

Articles

Treaties and Tuberculosis: First Nations People in late 19th-Century Western Canada, a Political and Economic Transformation

J. W. DASCHUK
PAUL HACKETT
SCOTT MACNEIL

Abstract. This paper examines the explosion of tuberculosis infections among First Nations communities of western Canada during the critical period from Canada's acquisition of the Northwest to the early 1880s. In the early 1870s, the disease was relatively rare among the indigenous population of the plains. Within a few years, the situation changed dramatically. By the early 1880s, TB was widely recognized to be the primary cause of morbidity and mortality among First Nations populations. Rather than direct infection from the burgeoning European population in the region, the explosion of the disease was caused by sudden ecological, economic, and political changes in the west that were primarily the result of the imposition of Canadian hegemony.

Résumé. Cet article étudie l'explosion du nombre de cas de tuberculose dans les communautés des Premières nations de l'Ouest canadien pendant la période-clé allant de l'acquisition du Nord-ouest par le Canada jusqu'au début des années 1880. Au début des années 1870, la maladie est assez rare chez la population autochtone des plaines. En quelques années, la situation change de façon spectaculaire. Au début des années 1880, la tuberculose est largement reconnue comme la cause première de l'état malade et de la mortalité parmi la population autochtone. Il ne s'agit pas d'une infection directe par la population européenne de la région, population en pleine croissance, mais plutôt de la conséquence de

J. W. Daschuk, School of Public Policy, University of Regina.

Paul Hackett, Department of Geography, University of Saskatchewan.

Scott MacNeil, Research Associate, Community Health Sciences, University of Manitoba.

changements écologiques, économiques et politiques soudains qui affectent l'Ouest et qui surtout dûs à l'imposition de l'hégémonie canadienne.

The 1870s were years of unprecedented transformation on the Canadian plains. Politically, the region shifted from the nominal control of the Hudson's Bay Company, the *de-facto* government for the previous half-century, and became a satellite territory of the fledgling Dominion of Canada. At the beginning of the decade, the First Nations of the west were self-governing peoples relying almost exclusively on the bison hunt as the basis for their economy. As the new Dominion sought to consolidate its control over the region through the treaty process, it passed the *Indian Act* in 1876 thereby making all "Indian" inhabitants of the plains legal wards of the Canadian state. By the 1880s a second stage of the transformation signalling a catastrophic ecological collapse accompanied these political changes. The bison were all but extinct. Although the conversion to agriculture was the economic cornerstone of most of the numbered treaties, the adoption of agriculture was still in its infancy when the bison disappeared. Traditional plains societies could no longer sustain themselves. Their economy devastated, the First Nations people were compelled to seek assistance from their new treaty partners. They needed assistance not only to reorient their hunting economy to farming, but in many cases to simply secure enough food for short-term survival. As a result of the transformations of the 1870s, these people emerged in the early 1880s as a "subjugated" people.¹

A third and final aspect of the transformation was also at work during the 1870s. Weakened by their loss of political autonomy and of their most important food resource, the First Nations of the west were left open to the ravages of a "new" disease. Prior to Canada's acquisition of the territory, acute infectious diseases such as smallpox, influenza and measles periodically appeared from elsewhere to sweep the west in epidemic form. Within years of the initiation of treaties on the plains, tuberculosis, a chronic infectious disease that thrives on disruption and human privation, had established itself as the dominant threat to the health of the First Nations population of the region.² The impact among the vast majority of reserve communities was nothing short of devastating. And yet, critically, its effect was not felt evenly throughout the region; some groups escaped the brunt of the disease, while others were ravaged. As a result, tuberculosis left a mottled pattern upon the human geography of the west. The following discussion will consider the ecological, economic, and political forces that shaped the rise of epidemic tuberculosis within First Nations communities of the Canadian plains, and the nature of this variegated pattern of disease.

Generally speaking, tuberculosis is a reluctant disease. It is not easily contracted in the absence of underlying health challenges, for the tuber-

culosis bacillus is only weakly communicable. Unlike diseases such as measles or smallpox, very few of those exposed to an active tuberculosis carrier will themselves become infected with the bacillus. Most healthy individuals who may become infected have sufficient resistance as to be able to prevent the emergence of active tuberculosis indefinitely.³ Tuberculosis also differs from most other communicable diseases in that, while an individual may successfully fight off the primary infection initially, the resulting resistance is not sufficient for the infected to rid themselves of the bacteria completely. The infection can lie dormant until a later period when stress lowers the individual's immune system.⁴ When social conditions break down, when poverty, constant stress and malnutrition become part of everyday life, and when the tuberculosis bacillus is present, the disease may emerge in active form in the individual, and in epidemic form in the community if such negative conditions are widespread.⁵ On the plains, amidst the new political and environmental reality stemming from the transformation of the late 1870s and early 1880s many of the negative social and economic factors associated with the early reserve experience contributed directly to the explosion of tuberculosis among the reserve communities in the west.

In their paper examining the historical and evolutionary relationship between TB and humans, Clark, Kelley, Grange, and Hill suggested that the high incidence of the disease among certain Amerindian populations "may have been the result of enforced changes in ecological and environmental factors rather than of exposure to a new infectious disease."⁶ The historical experience of the First Nations in western Canada was not only consistent with this observation, it was singled out by the authors as a case study in the interrelationship between the social and economic dislocation and the emergence of the disease. Certainly the tuberculosis bacillus was present, if not widespread, in the west prior to the late 19th century, and there may have been localized outbreaks of tuberculosis among certain groups prior to the mid-1800s.⁷ By the latter part of the century, however, tuberculosis was so common as to be considered nearly universal among the indigenous population of the Canadian plains. A veritable explosion of tuberculosis had occurred, fuelled by the convergence of changing ecological, economic, and political circumstances of the First Nations peoples.

The emergence of tuberculosis in the 1870s signified a shift in the disease load of the indigenous people of the west. As the decade began, a smallpox epidemic devastated central Alberta and spread eastward along the North Saskatchewan River killing, by official accounts, almost 3500 Blackfoot, Métis and Cree.⁸ However, within a decade smallpox was largely contained through vaccination, and tuberculosis replaced it as the most serious long-term danger to the health of indigenous people on the plains. This epidemiological shift is clearly evident in the medical reports of the day.

When Canada acquired Rupert's Land in 1870, there were no professional physicians on the plains west of the Red River settlement. The Canadian government and its nascent western administration were often slow in responding to some of the medical needs of the Plains Indian population. However, the simple truth is that prior its acquisition of the Northwest, the Dominion Government had no conception of the extent of the medical problems facing the indigenous people of the west. In fact, local administrators were without accurate information regarding even the location of, or prevailing living conditions in, the Indian communities across the region. In 1870, Lieutenant-Governor Archibald of the Northwest Territories sought to rectify this situation by ordering Lieutenant William Butler to undertake a reconnaissance mission to the plains to ascertain both the extent of the recent smallpox epidemic and the general state of affairs in the region. Butler chronicled his journey in the classic, *The Great Lone Land*.⁹ This account provided a detailed picture of the conditions of Aboriginal communities in the wake of the epidemic. Ordered specifically to report on the health situation of Indian communities, Butler provided a chilling account of the effects of the smallpox epidemic, especially among the Cree along the North Saskatchewan, noting that they were otherwise doing well; they "are perhaps the only tribe of prairie Indians who have yet suffered no injustice at the hands of the white man. The land is still theirs, their hunting grounds remain almost undisturbed."¹⁰ Butler went on to speculate that "their days are numbered, and already the approaching wave of western migration is sounding through the solitudes of the country." Further west, the young Lieutenant described the erosion of Blackfoot society at the hands of the whiskey traders from Montana. Butler's narrative was the most complete discussion of social conditions among the inhabitants of the Northwest to that time. He made no mention of consumption.

