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The Canadian-American Irrigation Frontier Revisited: The International Origins of Irrigation in Southern Alberta, 1885-1909

The Canadian-American international boundary cuts through several regions which have a large measure of geographic unity. Most of these areas have been zones of intense interaction between the two countries. At one time or another through the ages they have all been battlefields of Canadian-American antagonisms as well as workshops of international cooperation. The larger of these regions, such as the St. Lawrence Valley and the Great Lakes area, have been subjected to numerous investigations, while some of the smaller and more recently developed ones have received meagre attention. This is unfortunate because often international interplay has been quite intense in the less well-known of these areas, and this fact makes them useful subjects for historical investigation. An examination of the international aspects of the history of these regions can shed new light on the nature and patterns of United States-Canadian interaction in the development of local economies. This is particularly true of the story of the Canadian-American irrigation frontier from 1885 to 1909.

The area generally referred to as the Canadian-American irrigation frontier consists basically of the St. Mary and Milk River basins which are separated only by a low divide of land. Both rivers are international streams and both originate in the eastern ranges of the Rocky Mountains of northern Montana. But the two carry their waters in different directions. The St. Mary is part of the watershed of the South Saskatchewan River, while the Milk River is part of the Missouri-Mississippi system. The Milk returns to the United States after flowing through more than a hundred miles of Canadian territory. In spite of the fact that the basins of these two rivers are separated by a continental divide, the whole area has many common features and constitutes a fairly well-defined geographic unit. The gently undulating grasslands, traversed by a network of deep furrows cut by streams flowing out of the foothills of the Rockies, give the landscape of the region a great deal of uniformity. This uniformity is accentuated by the lack of trees, except in river valleys and gullies. The Chinook winds: dry, warm masses of Pacific air flowing through the mountains, are common to both the Canadian and American portions of the region. What is most important from the point of

view of this study, is the nature and similarity of the climate in the area. Rainfall is scarce throughout, and fluctuates greatly from year to year.[1]

The availability of surface water combined with the fact that the soils in the region are fertile, made it inevitable that sooner or later the frontier of agricultural settlement would reach this district. It was the arrival of this frontier which brought irrigation to the St. Mary and Milk River basins and turned the region into a workshop of Canadian-American interaction.

The full story of the beginning of irrigation in this area has not been told. The first significant study dealing with the subject was an article by Lawrence B. Lee in the October, 1966 issue of *Agricultural History*. Lee dealt only with the Canadian part of the region and examined the growth of irrigation there from the point of view of Canadian-American "agricultural cooperation." Within this frame of reference he came to the conclusion that the growth of irrigation in southern Alberta was the result of two primary factors: international cooperation and Canadian federal initiative. In addition, according to Lee, there were a few "secondary themes" at work: the agitation of local settlers and officials for government assisted irrigation, the role of Mormon colonists, the efforts of two railway companies and the "joint participation of Canadians and Americans in the international irrigation congresses."[2]

Lee's pioneering work, based mainly on secondary sources and printed documents, is useful in pointing out the role of international cooperation in the birth and early development of irrigation in southern Alberta. But in concentrating on this theme of cooperation, Lee has failed to recognize the significance of the competition between the two nations for the resources of this region. A re-examination of the story, based on research in hitherto neglected archival sources, reveals that this competition was present on the Canadian-American irrigation frontier and that it was a principal factor in stimulating the early growth of irrigated agriculture in southern Alberta.

The first attempts at irrigation in the St. Mary and Milk River basins were made in the United States. There, the possibility of reclaiming the arid lands of the lower Milk River Valley was recognized by officers of the United States Army as early as the 1870's.[3] Later, small irrigation canals were constructed by settlers. Some of these were operated on a cooperative basis.[4] But the fact that the Milk River was a small, seasonal stream, prevented the development of irrigated agriculture in this valley on a larger scale.

North of the boundary irrigation was introduced much later. No attempt seems to have been made to divert water from the St. Mary before the end of

the 1880's. There had been a few irrigation ditches dug in other areas of the District of Alberta in the late 1870's, but the spring floods of 1884 destroyed these.[5] 1884 was a cool and wet year, and the following spring there was still enough moisture in the ground to support the growth of grass and hay.[6] Most of the settlers who had come to southern Alberta with the Canadian Pacific Railway in 1883 came from the humid zones of central Canada and were not familiar with irrigation. With weather conditions in their new homeland not being too different from what they had left behind, these settlers were not convinced of the need to supplement the water supply of their grazing lands and hayfields through irrigation.[7] These attitudes to the reclamation of arid lands in Alberta did not change until the early 1890's.

One of the developments which helped to change public attitudes toward irrigation in southern Alberta was the arrival there of a colony of Mormon settlers in 1887. The Mormons came from their former homes in Utah in order to avoid prosecution under United States federal anti-bigamy laws. They brought with them not only their wives and belongings, but also a knowledge of the techniques of irrigated agriculture. Soon, they drew attention to the possibility of developing the same in their new homeland.[8] But the idea was coolly received by high-ranking federal officials in Ottawa. The men responsible for the formulation of federal colonization policies feared that the admission of the need for irrigation in the District of Alberta would deter immigrants from coming to the Canadian West.[9]

This opposition to irrigation of arid lands in the North-West was, however, not universal among federal officials. The cause was championed by William Pearce, Inspector of Dominion Land Agencies, in the Department of the Interior. In 1881 Pearce had visited reclamation projects in the semi-arid districts of Utah and Colorado. In the fall of 1883 he was sent to Calgary to investigate problems arising from a land boom which had followed in the wake of the CPR's arrival there earlier that year. Immediately after his arrival, Pearce became an advocate of irrigation; and in 1885 he gained a platform for voicing his views when he was promoted to the newly created office of Superintendent of Mines.[10]

