inability of Mackenzie to govern decisively led inevitably to his government's collapse. The Liberals

---

[129] Debates. 40 Vict. 27 February 1877, 316

[130] John Macoun, Ibid., 158

[131] During the Geological Survey debate, "Of all the items in the estimates there were none upon which he (Schultz) voted with more pleasure than that for the geological survey. There was no way...money could be better spent..." Debates. 40 Vict., 27 February 1877, 316

were defeated more soundly than they had beaten the Tories four years earlier. Mackenzie had failed not only in government but in his attempt to change the climate of political morality in the Dominion. Macdonald inherited a geological Survey that was already part of the machinery of government and an effective means of furthering government interests. During his second ministry, he was to use it effectively in the pursuit of his political agenda.

## CHAPTER 3

## "NEVER BUY AN ENEMY BUT REWARD YOUR FRIENDS AND SUPPORTERS" THE GEOLOGICAL SURVEY, 1878-1884.

> "In the distribution of government patronage, we carry out the true constitutional principle [that] whenever an office is vacant it belongs to the party supporting the government."
> - John A. Macdonald[1]

> "those d--n scientists" - John A. Macdonald[2]

The Geological Survey, integrated into the federal bureaucracy with the reforms of 1877, was used effectively to further government policies during the administrations of Macdonald and his political heirs until 1896.[3] It provided a convenient medium for the dispensing of patronage, which, according to at least one writer, entered its most shameless stage after the election of 1878.[4] Macdonald, who "seldom sought to climb moral elevations where the footing might be

---

[1] Jeffrey Simpson, The Spoils of Power, 78

[2] University of Toronto Library, Wm. Tyrrell Papers, MS 25 Box 8, J.B. Tyrrell to Wm. Tyrrell, 7 November 1882.

[3] The Conservatives maintained no illusions about the impartiality of scientific pursuit. "The problem was that, for a government to sponsor science for science's sake, even if it were only one among the diverse motives, there needed to exist as one of the terms of intellectual and political life of the country a certain amount of faith, or trust, in the value of rationality: no such faith or trust was recognizable in the words or actions of the federal tories." De Vecchi, Science and Government in Nineteenth Century Canada, 190

[4] R. MacGregor Dawson, "The Gerrymander of 1882." CJEPS, I, 1935, 215

insecure"[5] used patronage to create and maintain political stability by cementing party loyalty. The standard of political morality at the GSC and in the civil service generally in the next decades was set soon after the return of Macdonald to office.

The political climate after the election of the Conservatives was well described in a letter to the Prime Minister from his old crony, John Armour. Macdonald, who had just returned from England, was congratulated by his friend on the honours bestowed by the Queen "and on the splendid success which attended upon your mission, so galling to the feelings of Mackenzie and his beggardly tramp followers ... long may you live to hold the reins of government and see the returns of your untiring and laborious work...."[6] After the tribute, Armour commented that his son, who had been temporarily employed by the Survey, was seeking to make his appointment permanent. He concluded, "Had Sir William Logan (my late father's particular friend) been alive the name Armour would have been a passport -but say simply in conclusion NEVER BUY AN ENEMY BUT REWARD YOUR FRIENDS AND SUPPORTERS."[7] It is

---

[5] Sir John Willison, "Reminiscences Political and Personal. VII: The Old Man and His Ways." The Canadian Magazine, 52, 1918, 666

[6] NAC, Macdonald Papers, Reel C-1746, John Armour to John A. MacDonald, 29 September 1879.

[7] Ibid. (emphasis Armour's)

unclear whether Armour's son was given a permanent position with the Survey but Armour himself was appointed Chief Justice of Ontario a decade later by Macdonald as a reward for siding with the Prime Minister in a disputed election result in 1882.[8]

Institutions such as the Geological Survey were shaped by the administration of patronage during this period in several ways. The sophisticated use of patronage by Macdonald was not limited to those who had performed overtly political services for the Tories. Applicants with the right family connections or those who could muster the requisite political support were also provided with positions at the GSC. Those whose work did not coincide with the political agenda of the government were undermined by various means.

The most important item on the political slate during the second Conservative ministry was the construction of the Canadian Pacific Railway and its economic buttress, the National Policy. A state controlled project and the major capitalist activity in the years following Confederation, the railway played a dominant role in the distribution of

---

[8] Armour's political morality was restated in 1884, "Is not bribery the cornerstone of party government? Men are party men for the spoils; they support the government of the day for the spoils." For a discussion of the relationship between Armour and Macdonald see Jeffrey Simpson, The Spoils of Power, 84.

patronage.[9] Survey work conducted under the auspices of the GSC in conjunction with the railway provided the scientific foundation for the project as well as the avenue for the administration of patronage to deserving or useful aspirants. The patronage relationship between John Macoun and the Conservative Party was the most significant of this kind. Macoun's work provided the government with the scientific rationale that legitimised the change of course of the CPR. Macoun, for his part, was prepared "to work the political machine for all it is worth."[10]

The railway project took on new urgency with the election of the Conservatives in 1878. The Tories were faced with a dilemma in the selection of a route for the prairie section of the CPR. During their time in opposition, they had been converted to a northerly route through the Peace River district.[11] Sandford Fleming, in charge of the CPR surveys since their inception, favoured the Yellowhead route. Charles Tupper, Minister of Railways and Canals, in "an effort to get some real knowledge about the prairie both north and south"[12] and to avoid the scorn of the opposition who had favoured the Peace River route all

---

[9] Gordon Stewart, "Political Patronage under Macdonald and Laurier 1878-1911," American Review of Canadian Studies, 10, 1980, 13-14.

[10] Waiser, The Field Naturalist, 114

[11] Ibid., 38

[12] Macoun, Autobiography, 134

along, sent ten survey parties into the field during the 1879 season. Macoun was asked to lead one of the parties by his old Belleville friend, Mackenzie Bowell.[13] Macoun refused, holding out for a permanent appointment. Bowell, after consulting with Tupper, promised that Macoun's appointment would be permanent, as long as the Conservatives were in power.[14] Macoun accepted the promise and was sent to explore the prairie between Winnipeg and Edmonton. He was the only person to explore the southern grasslands that season. It was during the summer of 1879 that Macoun made the environmental revisions of the southern prairie that provided the basis for the revised CPR plan which was introduced a year later. According to his biographer, Macoun may have been aware of the political value of the appropriate results even before leaving Winnipeg.[15] On his return to that city in the fall, he began his own publicity campaign with a talk entitled "Our Wondrous West," extolling the virtues of the southern prairie, the "Garden of the

---

[13] Bowell was notorious for the dispensation of patronage during his tenure as Minister of Customs. According to Waite, his "principal pre-occupation was patronage." Waite, Arduous Destiny, 96

[14] Ibid, 135. The Field Naturalist, 39

[15] The professor wrote to his wife on June 10, the day of his departure, "I have no fears for the future. Dr. Schultze (sic) told me yesterday that if I did as much for the government this year as I did in 1875 I would be regarded as a public benefactor." In another letter he stated, "It is more than likely my expedition will cause a sensation upon my return." Waiser, The Field Naturalist, 41

whole country."[16] Six weeks earlier, the cabinet, with Fleming in attendance, reviewed the summer's reports and officially endorsed the Yellowhead route for the railway. During the debate over the CPR that winter, Macoun shouted down Alexander Mackenzie from the visitor's gallery of the Commons for not accepting the conclusions of his most recent report.[17] Waiser has stated that even Macdonald "scarcely allowed himself to accept as fact that which was so ardently desired"[18] in the findings of Macoun. Support for his conclusions came largely from Charles Tupper, the man saddled with the responsibility for the success of the railway. Macoun's interpretation of the prairie was politically necessary because the government scheme to finance the CPR was based on a twenty-five million acre land grant to its builders. The relationship between the fertility of the land grant and its desirability to investors has been recognized elsewhere.[19] The positive findings of Macoun were precisely what was required by

---

[16] Macoun, Autobiography, 153. Macoun assured his audience that there "was no finer region in the world." Owram, Promise of Eden, 152. Macoun's Garden of the country remark echoes the statement by Charles Tupper on May 10 1879, "We believe we have there the garden of the world." Waiser, Macoun and the Great Northwest, (Saskatoon 1976), 136-137.

[17] Macoun, Autobiography, 163

[18] Waiser, Macoun and the Great Northwest, 138

[19] Ibid. The Liberals had unsuccessfully offered even greater land grants while in office.

Tupper to demonstrate the enormous potential profit to anyone willing to take on the task of building the railway.[20]

Tupper endorsed Macoun's conclusion in parliament in a speech on the Pacific railway in April 1880.[21] The Conservatives' approach to the railway was increasingly clear. Macdonald wrote to Sandford Fleming, "The policy of the government ... is to construct a cheap railway ... incurring no expense beyond what is absolutely necessary to affect the rapid colonization of the country."[22] While Mackenzie, Blake and even Macdonald doubted the professor's findings, Tupper, according to Macoun, "entertained no doubts, but encouraged me to do my duty and stick to what I conceived to be the truth."[23] During the 1880 field season, Macoun was again sent to the southern prairie. It was this journey which convinced Macoun that Palliser's triangle no longer existed and that virtually all of the land of the southern prairie was suitable for agriculture. According to Owram, "the mood of the age invited the

---

[20] Ibid.

[21] Macoun, Autobiography, 163

[22] Lamb, History of the Canadian Pacific Railway, 66

[23] Macoun, Manitoba and the Great Northwest, (Guelph 1882), 611

abolition of the triangle ... John Macoun was ideally suited for the role he adopted."[24]

Macoun, caught up in the momentum of his own celebrity, was increasingly reckless in his public lectures. The botanist cast himself as the sole authority on the Northwest, embellishing his ideas to the point of absurdity.[25] Macoun's wavering from scientific objectivity did not, however, undermine his growing popularity. Among his most enthusiastic boosters was the Marquis of Lorne, who, after taking notes at one of the professor's lectures in Ottawa, asked Macoun to be his personal guide during a tour of the Northwest.[26] The political and emotional current was so strongly in support of Macoun's work that criticisms, no matter how well founded, were cast aside as the diatribes of quacks or malcontents.[27]

---

[24] Promise of Eden, 153. It should be noted that the 1870s were the wettest decade of the nineteenth century. Waiser, The Field Naturalist, 42

[25] Waiser, The Field Naturalist, 45

[26] Macoun, Autobiography, 181-183.

[27] Charles Horetsky, Canadian Pacific Railway and the North-West Lands, Also a Brief Discussion Regarding the Route, the Terminus and the Lands Available for Settlement. Startling Facts!!, (Ottawa 1880). Criticism of Macoun's work continued, without much effect. Henry Youle Hind, the Canadian explorer of a generation earlier, denounced Macoun as an "impetuous impostor" for "shameful perversions of facts relating to the North-West." Henry Youle Hind, The Confession of the Corruption of the Geological Survey in North-West Territory Matters, (Windsor, N.S. 1883)

While Macoun was enlightening the Governor-General on the possibilities of the Northwest, the Prime Minister travelled to England in an attempt to secure the realization of the region's potential. On October 21, 1880, the government signed a deal with a syndicate which included George Stephen, Donald Smith, James J. Hill, R.B. Angus and Duncan MacIntyre to complete the CPR within ten years. The following spring, the government's commitment to the Yellowhead route, ensured by an Order in Council in October 1879, was abandoned. Macoun's biographer has argued that the professor's findings on the southern prairie and the syndicate's decision to build the railway directly from Winnipeg to Calgary were a "genuine coincidence."[28] Macoun himself asserted that he was invited to a meeting with the syndicate in St. Paul in 1880.[29] It was during the meeting that the professor claimed to have convinced James Hill of the suitability of the Bow River Route. The question of Macoun's presence at the meeting and his influence over the members of the syndicate in the selection of the course of the railway was secondary to the political and environmental rationale it provided both the politicians and developers for their decision for a southern crossing of the prairies.

---

[28] W.A. Waiser, A Willing Scapegoat: John Macoun and the Route of the CPR, Prairie Forum, 10, (1985), 78

[29] Macoun, Autobiography, 183-185.

For his trouble, Macoun received notice of his appointment to the permanent staff of the GSC, effective January 1, 1882. The professor's version of the events surrounding his appointment reveals another aspect of patronage in the Macdonald era. The Deputy Minister of the Interior, Lindsay Russell, advised Macoun to get the notice of his appointment from the Prime Minister in writing "because he is very liable to forget what he says."[30] Macoun did not join the Survey until spring, and then only with the assistance of Mackenzie Bowell.[31] Macdonald, renowned for his uncanny memory,[32] was curiously absent-minded in matters of patronage. He was known as "Old Tomorrow" for his effective use of promises of patronage as much as patronage itself in maintaining his sway over appointees in waiting.[33] The Prime Minister even considered eliminating the natural history component of the

---

[30] Macoun, Autobiography, 196. No Order in Council on the appointment appeared before the summer of 1883. For an extended discussion of Macoun's anxiety over the delay in his appointment, see W. Waiser, Rambler: Professor John Macoun's Career with the Geological Survey of Canada, 1882-1912, (Saskatoon 1983), 58-60.

[31] Waiser, The Field Naturalist, 57-58. Bowell worked out a deal with Russell whereby Macoun was appointed to the temporary staff as botanist retroactively from January 1st 1882. There was no Order in Council and the professor was paid out of contingency funds until July 1883.

[32] Cynthia Smith and Jack MacLeod, eds., Sir John A.; An Anecdotal Life of John A. MacDonald, (Toronto 1989), 149-151.

[33] Simpson, The Spoils of Power, 75

GSC after the government adopted Macoun's findings, but did not because of political support for the professor's work.[34]

When Macoun's time did come, the government dispensed its reward graciously, to the detriment of the developing scientific community in Canada. After the wrinkles in his appointment were worked out, Macoun spent the first five years of his tenure writing a 608 page volume entitled, Catalogue of Canadian Plants. That Macoun was allowed such free rein in his research during a period of intense political pressure on the Survey to produce material results was recognised as unusual, even by the professor's biographer.[35] The staff at the GSC was less than hospitable. According to Macoun, "I found that I was far from being a welcomed guest to most members of the staff. I soon found that they resented the appointment of a man over them."[36] Macoun stayed with the GSC until 1917, when he

---

[34] Waiser, The Field Naturalist, 67-68.

[35] Waiser, Rambler, 90. "That this should be the outcome of Macoun's first five years at the Survey was rather surprising. It was a time when there was intense political pressure on the Survey for the kind of practical work that would further the material interests of the country. It was for this very reason that Macoun was hired as Dominion Botanist. Yet not once during these five years was he ever specifically dispatched to make an assessment of the agricultural resources of a particular region based on its flora."

[36] Macoun, Autobiography, 207-208. Macoun claimed that his real goal was an appointment to the Department of Agriculture.

retired from his post as chief of the Biological Division. His emphasis on the collection of specimens, at the expense of their analysis, stifled the development of biology at the Victoria Memorial Museum until well into the twentieth century.

The patronage relationship based on the expedience of the findings of Professor Macoun was but one manifestation of the Macdonald government's political meddling at the Geological Survey. As stated above, applicants with the right family connections or those who could mobilize enough support for their applications were usually successful. The influence of Sir William Dawson on the GSC during the Montreal period has already been considered. The case of Joseph Burr Tyrrell, one of the last amateurs to be appointed to the Survey, illustrates how family connections could be used to further a scientific career during the second Macdonald administration. Tyrrell's presence in the pantheon of Canadian heroes, a result of his Arctic explorations, may have been as much a result of his social connections as his intrepidness.

J.B. Tyrrell joined the GSC in 1881 as a third class clerk, assisting the staff paleontologist, J.F. Whiteaves, in the cataloguing of specimens. Tyrrell persuaded his father to let him take a year away from the study of law to work at the Survey after falling under the influence of

geologist Edward Chapman while at the University of Toronto.[37] Tyrrell's connections, or rather those of his father, allowed him to indulge his interest at the centre of geological work in the Dominion.

William Tyrrell had been a failed Tory candidate at least three times since the mid 1850s.[38] He was a long time supporter and friend of Macdonald and, in 1878, had been instrumental in the election of Conservative M.P. Clark Wallace in the riding of York West.[39] Throughout Tyrrell's career at the Survey, neither he nor his father hesitated to pull strings to further his position within the Survey.[40]

Within two years of his temporary appointment to the Survey, Tyrrell began to agitate for advancement. He felt that he had languished long enough in Paleontology and

---

[37] Alex Inglis, Northern Vagabond, The Life and Career of J.B. Tyrrell, (Toronto 1978), 66

[38] William Eagan, Joseph Burr Tyrrell, (London 1971), 3. The elder Tyrrell may have been unsuccessful four times. Inglis, Northern Vagabond, 66

[39] NAC, Macdonald Papers, RG 26-A, vol. 576-5, William Tyrrell to John A. Macdonald, 24 Feb. 1873. Tyrrell provided legal counsel for the Prime Minister's petition against the election of his opponent "on the ground of bribery and corruption."

[40] University of Toronto Library (hereafter UTL), William Tyrrell Papers, MS 25, B. 8, J.B. Tyrrell to William Tyrrell, 16 April 1883. When the younger Tyrrell's request for advancement was rejected by the director, Tyrrell wrote to his father; "I am going to try to induce Wallace to get me a private interview with Macpherson who is our acting Minister, to see if working downwards will not succeed better than working upwards."

requested a promotion to a field party.[41] Frustrated by Selwyn's refusal, Tyrrell was advised by his father to secure an interview with the Director, and that it "should be plain, frank and civil."[42] By November, Tyrrell, still unsuccessful, threatened to resign.[43] By this time William had petitioned Macdonald on Joseph's behalf.[44] Joseph was fatalistic:

> As to myself, perhaps Sir John will do something but it is not likely for he never speaks of any one interested in science in any better way than those d--n scientists.[45]

By spring, Macdonald had spoken to Selwyn.[46] Tyrrell was promised an amount of disputed back pay and was assigned to George Dawson's field party.[47] During the dispute with

---

[41] Eagan, Joseph Burr Tyrrell, 18

[42] UTL, William Tyrrell Papers, MS 25, B 8, William Tyrrell to J.B. Tyrrell, 10 September 1882.

[43] Eagan, Joseph Burr Tyrrell, 18

[44] UTL, Tyrrell Papers, MS 25, B 8, William Tyrrell to J.B. Tyrrell, 5 November 1882. "I have written to Sir John on your behalf, I have not received any reply as yet but I am ... sure he will take some steps in the matter, so far as I have had to do with him, he has always acted prompt and friendly, and I expect he will do so now."

[45] UTL, Tyrrell Papers, MS 25, B 8, J.B. Tyrrell to William Tyrrell, 7 November 1882.

[46] NAC, Macdonald Papers, RG 26-A, vol. 388, Reel C-1758, Selwyn to MacDonald, 15 December 1882. While acquiescing to the P.M.'s order, Selwyn suggested to Macdonald that Tyrrell "wants to reach the top of the ladder without climbing it."

[47] UTL, Tyrrell Papers, MS 25, B 8, J.B. Tyrrell to William Tyrrell, 16 April 1883.

Selwyn, the elder Tyrrell advised his son to stay clear of the growing unrest within the ranks of the GSC.[48] The tensions which seethed beneath the surface at the GSC were but one example of the turbulent political climate after Macdonald's Gerrymandered election victory in 1882.[49]

According to R.M. Dawson, "the most illuminating feature of the Gerrymander of 1882 was the shamelessness of the entire proceeding."[50] The effect of the electoral boundary realignment, however, contributed little to the outcome of the race. The public backlash against the flagrancy of the Gerrymander was not tapped by the Liberals under Edward Blake.[51] Before the election, the Tories had even paid lip service to the notion of reducing patronage in government. The same session of parliament which had passed

---

[48] UTL, Tyrrell Papers, MS 25, B 8, William Tyrrell to J.B. Tyrrell, 25 March 1883. "I regret very much that there should be any unpleasantness between the head of your department, and his assistants, however such remarks as you state to have been made could have no reference ... to you, (it would only apply to older assistants) and I would advise you not to interfere in any way with the matter don't let it trouble you or even let it be known that you know anything about it while you are in the Survey ... above all things, be your own councillor and don't allow yourself to be used for the benefit of others."

[49] R. MacGregor Dawson, The Gerrymander of 1882. Canadian Journal of Economics and Political Science (CJEPS), I, 1935, 197-221.

[50] Ibid., 199

[51] Blake's leadership was ineffective through his tenure as leader of the Liberal Party. His unsuitability for the role is discussed at length in J.D. Livermore's "The Personal Agonies of Edward Blake," Canadian Historical Review (CHR), 54, 1975, 45-58.

the Representation Act, implementing the Gerrymander, passed the Civil Service Act of 1882. The Civil Service Act was introduced to meet the agitations for reform in government which had been gaining momentum since Casey's Select Committee of the House in 1877 and the Royal Commission on the Civil Service in 1880.[52] The Act was ostensibly drafted to diminish the influence of politicians on the civil service but Macdonald did not legislate himself into a non-partisan corner. Although a Board of Civil Service Examiners was established to maintain standards of public servants, it served primarily as an evasion tactic. In the Interior Department, 350 employees remained outside the civil service list.[53] The dilution of the standards set for professional and technical personnel was so pervasive it made nonsense of the initial emphasis on qualifications and "made explicit the discrepancy between the values of politicians and men of science."[54] Substantive changes to the civil service would not be effected until the next decade.[55]

---

[52] R.M. Dawson, The Gerrymander of 1882, 215.

[53] Stewart, The Origins of Canadian Politics, 76. The Geological Survey was under the auspices of Interior. Other Departments where notable exclusions from the civil list remained were Agriculture, Marine and Fisheries, Public Works, and Railways and Canals.