The first direct reference to tuberculosis, or more specifically to scrofula,¹¹ among the plains people during this period was made by George Munro Grant, a member of Sandford Fleming's Pacific Railway expedition in 1872. In his memoir of the journey, *Ocean to Ocean*, Grant described what he considered the inevitable fate of the First Nations people in the west, "[i]t may be said, do what we like, the Indians as a race, must eventually die out. It is not unlikely. Almost all of the Indians of the Northwest are scrofulous."¹² Grant was less categorical later in his text. The expedition encountered only two Aboriginal communities between their departure from Red River and the Rockies. At the Touchwood Hills, the resident Saulteaux were reported to have had "a good many skins on their carts."¹³ At Victoria, the Methodist Mission on the North Saskatchewan just west of the present Alberta-Saskatchewan border, Grant described good conditions among the 20 to 30 families of "halfbreeds" and as many as 700 or 800 Crees under the tutelage of the

missionaries, where agriculture, hunting and fishing were practised successfully.¹⁴ As the survey party moved west into the mountains, Grant reported that the few Aboriginal communities people they had seen since leaving Red River did not “give the whole truth” regarding the conditions in general. He asserted “the Indians are evidently decreasing; “dying out” before the white man.” Grant then described the situation among the Blackfoot, who had come under the influence of American traders, “plentifully supplied with a poisonous stuff, rum in name, but in reality a compound of tobacco, vitriol, bluestone and water. This is completing the work that scrofula and epidemics and the causes that bring about scrofula and epidemics were already doing too surely: for an Indian will part with horse and gun, blanket and wife for rum.”¹⁵

The decline of the Blackfoot Confederacy was further described by the Adjutant General of the Canadian Militia, Colonel Patrick Robertson-Ross, who travelled through the west in the fall of 1872. His population profile of the Confederacy was based on the census undertaken by Jean L'Heureux, a defrocked Catholic Priest, who had considerable experience among the people of Southern Alberta. Using L'Heureux's data, the Colonel reported a combined population of the Blackfoot to be 10,092.¹⁶ During 1871, the number of deaths within the Confederacy as a whole was 221: 133 deaths attributed to disease, and 88 to murders “committed in drunken brawls and from the effect of liquor.”¹⁷ Deaths from both disease and violence varied within the nations of the Confederacy. Among the Siksi-ka, or Blackfoot, 43 succumbed to disease, three to violence.¹⁸ The Peigan lost 34 people to illness and 27 from alcohol related violence.¹⁹ Their relatives, the Northern Peigan lost 12 to disease and 13 to liquor. The Sarcees, or “plains Beaver Indians” as Robertson-Ross called them, lost none to alcohol abuse but seven to sickness. The level of violence among the Blackfoot resulting from the whiskey trade had been astonishingly high since the beginning of the decade. In his memoir, Methodist Missionary George McDougall reported that during a two-month period over Christmas 1870, “[n]o language can describe these drunken orgies; more than sixty Blackfeet have been murdered; and if there can be a transcript of hell on earth, it is here exhibited.”²⁰ Though the Robertson-Ross report did not specify which diseases were responsible for the deaths among the Blackfoot, the social breakdown and alcohol associated with the short-lived “Fort Whoop-Up” trade would have certainly elevated the risk factors associated with an outbreak of tuberculosis, supporting the connection between scrofula and alcohol abuse noted in Grant's *Ocean to Ocean*.

The situation changed for the Blackfoot with the arrival of the North-West Mounted police in the late summer of 1874. Within a year of their establishment in southern Alberta, police reports indicated that the Pikanis (Peigan) had regained their affluence. They had between five and

8000 horses at their camp at the head of the mountain, in the Cypress Hills.²¹ In addition to quickly stamping out the whiskey trade, the force brought the first medical doctors (outside of the fur trade) and systematic recording of health conditions within the Blackfoot Confederacy. Police physicians were not only responsible for the well-being of members, they were instructed to “attend any Indians who came for medical or surgical assistance to the post.”²² According to Commissioner French, “this course would not alone be productive of cordiality between our men and the Indians, but that it would impress the Indians with the belief that the Government really mean to deal fairly with them.” At least one member of the force was fined and briefly imprisoned for refusing to provide adequate assistance to a small group seeking medical assistance at Swan River in eastern Saskatchewan.²³

Mounted Police physicians began their work among First Nations groups even before their arrival in Southern Alberta in the fall of 1874. Surgeon John Kittson, attached to the southern Column of the force, recorded his first encounter with plains people, near Old Wives Lake, southwest of the present city of Moose Jaw. The band, identified by the surgeon only as Teton Sioux,²⁴ was composed of nine men, seven women and several children. After negotiating with their “herb man,” Kittson conducted a “sick parade²⁵” for the group. The physician recorded: one case of pannus (blooded eye), one of sciatica, two cases of dyspepsia and three of phthisis (pulmonary tuberculosis). Dr. Nevitt accounted for the presence of the latter two conditions, “[t]hat such disease as consumption and dyspepsia, should be common, among the Indian women did not surprise me, two diseases, which PAR EXCELLENCE [sic], follow in the wake of want, hardship and exposure.”²⁶

The Sioux described by Kittson may well have been experiencing both military and environmental pressure in their core territory to the south. Though recent studies have shown that they crossed the 49th parallel more often than previously recognized,²⁷ large numbers of Teton Sioux did not cross into Canadian territory from the United States until after the battle of the Little Big Horn in 1876. The Teton encountered by the police during their westward march may well have been under nutritional stress, as accounts of the march indicate that the force did not see any buffalo prior to their entry in the Cypress Hills and underwent severe privation themselves on their journey.²⁸

Hunger became an increasingly common fixture within Aboriginal plains communities during the early 1870s. By that time, the disappearance of the bison herds from western Manitoba was fact, an ominous portent of things to come. Periodic but severe famines were reported at various localities. The ever-diminishing herds could no longer sustain the hunting bands that had focused almost exclusively on the resource for a century or more. Joseph Christie of the HBC reported that adverse

weather conditions in January 1873 had led to widespread famine across the plains.²⁹ Even communities that had supplemented their hunt with agrarian production experienced hardship resulting from environmental factors. Consecutive grasshopper infestations through the early years of the decade were reported across the plains and the established farming region near Red River.

As the decade progressed, hardship and periodic starvation became increasingly common on the plains. Widespread famine and deaths from starvation were reported among the Cree along the North Saskatchewan between Fort Carlton and Edmonton during the spring of 1874. Charles Napier Bell, who spent 1872-73 hunting and trading along the Saskatchewan River, reported that many of the Cree along the North Saskatchewan had been forced to eat their horses prior to succumbing to hunger as "there were no buffalo on the plains all winter."³⁰ Communities in the parklands to the east were also experiencing increasing hardship. At the Touchwood Hills Mission, the Anglican Minister Joseph Reader reported to his superior that the Saulteaux had also eaten their horses and even the missionary's pet dog because of the scarcity of food.³¹ In July 1874, Rev. Reader stated that the shift from the bison hunt to agriculture was both necessary and inevitable, "One thing is certain, & that is if they *do not* [sic] cultivate the land, they will become extinct as a people, for while they are hunting on the plain & trading with the Company their numbers as fast decreasing. But I hope that they may be preserved as they are a noble race."³² Sarah Carter has written that the Saulteaux of the Touchwood Hills had been cultivating the land for decades, possibly as early as the 1830s, but that the community had been in serious decline owing to the destruction of their crops from recurrent infestations of grasshoppers.³³

Early in 1875, Reader's reports indicated that the members of George Gordon's Band who were at the mission were not eating regularly and were receiving donations of clothing from England. Reader lamented, "[t]hey, in fact, nearly the whole band, are wretchedly poor. Their houses are miserable huts. Some of them are so low that, if one attempts to stand erect, you get a blow on the head. It is no wonder that, living in such houses, many of them are weak and sickly in the chest."³⁴