In his new capacity Pearce was the senior federal official in charge of administering Ottawa's colonization policies in the North-West Territories. He brought up the question of irrigation in his very first annual report. "Large tracts" of the grazing districts in southern Alberta could be "comparatively cheaply" irrigated, he began. These lands should be sold on condition that they be irrigated by the purchasers. Alternately, "large tracts of such lands" should be "assigned" to companies or cooperatives to promote large-scale irrigation projects. In particular, land grants to railway companies should be

made "*en bloc*" rather than in alternate sections, thereby enabling "capitalists to purchase a large area."[11] Pearce returned to this subject in his reports for 1886, 1887 and 1888 arguing that the irrigation of some haylands would enable local ranchers to greatly increase their herds.[12] Although in 1886, A.M. Burgess, the Deputy Minister of the Department of the Interior, had promised to give "further consideration" to Pearce's proposals, no action was taken on this question by Ottawa at the time.[13] As a result, the task of introducing irrigation in southern Alberta was left to the initiative of local residents.

The first people to attempt the task were the members of the growing Mormon community in the District. In 1889 Charles Ora Card, one of the Mormon leaders, constructed a few ditches to bring water to some 800 acres of land near Cardston.[14] Two years later, Card and his associates arranged to rent over half a million acres of land from the Alberta Railway and Coal Company, a Lethbridge firm which had been founded by Sir Alexander T. Galt.[15] Part of the understanding was that the land would be purchased by the Mormons at the end of four years. But the Mormons' venture ran into difficulties from the start. Neither the Mormon Church in Utah, nor the Galt enterprises were willing to provide strong financial backing for the undertaking at this time. The fact that the lands in question were in alternate sections also created serious difficulties in the construction of irrigation canals.[16] As a result, the introduction of large-scale irrigation in the St. Mary basin of Alberta had to await the arrival of more favourable economic and political conditions.

Outside the areas settled by the Mormons, the cause of the reclamation of arid lands was gaining only a few converts. One of these was Charles A. Magrath, for many years Mayor of Lethbridge and a member of the Assembly of the North West Territories. In 1888 the area's principal newspaper, the *Lethbridge News*, also began campaigning for federal aid to irrigation in southern Alberta.[17] But the majority of settlers knew little about irrigated agriculture and saw no real need for it. They kept hoping that the drought conditions of the late 1880's were exceptional and there would be a return of the type of climate which had prevailed during 1884 and 1885.[18] Indeed, more rain fell in much of the Canadian West in 1890. Settlers and local officials alike hoped that the cycle of dry seasons had been broken.[19]

Thus in 1890 it appeared that the cause of irrigation was doomed in southern Alberta. Pearce's yearly appeals through the second half of the 1880's had fallen on deaf ears in Ottawa. The need for irrigation was not acknowledged by the majority of settlers, and the attempt of the Mormons to start a project of their own was experiencing serious difficulties. There

seemed to be little hope for the reclamation of the Lethbridge Plain. Fortunately for the cause of irrigation, by 1891 new forces were at work which led to a fundamental change in this situation.

The most important development in the history of irrigated agriculture in Alberta was the change which took place in the attitude of the Canadian government concerning this question. It is difficult to establish exactly when and why this change had started. It seems certain that in 1890 Ottawa was still opposed to the idea of federal promotion of irrigation projects. That year Pearce proposed to give a paper at a conference of irrigation experts in the United States. He was prevented from doing so by his superiors in Ottawa on the grounds that the acknowledgement of drought conditions in some areas of the Canadian West might hurt the land sales of the CPR.[20] But less than two years later, in the spring of 1892, Pearce was asked by officials in Ottawa to prepare a background study which would help in the drafting of federal legislation regarding irrigation in the North-West.[21]

One development which contributed to the assumption of a more positive attitude by the federal government on the question of irrigation had its origins south of the international boundary. As mentioned above, irrigation on a commercial scale was not possible in the lower Milk River Valley of Montana because of the small volume of the Milk throughout most of the growing season. Accordingly, plans were formulated for the augmentation of the water supply of the river by diverting into it much of the water of the St. Mary River. The diversion was to take place south of the boundary and the water was to be conveyed to the lower Milk River Valley through the Canadian stretch of the Milk. To hasten the execution of this plan, in February of 1891 the legislature of Montana asked Congress to consider the problem and order the necessary surveys.[22] In September of the same year a reconnaissance was made of the region by Colonel E.S. Nettleton, Chief Engineer of the United States Department of Agriculture, in order to find out whether the proposed diversion scheme was feasible. The members of the expedition concluded that St. Mary Lake, the headwater of the St. Mary River, could be dammed at its outlet and the water could be conducted to the lower Milk Valley either through the Canadian channel of the Milk River, or through a long canal built south of the boundary. Nettleton himself felt that the first of these solutions was possible, but could not say the same for the second without a detailed survey. His report on the expedition concluded that the United States had a right to divert the water of the St. Mary "for beneficial uses in Montana . . . especially so long as it [was] unappropriated by the Canadians."[23]

The first Canadian official to raise the question of this scheme was Pearce. In his annual report for 1891 he pointed out that the tract of fertile land

adjacent to the St. Mary River in Canada could be cheaply irrigated. He then pointed out the danger posed by the proposed diversion in Montana. Ascribing the scheme to Great Northern Railway "interests", who wanted to irrigate their lands along their line in the lower Milk Valley, Pearce asked whether it would "not be much more profitable that the said water should be used" in Canada rather than in the United States, especially when it could be delivered to the lands there at "one tithe [sic]" of the cost of the U.S. scheme.[24]

In the Assembly of the North West Territories the question of the threatened diversion was taken up by Magrath, the Chairman of the Committee on Irrigation. In January of 1892 he suggested that for the protection of the settlers along the St. Mary River in Alberta, the Canadian government should come to an agreement with its American counterpart. Magrath also urged vigorous government action regarding irrigation in the North-West.[25] Although Magrath's call for diplomatic negotiations in the matter went unheeded, there is no doubt that his plea for a positive irrigation policy helped to create a political atmosphere favourable to a review of government policies on the question of irrigation in the Canadian West.