[54] De Vecchi, Science and Government in Nineteenth Century Canada, 206

[55] R.M. Dawson, The Civil Service of Canada, (London 1927), 59

Some changes were made to the Geological Survey after the election of 1882. The salaries of the permanent officers of the GSC were transferred to the civil list in July 1883.[56] The transfer to the ranks of the civil service increased the effective budget of the GSC by 50 per cent without augmenting the annual appropriation to the Survey.[57] The previous year, the government had increased the appropriation by twenty per cent to expand development oriented activities in the west.[58] Increased financial support for the Survey was coupled with increased government control. By the early 1880s, the government was determined to make the Survey a development-oriented federal agency.[59]

The fact that the activities of the GSC were increasingly linked to the railway is not surprising. The fate of the Tories was so intimately connected to the

---

[56] Zaslow, Reading the Rocks, 132-133. Thirty-one employees of the Survey were transferred to the civil list, including the director, four chief clerks (the assistant-directors), five first, five second, and eight third class clerks.

[57] Ibid., The annual appropriation for the Survey remained at $60,000. but the removal of the payroll provided $30,000. extra for field parties, expanded facilities and temporary employees.

[58] Waiser, The Field Naturalist, 67

[59] Ibid. Control over the GSC was but one manifestation of the government's attitude toward the scientific community; the marginality of the Royal Society of Canada, after its establishment in 1882 is another. For a complete discussion of the impotence of the RSC during the Macdonald administration, see De Vecchi, The Dawning of a National Scientific Community in Canada, in Scientia Canadiensis, 3, 1984, 32-58.

venture that the failure of the railway meant certain demise for the government.[60] Western discontent in the wake of the bust of the Winnipeg land boom and a financial crisis at the CPR strained the government's ability to manage the National Policy.[61] The GSC was unabashedly used to promote western settlement, often at the expense of scientific credibility. The sacrifice of the Survey's integrity was not without its consequences. Much of the criticism directed at the Tories in the early 1880s came by way of the Geological Survey. Henry Hind publicly complained of Macoun's falsification of meteorological tables presented to the Committee on Immigration and Colonization, the Governor General, the Prime Minister and the director of the Geological Survey.[62] Thomas Sterry Hunt, divorced from the Survey for over a decade, castigated the government for the

---

[60] Sprague, Canada and the Metis, 153

[61] Sprague, Canada and the Metis, 152-153. The CPR's financial troubles from 1883 to 1885 are considered at length by Waite, Arduous Destiny, 131-143. A discussion of western discontent in the 1880s appears in Owram's Promise of Eden, 168-191.

[62] Henry Youle Hind, Manitoba and the Northwest Frauds, (Windsor, N.S. 1883), 4-12. Hind also cursed members of the railway syndicate, particularly George Stephen. Because of Stephen's responsibility for hundreds of deaths as a result of the falsified reports, Hind said, "In his moments of sickness and sinking health, when courage and self-reliance begin to fail, and fears and doubts begin to take their place, Mr. George Stephen will probably see the spectres of many a frozen eye ceaselessly fixed on him." See also Hind's The Confession of Corruption of the Geological Survey in North-West Territory Matters, (Windsor, N.S. 1883) and Emigration, Land and Railway Frauds; The Colonist's Handbook, (N.A. 1882)

political nature of its science policy in the Canadian Naturalist.[63] Cracks also began to develop from within the ranks of the Survey. By the spring of 1883, internal conflicts were beginning to appear in a number of newspapers.[64] On April 6, an officer of the Survey, Wallace Broad, published a letter in the Toronto Mail, under the pseudonym "Geologist," stating that the problems at the survey were attributable to Selwyn rather than to inadequate funding.[65] The same week, the Mail published an article by Robert Bell under the name "Bystander" declaring "the

---

[63] T. Sterry Hunt, Relations of the Natural Sciences. in De Vecchi, Science and Government in Nineteenth- Century Canada, 31. Hunt's agitations were probably at the request of his former colleague at the GSC, Robert Bell. NAC, Robert Bell Papers, MG 29, B 15, T.S. Hunt to Robert Bell, 31 March 1884.

[64] As might be expected, the newspapers which tended to publish articles critical of the government's handling of the GSC were Liberal. The Toronto Mail had been a vehicle of the Tories in the early 1870s but by the mid 1880s was hostile to the government. Canadian Press Association, A History of Canadian Journalism, (Toronto 1908), 169-170. The Montreal Herald, controlled by the Holton family was a former Rouge Party mouthpiece and was instrumental in the Liberal attack on the Tories' management of the GSC. The connection of the Herald to the Liberals is considered in T.A. Burke's Mackenzie and His Cabinet. CHR, 41, 1960, 132. The Manitoba Free Press, under the editorship of Liberal partisan W.F. Luxton, was the primary critic of the Tories' control of the Survey. Owram, Promise of Eden, 174

[65] Waiser, The Field Naturalist, 68. Broad was promptly sacked for his comments. NAC, Geological Survey of Canada Papers, RG 45, Vol. 19, Director's Letterbook, 155, Selwyn to John Stall, 26 May 1883.

present director is utterly incompetent."[66] Initially the government's position was to allow Selwyn to deal directly with his detractors on the GSC staff.[67] The public airing of internal disputes at the Survey made damage control within the institution increasingly difficult.[68]

Growing pressure to deal with the discord within the GSC led to the appointment in February, 1884 of a select committee under Robert Hall to investigate the Survey.[69] The Commission, made up of seven Tories and four Liberals[70]

---

[66] Ibid. Selwyn had attempted to demote Bell from the assistant-directorship previous to the Bystander letter. NAC, Robert Bell Papers, MG 29, B 15, Vol. 38-8, unsigned confidential note, 1903.

[67] NAC, John A. Macdonald Papers, Reel C-1671, D.L. Macpherson to J.A. Macdonald, 20 April 1883. Macdonald, Prime Minister and still Minister of the Interior until the fall of 1883, was advised that this kind of attack from within was intolerable and that Bell "has more to do with it than any other."

[68] De Vecchi, Science and Government in Nineteenth Century Canada, 170-171. Agitations for an inquiry into the workings of the Survey were also made by George Casey, M.P. for London, who criticised the shelving of a research report on phosphates. Henry Vennor, the author of the report was fired by Selwyn for speculating in the mineral he was assigned to investigate.

[69] Canada, Report of the Select Committee Appointed by the House of Commons to Obtain Information as to Geological Surveys, (Ottawa 1884). The events leading to the establishment of the Hall Commission have been considered by Waiser, The Field Naturalist, 64-69; and Zaslow, Reading the Rocks, 131-135.

[70] The committee included: Edward Baker (Victoria, Conservative); Hugh Cameron (Inverness, Liberal Conservative); Simon Dawson (Algoma); John Ferguson (Welland, Liberal Conservative); Robert Hall (Sherbrooke,

(continued...)

was particularly harsh in its criticism of the director. In April, Selwyn described the committee to A.C. Perry:

> The attack on me & the Survey just now being made is simply an organized conspiracy, the outcome of jealousy of some of those who had to leave the Survey. It can however, have only one result namely (?) & injury to themselves rather than to me. In the mean time it is annoying...[71]

In this, he was partially correct. Opposition to Selwyn at the Hall Commission was organised and relentless.[72]

Selwyn's principal adversary within the Survey was Robert Bell. The roots of the conflict between the two were

---

[70](...continued)
Liberal Conservative); Edward Holton (Chateauguay, Liberal); Wilfrid Laurier (Quebec East, Liberal); Charles Lesage (Dorchester, Conservative); James Lister, (West Lambton, Liberal); William Mulock (North York, Liberal) and Josiah Wood (Westmoreland, Conservative). J.A. Gemmill, ed., The Canadian Parliamentary Companion, (Ottawa 1886)

[71] NAC, Records of the Geological Survey of Canada, Directors Letterbooks, RG 45, vol. 79, p. 454, A.R.C. Selwyn to A.C. Perry, 5 April, 1884.

[72] Former members of the GSC, T.S. Hunt, Thomas MacFarlane, Henry Vennor, Fraser Torrance and Wallace Broad assisted Robert Bell in his attempt to use the Commission to unseat Selwyn from the directorship. Before the committee was officially struck, Hunt had contacted Hall and Holton. The latter was the son of the former proprietor of the Montreal Herald, one of the main critics of the government on the GSC issue. Hunt wrote to Bell that members from different parties would be named so "the motive will not seem quite so political." NAC, Robert Bell Papers, MG 29, B 15, vol. 22-30, T.S. Hunt to Robert Bell, 31 December 1883. At least two of the witnesses to the Commission, Hunt and Edward Chapman, turned down invitations by Bell to stay at his house during the proceedings. NAC, Robert Bell Papers, MG 29, B 15, vol. 22-30, T.S. Hunt to Robert Bell, 17 March 1884. Robert Bell Papers, MG 29, B 15, vol.16-29, Edward Chapman to Robert Bell, 26 March 1884. Macfarlane may have coveted the directorship for himself. Zaslow, Reading the Rocks, 136.

deep and varied. Their relationship could best be described as mutual loathing. Selwyn had recently tried to promote George Dawson above Bell at the Survey and he also took every opportunity to humiliate Bell.[73] For his part, Bell recruited critics of Selwyn in his machinations against the director and encouraged the insubordination of junior officers of the Survey.[74]

The conflict was more than a clash of personalities. The dispute represented the opposing visions for the development of the northwest. Selwyn, whose institution was increasingly linked to the Tory agenda, was dependent on the success of the CPR for his political survival.[75] Bell, whose northern expertise was derived in part from the director's wish to keep him out of areas of imminent development, became one of the most ardent supporters of the

---

[73] NAC, Robert Bell Papers, MG 29, B 15, vol. 38-9, GSC Directors; Robert Bell, unsigned memo, April 1883. Attached to the memo is a letter to J.A. MacDonald, Minister of the Interior, dated 2nd June 1883 signed by eight members of parliament in support of Bell in the proposed promotion of George dawson over him.

[74] The junior officers who agitated against Selwyn included J.B. Tyrrell. UTL, William Tyrrell Papers, MS 25, B 8, William Tyrrell to J.B. Tyrrell, 25 March 1883. Selwyn was referred to as "the Prince of Liars" and the "Thing" by A.S. Cochrane, a junior officer in the Bell faction. Zaslow, Reading the Rocks, 136.

[75] The government, dependent on a Geological Survey that could be effectively managed, stood by its director. The institutional history of the GSC stated that Selwyn "enjoy[ed] the firm, unshakeable support of the government, particularly of the Prime Minister." Zaslow, Reading the Rocks, 136.

Hudson Bay railway. Both men had financial stakes in their chosen projects. Among other land, Bell owned commercial property on River Avenue in Winnipeg valued at not less than $5,000.[76] Selwyn owned land in the vicinity of Brandon.[77] He was accused of directing GSC boring operations in the Souris Valley contemporaneously with the settlement of his sons in the area.[78] Speculation in prairie lands by officers of the Survey appears to have been an accepted practice. The brother of G.M. Dawson "and Associates" were granted 61,440 acres on July 25 1882.[79]

The history of the Hudson Bay railway has been recounted a number of times and need not be repeated here.[80] The proposed

---

[76] Provincial Archives of Manitoba (hereafter PAM), C.N. Bell Papers, MG 14, C 100, C.N. Bell to Robert Bell, 13 May 1890.

[77] Manitoba, Lands Branch, Department of Natural Resources, Crown Land Registry, Land Ownership Report, 31 (Winnipeg 1989), 4414.

[78] NAC, Robert Bell Papers, MG 29, B 15, vol. 38-6, GSC Directors, Alfred Selwyn, unsigned, undated note.

[79] NAC, Records of the Department of the Interior, Rg 15, vol. 277-44447, Schedule of Colonization Tracts Proposed to be Granted.

[80] For extended versions of the history of the railway, see A.H. De Tremaudan, The Hudson Bay Road, (Toronto 1915); George Morgan Wade, The Hudson Bay Railway, (Winnipeg 1927); Howard A. Fleming, Canada's Arctic Outlet: A History of the Hudson Bay Railway, (Berkeley 1957); Grant MacEwan, The Battle for the Bay (Saskatoon 1975). Owram's Promise of Eden provides recent account of western attitudes toward the construction of the railway (p. 168-191).

railway from Winnipeg to Hudson Bay posed the most tangible threat to the twenty-year monopoly clause provided to the CPR in the 1881 agreement. It also presented the only realistic alternative for western development independent of central Canadian control.[81]

Interest in the project increased after the surveys of the Hudson Bay area by Bell in the mid-1870s and particularly after the endorsement of the plan by the Dominion Surveyor General, J.S. Dennis in 1878.[82] The same year, Premier

---

[81] Fleming, Canada's Arctic Outlet, 19. The bay railway was also considered a "Liberal" project. Hugh Sutherland, president of the Winnipeg and Hudson Bay Railway, was elected to parliament as a Reform-Liberal in 1883. Owram has considered the "expansionist affiliations" of the railway's chief supporters, including Joseph Royal, Charles Tuttle, C.N. Bell, Frank Scoble, Charles Mair, Frank Oliver and John Christian Schultz. Promise of Eden, 184-185. Robert Bell, the uncle of Charles Napier Bell, was firmly in this camp. Bell's connection with Charles Mair, for example, can be traced back to the mid-1860s. NAC, Robert Bell Papers (New Series), MG 53, B 63, Bell correspondence with Charles Mair. Bell was the science contributor for Henry J. Morgan's Dominion Annual Register and Review from 1878 to 1886. For a discussion of Morgan's position in the Canada First movement see Carl Berger's The Sense of Power (Toronto 1970), 49-56.

[82] J.S. Dennis, Navigation of Hudson's Bay, (Ottawa 1878), 2. "Should there prove to be even a four months' navigation on this route, and especially should such period extend into the fall to permit the moving to market the preceding harvest, it would be difficult to take an over sanguine view of the future of the magnificent territories now lying dormant in the North-west, the property of the Dominion. Such a discovery would prove to be of the greatest value in connection with the construction of the Pacific Railway, inasmuch as it would afford unbounded stimulus to the settlement on Free Grant lands in the North-West, and thus lead to the speedy and satisfactory sales of the alternative blocks proposed by the Act to be set apart to aid the construction of the work."

Norquay of Manitoba and his lieutenant, Joseph Royal, travelled to Ottawa to lobby the newly ascended Tories on behalf of the project and the extension of the provincial boundary to the coast.[83] Macdonald, fresh from an election victory based on the promise of prompt construction of the CPR, was anything but sympathetic. He agreed, however, to the extension of the boundary to within three hundred miles of the Bay and in April, 1880, to the passage of charters for two railway projects to the northern sea.[84] By April, 1884, the two Hudson Bay railways had amalgamated. Almost universal support for a railway link to the north in Manitoba forced Macdonald to be creative in his attempt to undermine the project. Southern provincially chartered railways, such as the Manitoba South-Eastern, were disallowed on the grounds that they violated the monopoly clause of the CPR agreement.[85] The stifling of the

---

[83] Fleming, Canada's Arctic Outlet, 10-12.

[84] Ibid, 13. The charters for the Nelson Valley Railway and Transportation Company and the Winnipeg and Hudson's Bay Railway were passed without discussion in parliament. While apparently bowing to the wishes of the province, the Prime Minister maneouvered to ensure that the schemes would be stillborn. While the CPR was awarded twenty-five million acres of land to raise capital the charters for the bay railways contained no provisions for land grants.

[85] For a complete discussion of the disallowance controversy, see James Jackson's The Disallowance of Manitoba Railway Legislation in the 1880's: Railway Policy as a Factor in the Relations of Manitoba with the Dominion, 1876-1888, (Winnipeg 1945). Disallowance is also a central issue in the political biography of Thomas Greenway, the

(continued...)

southern railway projects stressed Tory support in the west to its limit. The Geological Survey provided the federal government with a ideal medium to erode confidence in the northern scheme while appearing to endorse the project officially.[86] The governments of Manitoba and the Dominion were so far apart on the issue of the northern railway that the province established its own commission on the viability of the Hudson Bay route. As might be expected, the provincial committee under the chairmanship of C.P. Brown found no evidence ever of the freezing over of Hudson Bay and Strait, that navigation was possible throughout the year, that the ports of the province were open a minimum of five months a year, that no engineering difficulties existed to the construction of a railway and that Manitoba should seek representation on Dominion expeditions to the north. Its conclusion summed up the position of Manitoba on Hudson Bay scheme. The Commission found "no reason to doubt that a railway ... will prove a successful and remunerative undertaking; and are satisfied that such an outlet will do

---

[85](...continued)
Liberal Premier of Manitoba from 1888 to 1900, see Joseph Hilts, The Political Career of Thomas Greenway, (Winnipeg 1974).

[86] Fleming, Canada's Arctic Outlet, 18. Antipathy to the CPR and the Macdonald Tories in the wake of the disallowance controversy was deep and widespread; it is a tribute to the subtlety of Macdonald that he managed to retain control of Manitoba until 1888. The wave of western alienation in the 1880s is documented in Owram's Promise of Eden, "Disillusionment," 168-191.

more to stimulate production in this province and the Northwest generally than any other enterprise."[87] The most influential submission to the Manitoba inquiry was C.N. Bell's Our Northern Waters,[88] a celebration of the inevitable success of the Bay scheme. According to Bell, he had been appointed by the Winnipeg Board of Trade "as a committee of one" to compile all available information on the Hudson Bay route.[89]

Much of the testimony delivered to the Hall Commission dealt with the Bay route. Rather than simply championing the project, as did the Manitoba Commission, the federal committee focused on the attempt by Selwyn to cast doubt on the credibility of the scientific work which supported the development of the Hudson Bay plan. The object of Selwyn's attack was his main adversary at the GSC, Robert Bell. Selwyn recruited no less a personality than the famous Arctic explorer, Dr. John Rae, to discredit the findings of Bell. It may not have been a wise choice; Rae had been to the Hudson Bay region only three times and not since the early 1850s. In a partisan comment, Charles Bell wrote to

---

[87] Manitoba, Report of the Select Committee of the Legislative Assembly of the Province of Manitoba Appointed to Procure Evidence as to the Practicability of the Establishment of a System of Communication with This Province Via Hudson's Bay, (Winnipeg 1884), 54-56.

[88] (Winnipeg 1884)

[89] PAM, C.N. Bell Papers, MG 14, C 100, C.N. Bell to Robert Bell, 24 January 1884.

Robert Bell, "The impression here is that Rae is an old fool who is jealous of you & your work...."[90] During the hearings, Bell accused Rae of forgetting the entire geography of the Moose River and "has refreshed his memory by means of Hearne's map [published in 1795]."[91] The conflict between Rae and Bell lasted through the 1880s without any clear resolution.[92] Selwyn and his political masters could be content with a stalemate on the issue. As the debate continued, the monopoly of the CPR was further ensured as investor confidence in the northern railway was eroded.

The core of the evidence delivered to the Hall Commission on the Bell-Rae controversy concerned a map drawn by Bell in 1877 and published in the GSC Report of Progress 1880-81-82 (fig. 1).[93] Alongside the map was a disclaimer by Selwyn which quoted Rae's criticisms of Bell's drawing of the area (fig. 2).[94] The director solicited the retired

---

[90] PAM, C.N. Bell Papers, MG 14, C 100, C.N. Bell to Robert Bell, 20 April 1884.

[91] Report of the Select Committee..., 91

[92] For a partial description of the conflict see R.L. Richards, Dr. John Rae and the Hudson Bay Route. Musk-Ox, 31 (1982): 60-70.

[93] Robert Bell, Report on the Geology of the Moose River and Adjacent Country. in A.R.C. Selwyn, Dir., Geological and Natural History Survey of Canada; Report of Progress for 1880-81-82 (Montreal 1883), 10c-11c.

[94] NAC, Robert Bell Papers, MG 29, B 15, vol.32-64. A.R.C. Selwyn to Bell, 8 March 1884. Selwyn wrote to Bell

(continued...)

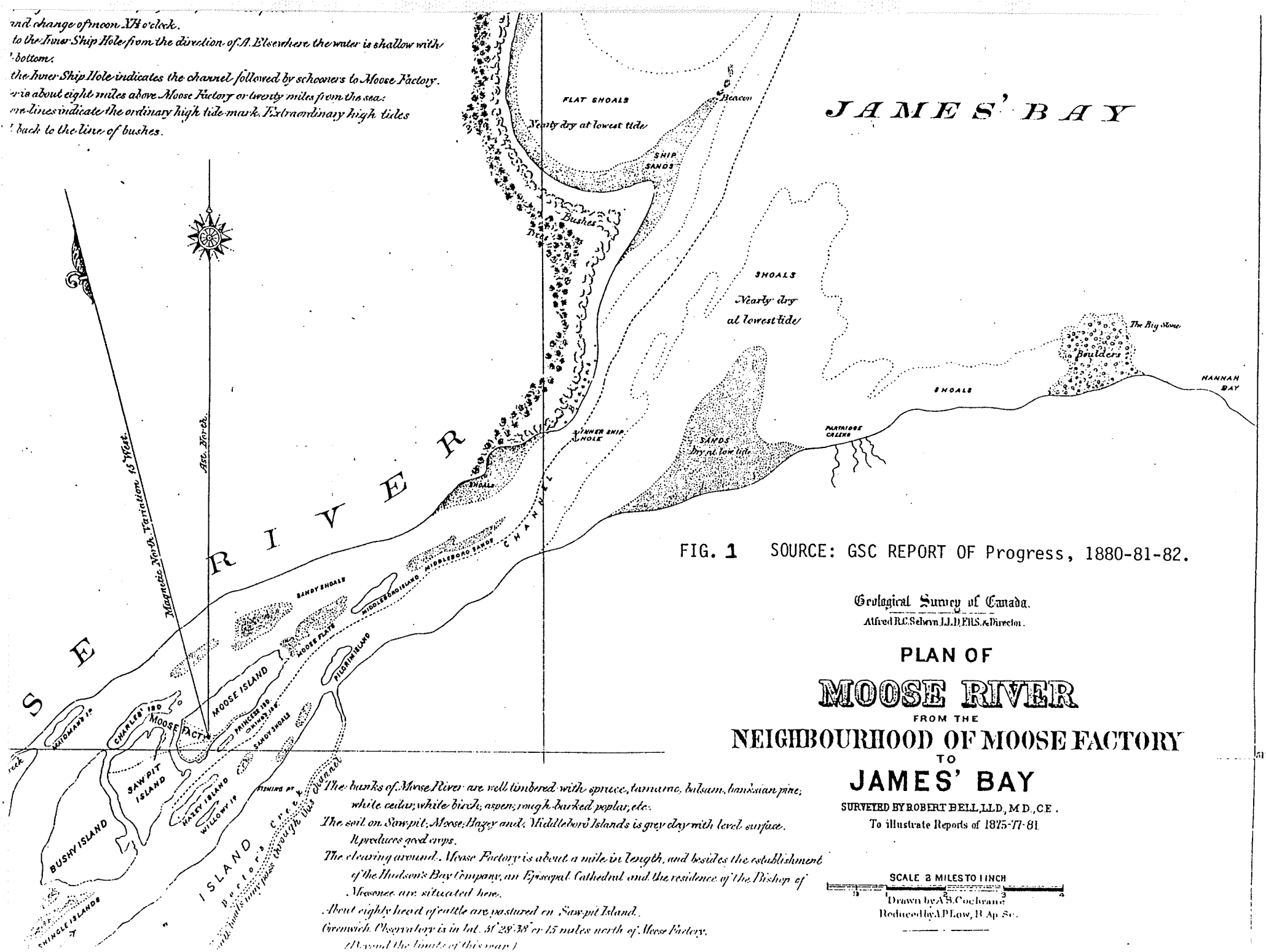


FIG. 1 SOURCE: GSC REPORT OF Progress, 1880-81-82.