Some Native leaders recognized early that the bison hunt was no longer sustainable and that in order to survive their economies would have to be reoriented towards agriculture in order to survive. As early as 1871, the North Saskatchewan Cree Chief, Sweet Grass, requested a Treaty with the Dominion government. Along with a formalizing of relations and medical care, Sweet Grass requested cattle, agricultural implements and assistance to the conversion to agriculture as "our country is no longer able to support us."³⁵ The pledge of government assistance in the shift to agriculture was a key feature in both Treaties 4 and 6. The lat-

ter, concluded after days of intense negotiation at Fort Carlton in the late summer of 1876, included new clauses dealing with farming assistance, famine and pestilence relief, and the contentious “medicine chest” clause, whose legal definition remains unresolved to the present. Ray, Tough and Miller noted that the Cree who completed the Carlton Treaty were seeking to renew their longstanding tradition of assistance in times of need from Europeans, described in their discussion as a “social safety net” in the fur trade economy.³⁶ Although there were Aboriginal hold-outs to the agreements, the signing of the Treaties 4 and 6 appeared to at least partially satisfy both First Nations and Dominion officials. Because the government committed itself to assisting in the difficult transition to a new way of life, in addition to promises of food relief in times of serious crisis, leaders of plains communities saw the agreements as positive steps toward their conversion to a new agrarian based economic paradigm. Government officials saw the Treaties as a means to settle the question of ownership of the land, opening the country for the expected but as yet unrealized flood of immigrants who would transform the plains into what some promoters called an agrarian “Eden.”³⁷ At the time of the buffalo famine of the late 1870s, few settlers had actually taken up their new land in the west. As the 1870s drew to a close, the number of new settlers who had actually moved to the Canadian Northwest were to be counted in the hundreds rather than the anticipated thousands.³⁸

Within months of the completion of the Carlton Treaty, an example of the health risks inherent in large-scale immigration was in evidence in the region surrounding Gimli, Manitoba, when Icelandic immigrants inadvertently brought smallpox with them to Lake Winnipeg. Large numbers of both Icelanders and Aboriginal people died. Dominion officials were unprepared for a large-scale medical crisis beyond the settled area of the country and officials were forced to act without consulting their superiors in Ottawa. Historian James Mochoruk noted that the decision of Alexander Morris to establish a “cordon sanitaire³⁹” north of Red River without financial approval from Ottawa led to his dismissal by the Liberal Government.⁴⁰ This punitive action was indicative of the Dominion government’s centrist approach to Indian policy; local decision-making regarding specific threats to the health of the Indians in the west were always contingent on political, economic, and bureaucratic approval from Ottawa. This practice was to have grave consequences for First Nations people who contracted tuberculosis in the latter part of the 19th century.

In 1877, Daniel Hagarty was hired to serve as Medical Superintendent of the Department of Indian Affairs.⁴¹ His appointment signalled an acknowledgment on the part of Dominion authorities that it needed to improve its monitoring of First Nations health conditions in order to avoid new epidemics in the wake of the expected flood of settlers. Dur-

ing Hagarty's three-year tenure he and the NWMP physicians vaccinated a substantial part of the indigenous population of the west. In effect, from the late 1870s onwards smallpox ceased to be a large-scale health threat to Aboriginal people in the west, replaced instead by tuberculosis.

Reports by Hagarty and the Mounted Police physicians during their vaccination campaign in the late-1870s provide a record of changing health conditions across the Prairies. In his January report in 1877, Surgeon Nevitt reported that at his practice among the Niitsitapi at Fort Macleod,⁴² he had treated nearly 300 Natives, "including of course women and children" during the previous year. He noted that he had ordered vaccine to counter a reported outbreak of smallpox across the border. In addition to people coming to him for relief of their various pains, he described the removal of a cancer from a woman and her eventual recovery, two people with pneumonia, who "did remarkably well under treatment," and being called to a birth "which was beyond the obstetrical skill of the Indian midwives." Though Nevitt was occasionally frustrated by the language barrier, he reported on the general well-being of the population under his care: "[t]he presence of phthitic disease⁴³ is not marked to the extent I had anticipated, but it is a difficult thing to get at the truth of such things through an interpreter." Although the surgeon was kept busy with his medical work for Indian Affairs, his report indicates that the medical situation in southern Alberta, at least, was under control at the beginning of 1877.

Through 1877, tension mounted throughout the prairies over the increasingly precarious food situation. The arrival of several thousand refugee Sioux from the United States exacerbated the food shortage as dwindling bison herds were incapable of providing adequate sustenance for all groups on the plains.⁴⁴ South of the border, the American military began a campaign against the Nez-Percé, heightening tension in Canadian territory as rumours spread of an uprising being organized in southern Alberta.⁴⁵ The bison population in American territory was further undermined by increased hunting, augmented by the arrival of a railway in Dakota Territory, and an outright extermination program, undertaken by the U.S. Army as a means of "pacifying" the Aboriginal population.⁴⁶ In addition to pressure on the herds from the south, 3,600 people who had taken treaty and had moved to reserves abandoned their new homes to follow the dwindling herds to the Cypress Hills, temporarily abandoning agriculture for the hunt.⁴⁷ To check the increasingly chaotic situation in the southwestern plains the Dominion government hastily completed Treaty 7 during the summer of 1877.

The authors of a recent book on the Blackfoot Treaty have noted that the document was first and foremost a peace treaty, but the complete nature of the agreement remains largely unclear.⁴⁸ Land issues and agriculture do not appear to have been discussed. Hunger does not appear to

have been a factor in the completion of the Treaty. At the negotiations, the Blackfoot Chief, Crowfoot, refused to accept government food until his concerns were addressed, a sign that his people were not in immediate need of food.⁴⁹ The treaty, which was hastily completed under the growing shadow of violence south of the 49th parallel, was viewed by the Canadian authorities as a means to secure the peace, designed to avoid hostilities with the Niitsitapi alliance, and was not initially viewed by the latter as a means to augment their food supply. The Blackfoot were more concerned with achieving an agreement that protected their communities from the coming waves of white migration.

Through 1877, police physicians recorded no significant changes in health conditions among their Aboriginal patients. Dr. Nevitt at Fort Macleod reported a large case load of Aboriginal patients. He recorded 286 patients between the Treaty in September and the end of the year. Even Chief Crowfoot himself had been under Nevitt's care for sciatica, but the scarcity of available medicines left the physician frustrated with the level of care that could be provided for his famous patient.⁵⁰ Nevitt's reports for this period made no mention any specific or serious outbreaks.

Surgeon George Kittson, Nevitt's colleague at Fort Walsh, provided a more detailed account of health conditions in the Cypress Hills.⁵¹ He noted that 276 children at Walsh had been vaccinated since the summer and that vaccination depots had been established with vaccine having been forwarded to all the large camps in the area. Kittson added, "Indians are very skilful in applying the virus."⁵² He then described the nature of his practice: "[t]he principal diseases prevailing among the Assiniboine and Cree Indians are "granular ophthalmia" leading if not attended, to partial and even total blindness, consumption and scrofulous diseases of the bone. Almost every camp has one or more blind. I think I can safely say that two out of every three sufferers that call at the surgery for alleviation are for disease of the eyes. The principal cause is the unusual smoky state of their lodges." Kittson then referred to his tuberculosis patients: "[c]onsumption prevails more among women than among the men⁵³.... Although scrofula in all its forms are very common, still very few cripples are seen among them, as victims succumb to the disease in a very short time." Clearly, tuberculosis was present among the First Nations in the Cypress Hills but Nevitt's comment about eye disease being the bulk of his caseload indicates that up until 1877 tuberculosis was not yet the primary cause of sickness and death. The precarious food situation developed into a full-blown crisis during the winter of 1877-78, known as the "Black Winter" because of the absence of snow.⁵⁴

Accounts of hardship and starvation resulting from exceedingly warm temperatures and the dearth of snow were reported as far north as the Athabasca and the Mackenzie, and as far to the northeast as Cumberland House.⁵⁵ The prairie fires resulting from the drought drove the remain-

ing herds of bison into the high country of the Cypress Hills. Police Commissioner James Macleod's report submitted in the spring of 1878 stressed that the situation on the southern plains was "entirely different from any we have experienced since the arrival of the force in the country."⁵⁶ The hunt among the Blackfoot was a complete failure and many groups were forced to travel as far as 100 miles from their usual winter locations to find remnant herds. With the exception of a few camps, Macleod wrote, most "were in a starving condition."