Indicative of the government's increased interest in the reclamation of arid lands was the visit of T.M. Daly, the new Minister of the Interior after 1891, to southern Alberta early in 1892. Soon after this visit steps were taken to start work on the drafting of federal legislation on irrigation in the North-West. As has been mentioned, Pearce was one of the experts consulted. Another was J.S. Dennis, the Chief Inspector of Surveys in the Territories. A friend of Pearce, Dennis had an excellent knowledge of the Canadian West and was familiar with irrigation problems in the arid states of the United States[26] After months of preparations by Pearce, Dennis and others, a bill was drafted and presented to the House of Commons early in 1893. It was finally passed in July of 1894.[27]

The details of the North-West Irrigation Act of 1894 need not concern us here. The fundamental principle of the Act was the suppression of all riparian rights in streams whose waters could be used for irrigation. The ownership and administration of these waters was vested in the Crown.[28] Following the passage of this act, Ottawa developed policies for the encouragement of irrigated agriculture in the North-West Territories.

That the question of irrigating the lands adjacent to the St. Mary River in Canada was kept on the federal government's list of priorities was assured by further developments south of the border. In September 1894 Pearce and Dennis attended an international irrigation convention in Denver, Colorado. There they met a certain W.W. Follett, an engineer who had been a member

of Colonel Nettleton's expedition to the source region of the St. Mary and Milk Rivers. From this man Pearce and Dennis learned that the plan for the diversion of the St. Mary River was again being urged by influential Montana interests and that it was considered to be financially practicable by American authorities. Reporting the news to Ottawa, Pearce predicted that the scheme would "come to the surface again" as soon as economic conditions in Montana improved. He suggested that the Canadian government offer concrete assistance to irrigation projects on the Canadian side of the boundary.[29]

By this time the cause of irrigation in southern Alberta had gained another influential supporter. This was Elliot T. Galt, the son of Sir Alexander Galt, who was in charge of the family's mining and railway concerns in the Lethbridge area. In the 1880's the Galts had acquired enormous railway land grants, but found it difficult to sell these lands to settlers. By the early 1890's it must have been evident to E.T. Galt that these lands would not find buyers without the introduction of irrigated agriculture in the area. Accordingly, in 1893 the Galts allowed their names to be used in connection with a new attempt by the Mormons to bring water to the lands which had been rented from one of the Galt railway companies. To carry out this venture, the Alberta Irrigation Company (AIC) was organized and was incorporated by an act of Parliament.[30] But the creation of the AIC and the Galts' formal association with it, still did not lead to the start of construction on the Mormons' project. The problem of the land being in alternate sections remained, and so did the question of finances: in particular, the completion of the elaborate and expensive topographical surveys which had to precède any construction of dams and canals. During the mid-1890's, however, the federal government offered assistance which solved both these problems.

At the time Pearce had reported the renewed threat of diversion in Montana, he suggested that the Canadian government should either offer direct financial aid to the AIC to have its project started or help the company indirectly by undertaking at public expense the surveys needed to locate the site of the dam and canals. Pearce's basic assumption was that the establishment of a prior claim to the waters of the St. Mary in Canada would deprive the Americans of the right to effect the planned diversion further upstream. While this view seems to have been shared by some of Pearce's colleagues in the Department of the Interior, it did not enjoy wide acceptance in government circles in Ottawa. When informed of the problem, Sir John Thompson, the ailing Prime Minister, saw no way out of the predicament except through an agreement with the American government.[31] The officials of the Department of Justice held a similar view. They believed that in the

absence of any international law governing diversions of waters flowing across national boundaries, there was no way of preventing the planned diversion of the St. Mary River in Montana. In their opinion, the creation of "prior claims" or "vested rights" on the Canadian side could accomplish no more than "add strength" to Ottawa's arguments in any negotiations with Washington.[32] In spite of this pessimism in Ottawa, it was decided to give government aid to the AIC and thereby to hasten the construction of irrigation canals along the Canadian stretch of the St. Mary. Since direct financial assistance to the company was not considered advisable, Pearce's second recommendation was adopted. In November Dennis was instructed to begin, as soon as weather conditions permitted the next spring, the surveys needed to locate the dam and canals in the St. Mary area. "I have noted the instructions," wrote the Chief Inspector of Surveys a few weeks later, "regarding survey next year of a canal to divert the waters of the St. Mary River . . . with the object of creating a vested right on our side of the International Boundary, before the Americans divert the waters of this stream on their side of the line."[33] One of Dennis' crews completed the survey by the summer of 1895. The surveyors found the proposed scheme for the irrigation of large portions of the district feasible and drew up plans for the construction of irrigation works which called for the diversion of a large quantity of water from the St. Mary River.[34]

The government's move induced E.T. Galt to pursue the AIC's plans with greater vigour. The company's charter was about to expire because construction had not been started on its proposed canals. But the AIC was not allowed to go under; its charter was revived and, with the help of a cooperative government, its lands were consolidated.[35] In 1897 further progress was made when Clifford Sifton, the Minister of the Interior in Sir Wilfrid Laurier's new Liberal government, took a personal interest in the AIC's plans. In response to an appeal for direct government aid by Magrath, the AIC's Land Commissioner, Sifton cancelled the $47,883 fee E.T. Galt owed to the government for the survey many years before of his late father's railway land grants.[36] Encouraged by this support, Galt and Magrath negotiated a contract with the leaders of the Mormon Church in Salt Lake City. The Mormons undertook to build the canal and to supply settlers for some of the lands reclaimed.[37] Next, the AIC obtained a permit in Ottawa for the diversion of 2,000 cubic feet of water per second from the St. Mary River during the high water flow, and all the water at other times.[38]