The banks of Moose River are well timbered with spruce, tamarac, balsam, banksian pine, white cedar, white birch, aspen, rough barked poplar, etc.

The soil on Sawpit, Moose, Hazey and Middleboro' Islands is grey clay with level surface. It produces good crops.

The clearing around Moose Factory is about a mile in length, and besides the establishment of the Hudson's Bay Company, an Episcopal Cathedral and the residence of the Bishop of Moosonee are situated here.

About eighty head of cattle are pastured on Sawpit Island.

Greenwich Observatory is in lat. 51° 28' 38" or 15 miles north of Moose Factory.

(Beyond the limits of this map.)

Geological Survey of Canada.

Alfred R.C. Selwyn LL.D. F.R.S. & Director.

# PLAN OF

# MOOSE RIVER

FROM THE

# NEIGHBOURHOOD OF MOOSE FACTORY

TO

# JAMES' BAY

SURVEYED BY ROBERT BELL, LL.D., M.D., C.E.

To illustrate Reports of 1875-77-81

SCALE 8 MILES TO 1 INCH

0 1 2 3 4

Drawn by A.S. Cochrane

Reduced by A.P. Low, B. Ap. Sc.

## NOTE.

In reference to the plan of the Moose River mouth, prepared by Dr. Bell, there appears to be some doubt of its accuracy, and in publishing it, I think it right to state what Dr. Rae, who lived there some forty years ago, has written me respecting it. The following are extracts from his letters to me dated London, 27th June, '83, and 20th Nov., '83:

"I am glad you sent me the copies of the proposed maps of Moose River, in which I have put in very roughly the corrections required.

"There are, or were in my day, two Islands to the N. W. of 'Inner Ship Hole' called the Ship Sands, and these Islands were separated from the N. W. shore of the river by a deep and swift stream, which occupied about twenty minutes to paddle across in a canoe. Spring tides aided by a gale sometimes covered these Islands with several feet of water. If the Moose River is, as your map shows it to be, the islands where we camped must have been well inland on the main shore of the left bank."

Nov. 20th.—"In reply to your enquiry, I must say that it is possible by some convulsion of nature, that the north branch of the river may have ceased to exist, but in the usual course of things such an event was not at all likely. You may make this north branch even wider than I showed it in the rough sketch I sent you, unless the ship sands have greatly increased in width."

In the map now published, it will be observed that there is no *north branch* and that the main shore of the left bank comes close out to the "*Inner Ship Hole*" and includes the islands mentioned by Dr. Rae.

It may be, however, that Dr. Rae's recollection of it as it was forty years ago, and Dr Bell's map of it as it is now, are both correct. A comparatively small elevation of the coast, aided by a silting up of the channel, effected by fluvial and tidal currents and wind, would suffice in the lapse of forty years to produce even greater changes in a river delta without any occurrence which could be correctly designated as a "convulsion of nature." Dr. Bell has already shewn * that there are other reasons for assuming that the shores of Hudson Bay are slowly rising, or, as he states it, that the water is receding.

ALFRED R. C. SELWYN.

*Ottawa, 3rd Dec.*, 1883.

*Report of Geol. Survey of Canada: 1877-78, p. 32 c. and 25 c.c.

FIG. 02 SOURCE: GSC Report of Progress, 1880-81-82

explorer's opinion of the map in April 1883 after a speech presented to the Historical and Scientific Society of Manitoba the previous fall.[95] Selwyn then examined the map and ordered its publication. Bell was emphatic that the map was exhumed against his will:

> I said that it had no connection whatever with the report [of the Moose River Basin], and we had no excuse for dragging it into the next report. The map, however, was produced, and Dr. Selwyn had it reduced to half the scale. The original title of the map was "Plan of the Moose River, in the neighbourhood of Moose Factory, surveyed by Robt. Bell." Dr. Selwyn changed the title to "Plan of the Moose River, from the neighbourhood of Moose Factory to James Bay." He could not see the necessity of changing the last line, thus making the map appear as a plan of James Bay, that not having been from actual surveys like the rest. Great expedition was shown in engraving this map, and some 5000 copies were struck off and piled up in the office, where they waited for many months until the rest of the report was ready.[96]

In defense of the map, and his reputation, Bell enlisted the support of E.B. Borron, a Stipendiary Magistrate for northern Ontario, Walter Haydon, an HBC Medical Doctor

---

[94](...continued)
that "I never admitted having charged you with inaccuracy in your reports or maps, nor indeed have I ever done so." Selwyn merely reported that Bell "had been so charged openly and publicly by the well known explorer Dr. Rae, whether with justice or not..."

[95] NAC, GSC Director's Letterbooks, RG 45, vol. 79, p. 187, A.R.C. Selwyn to John Rae, 13 April 1883. Report of the Select Committee..., 24. Bell reported Rae's statement in the Canadian Gazette of 4th May 1883. "The most recent is that of Dr. Rae, who writes, signing his own name, that if Dr. Bell's statements about other parts of Hudson's Bay are as incorrect as that regarding the southern parts of it, they are of little value."

[96] Report of the Select Committee ... 78.

formerly stationed at Moose and S.K. Parson, the former Chief Factor at Moose Factory. Parson's attitude is reflected in a letter to Bell:

> Of course I don't want to be drawn into any controversy between you and Selwyn but any evidence I can consistently give in your favour, I shall be most happy to do so. Unless the govt. want to kill the GS altogether, the sooner they rid (sic) of Selwyn the better, as nearly every good man has left who ever had anything to do with him.[97]

Selwyn, however, claimed that Parson supported the Rae view of Bell's inaccuracy.[98] Beyond the Committee, the debate continued in a number of newspapers including the Canadian Gazette, the Montreal Herald and the Manitoba Free Press until the Director ordered Bell to disengage Rae.[99] The controversy over the suitability of Hudson Bay and Strait continued until the end of the century.[100]

---

[97] Report of the Select Committee..., 79. NAC, Robert Bell Papers, MG 29, B 15, vol. 29-33. S.K. Parson to Bell, 11 March 1884.

[98] NAC, GSC, Director's Letterbooks. RG 45, vol. 79, 510. Selwyn to A.M. Burgess (A.D.M. Interior), N.D. (May 1884?).

[99] NAC, GSC, Director's Letterbooks, RG 45, vol. 79, 506. Selwyn to Bell, 10 May 1884. PAM, C.N. Bell Papers, MG 14, C 100, C.N. Bell to Robert Bell, 6 June 1884.

[100] The Canadian and Imperial governments sponsored several expeditions to the Arctic to resolve the question. These included the Neptune in 1884, the Alert in 1885 and 1886 and the Diana in 1897. Bell was a member of all but the 1886 expedition. A summary of these voyages, and the conflict between their commanders A.R. Gordon and A.H. Markham and Dr. Rae over the feasibility of the Bay for shipping is presented by Richards, Dr. John Rae and the Hudson Bay Route, 64-70.

Selwyn's attempt to undermine Bell's reputation was but one of the charges made against the director during the hearings. He was accused of suppressing Sir William Logan's work on the geology of the Eastern townships, a charge the director vehemently denied.[101] At the institutional level, Selwyn's management was criticised for its primary focus, "the descriptive representations of the surface of the country," at the expense of the practical study of mineral deposits.[102] The director was chastised for the "meagre" publication record of the GSC during his tenure. The derth of publications was partially attributed to Selwyn's handling of reports of officers such as Henry Vennor and Hugh Fletcher, "have been suppressed by the Director, with no assigned reason, and in a number of instances to have been so seriously delayed in publication as to render them practically useless."[103] While the government was criticised for the vague nature of its instructions to Survey, the brunt of the blame fell on Selwyn:

> With instructions of so general and vague a character as these, the system and organization of the Survey must necessarily depend on the judgement, tact and skill of the Director, and the only mode of testing the efficiency of the Survey, available to your Committee, is by an examination

---

[101] Report of the Select Committee, 45-46, 76, 166. NAC, Geological Survey of Canada, Director's Letterbooks, RG 45, vol. 79, p. 435, Selwyn to J.D.R. Williams, 24 March 1884.

[102] Report of the Select Committee, 8

[103] Ibid., 6

> of its practical result. Applying this test, your Committee have no hesitation in reporting that the administration of the Department under its present management, is unsatisfactory.[104]

For all their partisan mudslinging, the hearings reflected an almost universal acceptance of political intervention in matters related to the Survey. George Dawson was the only witness to state that appointments to the Survey should be free from political patronage, "I think the Survey should as far as possible be removed from all political influence, and that is one thing which was perhaps better in Sir William Logan's time."[105] Robert Bell, who considered himself the principle victim of Survey politics stated that political interference "might, or might not be detrimental; but I think it is essential that the gentleman managing the Survey should be responsible to the people of the country, rather than to have an autocrat, who would discharge according to his likes and dislikes."[106] Calls for increased parliamentary supervision of the Survey had been mounting since the transfer of the staff to the Civil

---

[104] Ibid., 5

[105] Ibid., 51. While criticising the influence of politics in the Survey, Dawson, as Selwyn's heir apparent, was its chief beneficiary. Dawson was allowed to publish in the Report of Progress 1878-1879, a 239 page report which included almost one hundred pages of ethnology of the Indian of the Northwest coast while Bell's reports were confined to under twenty pages. Ibid., 75

[106] Report of the Select Committee, 90

List in 1883.[107] The cries for a more responsible Survey were not without foundation. The GSC, and the entire Department of the Interior, remained the private domain of the Prime Minister until October 17, 1883, when Senator D.L. Macpherson was appointed Minister.[108] Even after the Interior portfolio was passed to Macpherson, Macdonald had direct influence on appointments to the Survey.[109] Although the Hall Commission received ample consideration in the media and in the Commons, it failed to affect significant changes within the Survey. The Saskatchewan Crisis provided the government with an opportunity to redouble its management of patronage in the final years of Macdonald's reign.

---

[107] De Vecchi, 169-172.

[108] Waite, Arduous Destiny, 146.

[109] NAC, GSC, Director's Letterbooks, Rg 45, vol. 79, 446, Selwyn to the Secretary of the Department of the Interior, 29 March, 1884.

# CHAPTER 4

## THE GEOLOGICAL SURVEY, 1885-1896

Reactions to the report of the Hall Commission, published the 7th April, 1884, were as polemical as the evidence presented to the inquiry. Selwyn called the report "a tissue of misrepresentation and falsehood and not worth the paper it is printed on."[1] He immediately complained to his Minister about the personal nature of the testimony and of the partisan objectives of the Commission "calculated to ignore and obstruct the work of the Survey" and called for an impartial investigation into the charges made during the hearings.[2] Alexander Mackenzie observed that the "examination was of a very peculiar nature" and that it would be "very difficult for the director to carry on the business unless he has the formal support of the Government behind him."[3] Macdonald expressed that support:

> This kind of thing cannot go on. Insubordination is a great vice in any Department, and especially one of that kind, where science and the zealous application of science or the knowledge of the

---

[1] NAC, Geological Survey of Canada, Director's Letterbook, RG 45, vol. 79, p. 480, Selwyn to Hamilton Merritt, 17 April, 1884.

[2] NAC, Geological Survey of Canada, Director's Letterbook, RG 45, vol. 79, p. 460, Selwyn to D.L. Macpherson, 8 April, 1884.

[3] Waiser, The Field Naturalist, 71

> individual, is absolutely required to make the work of the Department of any service.[4]

J.W. Dawson of McGill College wrote to the Prime Minister in support of Selwyn against what he considered to be an attack on the government:

> "I have been much grieved by hearing from time to time of the schism in the GS and of the action of the parliamentary committee which seems to have gone into personal matters and to have made itself a tool in the hands of Holton, Hunt & others unfriendly to the government and the mouthpiece of Dr. Bell who, while not one of the most efficient members of the Survey has been somewhat troublesome and should be checked rather than encouraged in his attacks on the head of his Department ... the report of the committee is most unfair and misleading, and that any hope of improvement of the Survey does not lie in the directions they indicate."[5]

Through the discussions of the report, Selwyn felt his position to be secure:

> My enemies are still on the warpath and there seems every indication at present that they will be ignominiously defeated. My present chief, the Premier, Sir J.A. Macdonald and also two ex-ministers under whom I have served recall in my favour, and under these circumstances the Survey has, I think not much to fear."[6]

Initially, Selwyn's detractors were pleased with the Commission's report. Hunt called the document "very

---

[4] Ibid. The notion that scientific inquiry was considered to be an instrument of government intervention by the Tories has been considered by De Vecchi, Science and Government in Nineteenth-Century Canada, 180

[5] NAC, John A. Macdonald Papers, Reel C-1767, pp. 195199-195202, J.W. Dawson to Macdonald, 4 June, 1884.

[6] NAC, GSC, Director's Letterbook, Rg 45, vol. 79, 472, Selwyn to Mr. Marconi, 15 April, 1884.

satisfactory."[7] Recommendations for the establishment of a Section of Mines within the Survey and the collection of mining statistics were carried out. Selwyn was not sacked. Only one member of the Commission, Edward Holton, had demanded his head.[8]

The conflict between Selwyn and Bell remained unresolved. Both attempted to sway the Minister of the Interior to their position.[9] Bell centered his appeal to Macpherson on Selwyn's bias against Canadians. Selwyn was accused of being anti-Canadian during his testimony when he stated that an officer of the Survey, Hugh Fletcher "has only one fault-that he does not exactly understand discipline, like many young Canadians."[10] Bell stated that Canadians were "infinitely better" suited to work at the GSC

---

[7] NAC, Robert Bell Papers, MG 29, B 15, vol. 22-30. Hunt to Bell, 9 July, 1884.

[8] De Vecchi, Science and Government in Nineteenth-Century Canada, 168

[9] NAC, Geological Survey of Canada, Director's Letterbook, RG 45, vol. 79, p. 460, Selwyn to Macpherson, 8 April, 1884. Selwyn commented on his relationship with Bell, "It will be apparent that the friendly relations which our relative positions are, I consider essential for the success of the work ... can no longer subsist between us." On the 23rd April, the director withheld Bell's field orders until his subordinate surrendered his accounts and a detailed report of the previous season's fieldwork. (p. 491) The 29th April, Bell wrote to the Minister that his problems with Selwyn were "my misfortune not my fault ... I deserve sympathy for what I've suffered." Waiser, The Field Naturalist, 72

[10] Report of the Select Committee, 26.

and in "Canada for Canadians."[11] De Vecchi has noted that while the issue "Canada for Canadians" was nonsensical, it "had the virtue of simplicity" and was expressed by a number of pundits through the 1880s, including Goldwin Smith.[12]

The issue of the Directorship of the Survey was not allowed to rest during the year after the report was published. The anti-Selwyn faction continued its editorial attack, its goal "to make fur fly."[13] In January, 1885, Hunt suggested to Bell that "you should use your personal influence with Mr. Donald Smith. I think I can assure you that the magnates of the C.P.R.R. (sic) would be glad to see a radical change in the management of the Survey."[14] The beginning of 1885 saw financial crises at both the railway and the Geological Survey. The government was in disarray. In February, George Stephen and Smith were forced to endorse a note for a million dollars to keep the venture afloat.[15]

---

[11] Ibid., 89

[12] De Vecchi, 203-204.

[13] NAC, Robert Bell Papers, MG 29, B 15, vol. 22-30, Hunt to Bell, 21 October, 1884; 11 February, 1885; 1 March, 1885. The political climate was partisan to the point that a backlash against "partyism" ensued. See W.J. Longley, Party Politics, The Week, 14 August, 1884, 583; J.E. Collins, Party Evils and a Remedy, The Week, September 18, 1884, 664; Cyril, Partyism, The Week, 17 December, 1885, 36. Further explanation of the revolt against partyism appears in Berger's The Sense of Power, 199-207.

[14] NAC, Robert Bell Papers, MG 29, B 15, vol. 22-30, Hunt to Bell, 2 January 1885.

[15] J. Lorne McDougall, Canadian Pacific: A Short History, 58-59.

A month later, with the annual appropriation exhausted, Selwyn announced the dismissal of a dozen temporary employees from the Survey.[16]

The outbreak of the Saskatchewan Rebellion in March provided Macdonald with the opportunity to consolidate his power in a number of spheres.[17] The railway was saved. Small issues, such as the problems at the Geological Survey, could be shelved. According to Hunt, "The Minister of the Interior must have his hands too full to think of the GSC just now."[18] The debate over the GSC appropriation, scheduled for April was delayed until July. Selwyn was criticised severely when the subject did come up in the House. Edward Holton, the most antagonistic member of the Hall Committee stated, "It is generally known that the Geological Survey is in a deplorable, inefficient condition and that the value of what it is accomplishing for the

---

[16] NAC, Geological Survey of Canada, Director's Letterbook, RG 45, vol. 80, p. 325. Selwyn to Hamilton Merritt, 30 March 1885. See also Waiser, The Field Naturalist, 73-76.

[17] Gordon Stewart, Macdonald's Greatest Triumph, CHR, 63, (1982): 31. Macdonald may have engineered the situation in Saskatchewan to provide him with just such an opportunity. The Prime Minister wrote to the Governor-General on the uprising,"We certainly made it assume large proportions in the public eye. This has been done, however, for our own purposes and I think wisely done. Still it was a rising within a limited area and it was confined to a small number of persons. It never endangered the safety of the state, nor did it involve international complications." See also, Sprague, Canada and the Metis.

[18] NAC, Robert Bell Papers, MG 29, B 15, vol. 22-30, Hunt to Bell, 14 April, 1885.

country from a useful and practical standpoint of view is ... almost nil."[19] Simon Dawson also lambasted the Director for his revisions of a report by an officer of the Survey, "The frightful rush of scientific terms in which he has indulged is nothing more than a specimen of the dust raised by the charlatan in a vain endeavour to conceal his own incompetency and lack of knowledge."[20] The campaign against the director was overshadowed in Parliament by events in the west and the fierce debate over the Tories' introduction of Dominion franchise. The passage of the Franchise Bill, considered by the Prime Minister to be his greatest triumph, completed the Tory retrenchment.[21]

The hanging of Louis Riel in November 1885 and the aftermath of the Metis Rebellion dominated the House for the rest of the Session. The position of the Macdonald government appeared precarious at best. The Indian and Colonial Exhibition held in London, England, kept Selwyn and

---

[19] Waiser, The Field Naturalist, 73

[20] De Vecchi, Science and Government in Nineteenth-Century Canada, 202

[21] Gordon Stewart, John A. Macdonald's Greatest Triumph. CHR, 63, (1982), 3-33. In making enfranchisement a Dominion responsibility, Macdonald sought to accomplish what he did not do with the Gerrymander of 1882, the efficient "management" of the electorate. The infrastructure used to determine voter elligibility represented the apex of Macdonald's control of patronage. See also Stewart's Origins of Canadian Politics, 70-71, for a discussion of the importance of the Franchise Act, "a veritable tour de force of patronage deployment" in the development of Canadian political culture.

other officers of the Survey, including John Macoun, out of the country for most of 1886.[22] George Dawson was left to manage the Survey in Ottawa. The Survey was temporarily out of the political arena, but inside tensions still seethed. A visitor to the GSC described the state of affairs:

> What struck me this time more than ever is the extreme jealousy that exists between the different departments and between officers of the same department. Dr. Bell called Selwyn "a pig-headed stubborn old beggar" & the botanist (Macoun's) work useless ...[23]

The personal relations at the Survey were indicative of the general state of the government in the period leading to the election of February, 1887. According to one writer, "No Canadian prime minister has faced the voters under more discouraging circumstances than did Macdonald in 1887 and yet emerged from his ordeal successfully."[24] Hunt articulated his hopes for the coming election in a letter to Bell on 13 January 1887:

> "In case any change is made at Ottawa, I need not repeat what I have said that I do not seek [a] place for myself but shall be only too happy to lend any influence which I may have with the new rulers to bring about such a change as would be most agreeable to yourself and would give you the

---

[22] Waiser, The Field Naturalist, 85. Macoun, Autobiography, 234-246.

[23] Otto Klotz, D.L.S., 17 February, 1886, quoted in Macoun, Autobiography, 322-323, fn. 2.