On the southern plains, where the population had been almost exclusively dependent on the bison, the conditions deteriorated through 1879. Official correspondence of the Indian Department acknowledged deaths from "actual starvation" at Blackfoot Crossing and "young men who a few months before had been stout and hearty were reduced to perfect skeletons."⁵⁷ Police physicians quickly observed the medical consequences of the famine in the southwest. At Macleod, Dr. George Kennedy noted the prevalence of venereal disease, phthisis and other chest infections.⁵⁸ The latter two "were found to be especially common among the females, and it was rare to find a woman over thirty years of age with sound lungs." Acute diseases such as typhoid, measles, and scarlet fever also spread through the weakened population.

By the summer of 1880, an estimated 2500 destitute people were drawing rations from the police post at Fort Walsh. Scarlet Fever was killing as many as 30 people each month.⁵⁹ In keeping with his assigned role as a frontline physician for First Nations people, Surgeon Kittson wrote a long letter to the Indian Department outlining the inadequacy of government rations being supplied to the hungry and sick population gathered at Walsh.⁶⁰ He stated that with the extinction of the bison, hunting could no longer be considered a realistic mode of subsistence. Rations were the only short-term means of keeping the population alive. The approved allotment of government food, $\frac{1}{2}$ lb. of flour and $\frac{1}{2}$ lb. of meat per person per day was, according to Kittson, "totally insufficient." To underscore the point, the physician noted that the standard ration for members of the force contained five times as much flour and meat. Kittson added that even state prisoners in Siberia were given a daily ration of a pound of meat, four pounds of bread and a quarter pound of buck wheat flour to maintain them. His report was forwarded eventually to John A. Macdonald, who acted both as Prime Minister and the Superintendent General of Indian Affairs for almost a decade after his return to power in 1878. The report had little immediate effect on Macdonald's policy, and although some increase in the ration amounts were eventually granted, it was not enough: "Reports of hardship and death by starvation [amongst the Blackfoot] were legion during the 1880s."⁶¹ In light of the woefully inadequate assistance to meet the nutritional needs of the indigenous population during what can only be termed the buffalo

famine, it is not surprising that after 1880, tuberculosis became the primary cause of death on the Blackfoot Reserve, the disease striking especially hard among children.⁶²

The precipitous decline of health conditions among the Blackfoot between 1877 and 1879 can be attributed to their absolute dependence on bison for sustenance and an inadequate supply of food from government officials. The area covered by Treaty 7 in southern Alberta was unsuitable for agriculture, and such a conversion does not appear to even have been discussed during the negotiations at Blackfoot Crossing in 1877. In contrast, the Aboriginal communities which signed Treaties 4 and 6 had prepared for the end of the bison as a viable staple food. The conversion to agriculture, and government assistance in the shift, were key factors in the completion of those treaties. In *Lost Harvests*, Carter stressed the earnestness with which the Qu'Appelle people took to post-treaty cultivation. She also noted that problems arose soon after the signing of the Treaties, as communities that adopted farming were often frustrated by the inadequate assistance provided for their farming operations.⁶³ At the onset of the famine in 1878, the vast majority of Treaty signatories were still unable to adequately feed themselves through agriculture. Many were forced to revert to hunting as a means to survive.⁶⁴ John Tobias noted that in 1878, more than half of the reserve populations in the areas covered by Treaties 4 and 6 abandoned their homes for the Cypress Hills in a desperate search of food.⁶⁵

In April 1878, M.G. Dickieson, the Indian Agent for Treaty 6, began regular trips to Montana to purchase cattle for the hungry population.⁶⁶ By the summer, a stockade was built around the government's Battleford storehouse to protect supplies from those same Aboriginal people.⁶⁷ Between 1878 and 1880, officials in the new territorial capital at Battleford were under almost constant pressure from hungry people requesting relief.

Although famine was becoming prevalent on the plains, it was not universal in the summer of 1878. Fishing was still a reliable subsistence strategy along the lakes to the north, providing some bison hunting communities with a fall-back strategy to meet their immediate needs. Dr. Andrew Everett Porter, who had recently arrived in the Northwest, accompanied the Treaty party to Sounding Lake, south east of Edmonton, and was astonished at the good health of the 2000 people who had gathered there.⁶⁸ On his return to Prince Albert, Porter was summoned to Cumberland House to treat the "tuberculosis maternity case" of the spouse of HBC Factor Horace Belanger.⁶⁹ The physician traveled down to Cumberland by canoe and returned in a York Boat, towed by about 50 Cree and Métis men, a sign that the population on the margins of the plains were both willing and able to work. In his memoir, Porter noted that acute infections, particularly scarlet fever and influenza, were on the

increase among the Aboriginal population owing to more frequent contact with whites, but he made no other mention of tuberculosis. Rather than simply being oblivious to the declining health of the First Nations population, Porter's memoir likely is a reflection of the situation he witnessed in communities in Alberta and eastern Saskatchewan yet to experience the social and economic dislocation associated with the widespread development of tuberculosis. This part of the transformation, then, was not yet at play.

On the northern plains, fishing proved but a temporary reprieve from the suffering. In his report from Edmonton for 1879, Indian Agent James Stewart lamented the inadequate supply of food for the hungry, "I may well call them sufferers, for I have not seen anything like it since my long residence in the country. It was not only the want of buffalo, but everything else seemed to have deserted the country; even fish were scarce." Stewart reported that many spent the intensely cold winter naked, and had eaten their horses and dogs. These and other desperate measures by the Natives proved inadequate in the face of the decline of their resources, and it was left to the Agent to provide them with sufficient food in order to stave off actual starvation.⁷⁰

For the increasingly malnourished indigenous population of the west, the food crisis among the First Nations of the prairies worsened with the election of the Conservative government under John A. Macdonald in the fall of 1878. Indian policy shifted from a position of relative ignorance under the Liberals⁷¹ to one which used "food rations" as an outright tool of "coercion" under the Tories.⁷² Macdonald's agenda of mass immigration for the west was contingent on the subjugation of plains people to facilitate both the building of the railway and the settlement of the prairies.⁷³ Prior to the arrival of the railhead at Maple Creek in 1883, rations were withheld from thousands of starving people until they complied with orders for their relocation away from areas of imminent development. With this, First Nations communities were, with very few exceptions, permanently expelled from the South Saskatchewan River Basin in what would later become the Province of Saskatchewan.

Edgar Dewdney, the new Conservative administration's appointee as Indian Commissioner for the territories, soon came into conflict with the police who had been attempting to mitigate the effects of the famine as best they could. Dewdney refused, in his words to give "*carte blanche*" [emphasis in original] to ration all of the hungry gathering at police detachments.⁷⁴ Although official accounts noted that the hardship on the eastern plains was not as severe as that in the Treaty 7 area, starvation and deaths from "exposure and want" were recorded at Qu'Appelle, Touchwood, and Moose Mountain in the summer 1879.⁷⁵ By August, the Prime Minister was informed that 14,000 people west of Fort Ellice were "on the point of starvation."⁷⁶ Yet the report did nothing

to affect government food ration policy that continued to be used as a means to control the indigenous population.

Dr. Hagarty's report of his vaccination efforts in eastern Saskatchewan in the summer of 1879 detailed the precipitous decline in health conditions that were a consequence of the famine. Reporting on White Bear's Band at Fort Ellice on August 5th, the physician remarked:

"[t]he Indians at this place are very much emaciated Hunger has shown its terrible effects upon them and scrofula and other kindred diseases are becoming deeply rooted. In 1877 when I passed through here I was struck with the healthy appearance of the Indians, the freedom of disease, the general light-heartedness and the happiness and contentment which prevailed, but today presents an entirely different picture, scrofulous disease of the eyes, caused by poverty, smoke and filth is I think on the increase."⁷⁷

Ten days later, at the Touchwood Hills, the physician noted "about the same condition of things as I found at Fort Ellice, disease, hunger and lassitude."⁷⁸ When the doctor was informed by a deputation from the bands that they were starving, Hagarty was able to augment their rations for only four days. He could do little about the general food situation, he told the representatives of the hungry at Touchwood that he was himself a servant "and could only do as I was ordered."