Construction on the St. Mary Canal was started in 1898. The following year the AIC was reorganized with a capital stock of $1,000,000 under the name Canadian North-West Irrigation Company (CNWIC). In 1900 the company's main canal was completed and in 1902 the CNWIC purchased an

additional half million acres of land from the government. The expansion of the company's canal system continued in spite of the return of a series of wet summers to the area.[39]

The race for the establishment of a prior claim to the waters of the St. Mary River was won by the Canadians. After many delays and a few false starts, ample capital, entrepreneurial expertise and technical know-how had been attracted to effect the construction of large irrigation works on the Lethbridge Plains. In 1900 the Canadian canal became operational and there was every reason to believe that, barring interference with the water supply of the St. Mary River south of the border, it would continue to serve the economic interest of a growing number of settlers.

That the Canadian government's increasing interest in the reclamation of arid lands in southern Alberta had been a major factor in this outcome of events is evident, and is acknowledged by those who have studied the subject.[40] But the government, which through its policies and its use of public funds had substantially helped the introduction of irrigation along the St. Mary River, could not assure the future of that irrigation. In the absence of any treaty or international law governing the diversion of trans-boundary waters, Ottawa could do nothing to prevent the planned diversion scheme in Montana. It could not stop the Americans from using waters in their own territory as they pleased.

The Americans were well aware of this fact. Indeed, in their disputes with Mexico over the uses of the waters of the Rio Grande, this was exactly the attitude that Washington adopted.[41] The only way to protect Canadian interests along the St. Mary River, then, was to accept the suggestion made by Magrath in 1892 and negotiate an agreement with the United States. Indeed, there had been proponents of this idea among federal officials in Canada for some time. In 1895 Dennis had suggested that Ottawa should open negotiations with Washington for the purpose of the "establishment of a commission to consider the question . . . which might then be made the subject of a treaty between the two countries."[42] At the annual convention of the United States National Irrigation Congress held that year in Albuquerque, New Mexico, Dennis submitted a resolution recommending this solution to the problem, but without any favourable reaction. The Canadian government officially endorsed his idea and even made representations in the matter in Washington, but the American administration declined to negotiate.[43]

Until 1902 the failure to reach an agreement on the apportionment of the St. Mary's waters did not seem to constitute an immediate danger to irrigation in southern Alberta. The threatened diversion in Montana was still only a plan

without a good prospect of realization. In that year, however, developments took place in the American capital which radically changed the situation.

In June 1902 Congress passed the Reclamation Act. This legislation provided for the construction of irrigation projects in the semi-arid West with funds derived from the sale of public lands in the thirteen western states.[44] The passage of this act led to the revival of the Great Northern Railway's earlier plans for the diversion of the waters of the St. Mary into the Milk for the purpose of irrigation in the Lower Milk River Valley of Montana. The experts of the newly created United States Reclamation Service visited the area and came to the conclusion that this scheme was feasible, especially since the water flowing through the Canadian portion of the Milk River could not be used for irrigation there.[45]

In Canada, the danger posed by these developments south of the border was first recognized by Dennis. In August 1902 he brought the matter to Sifton's attention. Dennis, who had just completed surveys which proved the feasibility of diverting waters from the Milk River for use in Canada, suggested that if the Americans turned the St. Mary's waters into the Milk, then the Canadians should take that water out for irrigation in Canada. In any case, the CNWIC was interested in using water from the Milk for irrigation projects it was hoping to start north of the Milk River Valley in Canada. Dennis urged Sifton to give encouragement to the company so that it could bring irrigation to the area. Less than two months later the Canadian government issued a permit to the CNWIC for the diversion of the waters of the Milk River.[46] At about the same time Ottawa also protested the proposed diversion of the St. Mary River in Montana. The protest achieved little besides starting a round of acrimonious exchanges between the State Department and the British Embassy in Washington.[47]

In the meantime preparations for the proposed diversions went ahead in both countries. The U.S. Reclamation Service made a new, detailed survey of the source region of the two rivers in 1903. As a result of this survey and further studies, it was decided to go ahead with the planned diversion of the St. Mary into the Milk River. The start of actual work on the project, however, was delayed. North of the boundary matters proceeded much more quickly. Construction on the CNWIC's Milk River diversion canal was started in 1903 and by the following year the canal's main section was completed.[48]

The building of the CNWIC's irrigation works along the Milk River alarmed settlers and U.S. federal agents in northern Montana. Early in 1904 they complained about the Canadians' plans in Washington. The American government in turn registered a complaint with Sir Mortimer Durand, the

British Ambassador to the United States. But the American protest met with an evasive answer from the Canadian government.[49]

By 1904 it was becoming increasingly evident that some sort of an agreement would have to be worked out between the two countries to head off an ugly diplomatic confrontation. The first to realize this were the lower officials and technical experts of the two federal governments. Once it became evident that the waters of the Milk River could be used for large-scale irrigation in Canada, the officers of the U.S. Reclamation Service began calling for an agreement between the two countries. They wanted the Canadians to guarantee the passage of the spring flood-waters of the St. Mary River down the Milk. In return, the United States could store waters in American reservoirs for use along the St. Mary River in Canada.[50] In Canada, an investigation was made of the whole question on Sifton's orders. The inquiry was headed by A.O. Wheeler, an official of the Department of the Interior. Accompanied by Magrath and George G. Anderson, an irrigation consultant to the Galt companies, Wheeler made an inspection tour of the St. Mary and Milk River area and later wrote a report recommending solutions. Wheeler's memorandum contained two important proposals. One was the suggestion that, in return for allowing the United States to convey the stored floodwaters of the St. Mary River down the Canadian stretch of the Milk River, Canada should be assured the total summer flow of the St. Mary River. The other was the proposal that the two rivers should be divided between the two countries in proportion to the irrigeable area on the two sides of the boundary.[51]