[24] Beck, Pendulum of Power, 46

> position which of right belongs to you as head of the Survey."[25]

Those who sought the downfall of the Conservatives were foiled. The Liberal Party, having lost its third general election in a row, turned almost by default to Wilfrid Laurier after the resignation of Edward Blake.[26] They would remain in opposition until the middle of the next decade.

The combination of Macdonald's masterful use of the Franchise Act, and the Liberal Party's split over the aftermath of the Riel rebellion, renewed the Tory mandate but did little to rekindle the public's faith in the political process. The election of a number of independent candidates was seen as evidence of public cynicism. According to one writer:

> "It is very generally believed that on one side the dissolution was precipitated by fear of disclosures that there has been lavish use of corruption, in the shape of promises for jobs, is certain; and there has been no small amount of downright bribery. John A. Macdonald purchased the manufacturer's vote, while the opposition purchased the Rielite vote."[27]

The government's handling of the Survey in the period following their re-election in 1887 did little to shake the

---

[25] NAC, Robert Bell Papers, MG 29, B 15, vol. 22-30, Hunt to Bell, 27 January 1887.

[26] Margaret Banks, The Change in Liberal Party Leadership. CHR, 38, (1957), 109-128.

[27] T.A. Haultain Revolt Against Party. Toronto Mail, 17 March, 1887, 247.

impression that patronage was a key to advancement in government. The promotion of John Macoun to the assistant directorship of the Survey was the most glaring example of political favouritism in the late 1880s.

From his appointment to the Survey earlier in the decade, John Macoun managed to alienate his colleagues in the Canadian botanical community while at the same time ingratiating himself with those in positions of power.[28] In an interview with Thomas White, the Minister of the Interior since the summer of 1885, Macoun complained that while his work was recognised outside of the country, he had received little acknowledgement inside the Dominion.[29] On Christmas Eve 1887, Macoun received word of his appointment as "Naturalist to the Geological Survey, and Assistant Director and Botanist, with the rank of Chief Clerk. Mr Burgess, in his letter said that the Hon. Mr. White, the Minister, wished me to accept the position as a Christmas box."[30] Macoun's biographer noted that the promotion, made official by the Governor-General on 27 December, amounted to gross political interference and was "highly questionable."[31] Selwyn, who was not consulted or even officially notified until March, was livid. He was told

---

[28] Waiser, The Field Naturalist, 74-78.

[29] Macoun, Autobiography, 254

[30] Ibid.

[31] Waiser, The Field Naturalist, 82

only after Macoun reminded Burgess of the appointment. Burgess replied, "The fat is now in the fire and I will send a note of notification to Dr. Selwyn today, so that you may have a chance to talk with him."[32] The entire organization of the Survey's natural history activities was disrupted as Macoun was elevated to the same level as his arch-rival Joseph Whiteaves. According to Waiser, "At best, it was an uneasy truce that would continue to plague the internal operations of the Survey for the next twenty years."[33] Selwyn attempted to have Macoun reconsider the appointment but the death of Thomas White ended the debate.

The death of White also halted plans to reorganize the Survey. Selwyn had been working with the Minister for over a year on the proposed reforms which included an increased emphasis on the gathering of mining statistics.[34] Macdonald, who assumed the Interior portfolio until the appointment of Edgar Dewdney in September, 1888, reported to the House in May that while he concurred with the deceased Minister's intention to increase the practical work of the Survey, he did not know "exactly what his plans were."[35]

---

[32] Waiser, Ibid., 86. Macoun, Autobiography, 254-255.

[33] Waiser, The Field Naturalist, 86

[34] NAC, GSC, Director's Letterbook, Rg 45, vol. 81, 197, Selwyn to White, 26 March, 1886.

[35] Waiser, The Field Naturalist, 145

White's death may also have saved Selwyn's job. According to George Dawson:

> As long ago as 1888, Dr. Selwyn's superannuation & my appointment as Director of the Geological Survey were in prospect. Hon. Thomas White, then Minister of the Interior informed me that he had decided upon this & had obtained Sir John Macdonald's consent to it, shortly before his death. I had been in charge of the Geol. Survey for nearly a year during Dr. Selwyn's absence about the Colonial and Indian Exhibition in 1886 ... Although Mr. White intimated the approaching change to me, he apparently hesitated in taking the final step, & a few days afterwards fell ill, & on April, 21, 1888, died. Thus the matter ended for a time.[36]

The director's relationship with the Interior department improved with the appointment of Edgar Dewdney. Selwyn's chief source of irritation within the department was his subordination to A.M. Burgess, the deputy minister.[37] Reorganization of the Survey in the Spring of 1890 eased the situation for Selwyn. He was appointed deputy head and director of a new department within the civil service called the Geological Survey of Canada. The Survey's return to its pre 1877 name indicated the renewed focus on economic exploration.[38] Natural history was to be carried out when it did not interfere with the main object of the exploration.[39] The Survey remained

---

[36] Zaslow, Reading the Rocks, 146

[37] Glenbow Archives, Edgar Dewdney Papers, 836-837. Selwyn to Dewdney, 5 November, 1888.

[38] Zaslow, Reading the Rocks, 144

[39] Waiser, The Field Naturalist, 101

under the supervision of the department of the Interior, but Selwyn increased his own power within the institution. He worked closely with Dewdney while developing the reforms.[40] Conflict of interest guidelines were introduced. According to De Vecchi, the move diminished hopes of turning the GSC into a consulting agency and was the first step toward disinterestedness, the modern scientific ethos of the Survey.[41] Members of the Survey, formerly listed as first, second or third class clerks, were redesignated technical officers. Selwyn's redefinition of the technical staff may have been the result of what amounted to a staff revolt to force the change. According to J.B. Tyrrell:

> "We are just in the midst of a big fight with the Director ... and we now have got a large number of members interested on our side, Dr. Dawson is on our side though not taking any active part in the fight. As to the organisation we are trying to have ourselves reorganised officially as Geologist and not merely as First, Second or Third Class Clerks. Wallace is doing everything he can for us though he is very busy with his Orange Bill. The Director is of course threatening us with dismissal and all such terrors, but we are going to hold strictly to constitutional agitation and then if necessary to defy him, and try to get Dr. Dawson appointed in his place, but of course that will only be as a last recourse."[42]

---

[40] NAC, GSC, Directors Letterbook, RG 45, vol. 84, 124-125. Selwyn to Dewdney, 18 December, 1889.

[41] De Vecchi, Science and Government in Canada, 203

[42] UTL, William Tyrrell Papers, MS 25, B 8, Joseph Tyrrell to William Tyrrell, 7 February 1890.

Through the Survey's reorganization, Selwyn was supported by Dewdney. Their alliance was based on a common interest in the development of the area adjacent to the CPR mainline in the period leading up to the election of 1891. Selwyn focused the attention of his staff on the coal beds of the Estevan-Souris coal district and on well-boring operations in western Manitoba.[43] The latter may indicate a certain self-interest on Selwyn's part as the area under survey was the site of his son's homestead. Selwyn assured William Van Horne that the GSC's work in western Manitoba and the Northwest Territories was "of great importance in connection with CPR interests in Manitoba."[44] The CPR and the GSC shared the cost of the Deloraine well boring project.[45] Dewdney, as Minister of the Interior, was responsible for the economic development of the prairies and for the successful re-election of the Macdonald government. The Conservative party won all but one seat along the CPR mainline in the election of 1891.[46]

While the Tories could not match their success on the prairie in the rest of the country, they managed to prove Wilfrid Laurier correct in his statement that the Liberals

---

[43] Zaslow, Reading the Rocks, 143.

[44] NAC, GSC, Director's Letterbook, Rg 45, vol. 84, 145. Selwyn to Van Horne, 2 January, 1890.

[45] NAC, GSC, Director's Letterbook, RG 45, vol. 85, p. 366, Selwyn to A. Chisholm, 5 May 1891.

[46] Beck, Pendulum of Power, 67-68.

would not win an election while Macdonald was alive.[47] The Prime Minister achieved his goal of winning four consecutive elections, but did not live long enough to steer the party into its mandate. On 6 June, 1891, MacDonald, "the only principle the Conservative party ever had," died.[48] The contribution of Macdonald to the art of patronage was eulogised by his enemies. According to Daniel Wilson, Macdonald was:

> "a clever, most unprincipled party leader [who] had developed a system of political corruption that has demoralised the country. Its evils will long survive him ... nevertheless he had a fascinating power of conciliation, which superadded to his unscrupulous use of political patronage, and systematic bribery in every form, has enabled him to play off province against province and hold his own against every enemy but the invincible last antagonist."[49]

The death of Macdonald marked the beginning of the end for the Conservative dynasty. Without their master conciliator, the Tories could no longer balance the ethnic and religious tensions that they had managed so well in the past. Senator John Abbott was selected as Macdonald's replacement "until such time as the party could bring itself to accept its first Roman Catholic leader."[50] Within weeks

---

[47] J.S. Willison, Sir Wilfrid Laurier and the Liberal Party; A Political History, (Toronto 1903), 171

[48] Waite, Arduous Destiny, 229.

[49] Stewart, The Origins of Canadian Politics, 69

[50] Lovell Clark, The Conservative Party in the 1890's. Canadian Historical Association Papers (Toronto 1961), 62

of the formation of Abbott's ministry, the Standing Committee on Public Accounts of the House of Commons criticised the government for the serious number of scandals in the civil service.[51] In November, Abbott appointed a Royal Commission to investigate the allegations.

One of the most serious problems the Commission found was the use of 'temporary clerks' by government departments to circumvent the exigencies of the Civil Service Act. The 'Inside Service,' those who fell under the Act, was made up of 733 persons of all grades while 370 others were listed as "temporary" and were not subject to its requirements.[52] The Commission made a number of recommendations, including the establishment of a Civil Service Board. In the matter of patronage, the report concluded "it is possible that public sentiment in Canada may not as yet be ripe for open competition generally, and it may not be possible as yet to eliminate altogether the power of politics in making appointments.[53] The government, whose "sense of obligation was satisfied" did not act on the committee's findings and

---

[51] R.M. Dawson, The Civil Service of Canada, (London 1929), 61

[52] Ibid., 65. Members of the Inside Service could be exempt from the examination procedure with the assent of their director. This method was used extensively by Selwyn at the GSC. On June 8, 1890, no less than five officers (Tyrrell, Ami, Giroux, Richard and Barlow) were recommended for the exemption. NAC, GSC, Director's Letterbook, RG 45, vol. 83, 411-417. Memorandum for Council, 8 June, 1890.

[53] Ibid., 66

according to Dawson, "The next fifteen years were the most dreary in civil service history."[54].

Patronage continued unchecked at the GSC. Selwyn wrote to Dewdney, "Mr. Wood, M.P. and a Mr. Taylor have just called on me urging very strongly the employment of Mr. Kermit Cochrane ... he could go as an extra assistant with ... Chalmers. What do you wish me to do with the matter?"[55] The director was able to use his discretion in patronage matters. The 31 May, he refused a request by Hugh John Macdonald for increases to the salaries of officers Louis and Brophy.[56]

Abbott resigned 24 November, 1892. Sir John Thompson, despite his Roman Catholicism, formed a new government two weeks later.[57] Abbott had known that his was a caretaker position, allowing the Conservatives to strengthen their position in parliament after the death of Macdonald and the fallout from the Langevin-McGreevy scandal.[58] Although the

---

[54] The Civil Service in Canada, 67

[55] NAC, GSC, Director's letterbook, RG 45, vol. 86, 471. Selwyn to Dewdney, 12 May 1892

[56] Ibid., 525

[57] Clark, The Conservative Party in the 1890's, 62. Thompson initially refused the Governor-General's call for him to form a government bowing to the "sectarian climate" of the times. A prominent Orangeman, Sam Hughes, articulated his membership's attitude toward Thompson's choice, "many of our best men [felt that ] Sir John is the right man but it is a d___ pity he is a pervert."

[58] Waite, Arduous Destiny, 237-238.

new Prime Minister was a man of unquestionable integrity, the appointment of certain members of his cabinet ensured that decisions at the Survey continued to be influenced by politics.[59] As if to assure himself, Selwyn assured the staff of the Survey that there was "no reason for making any changes at present in management or personnel of the GS Dept."[60]

One such appointment was that of N. Clarke Wallace, Grand Master of the Orange Order, to the position of Controller of Customs. His position in the "ministry"[61] was instrumental to the advancement of Joseph Burr Tyrrell and his younger brother, James, in the twilight years of the Conservative administration. Through his career at the Survey, Joseph counted on the assistance of Wallace in his agitations for advancement, and as such may have gained stature beyond his contribution. The epic journey of the

---

[59] Gillis, Sir John Thompson's Elections.CHR, 37, (1956), 24. Though his cabinet was tainted by the presence of many previous Tory Ministers, Thompson's credentials were as impeccable as anyone in the party, his "exercise of public office was marked by a sense of rectitude scarcely equalled in his own day and excelled perhaps, by no other Prime Minister."

[60] NAC, GSC, Director's Letterbook, Rg 45, vol. 87, 438, Selwyn Memorandum, 27 February, 1893.

[61] Waite, Arduous Destiny, 253. The establishment of the ministry was Thompson's innovation. It allowed unpalatable appointments such as that of Wallace to be made without the acknowledgement that they were official members of the cabinet. For a discussion of the trouble Wallace's intolerance eventually caused the government, see Saywell's The Canadian Journal of Lady Aberdeen, lv.

Tyrrell brothers, immortalised in James Tyrrell's Across the Sub-Arctics of Canada was of little or no scientific value.[62] George Dawson condemned the explorations as grandstanding:

> In regard to your remark about the Survey receiving a large share of credit, you may possibly be aware that the only "credit" heretofore resulting from the considerable popularization of these northern trips has taken the form of grumbling that the Government should send expeditions to such regions when various districts closer to home still remain to be examined.[63]

While contributing little to the pool of scientific knowledge, the adventures of the Tyrrell brothers made them the toast of Ottawa society.[64] Joseph Tyrrell returned to the Barrens the following year with the Governor-General's Aid-de-Camp, Robert Ferguson.[65] While the Earl was

---

[62] Across the Sub-Arctic of Canada, A Journey of 3200 Miles by Canoe and Snowshoe through the Barren Lands (London 1898)

[63] Dawson to James Tyrrell, in Zaslow, Reading the Rocks, 206

[64] John Saywell, ed., The Canadian Journal of Lady Aberdeen, 1893-1898 (Toronto 1960), 63. Within four weeks of the completion of their trip at Norway House, Joseph was treated to a state dinner at Rideau hall.

[65] Saywell, ed., 97-98. This was accomplished through the influence, and financial backing of the Aberdeens. Lady Aberdeen reported in her diary, "His Ex. saw Mr. Daly of the Interior about Bob Ferguson's proposed expedition up to Hudson's Bay with Mr. Tyrrell - there are obstacles to overcome, but probably these will be surmounted if both H.E. & Bob subscribe to the funds ... Bob is very keen on it, & thinks from what he can hear, that H.E. showing an interest will stimulate the development of all that part of the country."

securing his A.D.C.'s position on the second Tyrrell expedition, the Minister of the Interior was calling officers back because of a financial crisis at the Survey.[66] As early as January, 1894, Selwyn had informed his Minister of the impending fiscal impasse.[67] In June, with the Survey in debt $20189.62, he threatened to dispense with the entire temporary staff.[68] By September, the issue of funding at the GSC was still unresolved. With the coaxing of Sir James Grant, the director decided to take a vacation.[69]

---

[66] Waiser, The Field Naturalist, 113. Macoun was called back from the prairies on July 4th.

[67] NAC, Geological Survey of Canada, Rg 45, vol. 88, p. 302. Selwyn to Daly, 17 January 1894. The director reported that his refusal of the recommendation for the appointment of William Murphy by Sir James Grant M.P. was due to the exhaustion of funds. Three weeks later, Selwyn attempted to transfer a dozen temporary employees to the civil list to cope with the problem. (p. 333) By the end of June, the director complained over Daly's interference over the selection of appointees who were laid off. (p. 556) The financial crisis and its effects on the management of appropriations sparked a controversy in the media. See Graeme Mercer Adam, Appropriations and Patronage. Toronto Globe (?), 31 August, 1894, 940-941.

[68] NAC, Geological Survey of Canada, Director's letterbook, RG 45, vol. 88, p. 547, Selwyn to Daly, 21 June, 1894. See also Selwyn to Adams, 22 June, 1894 (p. 553)

[69] NAC, Geological Survey of Canada, Rg 45, vol. 89, p. 63. Selwyn to Daly, 18 September, 1894. The director had not taken a holiday for the entire 25 years of his tenure.

Selwyn waited until the return of his assistant George Dawson from the field before embarking for England.[70] Dawson assumed the directorship on the sixth of October. Within days of his superior's departure, Dawson considered that his position would become permanent.[71] Not to be outdone, Robert Bell secured an interview with Prime Minister Thompson, and was assured that he would be considered when the time came.[72] In November, Dawson laid claim to the position with the Minister of the Interior.[73]

---

[70] Bell had been debarred from the assistant-directorship in 1892. NAC, Orders in Council, RG 2, O.C.P.C. 2637, 30 September, 1892. NAC, Geological Survey of Canada, Director's Letterbook, Rg 45, vol. 89, p. 77-79. Selwyn to Dawson, 3 October, 1894. Selwyn communicated his instructions to his assistant and concluded his letter "with all good wishes."

[71] Zaslow, Reading the Rocks, 146. Dawson wrote in his diary, "Find it well understood that this 'absence' is preliminary to superannuation, and generally understood that I am to be Dr. Selwyn's successor." Zaslow noted that Selwyn place his house on the market prior to his departure.

[72] NAC, Robert Bell papers, MG 29, B 15, vol. 38-9. Memorandum of Conservation with Sir John Thompson, 27 October, 1894. Thompson told Bell that while nothing could be done until the prime Minister returned from Europe, according to Bell, "he twice assured me that my claims would be considered." Bell believed even in later years that Thompson was sincere in his promise. vol. 28-10, Bell to Oliver Mowat, 8 November, 1897. "I feel confident that if Sir John Thompson had lived, the scheme which was so industriously worked against me would never have been consummated."

[73] Zaslow, Reading the Rocks, 148. According to Zaslow, Daly "saw that the necessary papers for Selwyn's superannuation and Dawson's appointment as his successor were prepared in good time for Selwyn to be notified before he sailed back from England.

The matter was unresolved at the time of Thompson's death in mid-December.

A more pressing issue brought about by the Prime Minister's sudden demise was the selection of Thompson's successor.[74] Charles Tupper, the British High Commissioner, and the most likely replacement was rejected outright by the Governor-General.[75] Mackenzie Bowell, an Orangeman described by one of his cabinet colleagues as "old, vain and suspicious to a degree," was called upon to form a government on December 13, 1894.[76]

During the administrative chaos that surrounded the Thompson-Bowell succession, Bell restated his case for the Directorship, this time to the Minister of Railways and Canals, John Haggart.[77] The plea was in vain. Two days later, on 7 January, 1895, an Order in Council was passed recommending the superannuation of Selwyn and the appointment of Dawson as his replacement.[78] Dawson assumed

---

[74] The quandary of the Tories is described by S. Morley Scott, Foster on the Thompson-Bowell Succession. CHR, 48, (1967), 273-276.

[75] Saywell, The Canadian Journal of Lady Aberdeen, 162-166. The rejection of Tupper was not without political motivations.

[76] Scott, Foster on the Thompson-Bowell Succession, 7

[77] Zaslow, Reading the Rocks, 148

[78] NAC, Geological Survey of Canada, Director's Letterbook, Rg 45, vol. 89, p. 371, 7 January, 1895.

the Directorship on 10 January.[79] Selwyn returned from Europe the same day and found Dawson at work in the Director's office. According to the new Director:

> The situation was a little embarrassing both for us and his [Selwyn's] son Percy who was acting as my secretary, but I must say that he took it well, although he had completely forgotten about his request for superannuation ... & thought of himself rather hardly treated, particularly in the matter of want of notice ...[80]

On being informed of the change in leadership, Bell immediately protested to the new Prime Minister about the "terrible injustice" and "on this most undeserved slur."[81] Bowell replied that the superannuation and the appointment had been contemplated for some time but that he was unable to express an opinion on the matter as it occurred "during my confinement to my room."[82] Thomas Daly, the person directly responsible for the appointment, admitted to Bell that he had not considered the situation at the Survey before Dawson's appointment.[83] Peter McRae, who brought Bell's case to Daly was told, "Bell is a damn Grit."[84] The

---

[79] Ibid., 373-374.

[80] Dawson's Private Diary, in Zaslow, Reading the Rocks, 148

[81] Zaslow, Reading the Rocks, 148

[82] NAC, Robert Bell papers, MG 29, B 15, GSC Directors, G.M. Dawson, Mackenzie Bowell to Bell, 12 January, 1895.

[83] NAC, Robert Bell Papers, MG 29, B 15, vol. 33-15, Bell to Clifford Sifton, 15 January 1898.

[84] NAC, Robert Bell Papers, MG 29, B 15, vol. 28-10, Bell to Oliver Mowat, 8 November 1897.

fact that Bell, a life-long Liberal, was frustrated in his attempt to gain control of the Survey during the waning years of the Conservative regime is not surprising. The events surrounding the promotion of George Dawson are indicative of the state of patronage management in the period immediately before the ascendency of the Liberals under Laurier.