Constrained by the inability of physicians to secure food to their hungry and increasingly sick patients, the delivery of health care to the Aboriginal population of the west was further undermined by the dismissal of Hargarty, a Liberal appointee, by the Conservative government, because his services "were no longer necessary" in the spring of 1880.⁷⁹ Medical care for the First Nations people was to be entrusted to the police and local physicians in Manitoba and the Northwest territories. This was, according to the Prime Minister, the best course "for the Indians and the most economical for the Government."⁸⁰

Hagarty's inability to improve the food situation among the hungry population was not confined to the Qu'Appelle area. Near Battleford, Robert Jefferson, a teacher at Red Pheasant's Reserve noted that medical care delivered by the Indian Department was hamstrung by physicians being unable to supply food, except to the very sick. Jefferson observed the connection between malnutrition and infection as a key factor in the increasingly serious tuberculosis situation in the Eagle Hills, stating "sick people need more than pills."⁸¹ In his description of the surge in tuberculosis resulting from the famine in the late seventies, Jefferson observed that the disease among them may have been a new phenomenon among First Nations, "consumption got their medicine men guessing. They could do nothing with it. They could pretend to find the deadly messenger and suck it out of the sufferer's breast, but this operation did not lead to the patient's recovery. It was a white man's disease,

that accounted for their failure. Nor indeed could the white doctor do much with it either.⁸²

By 1879, Dr. Hagarty's report revealed that as a result of food privation Saskatchewan's indigenous population was well on its way to showing signs of a full-blown tuberculosis epidemic. Such observations suggest that the manifestation of the disease was more likely the result of the decline of local conditions within individual communities, rather than the blanket spread of infection and illness as had so often been the case with acute diseases such as smallpox.⁸³ Those whose traditional subsistence base was collapsing and whose shift to agriculture had yet to reap any benefits, fell victim to tuberculosis; those whose resources remained intact, at least for the time being, were spared. As such, the pattern of disease in western Canada was growing increasingly complex, reflective of the changing circumstances brought about by the ongoing political and economic transformation.

In January of 1879, Hagarty noted his frustration over the limited success of his vaccination campaign west of Portage la Prairie. The Dakota bands along the Assiniboine River, who were refugees from Minnesota that arrived in Rupert's Land during the early 1860s, could not spare the time to undergo the procedure. The men were busy cutting wood for the settlers and the women were doing "a great deal of work around the settlers houses."⁸⁴ At Long Plain, 15 miles west of Portage, "a good many" of the Dakota from there were away hunting, though Hagarty noted he would vaccinate them on his return. In March, the physician reported that several members of the Roseau River Ojibway Reserves were also absent, away hunting.⁸⁵ While returning from his vaccinations at Fort Ellice and the Qu'Appelle, where the doctor noted the serious decline of the population over the previous two years, Hagarty managed to immunize but a small percentage of the community under Ewack (Enoch) on the Assiniboine, as many were working for settlers in adjoining settlements. Hagarty added, "The Indians are tilling the soil with a good will, and in a short time will have sufficient to meet their wants."⁸⁶

The physician's report from western Manitoba indicates that the Dakota who were working both on and off their reserves were healthy in relation to the reserve populations to the west in the Qu'Appelle Valley who were undergoing severe privation and sickness resulting from the disappearance of the bison. Rather than presenting a threat of tuberculosis infection to the Dakota people, the presence of settlers in western Manitoba provided these people with opportunities to maintain their economic and physical well-being. Along the Assiniboine River, their proximity to settlers was a benefit to the Dakota, who were already skilled farmers willing and able to adapt their means of production to meet the demands of the local market. By the mid-1880s they were pros-

perous enough to be holding giveaways and dances, dispensing much of their own crops to their neighbours who had entered into treaties.⁸⁷ By the end of the 1880s, many of the men of Standing Buffalo were working off their reserve, including on the construction of the Qu'Appelle, Long Lake, and Saskatchewan Railway. Those who remained on the land had shifted their cultivation away from grain and were selling root crops to settlers.

The economic success of the Dakota bands on the plains is discussed at length by Peter Elias, in *The Dakota of the Canadian Northwest: Lessons for Survival*. In his discussion of the communities at Oak Lake and Birdtail River, Elias commented that: "during the decade from the early 1870s until the 1880s, they probably did as well on the frontier as many of their distant white neighbours did."⁸⁸ Because the Dakota were accepted as refugees from the U.S., they were not participants in the treaty making process, sparing them from direct intervention in their daily lives by Indian Affairs. According to Elias "when the expansion of settlement halted in the early 1870s, the government promptly forgot about the Dakota."⁸⁹ Because they did not receive, and did not require, much assistance from the authorities, "they were allowed to design their own economic strategies with a freedom not enjoyed by other Indians of the prairies, or even by the Dakota themselves since the 1840s in Minnesota."⁹⁰

This flexibility was critical for the Dakota, as it enabled them to escape the devastation of tuberculosis experienced by their neighbours, despite being infected as a group prior to their arrival north of the border. Mark Diedrich's history of the Sisseton Sioux in US territory in the mid-19th century demonstrates that as early as the 1860s American Sioux south of the 49th parallel were to suffer hunger and disease comparable to that which would later afflict Canadian Indian groups in the 1870s and 1880s. A segment of this group under Chief Standing Buffalo later immigrated into Canadian territory in an effort to improve their fortunes.⁹¹ In his paper on the tuberculosis epidemic in the Qu'Appelle Valley, published in 1929, Dr. R. G. Ferguson postulated that the Minnesota Sioux, including Standing Buffalo's Dakota group, were already "tubercularized" and may have brought the disease with them to Canada, thereby constituting "a serious source of infection" for Canadian plains bands.⁹² And yet, while the Dakota refugees in Canada were not entirely immune from sickness by the late 1870s,⁹³ their general health, as well as their economic situation, had markedly improved. Although Elias' study of the Canadian Dakota focused on their economic strategies rather than their medical condition it is clear they did not suffer the nutritional stress associated with the buffalo famine nor the coercive measures imposed by authorities upon the vast majority of First Nation communities on the Canadian plains.

In contrast, the immediate neighbours of the Standing Buffalo Dakota Band, the Cree and Saulteaux located on reserves in the Qu'Appelle Valley were reported to be suffering from serious nutritional stress and sickness. To the north, even communities such as the Cree on the James Smith reserve at the forks of the Saskatchewan River who had established an agricultural community in the 1850s under the tutelage of missionaries suffered a significant decline of both their economy and their health in the years after signing Treaty Number 6 in 1876. With their entry into a formal treaty with the Dominion government the James Smith people were subjected to the interference of the Indian Department in their daily lives. By 1881, the breakdown of their agrarian practices was having a severe effect on their health; departmental records show two band members were suffering from consumption and were "at death's door."⁹⁴

The continued economic success of the Standing Buffalo people and their relatively good health through the late 19th century stand as an example of positive deviance⁹⁵ in contrast to the experience of the vast majority of other First Nations on the plains. The reason for this good health may have been their economic adaptability, at least compared to those neighbours who were hindered by the political control of the federal government. Clearly, the adoption of an agrarian mode of production under strict government regulations was no guarantee of health and did not preclude groups from suffering greatly from tuberculosis. In their study of the outbreak of tuberculosis among tribal populations, Clark and his colleagues singled out the Qu'Appelle Valley reserves who were dependent on agriculture, and noted that the population declined by nearly one half in the span of three generations, an example of the correlation between the declining living conditions and morbidity and mortality as a consequence of tuberculosis.⁹⁶ Rather than the natural consequence of a contagious disease, the precipitous decline of the inhabitants of the Qu'Appelle reserves was largely the result of mismanagement on the part of governmental authorities, whose administrative regulations hampered the transformation of reserves in the Qu'Appelle Valley. The failure of the transformation to agriculture, or any other viable economic pursuit, overseen by Canadian officials had dire consequences for most of the reserve communities in the region. The state of the health of the Standing Buffalo band in the late 19th century stands in stark contrast to other bands in the region. The most important feature distinguishing the Dakota at Standing Buffalo from others in the region was that because they did not enter into treaty, their daily existence was not controlled by the Department of Indian Affairs and they conducted their economic activities largely without government interference. The health of Dakota during this period illustrates that while some groups may well have been infected with tuberculosis,

under certain favourable economic circumstances they could avoid succumbing to the disease.