At the end of 1904 a stiff-worded protest was delivered by Secretary of State, John Hay, to Ambassador Durand. Hay emphasised that the waters of the Milk River had been appropriated by residents in Montana long before the Milk River diversion was made in Canada. He also stated that for every acre brought under irrigation north of the boundary, ''one or two'' acres of cultivated land would be destroyed in the United States. Secretary Hay concluded that the authorization of the Milk River diversion by the Canadian government was an act ''lacking in friendliness.'' Hay called for discussions between representatives of the two governments and hinted that if the question could not be adjusted to the satisfaction of his government, a way would be found to deliver the waters of the St. Mary River to the lower Milk River Valley through United States territory.[52]

Hay's call for a meeting of experts from the two countries was accepted, and in June of the following year Magrath and Galt met with officials of the U.S. Reclamation Service. At this conference a tentative agreement was

reached for the solution of the issue: the total waters of the two rivers should be divided equally, with one-third of the waters of the Milk and two-thirds of that of the St. Mary going to Canada. That this particular method of division would give Canada more than half of the water was apparently not realized by the American negotiators. The working out of the details of a proposed settlement was left to the experts of the U.S. Reclamation Service.[53]

The Reclamation Service was ready with the proposed agreement within a few months, yet it was not presented to Ottawa until some two years later. It is not easy to explain this delay. The fact is that the Reclamation Service's experts began to have serious doubts about their project. The engineers involved in the surveys questioned the project's feasibility. One of them complained in July of 1905 that no one among his colleagues was satisfied "as to the stability of the hillsides" in the area where the reservoirs and the diversion canal were to be built.[54] Yet it was probably not these doubts which caused the delay in the presentation of the American draft of the proposed agreement. The complaints of the engineers were dismissed by officials in Washington. "Stoppage of work," argued Charles D. Walcott, the Director of the United States Geological Survey, would weaken the "legal advantage" the United States had. He also stressed that the decision to go ahead with the project had been President Roosevelt's. According to Walcott, the American policy in this matter was designed to preserve United States water rights on the St. Mary River, to protect the rights of the people of the lower Milk River Valley, and to avoid the loss of "future irrigation possibilities."[55] Evidently, short-term economic considerations and diplomatic fair-play did not enter the picture. In fact, there is evidence that for some time the policymakers in Washington did not consider it necessary to come to an agreement with Canada. It seems that only after it became certain beyond doubt that it was not possible to use the water of the St. Mary River for irrigation in Montana without conveying it through the Canadian stretch of the Milk, that Roosevelt and his advisers decided to seek an agreement with Canada.[56] Thus it was only in March of 1907 that the draft of a convention for the solution of the problem was retrieved from the files of the Reclamation Service for further consideration. It was not till June of that year that it was presented to the British Ambassador.[57]

There is no need here to trace the prolonged negotiations which ensued after the presentation by the American government of the draft treaty regarding the apportionment of the waters of the St. Mary and Milk Rivers. It should suffice to say that after many delays an agreement was reached which was incorporated in a general settlement of issues relating to the use of waters which straddle or cross the Canadian-American international boundary. This settlement, the Boundary Waters Treaty of 1909, dealt with the St. Mary and

Milk Rivers controversy in one of its articles. This article provided for the equal division of the combined flow of the two rivers according to a complex formula. The supervision of the actual apportionment of the waters was entrusted to the International Joint Commission.[58]

Although following the signature of the treaty bitter and prolonged disputes arose concerning the interpretation of the article dealing with the irrigation issue, in 1909 the first phase of the history of the international aspect of the development of irrigation in the St. Mary and Milk Rivers basins came to an end. This phase seems to have been characterized by changing government attitudes to irrigation in the area. On the American side, federal interest did not start, aside from the passing of the Reclamation Act, until about 1904, reached its high point in the following year, and declined as the prospects of a negotiated settlement grew after 1907. In Canada, federal involvement in irrigation began in the mid-1890's and lasted for more than a decade. On both sides of the Canadian-American irrigation frontier the extent of federal preoccupation with the promotion of irrigation seems to have been directly related to the gravity of the international aspect of the situation as it was viewed by the experts of the two governments. That is, the interest of the two countries' federal authorities in local irrigation schemes increased when a threat to the water supply of the area was perceived, and decreased when this threat waned.

Because until 1903 no Canadian project posed a threat to irrigation possibilities in the United States while ever since 1891 the danger had existed that the water supply of the St. Mary River would be interfered with, Canadian federal involvement in the promotion of irrigation predated the American one. As soon as American interests were threatened, however, the American government reacted vigorously. In 1905 it allocated $1,000,000 for the completion of its Milk River project,[59] and insisted on the start of construction work in spite of the doubts voiced by its engineers about the project's technical feasibility. On the Canadian side of the boundary, too, the occasions of heightened government interest seem to have coincided with periods of perceived threat from the south. Pearce's and Magrath's warnings early in 1892 about the plans to dam the St. Mary River in Montana were followed by efforts to prepare the North-West Irrigation Bill. The rumours of renewed Montana interest in the project in 1894 led to a government survey of the site of the future St. Mary Canal. Late in 1902, when the American St. Mary diversion project became financially feasible, the Canadian government gave still another huge land grant to the Galt companies to encourage the expansion of their irrigation works in southern Alberta.[60]