The presence of Bowell in the P.M.O, "a little man in a big place,"[85] only exacerbated the inability of the government to cope with the rising tide of ethnic division sparked by the Manitoba Schools question.[86] Within a year, Bowell's lack of leadership led to a cabinet revolt, and in the spring of 1896, to his replacement by Sir Charles Tupper. Both Tupper and his son Charles Hibbert Tupper, the Minister of Justice under Bowell, were in favour of the remedial legislation supporting the preservation of Catholic Schools in Manitoba.[87]

---

[85] Waite, Arduous Destiny, 252

[86] The Manitoba Schools question is considered to be among the most complex issues in Canadian historiography and the recapitulation of the events surrounding it are beyond the economy of this study. See Gilbert Comeault, The Politics of the Manitoba School Question and its Impact on L.P.A. Langevin's Relations with Manitoba's Catholic Minority Groups 1895-1915 (Winnipeg 1977) and Waite, Arduous Destiny, 252-277.

[87] Charles Hibbert Tupper's support for Catholic schools led to his resignation on 21 March, 1895. He became Solicitor-General when his father returned to cabinet in February, 1896. Waite, Arduous Destiny, 256

It was during the debate over the Conservative's handling of the schools question that J.W. Dawson, "the most distinguished scientist and educationist in the Dominion" and the father of the new Director of the GSC, decided to make his support for the Remedial Bill public.[88] According to Robert Bell, "His certificate in favour of Sir Charles Tupper's abortive Manitoba school bill appears to have been the late premier's main reliance, as he announced it in the House simultaneously with the introduction of his bill."[89] Dawson's endorsement of the government plan not only incurred the wrath of the anti-remedialists, but "such support must have been entirely repugnant to his feelings, as it was to the whole history of his previous sentiments and actions."[90] The relationship between the elder Dawson's conversion to the Bill and the appointment of his son to the Directorship was been acknowledged even by the most sympathetic observers.[91]

The younger Dawson did not forget his patronage debt to the Conservative Party. During the election campaign in the

---

[88] Allan Pringle, Sir William Dawson and Separate Schools, The Dominion Review, 1, (1896): 81-85. Dawson expressed his support for the Bill in open letters to Senator Bolton and Sir Charles Tupper.

[89] NAC, Robert Bell Papers, MG 29, B 15, vol. 33-15, Bell to Sifton, 15 January, 1897.

[90] NAC, Robert Bell Papers, MG 29, B 15, vol. 28-10, Bell to Mowat, 8 November, 1897.

[91] Zaslow, Reading the Rocks, 202

spring of 1896, the Director of the Survey dispatched L.L. Brophy to "special duty" campaigning for the Conservatives.[92] The order was carried out with the approval of Tupper "who had no doubt he would be master of the situation after the election." [93] Tupper, of course, did not become master of the situation and Brophy was subsequently sacked.[94] Dawson, whose position was in serious jeopardy in the purge that followed the election of the Liberals, managed to weather the storm.[95]

The increasingly haphazard use of patronage in the period leading to the election of Laurier was indicative of

---

[92] NAC, Robert Bell Papers, MG 29, B 15, vol. 28-10, Bell to Mowat, 8 November, 1897. According to Bell, "In the last general election ... Dr. Dawson showed clearly his political leanings, in-as-much-as he allowed an officer of the Survey who happened to be good at electioneering, to absent himself for days from the office, on the ground of "special duty" entered in the time book, such special duty consisting of canvasing and of speaking at numerous public meetings against the Liberal and in favour of the Conservative candidates in the City of Ottawa and the County of Russell."

[93] NAC, Robert Bell Papers, MG 29, B 15, vol. 28-10, Bell to Mowat, 8 December, 1897.

[94] Zaslow, Reading the Rocks, 202. With the change in government, Brophy knew that his career at the Survey was over and left without protest. The Montreal Witness noted, "To do him justice, he does not squeal, as many other active partisans do when their time comes."

[95] R.M. Dawson, The Civil Service of Canada, 72. Between 13 July 1896 and 9 April 1897, 473 employees of the government were dismissed, removed or superannuated. "Offensive political partisanship" was the explicit reason for termination in 196 cases. The number of people removed from their positions for this reason "increased greatly during the next few years."

the failure of the Conservative Party to produce effective leadership following the death of Macdonald in 1891. Through his tenure as Prime Minister, Macdonald used patronage systematically and effectively to frustrate his opposition and, more importantly, to accomplish his vision of nation building. Through the period 1878 to 1891, the Prime Minister succeeded in dovetailing the work of the Geological Survey with the completion and consolidation of the Canadian Pacific Railway Project and the National Policy. Patronage provided the mechanism for the effective management of the Survey according to the particular needs of the government. Because the GSC was the main scientific body in the Dominion, the exigencies of politics shaped the development of scientific inquiry until beyond the turn of the Century.

The change in government coincided with the end of the depression that had stagnated the development of the west since the beginning of the 1890s. The change in economic conditions provided the Liberal government with the opportunity to apply the techniques of patronage deployment used so effectively in the Macdonald period to accomplish their own development agenda. During the Laurier era, personal patronage continued to be an important tool in the administration of the Survey. George Dawson was not replaced by his Liberal rival, Robert Bell. When Dawson died suddenly in 1901, Bell was appointed to head the Survey

but only on an interim basis. This allowed the government to reorganize the Survey to suit its increasingly ambitious mining agenda. Bell's interim appointment also made it possible to superannuate him without his consent. Patronage continued essentially unchecked until the reforms introduced by the Royal Commission on the Civil Service in 1907.

CHAPTER 5

"FIGHTING OFF THE HUNGRY WOLVES"
THE GEOLOGICAL SURVEY AND THE LAURIER GOVERNMENT

"The distribution of patronage was the most important single function of government."[1]

"Reforms are for oppositions" -Wilfrid Laurier[2]

The Liberal victory in 1896 brought a new party to power but did little to change the standard of political morality in the Dominion. Rather than the beginning of a national metamorphosis,[3] recent approaches to the Laurier period have stressed the continuity between the new regime and the old.[4] In matters of patronage, the Liberal government even refined the techniques used so masterfully by Macdonald. The decentralization of patronage authority was one of the key innovations by the new Liberal government.[5] The principal beneficiary of the diffusion of power was Clifford

---

[1] O.D. Skelton, Life and Letters of Sir Wilfrid Laurier, Volume II (Toronto 1965), 103

[2] Laurier to J.S. Willison, in D.J. Hall, Clifford Sifton, Volume II; The Lonely Eminence 1901-1929, (Vancouver 1985), 86

[3] Robert Craig Brown and Ramsay Cook, Canada 1896-1921, A Nation Transformed (Toronto 1974)

[4] See Jeffrey Simpson, The Spoils of Power, John English, The Decline of Politics: The Conservatives and the Party System, 1901-1920 (Toronto 1977), D.N. Sprague and John Finlay, The Structure of Canadian History, Gordon Stewart, The Origins of Canadian Politics; A Comparative Approach

[5] English, The Decline of Politics, 14

Sifton, the Minister of the Interior. According to Jeffrey Simpson, "No Canadian politician, before or since, ever ruled such a vast geographic territory."[6] During his reign at the Department of the Interior, his control was almost absolute and rarely challenged. His management style was straightforward, "Sifton had a sharp, pragmatic sense of the uses of having his own men in key positions, complimented by a predilection for building up new departments in competition with existing ones."[7] The Minister's relationship with the Geological Survey illustrates his approach to administration. As a patronage plumb, he was able to establish an organisation to rival the GSC within his department. At the same time, he curtailed the Survey's appropriations to the point of strangulation. Only after Sifton left the cabinet in 1905 was the matter resolved.

Although the Department of the Interior under Sifton was "one of the great patronage portfolios,"[8] the Minister began his tenure more preoccupied with downsizing his staff than expanding it. On taking the position in November 1896, "the job-hunters descended upon him, singly, in droves and

---

[6] Spoils of Power, 113

[7] De Vecchi, Science and Government in Nineteenth Century Canada, 355

[8] Hall, Clifford Sifton, Volume I; The Young Napoleon 1861-1900, (Vancouver 1981), 125

in battalions."[9] The beleaguered Minister complained, "The trouble in the North West ... is that the service is so overmanned that I am compelled to occupy myself in dismissing men instead of dispensing patronage."[10] The pruning of Sifton's department was part of a wider purge that took place in the year following the election of 1896. Four hundred and seventy-three civil servants were dismissed, removed or superannuated, of these one hundred and ninety-six were removed for "offensive political partisanship."[11] At the Department of the Interior, the Deputy Minister, A.M. Burgess, and the Superintendent of Indian Affairs, Hayter Reed, were "offered as a propitiatory sacrifice to the new Minister."[12] Joseph Pope observed that the replacement of the two with James Smart, Sifton's crony from Brandon was "bad business and creates great disquietude in the service especially among Deputy Heads. It is felt to be destructive of the feeling of permanence

---

[9] J.W. Dafoe, Clifford Sifton in Relation to his Times, (Toronto 1931), 107

[10] Dafoe, Clifford Sifton, 107

[11] The real number of those fired for political reasons was undoubtedly higher. R.M. Dawson, The Civil Service of Canada, 72. An alternative view, stating that the number of persons sacked for political reasons was only 2% of the estimated 10,000 individuals who were employed by the government, is presented by Hodgetts, The Biography of an Institution, 13.

[12] Hall, The Young Napoleon, 126

and stability which attached to the office in the past."[13] The Prime Minister also felt that the sacking of the Reed and Burgess was excessive. While not personally troubled by the morality of patronage, Laurier was under pressure from the Governor-General to minimise the political bloodletting within the civil service.[14]

During the bureaucratic turmoil following the Liberal victory, Robert Bell renewed his effort to unseat George Dawson from the directorship of the Survey. Within a year of the election, Bell stated his case to Sifton, Laurier and twice to Oliver Mowat.[15] Bell's wife wrote a lengthy and passionate letter to the Prime Minister on her husband's behalf.[16] The blatant political nature of Dawson's appointment and the years of torment that Bell endured under the Conservatives were the basis of his claim. Despite the prevailing atmosphere in the Capital, Bell failed to depose his rival.

Two factors conspired to frustrate Bell's attempt to usurp Dawson's position. First, Sifton's high profile appointment of Smart rocked the political boat. In

---

[13] Ibid.

[14] Saywell, The Canadian Journal of Lady Aberdeen, lxxxi-lxxxiii.

[15] NAC, Robert Bell Papers MG 29, B 15, vol. 33-15, Bell to Sifton, 10 May 1897; vol. 23-86, Bell to Laurier, 29 November 1897; vol. 28-10 Bell to Mowat, 8 November 1897).

[16] NAC, MG 29, B 15, vol. 23-86, Agnes Bell to Laurier, 17 April 1897.

reorganising the "department of circumlocution in which business could not be done,"[17] the Minister focused his attention on reforming the Department of Indian Affairs at the expense of the other organisations under his direction.[18] Sifton was also charged with the enormous task of settling thousands of immigrants on the prairies. The Geological Survey was a low priority.[19] Bell's ambition was also undermined by an event outside the government's control, the discovery of gold in the Yukon.

The flood of people into the Klondike caught the government with its administrative pants down. It required a prompt and effective response. The Yukon gold rush brought with it unprecedented ministerial duties. To Sifton, the problem was:

> To organize a new district, organize a government, think of everything that has to be thought of in connection with the government, take a new country and a new people, with nothing done, and think of everything and provide for everything ... Any such avalanche of responsibility as we have had in connection with the Yukon never was thrust upon a government before.[20]

Only a handful of civil servants had even been to the region and could provide the assistance the Minister required in

---

[17] Dafoe, Clifford Sifton, 133

[18] A discussion of Sifton's revision of Indian affairs appears in D.J. Hall, "Clifford Sifton and Canadian Indian Administration" Prairie Forum, 2, (1977):127-151.

[19] Hall, The Young Napoleon, 127

[20] Hall, The Young Napoleon, 160

meeting the task. William Ogilvie proved to be the most useful of Sifton's lieutenants in the territory. Through the boom of the Klondike gold rush and beyond, he worked closely with the Minister, carrying out Sifton's pledge "to administer the Department of the Interior with a single eye to the development of the country."[21] The Minister's eye was not necessarily on sustained development. He explained to Frank Oliver:

> The Yukon is not the same as any other gold mining country in the world ... and the difference consists in the fact that it is good for nothing except mining, which in all probability will be temporary.[22]

The Klondike remained Sifton's private fiefdom after the passage of the Yukon Territory Act in June 1898. Popular representation on the Territorial Council was withheld. Such a move, according to the Minister, was premature.[23] Ogilvie was promoted to the position of Commissioner, replacing Major J.M. Walsh who had been widely accused of corruption during his brief tenure in office.[24] While Commissioner, Ogilvie was criticised by the Minister for his lack of partisanship, "under our system of Government we cannot appoint our opponents to office, and while you are an

---

[21] Dafoe, Clifford Sifton, 105

[22] Hall, The Young Napoleon, 166

[23] Hall, The Young Napoleon, 191

[24] Hall, The Young Napoleon, 192

Administrator under a party Government you will have to be guided by this rule."[25]

Ogilvie's best friend was George Dawson. In addition to being the GSC's director, Dawson was the institution's resident expert on the Yukon. In 1887, the two men had collaborated on the Yukon-British Columbia boundary survey.[26] Dawson spent an additional three summers in the Yukon before being assigned to the commission investigating the Bering Sea dispute in 1893. According to Dawson's biographer, Ogilvie called the director "the finest man I've ever known."[27] Ogilvie's request to have the city of Dawson named after his friend is evidence of the depth of their friendship. While no love was lost between Sifton and the director of the Survey, the good relations between both men and Ogilvie mitigated the effect of any conflict. In addition to his acknowledged expertise in the far north west, Dawson was quick to adapt to the exploitative role set for the Survey in the Liberal administration.[28]

---

[25] Hall, The Lonely Eminence, 1-3. Sifton's partisan adminstration of the Yukon led the Governor-General to make the following report to Queen Victoria, "My verdict is criminal administration by the Minister of the Interior."

[26] Barkhouse, George Dawson, 126

[27] Barkhouse, George Dawson, 132

[28] Waiser, The Field Naturalist, 133

Though rumours surrounding the director's impending fall proved to be unfounded,[29] the atmosphere at the Survey remained tense. The four month delay in Sifton's appointment stalled the annual appropriation and left the GSC "semi-starved for funds."[30] Contrary to expectations, a wholesale purge of Survey personnel did not take place. Only one officer was sacked for excessive partisanship. Dawson's lone comment on Liberal patronage focused on the Prime Minister's attempt to secure positions for French Canadians who, according to the director, were unqualified.[31]

The feud between director and his arch-rival continued. In May 1897, Dawson assigned a temporary employee, Reginald Brock, to assist Bell on the Wakeham expedition to Hudson Bay. Bell complained to the Minister about the danger of sending such an inexperienced young man with him and "against an attempt at petty office tyranny."[32] For the next few years, Bell's situation continued. He lobbied for a transfer of power at the GSC without success. In January, 1898, Bell restated his case, describing his treatment at the hands of Selwyn and Dawson and pleaded for "a simple and

---

[29] Zaslow, Reading the Rocks, 202

[30] De Vecchi, Science and Government in Nineteenth Century Canada, 354-355.

[31] Zaslow, Reading the Rocks, 202

[32] NAC, MG 29, B 15, vol. 33-15, Bell to Sifton, 13 May 1897.

advantageous way of removing a crying injustice."[33] A follow up letter to the Minister three months later brought the following curt respone, "I have a great deal of difficulty in dealing with the subject which you have brought to my attention, principally from lack of personal knowledge of the questions which are involved."[34] Other Ministers, including Oliver Mowat and David Mills, were more sympathetic to Bell's petitions.[35] Their comforting words did little to change Bell's predicament.

In addition to pleading his own case, Bell worked to undermine the Minister's confidence in Dawson. In May, 1898, Bell charged the director with falsifying a geological map of Nova Scotia.[36] In supporting his father's conclusion about the presence of coal in the province, Dawson ignored or misrepresented twenty years of work by Hugh Fletcher, "a most careful and competent geologist, and one of the best members of the staff." In retaliation, the director successfully overturned Bell's appointment to the

---

[33] NAC, MG 29, B 15, vol. 33-15, Bell to Sifton, 15 January 1898.

[34] NAC, MG 29, B 15, vol. 33-15, Bell to Sifton, 15 April 1898; Sifton to Bell, 16 April 1898.

[35] NAC, MG 29, B 15, vol. 27-50, Bell to Mills, 20 April 1898; vol. 28-10, Bell to Mowat, 23 April 1898. "Acting on your advice, I have seen most of the Ministers about my case and they all seem to be favourably disposed. The great point now appears to get the matter actually before council in time."

[36] NAC, MG 29, B 15, vol. 33-15, Bell to Sifton, 11 May 1898.

Geographic Advisory Board.[37] The omission of Bell, the "father of place names in Canada" (having named over two thousand) from a body responsible for the standardisation of geographical nomenclature was at best a cynical decision.[38] Insult was added to injury when Bell's requests to be assigned to the Yukon in 1899 and 1900 were rejected.[39] He summed up his frustration with his superior:

> He is too authoritative for anything ... Mr. Dawson conceals everything from me, even in regard to my own destination until the last moment and then he speaks to me as if this institution were his own private property.[40]

Bell was not merely seeking to enter the geological limelight by requesting assignment to the Yukon. The resignation of Joseph Tyrrell in January 1899 after an unsuccessful ultimatum for a raise in pay left the Survey with only one officer responsible for the entire territory.[41]

By the spring of 1899, Bell's pleas for the directorship had become an annual event. Having learned

---

[37] NAC, MG 29, B 15, Bell to Sifton, 8 June 1898.

[38] For a discussion of Bell's contribution to the geography of the Dominion, see Douglas Leechman, "The Father of Place Names," Beaver, 286, (1949):24-28.

[39] NAC, MG 29, B 15,vol. 33-15, Bell to Sifton, 24 April 1899. Sifton to Bell, 26 April 1899. Bell to Sifton, 26 February 1900. Sifton to Bell, 19 July 1900.

[40] NAC, MG 29, B 15, vol. 33-15, Bell to Sifton, 8 May 1899.

[41] Eagan, Joseph Burr Tyrrell, 151

from past failures, his submissions took on increasing complexity. In April, he submitted a petition to the Minister of the Interior requesting the expansion of the GSC's mandate in the direction of economic geology.[42] The document contained over forty signatures, including that of William Templeman, the future Minister responsible for the Survey. It recommended the appointment of Bell to the position of "Director of Economic Geology and Surveys."[43]

The call for Bell's advancement fell on deaf ears. The notion that the bureaucracy under Sifton's control be reorganised with a view to the advancement of economic geology however, was already being entertained. The Minister's plan was to expand the role for the Superintendent of Mines, a position in the Ministry of the Interior. William Pearce, who occupied the position, was responsible only for the administration of mining concessions, the enforcement of Dominion mining regulations and the collection of fees. He was to be replaced by a "mining expert," whose expanded duties would include the gathering of mining statistics, the examination of technical processes, and the publication of reports on particular industries and opportunities in mining.[44] The new role for

---

[42] NAC, MG 29, B 15, vol. 33-15, Petition to Sifton, 29 April 1899.

[43] NAC, MG 29, B 15, vol. 33-15. Petition to Sifton, 29 April 1899.

[44] Zaslow, Reading the Rocks, 243

the Superintendent's office would overlap with the function of the Survey's Section of Mines.[45] George Dawson, responsible for the well-being of the GSC, was nervous:

> Suggestion made of the appointment of Mining expert to Dept. of Interior. I do not think this would be a good move in interests of Survey which the Minister has not learned to use in that way, but did not think it advisable to push objections strongly as the project may fall through.[46]

The Director's apprehensions were justified. The mining expert that the Minister had in mind was Dr. Eugene Haanel, Sifton's mentor at Victoria University.[47] The two remained friends after the younger man's graduation. On his appointment to the Interior portfolio, Haanel wrote to his former student:

> The older I grow the more I cling to the early friendships formed with the noble young men of Victoria ... and I always feel that I share in their success and I certainly rejoice in the great work they are accomplishing.[48]

Sifton not only envisioned Haanel as Superintendent of Mines. He consulted with his former instructor on what the position should entail. By the spring of 1900, Haanel had

---

[45] The Section of Mines was established by Selwyn in response to the criticisms of the Hall Commission. Zaslow, Reading the Rocks, 142

[46] Dawson's Private diary, 7 April, 1899, quoted in Zaslow, Reading the Rocks, 243

[47] Hall, The Young Napoleon, 11

[48] Haanel to Sifton, 15 July, 1897, quoted in Zaslow, Reading the Rocks, 244

quietly made arrangements to move to Ottawa.[49] According to Zaslow, the Survey was saved from being supplanted only by George Dawson's "political acumen, powerful connections and fame."[50] Haanel and Sifton would not be forced to wait long to see the fruits of their labour. On March 2nd, 1901 George Dawson died of bronchitis.

The unexpected vacancy of the directorship unleashed a flurry of activity regarding the Survey. Haanel contacted Sifton two days after Dawson's death wondering:

> Whether the sudden removal of Dr. Dawson will not offer an excellent opportunity for reorganizing the Survey on lines more suitable to the needs of your Department and would not the inauguration of the Dept. of Mines come in quite naturally with the institution of a new regime in the Survey office?[51]

The Minister was aware that his plan for the reorganisation of the Survey needed time to mature. Haanel could not simply be installed as head of a revamped Survey. Even Sifton could not have controlled the fallout from the appointment of someone outside the civil service with no practical experience to direct a government department. As a temporary measure, the Minister appointed Bell acting director.[52]

---

[49] Zaslow, Reading the Rocks, 244

[50] Ibid.

[51] Zaslow, Reading the Rocks, 245

[52] NAC, MG 29, B 15, vol. 23-16, Sifton to Bell, 6 March 1901.