Elsewhere in western Canada, communities further removed from imminent economic hardship and government intervention continued, like the Dakota, to enjoy comparatively good health conditions, at least in the short term. The Red Earth Cree, who were immune from the effects of large-scale European immigration on their reserve at the Pas Mountain in the Manitoba parklands, did not undergo a serious decline in their health until the 1920s. In 1897, Missionary turned Indian Agent Joseph Reader reported that "the blessing of good health is the rule at Red Earth."⁹⁷ The following year, their good diet which included "the free use of vegetables and the abundance of salt," was noted as a factor in "the remarkably good" health of the people in the community, and only one case of scrofula was reported.⁹⁸

Others fell somewhere in the middle in terms of their health. Further west, in the parklands north west of Prince Albert, the Sandy Lake Mission, which became the Ahtahkakoop Reserve, underwent a period of hardship through the 1880s, but the suffering was not nearly as severe as at communities that were exclusively dependent on government aid for survival. According to McQuillan "The best claim that the Department of Indian Affairs could make in 1884 was that only 770 of a total of 20,230 Indians in the Territories were not reliant on government relief supplies."⁹⁹ In March 1884, Reverend John Hines, who established the agricultural Mission at Sandy Lake, reported to his superior, "I am certain our Indians would have been better off to-day if the government would not have taken them under their charge."¹⁰⁰ In his memoir, Hines noted that the mission population under his care fared better than many others; until the time of his departure in 1888, consumption was still rare among those at the mission, in complete contrast to the infected population he encountered at his new placement at the Pas Mission.¹⁰¹ At the Pas Mission, the connection between malnutrition and mortality was observed by the beginning of the 1880s. In 1882, Joseph Reader reported to his superior from the Pas: "I think I am right in saying that nearly every death that has occurred since we have been here has been premature through starvation."¹⁰² Further north, at La Ronge, Anglican parish records indicate there was no increase in mortality until the end of the century.¹⁰³ Reverend James McKay described the reason for the well-being of his northern charges in relation to the people of the plains, and an important benefit of their physical isolation: "[o]ur granite rocks, while they shut us out from the advantages of civilization, also preserve us from some of its vices."¹⁰⁴ Other bands, particularly in the Interlake of Manitoba, experienced both an economic decline and outbreaks of tuberculosis before the large scale emergence of the disease among the people of the plains. In his report of events occurring in the Treaty 2 area during

1877, Indian Agent Martineau assured his superiors that “[t]he general health of the several Bands is good” but added that “scrofula is very prevalent.”¹⁰⁵ Unlike those living to the south, these people were not reliant on the bison for their sustenance and yet were equally vulnerable due to their own economic hardships arising from the decline of the fur trade.

By the early 20th century most First Nations communities on the Canadian Plains had been exposed to epidemic tuberculosis. However what is notable about the outbreaks of tuberculosis on the plains is the chronology of the appearance of the disease among its victims, and perhaps, too, the differences in the severity of their experiences. Clearly, the impact of the disease varied according to specific, local, conditions, even within small geographical areas. The overall pattern of outbreaks of tuberculosis in western communities, then, corresponds to the statement by Comstock and O’Brien on the “sharply localized” nature of the disease.¹⁰⁶ The apparent well-being of the Standing Buffalo Dakota, though they were surrounded by hungry and increasingly sick Cree and Saulteaux communities, is an example of differential experiences with disease among First Nations, and of the concept of positive deviance in relation to the overwhelming trend of economic dislocation, malnutrition and decline from tuberculosis that marked the post treaty period in the west. This diverse pattern continued well into the 20th century, with an even more pronounced differential between First Nations and non-Aboriginal communities. In the 1920s, Dr. R. G. Ferguson, perhaps the pre-eminent authority on tuberculosis in western Canada in the early 20th century, reported that tuberculosis deaths were 20 times more frequent among the First Nations of the Qu’Appelle than among their white neighbours.¹⁰⁷ In general, this varied spatial-temporal pattern of tuberculosis was due to marked differences in the local timing of the paired fundamental transformation, the political and the economic, that virtually all First Nations communities underwent at some time following the transfer of the west from the HBC to Canada. In turn, this reinforces the view that the general decline of health among the Aboriginal population was not simply the case of infection from an introduced disease, and that the decline resulting from tuberculosis was not an inevitable or simply organic process. Rather, the process was a direct, and very regrettable, consequence of an ecological catastrophe coupled with a subjugation policy emanating from the colonial process that began with the transfer of sovereignty to the Canadian government in 1870.

NOTES

- 1 John L. Tobias, “Canada’s Subjugation of the Plains Cree, 1879-1885,” in James R. Miller, ed., *Sweet Promises: A Reader on Indian-White Relations in Canada* (Toronto: University of Toronto Press, 1991), p. 215-40.
- 2 R. G. Ferguson, “A Study of the Epidemiology of Tuberculosis in a Primitive People,” *Edinburgh Medical Journal*, 36 (1929): 199.

- 3 George W. Comstock and Richard J. O'Brien, "Tuberculosis," in Alfred S. Evans and Philip S. Brachman, eds., *Bacterial Infections in Humans: Epidemiology and Control*, 3rd ed. (New York: Plenum, 1998), p. 781, 790.
- 4 Comstock and O'Brien, "Tuberculosis," p. 781
- 5 The list of environmental, social and individual risk factors associated with contracting active tuberculosis is lengthy, but overcrowding, malnutrition, genetic susceptibility, age, underlying or concurrent disease, alcoholism, migration, and stress are among the more important. On the risk factors see George W. Comstock, "Frost Revisited: The Modern Epidemiology of Tuberculosis," *American Journal of Epidemiology*, 101 (1975): 363-82; Michael D. Iseman, *A Clinician's Guide to Tuberculosis* (Philadelphia: Lippincott, Williams and Williams, 2000); C. Lienhardt, "From Exposure to Disease: The Role of Environmental Factors in Susceptibility to and Development of Tuberculosis," *Epidemiologic Reviews*, 23, 2 (2001): 288-301.
- 6 George A. Clark, Marc Kelley, J. M. Grange, and Cassandra Hill, "The Evolution of Mycobacterial Disease in Human Populations," *Current Anthropology*, 28 (1987): 45.
- 7 Indeed, as early as the 18th century fur traders identified consumption, a colloquial term for pulmonary tuberculosis, as one of the main health threats for the Indians. For instance, see Glyndwyr Williams, editor, *Andrew Graham's Observations on Hudson's Bay, 1767-1791*, Publications of the Hudson's Bay Record Society, Vol. 27 (London: The Hudson's Bay Record Society, 1969), p. 143.
- 8 J. Bunn, "Smallpox Epidemic of 1869-70," *Alberta Historical Review*, 11 (1963): 18.
- 9 William F. Butler, *The Great Lone Land: A Narrative of Travel and Adventure in the Northwest of America* (Edmonton: Hurtig, 1968).
- 10 Butler, *The Great Lone Land*, p. 242.
- 11 Scrofula was a common name used to identify the non-pulmonary form of tuberculosis that attacked the lymphatic system of the victim. It was especially common among the First Nations people of the west.
- 12 George M. Grant, *Ocean to Ocean: Sandford Fleming's Expedition through Canada in 1872* (Toronto: Coles, 1973), p. 96.
- 13 Grant, *Ocean to Ocean*, p. 121.
- 14 Grant, *Ocean to Ocean*, p. 162-65.
- 15 Grant, *Ocean to Ocean*, p. 190.
- 16 National Archives of Canada (hereafter NAC), Robertson-Ross Papers, MG 29 E39, F1, Field Notebook, 14 September 1872, p. 21.
- 17 NAC, MG 29 E39, File 1, 15 September 1872, p. 21-23.
- 18 NAC, MG 29 E39, File 1, 15 September 1872, p. 27.
- 19 NAC, MG 29 E39, File 1, 15 September 1872, p. 28.
- 20 George M. McDougall, *George Millward McDougall: Pioneer, Patriot and Missionary* (Toronto: William Briggs, 1888), p. 175.
- 21 NAC, RG 18, Vol. 7, File 395-75, Report to the Dept. of Justice, 25 August 1875.
- 22 NAC, RG 18, Vol. 2545, File 11, Report of G. A. French, 27 April 1876.
- 23 Ronald Atkin, *Maintain the Right: The Early History of the North West Mounted Police, 1873-1900* (Toronto: Macmillan, 1973), p. 90.
- 24 The group has been identified elsewhere as Yanktonai Sioux who had recently been in combat with the Blackfoot. David McCrady, "Living with Strangers: The Nineteenth-Century Sioux and the Canadian-American Borderlands," PhD thesis, University of Manitoba, 1998, p. 113-15.
- 25 The term refers to the practice in the military of having the men assemble to report to the medical officer, or of inspecting the men who are ill.
- 26 John Kittson, "Report, Swan River, Dec. 19, 1875," in S. W. Horral, ed., *A Chronicle of the West: The North-West Mounted Police Reports for 1875* (Calgary: Historical Society of Alberta, 1975), p. 20-23.
- 27 McCrady, "Living with Strangers."
- 28 Frank G. Roe, *The North American Buffalo: A Critical History of the Species in Its Wild State* (Toronto: University of Toronto Press, 1970), p. 397.