The pattern of each government responding to a threatened diversion on the other side of the boundary by massive inducements to irrigation on its own side, is so marked that it is highly unlikely that it was brought about by a series of coincidences. In spite of this fact, it would be a mistake to consider the international factor as being the sole force behind the growth of irrigation on the Canadian-American irrigation frontier. Other factors, such as the growing pressure of public opinion, were also present. A combination of these factors led to the emergence on both sides of the boundary of federal policies of government aid to irrigation. And this aid was substantial. In Montana some $300,000 had been spent on the Milk River project by 1912 when the original canal site finally proved unsatisfactory and was abandoned.[61] In Canada, where the government was not directly involved in the construction of irrigation works, it is more difficult to establish how much works along the St. Mary and Milk Rivers had cost the country's taxpayers. First, there was the survey by government survey crews of the Alberta Irrigation Company's planned canal.[62] Then there was the $47,883 grant to one of E.T. Galt's companies in 1897. Later, another of Galt's firms received a "bonus" of $80,000 to build a railway along the St. Mary Canal. Even the city of Lethbridge contributed: it paid $30,000 toward defraying the cost of bringing water to the town's outskirts. But the most important inducements given to the Galt companies were the several land grants. There was for example, the grant of a half million acres given to the CNWIC late in 1902. Its purpose had been to encourage the company's irrigation activities in the lands north of the Milk River in south-central Alberta. The company paid $1 an acre for this land and was to pay an additional $2 per acre when the land was sold to settlers attracted by the development of irrigated agriculture.[63]

That E.T. Galt and his associates had taken advantage of the Canadian government's concern with the international complications arising from the problem of irrigation in southern Alberta is obvious. Typical of Galt's approach to the situation as a result of these international complications is the deal he proposed to the government in the summer of 1905. In July of that year, soon after the first discussions with American representatives on the St. Mary and Milk question had ended, Galt approached Sir Wilfrid Laurier with a proposal for a new land deal. Arguing that the use of additional water from the two streams would strengthen Ottawa's hands in the "proposed negotiations", Galt offered to buy an additional 1,250,000 acre tract of land adjacent to his company's holdings and irrigate it from the Milk River. He wanted to pay $1 an acre and hoped to receive an additional 500,000 acres free in order to defray the cost of constructing new canals.[64] But for once, Galt overshot his mark. The threat from Montana was not great enough to convince the government to get involved in a scheme of this nature and of these proportions. Declaring that the usefulness of the Galt company's Milk River

irrigation canal was "doubtful", Frank Oliver, the Minister of the Interior, advised Laurier against accepting Galt's latest offer.[65]

It may be asked to what extent local development had benefitted from the two governments' preoccupation with the promotion of irrigation in the St. Mary and Milk River area prior to 1909. This question cannot be easily answered. Obviously, the injection of federal funds into the local economy on both sides of the boundary did have a certain "pump-priming" effect.[66] On the whole, however, the race to build more and more irrigation works on each side of the boundary had dubious long-term benefits. It has been noted that the projects on the Alberta side of the Canadian-American irrigation frontier had been "premature" and never paid for themselves on a "long-term" basis.[67] That the same was true of the Montana scheme was admitted when A.P. Davies, the project's Chief Engineer, declared in 1907 that expected returns from the scheme were four times lower than returns on similar projects elsewhere.[68] There can be no doubt that, in the period under discussion, federal aid had greatly helped the development of the Canadian-American irrigation frontier, but it also is obvious that it did so at great cost to the two countries' taxpayers and with corresponding losses to the two national economies.

As the prospects of a negotiated settlement grew, the two governments proved less willing to invest more money into ventures whose prime purpose was to prove to the other side that the waters of the St. Mary and Milk could be put to beneficial use on home soil. Finally, the adoption in 1909 of the principle of equal division of the two streams' combined flow removed the need for establishing "vested rights" in and "prior claims" to the waters in dispute. Thus, after the signing of the Boundary Waters Treaty, a more realistic assessment of the irrigation needs of the area became possible. Not surprisingly, no new projects were started for a long time and, indeed, some half-finished works were abandoned. The CNWIC never completed its Milk River canal and, as has been mentioned, the original St. Mary — Milk River canal in Montana was abandoned in 1912. It was only years later that work was started on another one.[69]

The year 1909, then, brought to an end the phase in the history of the Canadian-American irrigation frontier in which development was influenced primarily by international rivalry. Canadian-American cooperation in the reclamation of arid lands in this area was present in this period, but only as a secondary, almost incidental factor.[70] Prior to 1909, the official relations between the two federal governments on the question of irrigation were characterized by distrust and antagonism rather than by a spirit of cooperation. Thanks to the wisdom and perseverance of statesmen like Elihu Root and

Laurier, eventually these suspicions and hostile feelings were overcome, an agreement on this and other issues arising along the international boundary was reached, and an atmosphere was created in which international cooperation had a better chance. That the St. Mary and Milk River "question" remained on the agenda of Canadian-American negotiations after 1909 was not the fault of these men, and is another story.

NOTES

[1] The average annual rainfall in Cardston, Alberta, is 11.5 inches; at Lethbridge, it is 10.2 inches. F.L. Wernstedt, *World Climatic Data*, (Lemont, Penna., 1972), p. 385. For points in northern Montana see pp. 466f.