With the permanent appointment still in question, the Minister found himself the recipient of some unsolicited advice. A.P. Low, an officer of the Survey and the institution's future director, recommended Frank Adams of McGill University, as "the only man in Canada approaching Dr. Dawson's celebrity."[53] The Canadian Mining Institute, a lobby group established in 1898, dispatched a telegram to the Minister on the 7 March, proclaiming its unanimous support for Adams as Dawson's successor.[54] Sifton told a representative of the Institute:

> There is not very much danger of the appointments in the Geological Survey being settled or seriously influenced by resolutions of this kind, but there is, I think, a good deal of danger of the Mining Institute losing the influence that it legitimately ought to have.[55]

The rift between the Minister and the Mining Institute was temporary. In November, Sifton was made the patron of the organisation for his keen interest in the industry, his department's financial support of the organisation and "the likelihood that there would at no distant date be organized under the administration of his Department an efficiently equipped Department of Mines for the Dominion."[56]

---

[53] Zaslow, Reading the Rocks, 244-245.

[54] Zaslow, Reading the Rocks, 244

[55] NAC, MG 29, B 15, vol. 23-16, Sifton to R. Carr Harris, 14 March 1901.

[56] The Institute received $1,000 of public money in 1900 and 1901. The amount was raised to $3,000 in 1902 and 1903. Zaslow, Reading the Rocks, 247

The Minister was also lobbied from within on the issue of Dawson's replacement. In an attempt to secure the position for himself, Bell sent Sifton a petition signed by the entire staff pledging their allegiance to the acting director.[57] While trying desperately to ingratiate himself with the Minister, the acting director's sense of fair play worked as a thorn in Sifton's side. Six weeks after taking office, Bell wrote to Sifton regarding the handling of information on the Crow's Nest Pass collected by the GSC. Members of the Interior department had been helping themselves to the materials which were eventually locked up by the acting director. Bell pleaded:

> As a mere professional matter it would be a great discouragement to our men to see the credit for their ill paid work appropriated by others who have nothing to do but copy in a few hours the condensed results of a whole season's labours.[58]

Further correspondence from the Minister's office on the Crow's Nest exhibited a higher degree of diffidence to Bell and his staff.[59]

---

[57] NAC, MG 29, B 15, vol. 38-10, Petition to Bell, 13 March 1901. The name of Henry H. Ami "one impossible character" is struck from the list. His removal from the list of Bell's supporters is significant. Ami had tutored Sifton's children and was a personal friend of the Minister. Hall, The Lonely Eminence, 126, 388 n 60.

[58] NAC, MG 29, B 15, vol. 33-16, Bell to Sifton, 17 April 1901.

[59] NAC, MG 29, B 15, vol. 33-16, Sifton to Bell, 10 June 1901.

Sifton began the reform of the Survey in a speech in Parliament on 15 May, 1901. The Minister described how he would return the Survey to the course originally set by the its founder, William Logan, "to make it the practical means of developing the country."[60] Haanel was appointed Superintendent of Mines three weeks later. He entered the civil service at a salary of $3,000 a year, six-hundred dollars a year more than Bell, who had been with the Survey for over forty years.[61] Haanel's first duty was to establish an assay office in Vancouver to head off Klondike gold which until then was sent to the United States for analysis. Before his appointment, Haanel suggested to the Minister that work related to mining be divided between the Geological Survey and the Mines Branch, not suprisingly with the Survey subordinate to the new organisation.[62]

While Sifton and Haanel worked to supplant the position of the Survey within the government, its interim director was doing his utmost to please his political master. Bell's accomplishments during his first four months at the helm of the GSC were impressive. Two volumes of Annual Reports were

---

[60] Hall, The Lonely Eminence, 49

[61] Zaslow, Reading the Rocks, 246-247.

[62] The scheme involved the publication of the Survey's research under the auspices of the Mines Branch. Zaslow, Reading the Rocks, 246

readied for publication.[63] Three new draughtsmen were secured to complete a new geological map of the Dominion, the first since 1863. Thirty field parties were dispatched, more than double the number of the previous year. In addition to the "excellent esprit de corps" within the organisation, Bell reported that "nearly every man who had left the Survey in Dr. Selwyn's and Dr. Dawson's time, except those who are receiving higher salaries, wrote to me offering to come back."[64]

The internal harmony at the Survey was not to last. Bell was under seige from the Mines Branch under Haanel and from the Minister's agitation among the younger officers of the Survey.[65] A year after Bell took office, a group of junior officers brought their grievances to Sifton.[66] The malcontents included officers Barlow, Brock, Daly, Ingall, and McConnell. Their chief demand was the appointment of a head "who is not dominated by the tradition of the past, and who will regard the members of his staff as responsible professional men."[67] Zaslow has recognised that the

---

[63] NAC, MG 29, B 15, vol. 33-16, Bell to Sifton, 25 June 1901.

[64] NAC, MG 29, B 15, vol. 33-16, Bell to Sifton, 25 June 1901.

[65] De Vecchi, Science and Government in Nineteenth Century Canada, 362

[66] Zaslow, Reading the Rocks, 216

[67] Ibid.

animosity of these young turks to their superior was tempered with at least as much personal ambition.[68] Each of the petitioners circumvented Bell's authority through direct relations with Sifton.

In his industry funded work on the Sudbury mining district, A.E. Barlow took orders directly from the Minister, often in outright disobedience of the acting director.[69] The laboratory work on the project was conducted by Donald Locke, a metallurgist hired by Sifton. Locke's appointment was opposed by Bell on the grounds that the Survey had an experienced metallurgist in place. The staff chemist and metallurgist, Dr. G.C. Hoffmann, carried the protest further by barring Locke from his laboratory. For his actions, Hoffmann was suspended and fined by Sifton.[70] In 1904, Barlow travelled to the meetings of the American Mining Congress with Haanel, a sign that Sifton had plans for the young scientist in the reorganised Survey.[71]

---

[68] Ibid.

[69] Zaslow, Reading the Rocks, 217

[70] Locke was not the only metallurgist hired against the will of Hoffmann and Bell. M.F. Connor was hired without Bell's knowledge after Locke's resignation in 1903. After an attempt to dismiss Connor, the acting director received "a ferocious, menacing letter from the minister." Zaslow, Reading the Rocks, 211

[71] Barlow quit the Survey immediately following the reorganisation of 1907. Zaslow suggested that this was the result of his not being promoted. Reading the Rocks, 251

The source of trouble between Bell and R.A. Daly was the younger man's ambiguous position on the International Boundary Commission. Although paid from Survey funds and having an office at the organisation's headquarters, he took leave of his position to teach in California without Bell's approval.[72] When confronted, Daly stated that he had done so with the Minister's permission and that the acting director had no authority over his work.[73] Daly resolved the issue by contacting the Prime Minister and requesting that his investigations be placed under the exclusive direction of the Dominion's Chief Astronomer, W.F. King.[74]

Ministerial interference also soured the relationship between Bell and R.W. Brock. With Sifton's consent, but not that of the acting director, Brock left the Survey for seven months a year to teach at Queen's University.[75] The situation continued for four years without any formal leave of absence. He returned to full-time work at the Survey only after the removal of Bell as acting head.

The relationship between another officer, Henry Ami, and Sifton also served to erode Bell's tenuous position at

---

[72] NAC, Laurier Papers, reel 85, p.96152, Bell to Daly, 27 March 1905.

[73] NAC, Laurier Papers, reel 85, p. 96153, Daly to Bell, 29 March 1905.

[74] NAC, Laurier Papers, reel 85, p. 96154, Daly to Laurier, 3 April 1905.

[75] Zaslow, Reading the Rocks, 217

the GSC. Ami, a close friend of the Minister and french language tutor to the Sifton children, was criticised by Bell for having been absent for 287 working days in the four years prior to 1902.[76] Ami's "fieldwork" in 1901 was also questioned by the interim director. His expense claims revealed that his investigations at Murray Bay coincided with the height of the social season. His studies of Quebec and Montreal took place at the same time as royal visits to those localities.[77] A fierce technical debate between Ami and Bell, and Hugh Fletcher in 1903 was widely circulated in the press and forced the attention of the Prime Minister.[78] Ami later pleaded with Laurier, "My dear Sir Wilfrid, for God's sake, if for no other reason, do give us another Director for this Department."[79]

The reorganisation issue continued to plague the GSC. Just days after the submission of the junior officers to Sifton, the topic was discussed at the annual meeting of the Canadian Mining Institute.[80] Opponents of the present system, Haanel and B.T.A. Bell, the proprietor of the

---

[76] Ibid.

[77] Ibid.

[78] De Vecchi, Science and Government in Nineteenth Century Canada, 357

[79] Ami to Laurier, 5 February, 1906, quoted in Zaslow, Reading the Rocks, 218

[80] An extensive discussion of the convention appears in, Zaslow, Reading the Rocks, 247-249.

Canadian Mining Review, called for the establishment of a Department of Mines entirely separate from the Survey. Supporters of the GSC, led by Robert Bell and F.D. Adams, called for a new organisation that combined the Geological Survey and Mines portfolios.[81] After a heated debate, a resolution supporting the integration of the two institutions was presented to Sifton.[82] The Canadian Mining Review published an article supporting Haanel's bid for the directorship of the proposed Department of Mines and Geology (Fig. 1).[83]

The controversy surrounding the reform of the GSC was more than a popularity contest between Robert Bell and Haanel. While publically stressing the economic side to the Survey's work, the acting director sought a compromise between the GSC's role in the development of economic geology and its less popular scientific investigations. As head of the Survey, Bell was committed to the exploration of the country as a whole, including areas of little economic potential:

> One of the principal duties of the Geological Survey is to produce as complete a geological map of the Dominion as possible, as large areas still require to be explored for this purpose, a certain

---

[81] Zaslow, Reading the Rocks, 249

[82] Ibid.

[83] Canadian Mining Review, 21, (1902): 73-76.

> amount of energy must be given to this branch of our duties.[84]

Bell's interest in the mapping of the country, along with the gathering of biological and ethnological specimens for the museum was entirely within the frame of reference set for the GSC in 1877 and affirmed in the Survey Act of 1890.[85] The reforms stressed by Haanel and his supporters would have turned the institution into a consulting firm for the mining industry under the direction of the Minister of the Interior.

During the controversy over the future of the Survey, Bell continued to press to have his appointment made permanent. In May, 1902, the acting director reminded Sifton that the amount of $3,200 had been voted for the director's salary and that the amount would lapse if action was not taken quickly.[86] Sifton replied that the request had been brought before the Treasury Board twice and rejected.[87] A month later, the Minister conditionally offered Bell the prize he had coveted for so long.[88] He

---

[84] GSC Summary Report, 1905, quoted in Zaslow, Reading the Rocks, 152

[85] Ibid.

[86] NAC, MG 29, B 15, vol. 33-16, Bell to Sifton, 6 May 1902. Bell to Sifton, 26 May 1902.

[87] NAC, MG 29, B 15, vol. 33-16, Sifton to Bell, 17 June 1902.

[88] NAC, MG 29, B 15, vol. 33-16, Sifton to Bell, 17 July 1902.

was offered immediate promotion provided that he agree to submit his resignation on the 1st July, 1903, "and accept such provisions as may be made."[89] The Minister hinted that Bell would be offered the curatorship of the museum after his withdrawal from the directorship. Sifton's rationale for the condition attached to the offer was that the Survey was to be reorganised "with the primary view of making the economical features of the work more prominent" and that he "should have an absolutely free hand" to accomplish the task.[90] Bell declined the appointment and carried on as acting director. His decision was backed by a significant portion of the Survey staff, including Hugh Fletcher who urged him to "stick on for the sake of all of us who do not wish to have Dr. H. recommended for the position of successor to Logan, Selwyn and Dawson by B.T.A. Bell and his confederates."[91]

Sifton introduced the long-awaited reforms to the Survey in parliament during the debate on the GSC's estimates in July, 1903. The Survey under Bell was "more purely scientific and largely topographic" than the Minister considered desirable.[92] His goal was the creation of a

---

[89] Ibid.

[90] Ibid.

[91] Fletcher to Bell, 10 November, 1902, quoted in Zaslow, Reading the Rocks, 249

[92] De Vecchi, Science and Government in Nineteenth Century Canada, 359

department of applied science, to be used by the government for the economic development of the country. The annual budget of the Survey was to be cut $10,000 to $60,000, according to Sifton, "in pursuance of an arrangement that I will explain later on for the purpose of doing the work more especially connected with mining."[93] The Minister suggested that the separation of work directly related to mining from the regular duties of the Survey might facilitate the permanent appointment of Bell.[94]

The legislation creating the Mines Branch of the Department of the Interior was introduced by the Prime Minister on 12 October, 1902.[95] The amount removed from the GSC appropriation was to be provided for the new body whose mandate would be "the collection and publication of data regarding the economic minerals of the country, and of the processes and activities connected with their utilization."[96] Laurier revealed his ignorance of the situation by stating, "I think it is to be an annex of the Geological Department."[97] The opposition pounced on Laurier charging that the appropriation amounted to the

---

[93] Zaslow, Reading the Rocks, 249

[94] Ibid.

[95] Sifton was in England so the Prime Minister introduced the legislation from notes prepared by the Minister of the Interior. Zaslow, Reading the Rocks, 250

[96] Zaslow, Reading the Rocks, 250

[97] Ibid.

creation of a new branch of government and demanded an explanation for the extraordinary conduct of the government.[98] The Prime Minister's responded lamely, he "actually claimed that this was the government's preference since the branch was an experiment."[99]

The Mines Branch posed a tangible threat to the Survey, particularly to its Section of Mines. According to Sifton's biographer, "two competing bureaucratic complexes were created with overlapping jurisdiction, resulting in unnecessary hostility and some duplication of work."[100] The creation of rival bureaucracies was not however, what Sifton had envisioned. In fact, it represented a failure on the part of the Minister and his candidate, Haanel, to displace the position of the GSC within the civil service.[101] Sifton's resignation in 1905 opened Haanel's organisation to criticism. The opposition charged the Mines Branch with squandering its appropriation on lavish publications at the expense of substantive investigations. It was also accused of being established for political ends, to accommodate "a political pet of the minister."[102]

---

[98] Ibid.

[99] Ibid.

[100] Hall, The Lonely Eminence, 50

[101] Zaslow, Reading the Rocks, 254

[102] Ibid.

Bell maintained his hold on the Survey and, despite the enormous pressures on him, was remarkably successful in his leadership of the Survey. Unable to make permanent appointments to the staff because of meagre appropriations, the interim director met his ambitious fieldwork goals and increased the professional standards of investigations by hiring a number of academics for the summer months.[103] He increased the funds available to the institution by securing small sums from the Minister for specific projects. His most significant innovation was in providing greater intellectual freedom to his subordinates. Officers were allowed to publish their reports in their own words, under their own names and were given greater leeway in the discussion of their findings.[104] Bell's support for the professional abilities of his subordinates proved to be his downfall.

The beginning of the end for Bell came in the spring of 1904. In March, he allowed the publication of a report on the Peace River country by James Macoun that was anything but optimistic about the development potential of the area. Macoun concluded:

> While the country that has been described should, in the opinion of the writer, not be settled by either the rancher or the grower of wheat until there is more satisfactory evidence that it is suited for either of these pursuits, it may be

---

[103] Zaslow, Reading the Rocks, 214-215.

[104] Zaslow, Reading the Rocks, 211

> safely prophisied (sic) that after the railways have been built there will only be a small part of it that will not afford homes for hardy northern people who never having had much will be satisfied with very little. It is emphatically a poor man's country... [105]

The problem for Macoun and Bell was that the government's heavy investment in the new transcontinental railway was predicated in part on the ability of the Peace River country to accommodate new immigrants. The findings of the report were the antithesis of what was required to legitimise the scheme. Sifton demanded a copy of Bell's instructions to Macoun and ordered that no field parties be dispatched without ministerial approval.[106] The acting director responded that the orders had been given orally and reminded the Minister of the difficulties which would arise if settlers were brought to the area under false pretences.[107] Sifton did not dispute the truth of the report, "though possibly accurate in details [it] conveys an entirely erroneous general impression and can be made use of to the detriment of Canada."[108] The damage had already been done.

---

[105] J.M. Macoun, Report on the Peace River Region (Ottawa 1904), 40, quoted in Waiser, The Field Naturalist, 155

[106] Waiser, The Field Naturalist, 155. Bell was already in trouble with the Minister for not conferring with him on Survey matters. When Bell sided with the survey's metallurgist in a dispute with Sifton's appointee, M.F. Connor, the acting director was severely criticised by the Minister. Zaslow, Reading the Rocks, 211

[107] Waiser, The Field Naturalist, 155

[108] Ibid.

Sifton's warning came the same day that the matter went before the public.

The forum for debate over Macoun's report was the Commons Committee on Agriculture and Colonization. The most vocal critic of the report was Frank Oliver, the Independent Liberal member for Alberta. Prior to the release of the pamphlet, Oliver had attempted to secure improvements for the trail from Edmonton to Peace River to ease construction of the railway and to open the trade of the area to Edmonton.[109] He was a loose canon and often criticised the government for its management of the northwest. Oliver's strength in his riding forced Sifton's grudging support.[110]

James Macoun was brought before the Committee nine times. His father testified and raised doubts about his son's conclusions and stated, "[M]y son is of age, I am not answerable for him, and if you do not agree with him, heckle him all you can."[111] Oliver confronted the younger Macoun during the hearings and through his newspaper, charging that the officer "was in the pocket of the Conservatives."[112] Macoun was anything but a political hack. The author of the

---

[109] As the proprietor of the Edmonton Daily Bulletin, Oliver expected to profit from the rapid development of the area. Waiser, The Field Naturalist, 157

[110] Ibid.

[111] Waiser, The Field Naturalist, 156

[112] Ibid., 159

report jokingly referred to himself as a "rabid socialist" and agitated for civil service reform.[113] During his twenty years with the Survey, the younger Macoun had been in a similar situation. In the late 1880s, his report to the Select Committee on the Great Mackenzie Basin was muzzled at the request of J.C. Shultz and Premier Greenway of Manitoba.[114] Resigned to the fact that the publication of the Peace River report would probably end his career at the GSC, "he did not care what he said to whom."[115] Oliver's questioning of Macoun was extremely aggressive and the two nearly came to blows more than once.[116] After the hearings, the Alberta member expressed his view of the situation, "I said that James Macoun deserved horse-whipping, and I say so still."[117]

Sifton was as busy trying to control damage from Oliver's conduct at the hearings as from the report itself. By the end of April, he ordered Bell to shelve the controversial document.[118] The Minister had to explain his

---

[113] Waiser, The Filed Naturalist, 106-107, 63.

[114] Waiser, The Field Naturalist, 153

[115] Ibid.

[116] Ibid., 159-160.

[117] Waiser, The Field Naturalist, 162

[118] Waiser, The Field Naturalist, 160

own conduct in the affair before the House.[119] Macoun had not been fired though Oliver, a member of the government, had accused him of incompetence. Both Sifton and the Prime Minister were forced to dismiss the entire affair, stating that Macoun was a good man but had committed an error in judgement.[120] The report of the Committee concurred. Macoun was condemned for his hasty conclusions and the report was ordered out of circulation until the potential of the area could be reevaluated.[121] Waiser described the significance of the Committee's judgement:

> [It] vividly demonstrated that science was to be the servant of national development - the key that would unlock the resource wealth of Canada. Positive assessments of the country's potential were preferred, no matter how limited the data nor how bold the generalizations. Negative reports, despite being comparable to other assessments in terms of method and observation period, were frowned upon.[122]

Macoun emerged from the controversy virtually unscathed. An opposition member of the Committee even suggested that his fortitude in the face of Oliver's abuse merited a promotion.[123] The acting director did not share

---

[119] Criticism of Sifton's interference with the report took place in the context of a shift in public acceptance away from partisan interference. The trend is discussed in English, The Decline of Politics, 29

[120] Waiser, The Field Naturalist, 161

[121] Waiser, The Field Naturalist, 162

[122] The Field Naturalist, 162

[123] Waiser, The Field Naturalist, 163

in Macoun's good fortune. Bell was made the scapegoat for his failure to muzzle his staff. The intellectual freedom he granted James Macoun was construed as mismanagement. Sifton voiced his opinion of the acting director , "I do not think that he is a good man for the position and would not recommend him."[124] The Minister's opinion was echoed by Laurier in January, 1905:

> La position du Docteur Bell en departement de geologie est en effect tres delicate, ... malheureusement, il parait manquer d'une qualite indispensable pour cette position, c'est a dire que s'il connait tres bien notre planete, il connait mal ceux qui l'habitent. Il n'a pas du tous l'art de gouverner son departement.[125]

The acting director's fate fell temporarily into the hands of the Prime Minister after the resignation of Sifton on 28 February, 1905.[126] Bell's relationship with Laurier during his brief tenure as Acting Minister of the Interior further weakened his chances of being appointed to the directorship. The Prime Minister sided with R.A. Daly in the dispute over his supervision with Bell. The interim director did not comply with Laurier's requests for patronage appointments to the temporary staff of the GSC. In March, he refused to appoint C.F. King to a survey party

---

[124] Waiser, The Field Naturalist, 164

[125] Laurier to J.C.K. Laflamme, 27 January, 1905, quoted in De Vecchi, Science and Government in Nineteenth Century Canada, 358

[126] For a complete discussion of Sifton's departure from cabinet, see Hall, The Lonely Emminnence, "Resignation" 162-182.

at twice the going rate of pay.[127] Bell stated that his attempts to secure salary increases for deserving officers had been unsuccessful and:

> If I had not a public duty to perform, it would be pleasant to agree to Mr. King's desire, especially as he was sent here by our friend, the Hon. James Sutherland, but if the proposal is to be carried out, I would prefer that someone else had the responsibility of doing it.[128]

Bell's situation worsened with the naming of Frank Oliver to the Interior portfolio on 8 April, 1905. The new Minister had a debt to settle with the acting director over the Macoun affair. Oliver had been publically humiliated at the hearings. His behaviour brought him ridicule from the opposition and a gag order from his Liberal superiors.[129] He had been an enemy of the Survey even before the Peace River controversy. During the Dawson administration, Oliver made erroneous charges about the organisation's drilling program in northern Alberta.[130] He did not act immediately on the issue of Bell's replacement, however. His primary concern on taking office was closing Sifton's open door immigration policy.[131]

---

[127] NAC, MG 29, B 15, vol. 23-86, Laurier to Bell, 16 March 1905.