- 29 NAC, Robert Bell Papers, MG 29 A 6, Hudson's Bay Company Northern Department Journal of a Voyage...from 22nd August 1872 to 28th January 1873 by Hon. Joseph Christie, Inspecting Chief Factor of the Hudson's Bay Company, 26 January 1873.
- 30 NAC, RG 10 Vol. 3609, p. 3, 229 quoted in McQuillan, "The Creation of Indian Reserves," p. 383; NAC, MG 27, David Laird Papers, Indian Affairs N.W.T. Letterbook 1874, C. N. Bell to Laird, 23 March 1874, p. 18.
- 31 Nan Shipley, "The Printing Press Oonikup" *The Beaver*, 290 (1960): 48-49.
- 32 NAC, Church Missionary Society (hereafter CMS) Reel A-80, Reader to Fenn, 29 July 1874, p. 221.
- 33 Sarah Carter, *Lost Harvests: Prairie Indian Reserve Farmers and Government Policy* (Kingston: McGill-Queen's University Press, 1990), p.42-43.
- 34 NAC, CMS, Reel A-81, Joseph Reader, Report of Touchwood Hills Mission, 20 January 1875, p. 442.
- 35 Chief Sweet Grass to Alexander Morris, Edmonton, 13 April 1871, in Alexander Morris, *The Treaties of Canada with the Indians of Manitoba and the North-West Territories* (Saskatoon: Fifth House, 1991), p. 170-71.
- 36 Arthur Ray, Frank Tough, and James Miller, *Bounty and Benevolence: A History of Saskatchewan Treaties* (Kingston: McGill-Queen's University Press, 2000), p. 143.
- 37 Douglas Owrain, *Promise of Eden: The Canadian Expansionist Movement and the Idea of the West, 1856-1900* (Toronto: University of Toronto Press, 1980).
- 38 Edmund H. Oliver, "The Beginnings of White Settlement in Northern Saskatchewan: A Study of the Growth of Settlement in the provisional District of Saskatchewan, 1870-1891," *Transactions of the Royal Society of Canada*, Section 2 (1925): 83-129.
- 39 That is, a line of quarantine established in order to provide a barrier to the diffusion of epidemic disease.
- 40 James Mochoruk, "The Political Economy of Northern Development: Government and Capital along Manitoba's Resource Frontier, 1870-1930," PhD thesis, University of Manitoba, 1992, p. 52-55.
- 41 NAC, RG 10, Vol. 3648, File 8138, Reel C-10113, Personnel File of Dr. Daniel Hagarty.
- 42 NAC, RG 10, Vol. 3643, File 7708, Reel C-10113, Report of Surgeon R. B. Nevitt, N.W.M.P., 2 January 1877.
- 43 A common name of the time for pulmonary tuberculosis.
- 44 Grant MacEwan, *Sitting Bull: The Years in Canada* (Edmonton: Hurtig, 1973), 90-91.
- 45 John Snow, *These Mountains Are Our Sacred Places: The Story of the Stoney Indians* (Toronto: Samuel Stevens, 1977), p. 31.
- 46 David D. Smits, "The Frontier Army and the Destruction of the Buffalo: 1865-1883," *The Western Historical Quarterly*, 25 (1994): 334-38.
- 47 Tobias, "Canada's Subjugation of the Plains Cree, 1879-1885," p. 215.
- 48 Gregg C. Smith, "Foreword," in Treaty 7 Elders and Tribal Council with Walter Hildebrandt, Dorothy First Rider, and Sarah Carter, *The True Spirit and Original Intent of Treaty 7* (Montreal: McGill-Queen's University Press, 1996), p. viii.
- 49 Hugh Dempsey, *Crowfoot: Chief of the Blackfeet* (Norman: University of Oklahoma Press, 1972), p. 296.
- 50 NAC, RG 10, Vol. 3659, File 9728, Reel C-11063, R. B. Nevitt, Ft. Macleod, Report to the Commissioner, 31 December 1877.
- 51 NAC, RG 10, Vol. 3659, File 9728, Reel C-11063, Report of Surgeon Kittson, Ft. Walsh, to Col. Macleod, 19 February 1878.
- 52 That is, they were adept at vaccinating their people through the use of the cowpox vaccine.
- 53 The higher prevalence among women in this instance runs counter to the general epidemiology of the disease, as women tend to have lower case and death rates than men. Iseman, *Clinician's Guide to Tuberculosis*, p. 108.
- 54 Noel Dyck, "The Administration of Federal Indian Aid in the Northwest Territories, 1879-1885," MA thesis, University of Saskatchewan, 1970, p. 26.