[2] Lawrence B. Lee, "The Canadian-American Irrigation Frontier, 1884-1914," *Agricultural History*, Vol. XL, No. 4, (October 1966), p. 273. Other studies dealing primarily with the domestic aspects of the origins of irrigation in southern Alberta are Andy A. den Otter, "Irrigation in Southern Alberta, 1882-1901," *Great Plains Journal*, Vol. XI, No. 2, (Spring 1972), 125-137 (reprinted as *Occasional Paper No. 5*, Whoop-up Country Chapter, Historical Society of Alberta, 1975, pp. 5-24), C.S. Burchill, "The Origins of Canadian Irrigation Law," *The Canadian Historical Review*, Vol. XXIX, No. 4 (December 1948), pp. 353-362, and E.A. Mitchner, "William Pearce: Father of Alberta Irrigation," (Masters Thesis, University of Alberta, 1966).

[3] "Confidential memorandum on the St. Mary and Milk Rivers controversy," International Joint Commission manuscript by Lawrence J. Burpee, Records of the Canadian Section of the I.J.C., Docket 9, I.J.C. Office, Ottawa.

[4] *Great Northern Bulletin*, Vol. XVI, No. 76, (December 1903).

[5] Mitchner, pp. 7f.

[6] Canada, Department of the Interior, *Annual Report, 1895*, Part I, p. 6, "Irrigation in Canada," Printed in Canada, House of Commons, *Sessional Papers, 1895*, No. 13, Vol. X.

[7] Mitchner, pp. 6-8.

[8] C.A. Dawson, *Group Settlement: Ethnic Communities in Western Canada;* Vol. VII in the *Canadian Frontiers of Settlement* series, W.A. Mackintosh and W.L.G. Joerg, eds., (Toronto, 1936), pp. 197f; Charles A. Magrath, *The Galts: Father and Son*, (Lethbridge, n.d.), p. 15; Mitchner, p. 35.

[9] Mitchner, p. 25f.

[10] *Ibid.*, pp. 1-3.

[11] Canada, House of Commons, *Sessional Papers, 1885*, No. 8, Vol. VI, Memorandum by Pearce to H.H. Smith, Commissioner of Dominion Lands, 31 October 1885.

[12] Pearce's reports to Smith for 1886, 1887 and 1888. Printed in Sessional Paper No. 7 for 1886 (*Sessional Papers*, Vol. VI for 1887); Sessional Paper No. 14 for 1887 (*Sessional Papers*, Vol. XII for 1888); and Sessional Paper No. 15 for 1888 (*Sessional Papers*, Vol. XII for 1889).

[13] Memorandum by A.M. Burgess to Thomas White, the Minister of the Interior, 23 February 1886. Printed in Sessional Paper No. 8 for 1886. *Sessional Papers*, Vol. VI for 1886.

[14] Den Otter, "Irrigation in Southern Alberta," Occasional Paper No. 5, p. 8.

[15] A.A. den Otter, "Sir Alexander Tilloch Galt, the Canadian Government and Alberta's Coal," *Canadian Historical Papers*, 1973, pp. 21-42. For an intimate account of the Galts' land deals with the government see the letter of Frank Oliver to Sir Wilfrid Laurier, 1 July 1905, in Public Archives of Canada (PAC), Sir Wilfrid Laurier Papers, MG26G, Vol. 376.

[16] Dawson, p. 9.

[17] *Lethbridge News*, 8 June and 29 August 1888. On Magrath's role see p. 5 of the bibliographical sketch on him in the Jacobsen Collection, Box 30, Glenbow Foundation Archives. On the *Lethbridge News* attitudes to irrigation see A.A. den Otter, "Irrigation and the Lethbridge News," *Alberta Historical Review*, Vol. XVIII, No. 4, (Autumn 1970), pp. 17-25.

[18] "Irrigation in Canada", *Sessional Papers, 1896*, p. 6.

[19] Memorandum by J.S. Dennis (Jr.), Chief Inspector of Surveys, to E. Deville, Surveyor General, 27 January 1891. Sessional Paper No. 17, printed in Canada, House of Commons, *Sessional Papers*, Vol. XIV.

[20] Mitchner, *op. cit.*, p. 26. Lee, 1891, *op. cit.*, p. 276. Burchill, *op. cit.*, p. 359, especially n. 23.

[21] Mitchner, *op. cit.*, p. 37.

[22] The text of the resolution is printed in Canada, Legislative Assembly of the North-West Territories, *Journals, 1892*, p. 83.

[23] United States Congress, Senate, *Senate Document 41*, Part II, 52nd Cong. 1st Sess., pp. 105-07.

[24] Canada, House of Commons, *Sessional Papers, 1892*, No. 13, Vol. IX, "Report of the Superintendent of Mines," 1 December 1891.

[25] *Journals of the Legislative Assembly of the North-West Territories, cit.*, 12 January 1892.

[26] N.F. Dreisziger, "Colonel John Stoughton Dennis Jr. and the Establishment of the International Joint Commission of the United States and Canada," *Signum*, Vol. I, No. 3, (September 1974), pp. 18f.

[27] Mitchner, *op. cit.*, pp. 40-43; Burchill, *op. cit.*, pp. 359f.

[28] Canada, House of Commons, *Sessional Papers 1894*, No. 13, Vol. X, p. XXXIF; Burchill, *op. cit.*, pp. 360-62.

[29] PAC, Water Resources Branch, RG89, Vol. 14, Pearce to Burgess, 23 October 1894.

[30] Although basically a Mormon venture, no Mormons were included in the company's board of directors because of the anit-Mormon feelings in Canada at the time. Den Otter, "Irrigation," Occasional Paper No. 5, p. 9; Dawson, *op. cit.*, p. 207.

[31] RG89, Vol. 14, E.L. Newcombe to Burgess, 27 April 1895.

[32] *Ibid.*

[33] *Ibid.*, Memorandum by Dennis, 13 December 1894.

[34] Canada, House of Commons, *Sessional Papers, 1897*, No. 13, Vol. X, Report by Dennis, 1896.

[35] Canada, Parliament, *Statutes*, 59 Victoria 44, 23 April 1896. Den Otter, "Irrigation," Occasional Paper No. 5, p. 10.