[128] NAC, MG 29, B 15, vol. 23-86, Bell to Laurier, 29 March 1905.

[129] Waiser, The Field Naturalist, 161

[130] Zaslow, Reading the Rocks, 255

[131] Brown and Cook, Canada 1896-1921: A Nation Transformed, , 68

While the new Minister consolidated his hold on the Interior Department, Bell tried to rally support for his cause. In June, 1905, Bell requested Oliver's assistance in securing the directorship.[132] Robert Borden supported the gazetting of Bell, noting the he should have been replaced long ago had his performance been unsatisfactory.[133] Buoyed by the comments of the opposition leader and the Minister's promise that his case would be heard, Bell contacted Laurier about his frustrating position:

> Mr. Oliver informed me today that there is much other standing business for consideration, but this need not cause me to be ignored. You are the only man who can allow this matter to be brought before council ... Sir, the torture I am suffering owing to this long continued suspense is awful.[134]

Bell stressed the importance of his work in progress, a compilation of Canadian geology and the preparation of an updated geological map of the Dominion, without which, "the knowledge that the public might have will be will be thrown back half a century, and this is a more serious matter in a progressive age than the mere expenditure which could be required to do the work over again."[135]

---

[132] NAC, MG 29, B 15, vol. 28-86, Bell to Oliver, 20 June 1905.

[133] Waiser, The Field Naturalist, 166

[134] NAC, MG 29, B 15, vol. 23-86, Bell to Laurier, 22 July 1905.

[135] Ibid.

The plight of the acting director attracted the attention of the media. In August, the Ottawa Citizen printed an article supporting Bell's claim on the directorship.[136] The bureaucratic stalemate between the Geological Survey and the Mines Branch, another source of anguish for the interim director, was addressed by The Canadian Mining Review.[137] The periodical had not been sympathetic to Bell in the past and the article did not focus specifically on his precarious situation. Instead, it called for a complete overhaul of the government's relationship with the mining industry. The competing bureaucracies should be integrated into a newly created Department of Mines based on the model of the Geological Survey of the United States.[138] The chief feature of the American Survey was its non-political nature:

> The members of the staff are not mere proteges of influential politicians, and are not, therefore appointed regardless of special fitness or talent, but, instead, are required to pass qualifying examinations by which their abilities are very searchingly put to the test.[139]

The article criticised the political interference at the GSC, stating that the hands of the director were tied by the

---

[136] "Dr. Bell's Case: An Embarrassing Moment for an Eminent Scientist" 14 August, 1905.

[137] "A National Department of Mines" 9 August, 1905, 5-7.

[138] "A National Department of Mines" 6

[139] Ibid.

Civil Service Act, "to such an extent that he has practically nothing to say in the appointment of his assistants, nor can he dispense with the services of useless individuals."[140] It reported that William Templeman of British Columbia would be the Minister of the new department. While advocating reforms, the Mining Review reinforced the notion of what the integrated department should not be:

> Created merely as a department for the conduct of scientific investigation, but it is, first and foremost, a governmental bureau intended to benefit the general public, not necessarily the scientific public; but to be regarded as machinery provided by government to aid in the economic development of the country.[141]

It would be another two years before the creation of the Department of Mines. The question of the Survey's directorship though, was settled in early 1906.

Five fruitless years of trying to secure his permanent appointment took its toll on Bell. In February, 1906, he summarised his term as acting head:

> Owing to the fact that the Directorship of the Survey has been hung up for five years in the sight of all office seekers in the Dominion, and the number of aspirants has gone on increasing and with this increase, a corresponding increased misrepresentation of myself in order to create a vacancy for one of these aspirants to fill, fully half my time is taken up in counteracting and

---

[140] "A National Department of Mines" 6

[141] Ibid.

> fighting off the hungry wolves who are jumping for the prize.[142]

Despite his frustration, the interim director continued to press his case. As late as three weeks before he was deposed, Bell was optimistic about his eventual appointment.[143] In March, the Minister of the Interior wrote to Laurier stating that while Bell was a scientist of the highest standing, "he does not possess that administrative ability which is necessary in order that good work may be secured from the work of subordinates."[144] On 27 March, an Order in Council removed Bell as acting head of the Survey.[145] His replacement was Albert Peter Low, an unremarkable scientist who happened to be married to the daughter of a Liberal political boss.[146]

Low's appointment signalled that the Survey's economic function would be developed at the expense of its scientific duties. Low wrote to Oliver, "allow me to express my desire and hope that I may fill the office ... for the mining

---

[142] Bell to F.D. Adams, 2 February, 1906, quoted in Zaslow, Reading the Rocks, 245

[143] Zaslow, Reading the Rocks, 215

[144] Oliver to Laurier, 13 March, 1906, quoted in Waiser, The Field Naturalist, 167. Zaslow, Reading the Rocks, 218

[145] NAC, Orders in Council, RG 2, vol. 905, O.C.P.C. 512, 27 March 1906.

[146] Zaslow, Reading the Rocks, 287

interests of the Dominion."[147] Although his connection with the Survey dated back almost twenty years, Low was named to the directorship only three years after returning to the organisation from the private sector. While away from the Survey, he worked for an American mining company investigating iron ore deposits in Hudson Bay.

Before the change in leadership, Low's relationship with Bell was cordial, even friendly. Bell assisted Low's commercial investigations with loans of Survey equipment.[148] Low returned to the Survey on Bell's recommendation.[149] During the Neptune expedition to the Arctic in 1903, Low even collected bird eggs for the acting director's son.[150] After he took office, Low's relations with Bell changed suddenly and drastically.

On receiving notice of his appointment, Low drove Bell from the office he had occupied for six years with only an hour's notice.[151] In addition to trying to have his predecessor's telephone removed, the new director slashed

---

[147] Low to Sifton, 31 March, 1906, quoted in Waiser, The Field Naturalist, 171

[148] NAC, MG 29, B 15, vol. 24-56. Bell to Low, 9 May 1901.

[149] NAC, MG 29, B 15, vol. 33-17. Bell to Sifton, 6 February 1903.

[150] NAC, MG 29, B 15, vol. 24-56, Low to Bell, 10 December 1903.

[151] NAC, MG 29, B 15, vol. 38-8. GSC Directors, Dr. Robert Bell, Acting Director, unsigned, undated note.

large portions of Bell's summary report and ordered the former leader of the Survey not to publish anything without the younger man's permission.[152] Bell's expenses to England to receive the King's Gold Medal of the Royal Geographical Society were denied.[153] On returning from the field, Bell, who had been with the Survey since before Confederation, was given a list of instructions which included:

> (9) Attention is drawn to the Official Office hours of attendance which are from 9.30 a.m., to 4.30 p.m.
> (10) Visits for the purposes of consultation and discussion between officers should be confined to the hours before 10 a.m., and after 4 p.m.[154]

By the end of the year, their relationship deteriorated even more. When Bell would not relinquish the record of his correspondence as acting director, Low threatened "to take the necessary measures to compel their delivery."[155]

When he was not terrorising his former boss, Low worked with Oliver on the establishment of the new Department of Mines. An Order in Council placing the Survey under the

---

[152] Ibid.

[153] NAC, MG 29, B 15, vol. 28-86. Bell to Oliver, 25 April 1906. Low to Oliver, 30 May 1906. Henry Ami was provided with funds to travel to England to receive the Bigsby Medal in 1903. NAC, MG 29, B 15, vol. 33-17. Sifton to Bell, 5 February 1903.

[154] NAC, MG 29, B 15, vol. 24-56, Low to Bell, 5 October 1906.

[155] NAC, MG 29, B 15, vol. 38-13, Low to Bell, 18 December 1906.

control of the Department of Inland Revenue was passed in July, 1906, but the legislation completing the transfer was not introduced in the House until the following spring.[156] The delay has been attributed to a physical breakdown on the part of the new director. Low was suffering from the first stages of cerebral meningitis; a condition which eventually debilitated him.[157] William Templeman, the first Minister of the new department, steered the bill through Parliament.[158] On 27 April, 1907, the Mines Act was passed, transferring the Dominion's geological services from the Department of the Interior to the Department of Inland Revenue.[159] The new body encompassed both the Geological Survey and the Mines Branch. Low was promoted to the position of Deputy Minister and was given the task of coordinating the work of the newly integrated bureaucracies. The amalgamation relieved the Geological Survey of its purely economic duties and allowed it to pursue more scientific goals. As Waiser observed, "the Laurier government had learned a lesson from the Peace River controversy."[160]

---

[156] NAC, RG 2, vol. 913, 20 July 1906.

[157] Waiser, The Field Naturalist, 175. Low may have been afflicted with an unnamed social disease. Zaslow, Reading the Rocks, 263

[158] Zaslow, Reading the Rocks, 256

[159] Zaslow, Reading the Rocks, 256

[160] Waiser, The Field Naturalist, 173. See also Zaslow, Reading the Rocks, 258-259.

Low's appointment was not without criticism. His brief tenure at the GSC and his worsening condition were the chief complaints.[161] Not suprisingly, the former acting director was his most vocal critic. Days before the passage of the Mines Act, Bell expressed his sentiments to his former adversary, Clifford Sifton:

> With the exception of political pull (from having married the daughter of the principal boss in Liberal politics here) Mr. Low has no known qualifications above hundreds of others, either in education, special knowledge, administrative ability, temper, disposition, or anything else. He has just gotten over the first stages of a serious brain disease and it is still uncertain that he will recover his mental faculties. There is no reason but politics why we should have all, or his choice of all that is going. The Survey will very soon be ruined, if this be allowed.[162]

That Bell complained to his former adversary about political meddling in the affairs of the Survey is significant. Removed from the patronage well, Sifton became a leading crusader against the evils of partisan politics.[163] By the spring of 1907, calls for the reform of patronage practices in the civil service had the government under seige (Fig. 2).[164] Laurier took evasive measures to check the rising

---

[161] Zaslow, Reading the Rocks, 256

[162] NAC, MG 29, B 15, vol. 33-17, Bell to Sifton, 24 April 1907.

[163] Simpson, Spoils of Power, 118

[164] Beck, Pendulum of Power, 109-113. Hodgetts, et. al., The Biography of an Institution, 19. Simpson, Spoils of Power, 98-99. J.S. Willison, "The Political Patronage Evil" The Week, 27 January 1907, 14-15.


Helping a Deserving Friend into the Civil Service

SOURCE: The Canadian Courier, 26 January,1907



fig. 2

tide of criticism. He appointed a Royal Commission. The establishment of the Civil Service Commission did not signal commitment to substantive reform on the part of the Liberal government.[165]

The report of the Royal Commission was a scathing indictment of the inadequacies of the Civil Service Act of 1882 and of the partisan nature of the government's handling of the Dominion bureaucracy.[166] With an election looming and the Tories preaching the reform gospel, Laurier had no choice but to introduce new legislation based on the recommendations of the Commission. Central to the reforms of the Civil Service Amendment Act of 1908 was the elimination of patronage through the creation of a permanent and independent Civil Service Commission.[167] While the new legislation did not put an end to political meddling in the public service, the Act qualitatively changed the relationship between civil servants to their employer.[168]

The war against patronage was not yet won at the GSC. After the passage of the Mines Act, Low's medical condition

---

[165] R.M. Dawson, The Civil Service of Canada, 74

[166] For a complete discussion of the Commission's findings, see R.M. Dawson, The Civil Service in Canada, 74-78. See also, Hodgetts, The Biography of an Institution, 19, 25-33; Stewart, The Origins of Canadian Politics, 77, 93; Simpson, Spoils of Power, 118

[167] Hodgetts, The Biography of an Institution, 27

[168] Hodgetts, The Biography of an Institution, "An Organization is Born," 3-23.

deteriorated to the point that he was relieved of his duties. R.W. Brock was named acting director on 1 December, 1907.[169] Exactly one year later, he was elevated to the permanent directorship. Bell's superannuation took effect one day before the thirty-four year old scientist was handed formal control of the Survey.[170] Brock had considerable political clout within the Liberal Party. His wife was the daughter of the Liberal member for Kingston and the granddaughter of Luther Holton, a Liberal stalwart from the Confederation period.[171] Brock's connections combined with his own political views to endear himself and the Survey to Laurier government:

> He fought resolutely to keep politics out of the Survey's affairs, but his ties and sympathies with the government of the day only strengthened his relations with the Laurier administration, and may have helped overcome the unfavourable impression of the Survey that some ministers might have held previously.[172]

According to Zaslow, the appointment of Brock heralded for the GSC, "a renaissance and affirmation of its best scholarly, scientific traditions."[173]

---

[169] Waiser, The Field Naturalist. 175-176.

[170] A complete account of the trouble between Bell and Brock is presented in Zaslow, Reading the Rocks, 287-289.

[171] Ibid,

[172] Zaslow, Reading the Rocks, 264

[173] Zaslow, Reading the Rocks, 285

The passage of the Mines Act in 1907 provided a clear role for the Geological Survey within the Dominion bureaucracy. No longer saddled with the responsibility for the economic development of the country, scientific inquiry at the Survey flourished. During Brock's term, the Victoria Memorial Museum was established. Professional anthropology was introduced as well as the new science of biology. The renaissance at the Survey coincided with the end of direct political interference in the Civil Service. While patronage was not eliminated completely from government, the Civil Service Commission provided government employees with a measure of security against the meddling of elected officials. By the end of Brock's tenure in 1914, the Survey was a fundamentally different organisation than it had been when he assumed the position.

# CHAPTER 6

# CONCLUSION

In the four decades after Confederation, the scientific mandate of the Geological Survey of Canada was fundamentally distorted by its relationship to the Dominion government. The GSC was a political tool until after the turn of the century, fulfilling the agenda of the party in power by basing its research on political rather than scientific considerations and by serving as a receptacle for patronage appointments. As members of the Dominion bureaucracy, officers of the Survey were expected to place the will of their political masters above the rigours of scientific method. Appointments and promotions were dictated not by scientific ability but by their political value. Until the reorganization of the Survey in 1907 and the implementation of a viable Civil Service Act a year later, the GSC had no legislative protection against political interference from the party in power. Before the introduction of the reforms, politicians were as likely to meddle in the affairs of its most important scientific organisation as those of the Post Office or the Department of Fisheries.

Between 1868 and 1908, appointments to the directorship of the institution were based on political considerations at the expense of scientific attainment or seniority. From Selwyn to Brock, directors were chosen because they could be counted on to pursue the agenda of the governing party. The

smooth interaction between the institution and the government was the key to success in the position. Alfred Selwyn managed to weather the inumerable crises during his tenure not because he was an accomplished scientist or an efficient administrator but because he accommodated the dual role of the Survey, balancing the organisation's scientific purpose with its role as an appendage of government. When the Tories found it expedient to replace Selwyn with George Dawson during the Manitoba school crisis, it did so without hesitation or even notification. William Dawson's support for the Conservative education legislation bought his son the directorship of the largest scientific agency in the country. Albert Low and Reginald Brock both owed their appointments to the party connections of their wives and their flexibility in conforming to the economic and political requirements of the Laurier administration. To his credit, Brock overcame the circumstances of his promotion and took the Survey to new heights of professional scientific attainment. His ability to raise the organisation above the mire of party politics would not have been possible without the reforms of 1907 and 1908 which distanced the institution from direct political manipulation.

Political considerations were not limited to appointments to the directorship. The falsification of data by John Macoun was not only accepted but rewarded by the

Macdonald government because of its utility to the Canadian Pacific Railway Project. Joseph Tyrrell was allowed to indulge in geographical grandstanding in his expeditions to the Barren Lands because of the influence of his father, a Conservative Party lawyer, and his patron in Ottawa, the notorious Orangeman, Nathaniel Clark Wallace. Though he became a leader of the scientific community in the Dominion, George Dawson owed his meteoric rise at the GSC to his father's reputation and influence.

The tortured career of Robert Bell was an example of the difficulties which even a renowned scientist had to endure without the requisite political connections. A life-long Liberal sympathetic to the ideas of the Canada First movement, Bell was repeatedly frustrated in his quest for recognition during Selwyn's term as director. His attempts to supplant George Dawson after the ascent of the Liberals were predicated as much on his fidelity to the party that had been so long in opposition as on his scientific achievements.

The failure of Bell to secure a permanent appointment during the Laurier period did not indicate that political influence at the GSC was diminishing. On the contrary, Clifford Sifton created an entire bureaucracy whose goal was to supplant the Survey in order to accommodate Eugene Haanel. The conflict between the Mines Branch and the Geological Survey ended only with their amalgamation under

the Department of Mines in 1907. While acting director, Bell's emphasis on scientific rigour and the intellectual freedom he provided his staff led to his demise. His backing of James Macoun during the Peace River controversy sealed his fate.

Even more than the major appointments to the Survey, temporary or "outside service" placements reflected the pervasiveness of patronage at the Survey. While often ignored, the Civil Service Act of 1882 stipulated that qualifying examinations were required of candidates for permanent "inside service" positions. For the outside service, no such requirements existed. The Director's Letterbooks reveal that applications for political appointments were so numerous that they were probably the rule rather than the exception.

Major historians of the Survey such as Eagan, Waiser and Zaslow have noted the role of patronage in specific situations. The role of patronage as a process which shaped the development of the Survey, and the budding scientific community in Canada, has gone unrecognised. In the forty years after Confederation, Zeller's view that Victorian inventory sciences led to the ideology of expansionism might be reversed. Scientific inquiry after Confederation was determined by the existing ideology of expansionism. Political considerations not only defined the role of the Survey but also the scientists who would carry it out.

Stewart's contention that Canadian politics were about patronage, was also true of Canadian science.

# SOURCES

## UNPUBLISHED SOURCES

**Glenbow Archives**
Edgar Dewdney Papers

**National Archives of Canada**
RG 2 Records of the Privy Council Office
RG 15 Records of the Department of the Interior
RG 26 John A. Macdonald Papers
RG 45 Geological Survey of Canada Papers
MG 29 Robert Bell Papers
MG 53 Robert Bell Papers (New Series)
Wilfrid Laurier Papers

**Provincial Archives of Manitoba**
MG 14 Charles Napier Bell Papers

**State Library of Victoria**
MS 8781 Brough Smyth Papers

**University of Toronto Library**
MS 25 William Tyrell Papers

## PUBLISHED SOURCES


Adam, Graeme Mercer Appropriations and Patronage The Week Toronto 7, no.40, Aug 31, 1894. pp.940-941.

Adams, Frank D. Obituary of Robert Bell, 1841 -1917. **Bulletin of the Canadian Mining Institute**, 66, (1917): 850-852.

Adams, Frank D. **A Recent Accession to the Redpath Library**. Montreal: McGill University Publications. Series 7 (Library) no. 8, (1926).

Adams, Frank D. Obituary, Dr. Robert Bell, 1841-1917. **Bulletin of the American Institute of Mining Engineers**, 131, (1917): xlix-l.

Alcock, F.J. Albert Peter Low. In William Wonders, ed. **Canada's Changing North**. Toronto: McClelland and Stewart Limited, 1971.

Alcock, F.J. **A Century in the History of the Geological Survey of Canada**. Ottawa: Canada. Department of Mines and Resources. National Museum of Canada. Special Contribution no. 47-1, 1947.

Alcock, Frederick J. Memorial of Albert Peter Low. **Proceedings Volume of the Geological Society of America for 1943**, 131, (1944): 194-200.

Ami, H.H. Memorial of Robert Bell **Bulletin of the Geological Society of North America**, 38(1926): 19-34.

Ami, Henry J.W. Dawson: A Brief Biographical Sketch **American Geologist** 26(1900) 1-48.

Anonymous Multipartyism in Politics **The Week** 12: 14 (March 1895): 317-318.

Armour, Leslie and Elizabeth Trott **The Faces of Reason: An Essay on the Philosophy and Culture in English Canada, 1850-1950**. Waterloo, Wilfrid Laurier University Press, 1981.

Banks, Margaret A. "The Change in Liberal Party Leadership 1887". **CHR**. 37: 2 (June 1957): 109-128.

Barkhouse, Joyce C. **George Dawson: The Little Giant**. Toronto: Clarke, Irwin & Company Limited, 1974.

Beck, Murray J. **Joseph Howe: Volume II: The Britton Becomes a Canadian**. Montreal: McGill-Queen's Press, 1983.

Beck, Murray J. **Pendulum of Power: Canada's Federal Elections**. Scarborough: Prentice-Hall of Canada Limited, 1968.

Bell, Robert 1881 On the Commercial Importance of Hudson Bay, with Remarks on Recent Surveys and Investigations **Proceedings of the Royal Geographical Society and Monthly Record of Activity**. 10 (October 1881).

Bell, Robert **Sir William Logan and the G.S.C.** Ottawa: Privately Printed, 1877.

Bell, Robert **Report of the Hudson's Bay Expedition, 1886**. Canada. Department of Marine & Fisheries. Ottawa: Queen's Printer, 1887.

Bell, Robert A Survey in Baffinland, with a Short Description of the Country. **The Geographical Journal**. 18(1901).

Bell, Robert **Proceedings and Transactions of the R.S.C.** (1918), X-XIV.

Bell, Robert **The Hudson Bay Route to Europe**. Winnipeg, S.N., 1909.

Bell, Robert Recent Explorations to the South of Hudson Bay. **The Geographical Journal** 10: 1 (July 1897): 11-19.

Bell, Robert The Causes of the Fertility of the Land in the Canadian Northwest Territories **Transactions of the Royal Society of Canada**. Section 4 (May 1883): 157-162.

Bell, Robert Personal Reminiscences of Sir Wm. Logan. **Bulletin Geological Society of America** 18(1907): 622.