- 55 SAB, Innes Papers, A-113, Vol. 3. Canadian Northwest Historical Society Papers, Subject File 12, Ruth Matheson Notes, n.d.. On the effect of the drought and warm conditions at Cumberland House, see, George Duck, "Letters from the West," *The Beaver*, 282 (1951): 24. On the effect of the weather anomaly on the far north, see George F. G. Stanley, "The Fur Trade Party. Part 1. Storm Warnings," *The Beaver*, 284 (1953): 38.
- 56 Commissioners of the North West Mounted Police, *Opening the West: Official Reports of the North West Mounted Police* (Toronto: Coles Canadiana Collection, 1973), Report of Commissioner James Walsh, 1877, p. 20
- 57 Canada Sessional Papers 1880, Report of the Deputy Superintendent-General of Indian Affairs, Lawrence Vankoughnet, 31 December, 1879, p. 12.
- 58 Commissioners of the North West Mounted Police, *Opening the West: Official Reports of the North West Mounted Police*, Report of Surgeon George F. Kennedy, 30 November, 1879, p. 34.
- 59 Canada Sessional Papers, Report of Indian Agent Edwin Allen, 30 September, 1880.
- 60 NAC, RG 10, Vol. 3726, File 24811, Reel C-10126, Dr. Kittson to Lt. Col. N. T. Macleod, Indian Agent, Fort Macleod, 1 July 1880.
- 61 Gerald Friesen, *The Canadian Prairies: A History* (Toronto: University of Toronto Press, 1987) p. 150.
- 62 Laurie Meijer-Drees, "Reserve Hospitals in Southern Alberta, 1890 to 1930," *Native Studies Review*, 9 (1993-4): 93.
- 63 Carter, *Lost Harvests*, p. 68-69.
- 64 Carter, *Lost Harvests*, p. 71.
- 65 Tobias, "Canada's Subjugation of the Plains Cree, 1879-1885," p. 215.
- 66 Anthony J. Looy, "Saskatchewan's First Indian Agent: M. G. Dickieson," *Saskatchewan History*, 32 (1979): 111.
- 67 Walter Hildebrandt, *Views from Fort Battleford: Constructed Visions of an Anglo-Canadian West* (Regina: Canadian Plains Research Centre, 1994), p. 42.
- 68 SAB, R.A. Mayson Papers, A-M 455, 4, "Dr. Andrew Everett Porter First Charter Member of Masonry in Saskatchewan," n.d., p. 3
- 69 SAB, A-M 455, 4, p. 3
- 70 Canada Sessional Papers 1881, Report of Indian Agent James C. Stewart, Edmonton, 21 August 1880, p. 102.
- 71 Looy, "Saskatchewan's First Indian Agent: M. G. Dickieson," p. 110.
- 72 Gerald Friesen, *Canadian Prairies*, p. 150
- 73 Tobias, "Canada's Subjugation of the Plains Cree, 1879-1885," p. 212-39. See also, D. N. Sprague, *Canada and the Métis, 1869-1885* (Waterloo: Wilfrid Laurier University Press, 1988), p. 157-77.
- 74 Hugh Dempsey, "The Starvation Year: Edgar Dewdney's Diary for 1879," Part 1. *Alberta History*, 31 (1983): 13.
- 75 Canada Sessional Papers 1880, Report of Acting Superintendent M.G. Dickieson, July 1879, p. 105.
- 76 NAC, John A. Macdonald Papers, Reel C-1590, A. Campbell to Macdonald, 10 August, 1879, p. 81299.
- 77 NAC, RG 10, Vol. 3678, File 11683, Reel C-10119, Report of Hagarty Vaccinations 1879, 4-5 August 1879.
- 78 NAC, RG 10, Vol. 3678, File 11683, Reel C-10119, p. 27-28.
- 79 NAC, RG 10, Vol. 3648, File 8138, Reel C-10113. Personnel File of Dr. Daniel Hagarty, Memorandum of J. D. Cote, Privy Council, 14 June 1880.
- 80 NAC, RG 10, Vol. 3648, File 8138, Reel C-10113, 14 June 1880.
- 81 Robert Jefferson, *Fifty Years on the Saskatchewan: Being a History of the Cree Indian Domestic Life and the Difficulties which Led to Serious Agitation and Conflict of 1885 in the Battleford Locality* (Battleford: Canadian Northwest Historical Society, 1929), p. 39.
- 82 Jefferson, *Fifty Years on the Saskatchewan*, p. 39.
- 83 "Tuberculosis can and sometimes does occur in sharply localized outbreaks. In nearly all such circumstances, these involve the exposure of previously uninfected

- persons to an infectious individual in crowded quarters." George W. Comstock and Richard J. O'Brien, "Tuberculosis." In Alfred S. Evans and Philip S. Brachman, eds. *Bacterial Infections of Humans: Epidemiology and Control*, 3rd ed. (London: Plenum, 1998) p. 782.
- 84 NAC, RG 10, Vol. 3678, File 11683, Reel C-10119, 7 January 1879.
- 85 NAC, RG 10, Vol. 3678, File 11683, Reel C-10119, 15 March 1879.
- 86 NAC, RG 10, Vol. 3678, File 11683, Reel C-10119, 8 September 1879.
- 87 Elias, *The Dakota of the Canadian Northwest*, p. 151.
- 88 Peter D. Elias, *The Dakota of the Canadian Northwest: Lessons for Survival* (Winnipeg: University of Manitoba Press, 1988), p. 56-57.
- 89 Elias, *The Dakota of the Canadian Northwest*, p. 57.
- 90 Elias, *The Dakota of the Canadian Northwest*, p. 57.
- 91 Mark Diedrich, *The Odyssey of Chief Standing Buffalo and the Northern Sisseton Sioux* (Minneapolis: Coyote Books, 1988), p. 37.
- 92 Robert G. Ferguson, "A Study of the Epidemiology in a Primitive People," *Edinburgh Medical Journal*, 36 (1929): 204-5.
- 93 At the Bird Tail Dakota Reserve, sickness among the children in the spring was reported to have impeded the planting of crops. Canada, Sessional Papers 1880. Report of L. Herchmer, Indian Agent, Assiniboine Sioux Reserve, Bird Tail Creek, 18 August 1879, p. 71.
- 94 Canada Sessional Papers 1881, Annual Report of the Department of Indian Affairs for the Year Ended 31st December 1881. p. x.
- 95 Positive deviance is an approach to identifying solutions to health problems that focus on the successful behaviours of healthy individuals in impoverished populations, and has commonly been applied to issues of childhood nutrition. However, we would argue, it can also be applied historically to understand how some Aboriginal groups such as the Standing Buffalo band were able to maintain their health compared to other neighbouring groups who faced similar negative circumstances. On positive deviance see, for instance, D. R. Marsh, D. G. Schroeder, K. A. Dearden, J. Sternin, and M. Sternin, "The Power of Positive Deviance," *British Medical Journal*, 329 (2004): 1177-79 and M. Zeitlin, "Nutritional Resilience in a Hostile Environment: Positive Deviance in Child Nutrition," *Nutrition Reviews*, 49 (1991): 259-68.
- 96 Clark, Kelley, Grange and Hill, "The Evolution of Mycobacterial Disease in Human Populations," 46-47. In her comments on this paper Janet McGrath identified the fundamental shift in these groups' relationship with tuberculosis, fuelled in large part by the lifestyle changes associated with taking treaty: another explanation "for the Qu'Appelle valley epidemics, then, is that the host-pathogen system, subjected to severe disruption due to movement onto the reservation, crossed the breakpoint from one stage of the disease to another with devastating results. In this case the change in tuberculosis manifestation is due not from the introduction of a new pathogen but rather to a change in the nature of the interactions between host, pathogen, and environment." Janet McGrath, "Comments on Kelley et al..." *Current Anthropology*, 28 (1987): 53-54.
- 97 David Meyer, *The Red Earth Crees, 1860-1960* (Ottawa: National Museum of Man, 1985), p. 88.
- 98 Meyer, *The Red Earth Crees, 1860-1960*, p. 89.
- 99 Aidan D. McQuillan, "Creation of Indian Reserves in the Canadian Prairies, 1870-1885," *The Geographical Review*, 70 (1980): 392.
- 100 CMS, microfilm A-112, John Hines, Assissippi Journal, 9 March 1884.
- 101 SAB, R.2.391, R. G. Ferguson Papers, "Epidemic of Tuberculosis among the Indians of the Plains," p. 27.
- 102 CMS, Rupert's Land Mission Letters, Reel A-111, Joseph Reader to C. C. Fenn, 20 September 1882, p. 131.
- 103 SAB, Anglican Synod of Saskatchewan, Reel 1.124, "Register of Burials, English River District, Church Missionary Society, 1850-1889."

- 104 CMS, Reel A-80, J. A. McKay to the Secretaries, 6 August 1872, p. 284-85.
- 105 Canada, Sessional Papers 1878, Report of Treaty 2, Lake Manitoba, H. Martineau, Indian Agent, 1877, p. 45.
- 106 Comstock and O'Brien, "Tuberculosis," p. 782.
- 107 R. G. Ferguson, *Tuberculosis among the Indians of the Great Canadian Plains: Preliminary Report of an Investigation Being Carried Out by the National Research Council of Canada* (London: Adlard & Son, 1929), p. 45.