[36] Sifton had promised to do a "great deal more" for the AIC if its owners really did "mean business." Magrath, 15f.

[37] PAC, Alexander Tilloch Galt Papers, MG17ID8, vol. 8, E.T. Galt to his mother, 19 June 1898; and Sir Clifford Sifton Papers, MG27IID15, vol 43, Galt to Sifton, 14 July 1898.

[38] RG89, Vol. 14, Order-in-Council, PC 3502/1897, 6 January 1898.

[39] PAC, C.A. Magrath Papers, MG30, Vol. 6, Copy of letter, Galt to E.H. Wilson, 13 July 1902, and Den Otter, "Irrigation," Occasional Paper No. 5, p. 16f.

[40] Lee, pp. 271 and 273; den Otter, "Irrigation," Occasional Paper No. 5, p. 22. In 1898 Galt himself admitted that without Sifton's support the launching of the project might not "have been possible." (Galt to Sifton, 14 July 1898, *loc. cit.*).

[41] John Bassett Moore, *A Digest of International Law*, (Washington, 1906), Vol. I, pp. 653f. On the Canadian implication of this American attitude, see J. Austin, "Canadian-United States Practice and Theory Respecting the International Law of International Rivers," *Canadian Bar Review*, Vol. XXXVII, No. 3 (September 1959), pp. 393-443.

[42] RG89, Vol. 14, Dennis to Pearce, 24 June 1895.

[43] *Ibid.*, Copy, Privy Council minute, 3645/1895, 8 January 1896; and copy of letter, Lord Paunceforte to the Earl of Aberdeen, 27 March 1896.

[44] F.H. Newell, *Irrigation in the United States*, (New York, 1906), p. 407. Also: Samuel P. Hays, *Conservation and the Gospel of Efficiency: the Progressive Conservation Movement, 1890-1920*, (Cambridge, Mass., 1959), p. 135.

[45] United States, Department of the Interior, *The First Annual Report of the Reclamation Service*, (Washington, 1903), pp. 206f.

[46] RG89, Vol. 14, Dennis to Sifton, 28 August 1902.

[47] James Simsarian, "The Diversion of Waters Affecting the United States and Canada," *American Journal of International Law*, Vol. XXXII. No. 3, (July 1938), pp. 489f.

[48] Burpee, *op. cit.*, p. 8.

[49] Simsarian, *op. cit.*, pp. 490f; and N.F. Dreisziger, "The International Joint Commission of the United States and Canada: A Study in Canadian-American Relations, 1895-1920," (Ph.D. Thesis, University of Toronto, 1974), p. 171.

[50] United States, Department of the Interior, *Third Annual Report of the Reclamation Service*, (Washington, 1904), pp. 291f.

[51] RG89, Vol. 14, Report by Wheeler, 6 December 1904.

[52] PAC, Records of the Governor General's Office, RG7 G21, Vol. 3, File 268, Hay to Durand, 30 December 1904. A copy of this note is in the Magrath Papers with the following annotation by Magrath: "An astonishing letter from Secretary Hay re. diversion of Milk River. He was misinformed by his own Government officials. Some day I may tell the full story.", (Magrath Papers, Vol. 6). Magrath never told the "full story."

[53] Undated, unsigned memorandum enclosed in RG89, Vol. 5, R.H. Campbell to Frank Oliver, 12 May 1909. See also, Laurier Papers, Vol. 376, Galt to Laurier, 6 June 1905.

[54] National Archives of the United States, Department of the Interior, U.S. Geological Survey, Records of the Reclamation Service, F.H. Newell to A.P. Davies, 27 July 1905, Project History, Milk River.

[55] *Ibid.*, Memorandum by C.D. Walcott, 2 April 1907.

[56] Dreisziger, "The International Joint Commission," pp. 174 and 185f, note 17.

[57] *Ibid.*, p. 175.

[58] *Ibid.*, pp. 175-183, 199-202 and 232-240.

[59] Reclamation Service, Appendix, Project History, Milk River.

[60] Laurier Papers, Oliver to Laurier, 31 July 1905.

[61] Reclamation Service, Appendix, Project History, Milk River.

[62] It should be noted that this survey was supplied to the promoters of all large-scale irrigation ventures under the provisions of the North-West Irrigation Act of 1894. The AIC was favoured in that its lands were the first to be surveyed by government surveyors at public expense.

[63] Laurier Papers, Oliver to Laurier, 31 July 1905. According to Oliver, irrigable land was selling for between $6 and $10 an acre at the time.

[64] Laurier Papers, Vol. 376, Galt to Laurier, 11 July 1905.

[65] Laurier Papers, Oliver to Laurier, 31 July 1905.

[66] The magnitude of this effect should not be overestimated. On the Milk River project in Montana both labour and construction materials had to be imported from distant locations.

[67] Lee, *op. cit.*, p. 272; C.C. Spense, "Water and Irrigation in Canada," *International Journal of Agricultural Affairs*, Vol. III, No. 1, (January 1966), p. 1. Why Canada's experience with irrigation was "premature" and why her government assisted projects that were economically not feasible is not really explained by these authors.

[68] Reclamation Service, Memoranda by A.P. Davies, 18 September and 7 October 1907, Project History, Milk River, *cit.*

[69] *Ibid.* Appendix.

[70] One often cited example of such cooperation is the work of the Mormon community of southern Alberta. It should be remembered, however, that the first Mormons came not as representatives of American goodwill and cooperation, but as fugitives from American law. Another example of cooperation which may be brought up is the work of George G. Anderson in connection with irrigation problems on both sides of the boundary. But Anderson was a Scotsman; had he not been one, he could have hardly won the confidence of Canadians.