Bell, Robert Report of the Geology of the Basin of the Moose River. Canada. **Geological Survey Report, 1880-81**. Montreal: Dawson Brothers, 1883.

Bell, Robert On the Commercial Importance of Hudson Bay, with Remarks on Recent Surveys and Investigations. **Proceedings of the Royal Geographical Society and Monthly Record of Geography**. 3(1881).

Bell, Robert **Observations on the Geology, Zoology and Botany of Hudson Strait and Bay Made in 1885**. Montreal: Dawson Brothers, 1886.

Berger, Carl **The Sense of Power: Studies in the Ideas of Canadian Imperialism, 1867-1914**. Toronto: University of Toronto Press, 1970.

Berger, Carl **Science, God and Nature in Victorian Canada**. Toronto: University of Toronto Press, 1983.

Berger, Carl **The Writing of Canadian History**. Toronto: University Press of Toronto Press, 1976.

Branagan, David F. A.R.C. Selwyn Pioneer of the Australian Geological Profession **Abstract 7th Aust. Geological Convention, Geological Society Australia**. 12 (n.d.): 79.

Brown, Bahngrell W. T. Sterry Hunt, The Man Who Brought Walt Whitman to Canada. **Southern Quarterly**. 10:1 (1971): 43-48.

Brown, Robert Craig and Ramsay Cook **Canada 1896-1921: A Nation Transformed**. Toronto: McClelland and Stewart Limited, 1974.

Burke, Sister Teresa Avila Mackenzie and His Cabinet **CHR**. 41(June 1960): 129-148.

Campbell, Robert The Jubilee of a Canadian Scientist. **Canadian Magazine**, 30(1908): 256-261.

Canada, Privy Council Office **Guide to Canadian Ministries Since Confederation**, July 1, 1867-February 1, 1982. Ottawa: Minister of Supply and Services, 1982.

Canada **Statutes of Canada, 1877**. An Act to make better provision respecting the Geological and Natural History Survey of Canada and for the maintenance of the museum in connection therewith. Ottawa: Queen's Printer, (1878): 49-51.

Canada. **Report of the Select Committee Appointed by the House of Commons to Obtain Information as to Geological Surveys &c., &c..** Ottawa: MacLean, Roger & Co., 1884.

Canadian Press Association **A History of Canadian Journalism into Several Portions of the Dominion with a Sketch of the Canadian Press Association 1859-1908.** Toronto: Murray Printing Co. Ltd., 1908.

Caron, Fabien Albert Peter Low et L'exploration du Quebec-Labrador. **Cahier de Geographie de Quebec**, 9(1965): 169-183.

Carr, Graham Imperialism and Nationalism in Revisionist Historiography: A Critique of Recent Trends. **Journal of Canadian Studies.** 17(1982): 92.

Carrigan, D. Owen **Canadian Party Platforms 1867-1968.** Toronto: Copp Clark Publishing Company 1968.

Clark, Lovell **A History of the Conservative Administrations, 1891-1896.** Toronto: University of Toronto Unpublished Dissertation, 1968.

Cole, Douglas and Bradley Lockner, eds. **The Journals of George M. Dawson: British Columbia, 1875-1878.** Vancouver: University of British Columbia Press, 1989.

Cole, Douglas **Captured Heritage: The Scramble for Northwest Coast Artifacts.** Vancouver: Douglas & McIntyre Limited, 1985.

Collins, Joseph Edmund Party Evils and Remedy. **The Week.** 42(Sept. 18, 1884): 644.

Cook, Ramsay **The Regenerators: Social Criticism in late Victorian Canada.** Toronto: University of Toronto Press, 1985.

Cornell, John F. From Creation to Evolution: Sir Wm. on and the Idea of Design in the 19thC. **Journal of the History of Biology** 16: 1, (n.d.): 137-170.

Creighton, D.G. **Commercial Empire of the St. Lawrence.** Toronto: The Macmillan Company of Canada, 1937.

Currie, A.W. The Post Office Since 1867. **Canadian Journal of Economics and Political Science.** 24 (May 1958): 241-250.

Dafoe, John W. **Clifford Sifton in Relation to his Times.** Toronto: The MacMillan Company of Canada Limited, 1931.

Darragh, Thomas A. The Geological Survey of Victoria under Alfred Selwyn, 1852-1868. **Historical Records of Australian Science** 7: 1 (Dec 1987): 1-25.

Dawson, George M. On the Haida Indians of the Queen Charlotte Islands. Appendix A. Vocabulary of the Haida Indians. Appendix B. **Geological Survey of Canada: Reports of Explorations and Surveys, 1878-79**. Montreal: Dawson Brothers, 1880.

Dawson, William **Fifty Years of Work in Canada, Scientific and Educational: Being Autobiographical Notes by Sir William Dawson, C.M.G., LL.D., F.R.S., etc.** Rankine Dawson (ed.). London: Ballantyne, Hanson, 1901.

Dawson, R. MacGregor The Gerrymander of 1882. **The Canadian Journal of Economics and Political Science**. 1: 2 (May 1935): 197-221.

Dawson, R. MacGregor The Canadian Civil Service. **The Canadian Journal of Economics and Political Science**. 2:3 (August 1936): 288-300.

De Tremaudan, A.H. **The Hudson Bay Road (1498-1915)**. London and Toronto: J.M. Dent and Sons Limited, 1915.

Dennis, J.S. **Navigation of Hudson Bay**. Ottawa: MacLean, Roger and Co., 1878.

De Vecchi, Vittorio Maria Giuseppe **Science and Government in Nineteenth Century Canada**. Toronto: University of Toronto Unpublished Dissertation, 1978.

De Vecchi, Vittorio G.M. Science and Scientists in Government, 1878-1896. Part I. **Scientia Canadiensis**, 8: 2(1984): 112-142.

De Vecchi, Vittorio G.M. Science and Scientists in Government, 1878-1896. Part II. **Scientia Canadiensis**, 9: 2(1985): 97-113.

De Vecchi, Vittorio G.M. The Dawning of a National Scientific Community in Canada, 1878-1896. **Scientia Canadiensis**, 7: 1(1984): 32-58.

Egan, William E. **Joseph Burr Tyrrell, 1858-1957**. London: University of Western Ontario Unplublished Dissertation, 1971.

English, John **The Decline of Politics: The Conservatives and the Party System 1901-20**. Toronto: University of Toronto Press, 1977.

Fleming, Howard A. **Canada's Arctic Outlet: A History of The Hudson Bay Railway**. Berkeley: University of California Press, 1957.

Fleming, Sandford **Report and Documents in Reference to the Canadian Pacific Railway 1880**. Ottawa: MacLean, Roger & Co., 1880.

Fleming, Sandford **Reports and Documents in Reference to the Location of the Line and a Western Terminal Harbour 1878**. Ottawa: MacLean, Roger & Co., 1878.

Fleming, Sandford **Report on Surveys and Preliminary Operations on the Canadian Pacific Railway into January 1877**. Ottawa: MacLean, Roger & Co., 1877.

Galbraith, John S. The H.B.C. Under Fire. **C.H.R.** 30: 4(December 1949): 322-335.

Geikie, Archibald **The Founders of Geology**. London: The MacMillan Company Limited, 1905.

Geikie, Archibald **The Life of Sir Roderick I. Murcheson**. London, 1875.

Geological Survey of Victoria **Report of the Director of the Geological Survey of Victoria**. Melbourne: John Ferres Government Printer, 1868.

Gillis, D. Hugh Sir John Thompson's Elections. **C.H.R.** 37: 1 (March 1956): 23-45.

Gillispie, Charles Coulston, ed. **Dictionary of Scientific Biography**. New York: Charles Scribner's Sons, 1970.

Gordon, Andrew Robertson **Report of the Hudson's Bay Expedition of 1886 Under the Command of Lieut. A.R. Gordon**. Ottawa: S.N., 1887.

Grant, George M. **Ocean to Ocean: Sandford Fleming's Expedition Through Canada in 1872**. Edmonton: M.G. Hurtig Limited, 1967.

Gwyn, Sandra **The Private Capital: Ambition and Love in the Age of Macdonald and Laurier**. Toronto: McClelland and Stewart Limited, 1984.

Hall, D.J. **Clifford Sifton Volume 1: The Young Napoleon**. Vancouver: University of British Columbia Press, 1981.

Hall, D.J. **Clifford Sifton Volume 2: The Lonely Eminence**. Vancouver: University of British Columbia Press, 1985.

Hallock, C. **One of Canada's Explorers**. Washington: Gibson Brothers, 1901.

Harrington, Bernard J. **Life of Sir William Logan, First Director of the Geological Survey of Canada**. Montreal: Dawson Brothers Publishers, 1883.

Harrington, Bernard J. Obituary of George Mercer Dawson. **Transactions of the Royal Society of Canada**, (1902): 183-201.

Haultain, T. Arnold Revolt Against Party. **The Week**. 4: 11(May 1887): 247.

Heggie, Grace F., ed. **Canadian Political Parties 1867-1968: A Historical Bibliography.** Toronto: Macmillan, 1977.

Hilts, Joseph **The Political Career of Thomas Greenway.** Winnipeg: University of Manitoba Unpublished Dissertation, 1974.

Hind, Henry Youle **Manitoba and the Northwest Frauds: Correspondence with the Department of Agriculture. &c. Respecting the Impostures of Professor John Macoun.** Windsor, N.S., 1883.

Hind, Henry Youle **Emigration, Land and Railway Frauds: The "Colonists" Handbook Canada 1882.** Windsor, N.S., 1882.

Hind, Henry Youle **The Confession of Corruption of the Geological Survey in North West Territory Matters.** Windsor, N.S.: Private. April 30, 1883.

Hodgetts, J.E. **Pioneer Public Service: An Administrative History of the United Canada's.** Toronto: University of Toronto Press, 1955.

Hodgetts, J.E., Wm. McCloskey, Reginald Whitaker and V. Seymour Wilson **The Biography of An Institution.** The Civil Service Commission of Canada 1908-1967. Montreal: McGill & Queen's Press, 1972.

Horetsy, Charles Canadian Pacific Railway and the North-West Lands, also a Brief Discussion Regarding teh Route, the Terminus and the Lands Available for Settlement. Ottawa: C.W. Mitchell, 1880.

Hunt, T.S. The Relations of the Natural Sciences. **Canadian Naturalist.** 10(1883): 257-264.

Inglis, Alex **Northern Vagabond: The Life and Career of J.B. Tyrrell.** Toronto: McClelland and Stewart Limited, 1978.

Innis, Harold A. **A History of The Canadian Pacific Railway.** Toronto: University of Toronto Press, 1971.

Irwin, Leonard Bertram **Pacific Railways and Nationalism in the Canadian-American Northwest, 1845-1873.** New York: Greenwood Press, 1968.

Jackson, James **The Disallowance of Manitoba Railway Legislation in the 1880's: Railway Policy as a Factor in the Relations of Manitoba with the Dominion 1878-1888.** Winnipeg: University of Manitoba Unpublished Thesis, 1945.

Jarrell, Richard and Arnold Ross **Critical Issues in the History of Canadian Science, Technology and Medicine.** Thornhill, 1983.

Jarrell, Richard and Norman Ball, eds. **Science and Technology, and Canadian History: The First Conference on the Study of Canadian**

**Science and Technology**. Waterloo: Wilfred Laurier University Press, 1978.

Kupsch, W.O. Nineteenth Century Geological Writings and Writers on the Canadian Arctic. **Musk-Ox** 28(1981): 65-78.

LaFlamme, J.C.K. Obituary of Thos. Sterry Hunt. **Transactions of the Royal Society of Canada**. (1892): xiv-liii

Lamb, W. Kaye **History of the Canadian Pacific Railway**. New York: MacMillan, 1977.

Lang, A.H. Sir William Logan and the Economic Development of Canada. **Canadian Public Administration**. 12(1969): 551-565.

Lang, A.H. G.M. Dawson and the Economic Development of Western Canada. **Canadian Public Administration**. 14(1971): 236-255.

Lang, A.H. Contributions of W.E. Logan and G.M. Dawson to the Canadian Mining Industry. **Proceedings of the Geological Association of Canada**. 23:2 (N.D.): 19-23.

Leechman, Douglas The Father of Place Names. **The Beaver**. (1954): 24-29.

Levere, Trevor and Richard Jarrell **A Curious Fieldbook: Science and Society in Canadian History**. Toronto: Oxford Unviersity Press, 1974.

Levere, Trevor H. The History of Science in Canada. **British Journal of the History of Science**, 21(1988): 419-425.

Livermore, J.D. The Personal Agonies of Edward Blake. **CHR** 56 (1975): 45-58.

Logan, William **The Geology of Canada**. Report of Progress of the Geological Survey from its Commencement. Toronto: John Lovell Printer, 1863.

Longley, J.W. Party in Politics. **The Week** 11( January 1894): 583-584.

Loudon, William James **A Canadian Geologist**. Toronto, Macmillan Company of Canada, 1930.

Macleod, Donald Faith, Hope, and Geology: Practical Geology in Nineteenth Century Nova Scotia. Unpublished paper presented at "Science and Society in the Maritimes." Sept. 22-24 1988.

Macoun, John **Autobiography of John Macoun: Canadian Explorer and Naturalist 1831-1920**. Ottawa: Ottawa Field Naturalists' Club. Special Publication No.1, 1979.

Macoun, John **Manitoba and the Great Northwest**. Guelph, N.S., 1882.

Manitoba. Lands Branch, Department of Natural Resources **Crown Land Registry Report 31**. Winnipeg: Government of Manitoba, 1989.

Manitoba Historical and Scientific Society **The Arctic Regions and Hudson's Bay Route. Report of a Lecture by Dr. John Rae**. Read before the Manitoba Historical and Scientific Society, 14 October, 1883.

**Manitoba Free Press**. Obituary of Dr. Robert Bell, June 25, 1917.

McCarthy, Lilian Pearl **Patronage in Canadian Politics**. Toronto: University of Toronto Unpublished Thesis, 1919.

McKillop, A.B. **A Disciplined Intelligence: Critical Inquiry and Canadian Thought in the Victorian Era**. Montreal: McGill Queen's Press, 1979.

McKillop, A.B., ed. **A Critical Spirit: The Thought of William on Lesueur**. Toronto: McClelland and Stewart Limited, 1977.

McKillop, A.B. **Contours of Canadian Thought**. Toronto: University of Toronto Press, 1987.

Merrill, George P. **The First One Hundred Years of American Geology**. New Haven: Yale University Press, 1924.

**Montreal Gazette** Editorial: The Geological Survey. (April 4, 1896): 4.

Morley, Scott S. Foster on the Thompson Bowell Succession. **CHR**. 98(1967): 273-275.

Morton, W.L., ed. **The Shield of Achilles: Aspects of Canada in the Victorian Age**. Toronto: University of Toronto Press, 1968.

Morton, W.L. **Henry Youle Hind 1823-1908**. Toronto: University Toronto Press, 1980.

Morton, W.L. **The Canadian Identity**. Toronto: University of Toronto Press, 1961.

Mowat, Farley **Tundra: Selections from Arctic Land Voyages**. Toronto: McClelland and Stewart, 1973.

**Nature** Obituary of Dr. Robert Bell, F.R.S. 90(1917): 370.

O'Brien, Charles F. Sir William Dawson: A Life in Science and Religion. **Memorial of the American Philosophical Society**. Philadelphia: American Philosophical Society, 1971.

Owram, Doug **The Promise of Eden: The Canadian Expansionist Movement and the Idea of the West, 1856-1900.** Toronto: University of Toronto Press, 1980.

Page, Leroy E. The Rivalry between Charles Lyell and Rhetoric Murcheson. **British Journal for the History of Science**, Xerox Copy, n.d.

Palliser, John **Solitary Rambles, and Adventures of a Hunter on the Prairies.** Edmonton: Hurtig, 1969.

Palombard, Joseph **Bureaucracy and Political Development.** Princeton: Princeton University Press, 1963.

Pringle, Allen Sir William Dawson and Separate Schools. **The Dominion Review.** 1(1896): 81-85.

Pumpelly, Raphael Memorial of T.S. Hunt. **Bulletin of the Geological Society of America.** 4(1892): 379-393.

Reingold, Nathan Definitions and Speculations: The Professionalization of Science in the Nineteenth Century. In Alexandra Olson and Sanborn C. Brown, eds. **The Pursuit of Knowledge in the Early American Republic: American Scientific and Learned Societies from Colonial Times to the Civil War.** Baltimore: The Johns Hopkins University Press, 1976.

Richards, Peter G. **Patronage in British Government.** Toronto: University of Toronto Press, 1963.

Richards, R.L. Dr. John Rae and the Hudson Bay Route. **Musk-Ox.** 31(1980): 60-70.

Royal Society of Canada. **Proceedings for 1882.** Ottawa, 1883.

Saywell, John T., ed. **The Canadian Journal of Lady Aberdeen 1893-1898.** Toronto: The Champlain Society, 1960.

Schull, Joseph **Edward Blake: The Man of the Other Way.** Toronto: MacMillan of Canada, 1975.

Scott, S. Morley Foster on the Thompson-Bowell Succession. **CHR.** 48(1967): 273-276.

Selwyn, Alfred **Geological Survey of Canada Report of Progress from 1866-1869.** Montreal: Dawson Brothers, 1870.

Selwyn, Alfred **Geological Survey of Canada Report of Progress for 1870-71.** Ottawa: I.B. Taylor, 1872.

Selwyn, Alfred **Geological Survey of Canada Report of Progress for 1871-72.** Montreal: Dawson Brothers, 1872.

Selwyn, Alfred **Geological Survey of Canada Report of Progress for 1872-73.** Montreal: Dawson Brothers, 1873.

Selwyn, Alfred **Geological Survey of Canada Report of Progress for 1873-1874.** Montreal: Dawson Brothers, 1874.

Selwyn, Alfred **Geological Survey of Canada Report of Progress for 1874-1875.** Montreal: Dawson Brothers, 1876.

Selwyn, Alfred **Geological Survey of Canada Report of Progress 1875-76.** Montreal: Dawson Brothers, 1877.

Simpson, Jeffrey **Spoils of Power: The Politics of Patronage.** Toronto: Collins, 1988.

Sinclair, Bruce, Norman Ball and James Peterson, eds. **Let Us Be Honest and Modest: Technology and Society in Canadian History.** Toronto: Oxford University Press, 1974.

Smith, Cynthia **Sir John A.: An Anecdotal Life of J. A. Macdonald.** Toronto: Oxford University Press, 1989.

Sprague, D.N. **Canada and the Metis, 1869-1885.** Waterloo: Wilfrid Laurier University Press, 1988.

Spry, Irene **The Palliser Expedition: An Account of John Palliser's British North American Exploration Expedition, 1857-1860.** Toronto: The Macmillan Company of Canada, 1963.

Stacey, C.P. The Back Bone of Canada. **The Canadian Historical Association Report of the Annual Meeting Held at London, June 4-6, 1953.** 1-14.

Stamp, Robert M. J.D. Edgar and the Liberal Party: 1867-96. **CHR.** 45(1964): 93-115.

Stanley, George F.G. **Louis Riel.** Toronto: The Ryerson Press, 1963.

Stanley, George F.G., ed. **Pioneers of Canadian Science.** Toronto: Royal Society of Canada, 1966.

Stanley, George F.G. **In Search of the Magnetic North; A Soldier Surveyor's Letters from the Northwest: 1843-1844.** Toronto: MacMillan of Canada, 1955.

Stanley, George F.G. **Mapping the Frontier: Charles Wilson's Diary of the Survey of the 49th Parallel, 1858-1862, While Secretary of the British Boundary Commission.** Toronto: MacMillan of Canada, 1970.

Steacie, E.W.R. **Science in Canada**. Toronto: University of Toronto Press, 1965.

Stewart, Gordon T. **The Origins of Canadian Politics: A Comparative Approach**. Vancouver: University of British Columbia Press, 1986.

Sweeny, Alistair **Georges-Etienne Cartier: A Biography**. Toronto: McClelland and Stewart, 1976.

Swinton, William E. Physician Contributions to Non-Medical Science: Robert Bell, The Great Geologist. **Canadian Medical Association Journal**, 115(1976) :946-950.

Symons, T.H.B. **The Symons Report**. Toronto: McClelland and Stewart Limited, 1978.

Tory, H.H. **A History of Science in Canada**. Toronto: Ryerson Press, 1939.

Tyrrell, James W., **Across the Sub-Arctics of Canada: A Journey of 3200 Miles by Canoe and Snowshoe through the Hudson Bay Region**. Toronto: William Briggs, 1908.

Wade, George Morgan **The Hudson Bay Railway**. Winnipeg: University of Manitoba Unpublished Thesis, 1927.

Waiser, W.A. **Macoun and the Great Northwest**. Saskatoon: University of Saskatchewan Unpublished Thesis, 1976.

Waiser, W.A. **Rambler: Professor John Macoun's Career with the Geological Survey of Canada 1882-1912**. Saskatoon: University of Saskatchewan Unpublished Dissertation, 1983.

Waiser, W.A. A Willing Scapegoat: John Macoun and the Route of the CPR. **Prairie Forum** 10(1985): 65-81.

Waiser, W.A. **The Field Naturalist: John Macoun, the Geological Survey and Natural Science**. Toronto: University of Toronto Press, 1989.

Wallace, W. Stuart, ed. **The Royal Canadian Institute Centennial Volume: 1849-1949**. Toronto: Royal Canadian Institute, 1949.

Winslow-Spragge, Lois **Life and Letters of George Mercer Dawson, 1849-1901**. Published Privately, 1962.

Zaslow, Morris **Reading the Rocks: The Story of the Geological Survey of Canada, 1842-1972**. Ottawa: MacMillan of Canada, 1975.

Zeller, Suzanne **Inventing Canada: Early Victorian Science and the Idea of a Transcontinental Nation**. Toronto: University of Toronto Press, 1987.